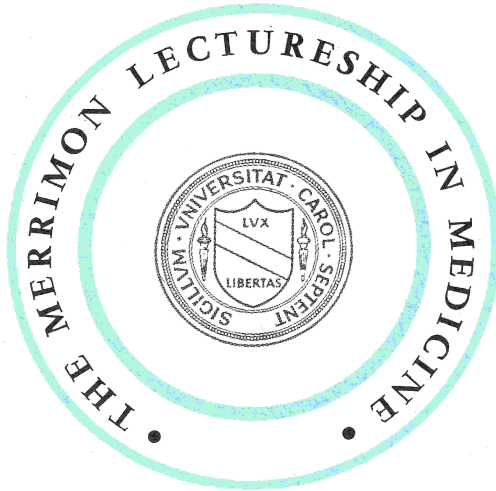


THE SCHOOL OF MEDICINE
OF
THE UNIVERSITY OF NORTH CAROLINA
AT CHAPEL HILL



MERRIMON LECTURE

by

KURT W. DEUSCHLE, M.D.

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THE MERRIMON LECTURE

Urban Health and Academic Medicine **(Changing Responsibilities of Medical Schools in Big Cities)**

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KURT W. DEUSCHLE was born in Germany in 1923 and educated in the United States. A graduate of Kent State University and a medical graduate of the University of Michigan, he has, since qualifying as a physician, been associated successively with the medical schools of the University of Colorado, State University of New York, Cornell University, University of Kentucky and the Mt. Sinai Medical School of the City University of New York.

He became deeply interested in tuberculosis while serving in 1952-4 as a Public Health Service physician on the Navajo Indian reservation. This interest has continued and has led to extensive studies and numerous publications on the therapy of tuberculosis, especially among groups which lack adequate medical care. His concern with the delivery of health care led him into the field of community medicine and he became head of the Department of Community Medicine at the University of Kentucky in 1960. At present Dr. Deuschle is Ethel H. Wise Professor of Community Medicine and Chairman of this department at the Mt. Sinai School of Medicine in New York City.

Dr. Deuschle is an imaginative and innovative teacher of community medicine. He has succeeded in transferring diagnosis and therapy of medical center quality into the community and has attracted many students into this specialty. His department is the largest and most stimulating of its type in America.

Dr. Deuschle's advice is highly regarded and widely sought and he has served as consultant to a broad range of local, national and international bodies, including the Association of American Indian Affairs, the United States Public Health Service, and the World Health Organization. He has also served as President of the American College of Preventive Medicine and is at present a member of the Institute of Medicine of the National Academy of Sciences.

Urban Health and Academic Medicine

(Changing Responsibilities of Medical Schools in Big Cities)

We are rapidly becoming a nation of big metropolitan areas. More than 70% of our U.S. population is urban. One hundred of our 200 million live in the top twenty U.S. cities. There are 48 university medical centers in metropolitan areas with more than one million population. Pressure has increased on the big urban medical centers to provide a broader range of teaching, service and research activities to their constituent communities. Medical schools have been stimulated to increase their numbers of M.D. graduates. In the U.S. medical schools, there are 15,000 first-year medical students in the "pipelines," with about 12,000 M.D. graduates in 1974 alone. But graduating larger numbers of medical students is but one responsibility that academic medical institutions are expected to fulfill. Society is also demanding help from the academic medical centers in solving pressing community health problems and in producing a different kind of physician to deal with these issues.

Abraham Flexner in his classic monograph *Universities* (1930)¹ commented that universities necessarily change profoundly in the direction of the social evolution of which they are a part, but tend to lag behind the life which they promote. His observation is just as true today with respect to university medical centers.

There is considerable debate as to where to draw the line for the social responsibility of academic medical centers in areas of health care delivery and environmental health problems. The enormous social and environmental problems of our big cities exaggerate even further the challenge of where the academic medical centers can mark their legitimate boundaries of responsibility and accountability. New York City with a population of 8 million has 7 medical schools; the community commitment issue is incredibly strident in an urban place such as New York City and in a new and evolving urban academic medical center such as The Mount Sinai Medical Center in Manhattan.

Congress and state and municipal governments, joined by social health agencies and organizations, are forcing more community-health-directed goals on academic medical centers. They are goading medical schools into action, commitment and leadership by rewarding compliant institutions with federal, state and municipal funds.

¹ Flexner, Abraham, "Universities — American, English, German," Oxford University Press, 1930.

The private sector has also gotten into the act, especially foundations. For example, the Robert Wood Johnson Foundation has recently established strong grant support for stimulating academic medical centers to assume a leadership role in reforming urban medical care. Several centers in New York (Mount Sinai, Cornell, and Columbia), in Philadelphia (Thomas Jefferson University), and in Chicago (Rush-Presbyterian and St. Luke's Medical Center) have obtained such grants and are currently exploring various regional models to perform the expanded leadership responsibilities for improving delivery of health services. The Robert Wood Johnson Foundation is only one of the many private sector groups grappling with the urban health care problem.

Are There Unique Aspects to Disease Patterns in Big Cities?

The question can be legitimately raised as to whether there are really any unique traits or characteristics to the big city health problems. The superficial answer is "no" if one looks at the leading causes of death. The pattern of heart disease, cancer, stroke and accidents in the cities is congruent with the rest of society. Acute and chronic infectious diseases have been replaced by chronic degenerative and debilitating diseases in our society as a whole. This modern disease pattern is heavily influenced by the total physical and social environment in which people live. Individual and group life-style patterns are surely the major determinants in the health and disease equation. For example, infant mortality rates vary considerably from one section of the city to another, related most directly to low socioeconomic status. The late George James, former New York City Health Commissioner and first Dean of Mount Sinai School of Medicine was quick to point out that the third leading cause of death in New York City was poverty. Although poverty seems to promote increased incidence of death and disease, one has difficulty in identifying specific factors in the big city environment which produce an "urban disease" pattern.

Big cities, with their high population density, diversity and heterogeneity, in all likelihood magnify both the salutary and deleterious (or noxious) health effects in the physical or social environment. Clearly, sickle cell anemia, Cooley's anemia, and Tay-Sachs disease reflect racial disease pattern differences which diverse populations in urban areas are most apt to exhibit. Lead poisoning, drug and alcohol addiction, nutritional deficiencies, mental disorders, etc., are not unique to cities but can be potentiated in the city milieu. A possible exception is heroin addiction. It is estimated that New York City has 200-250,000 addicts, nearly half the addicts in the nation. Heroin addiction has been referred to as a "New York City disease."

Are Health Resources a Problem?

New York City, like other big cities in the U.S., does not lack health care resources. If we look at the simple indices of health manpower, health care agencies and facilities, New York City is enormously well endowed. The ratio

of hospital beds to population reveals an abundance — and many authorities say a dangerous overcapacity — of beds for the population. The usual yardstick of 3 beds per thousand population in New York City is 7 beds per thousand. Some of our acute care hospitals have been operating with bed utilization at less than 50% of capacity. Stringent control is being exerted to keep this unfavorable bed/population from increasing further since bed care is the most costly component of the health service budget.

Although New York City has 4% of the U.S. population, it has 6% of the nation's medical schools and 8% of the country's physicians. With the general U.S. physicians-to-population ratio at 170/100,000, New York City has 298/100,000 — almost one M.D. for every 300 persons. In Manhattan, where 15% of the population lives, we find 50% of these doctors. This translates to a ratio of 627 doctors/100,000 population, or 1 doctor per 160 persons. However, behind those figures is a serious problem in doctor distribution. The general so-called primary care and family physician has fled the city — particularly the less affluent neighborhoods. The emergency room and hospital clinics have essentially substituted for the front-line neighborhood doctor.

Despite drastic cutbacks in support of municipal health services, New York City still has a viable Department of Health. There are specialists and super-specialists in every field of medicine and a powerful biomedical research capacity to be found in New York City. Social health agencies and neighborhood organizations with health care services are ubiquitous, with no indication of atrophy in number or diversity of health facilities.

This presentation does not permit a careful detailed analysis of all components of the New York City health industry — but suffice it to say that with the evidence I have already cited it is obvious that health resources abound. It is a jungle of riches rather than a desert of scarcity.

In New York City we appear to have a rampant epidemic of incoordination of our facilities and manpower. The various jurisdictional boundaries of health service areas, overlapping coverage of private and public institutions, mismatches with the federal, state and city health programs, and lack of a unified health policy all add to a confusion that blocks the development of a humane and cost-effective health care system. The nursing home scandals reported in New York will probably pale compared with what will be uncovered in the Medicaid “gin mills” and other ambulatory care programs. In short, despite rich health care resources the results of the chaotic health system are poor quality health care or no health care for significant numbers of our population.

The Dynamics of New York City Population as Related to Health Problems

We all appreciate that medical care — even if perfect — is only one factor in improving the health of a population. The impact of unemployment, security problems, bad housing, transportation, and communication barriers

are all commonplace big city problems which beleaguer New York City. The New York City population has not increased significantly in twenty years, but considerable internal change in the composition of the population has occurred. Without getting into detailed statistics one can summarize by pointing out the exodus of whites and influx of blacks, Puerto Ricans, orientals and others. A profile of age distribution indicates a "younger" population of nonwhites compared to whites. Economic resources and thus ability to pay for health care are also unevenly distributed throughout New York City. There are not only the "Medicaid poor" but the invisible poor who by virtue of illegal immigration status, pride in refusing welfare help, or ignorance of eligibility for benefits exaggerate the health economic difficulties.

As Blumenthal² has recently pointed out: the importance of understanding the distribution of population is made critical by categorical programs directed toward "children and youth," "the aged," "adolescents," and "welfare recipients."

Rapid intra-urban demographic shifts within big cities are commonplace and have a major impact on the delivery of health care. For example, Elmhurst Hospital which is located in the Borough of Queens in New York City is a major 970-bed public community general hospital affiliated with Mount Sinai School of Medicine. It is one of the 16 acute general care hospitals run by the New York City Health and Hospitals Corporation. This hospital has a catchment area covering the western half of Queens and servicing some 850,000 persons.

This borough has served as one of the great urban melting pots. In the past 15 years, migration has formed a broad pattern of nationalities and ethnic groups, including foreign-born Europeans, orientals, Central Americans and many South Americans. On any given day, patients seeking care in the Emergency Room speak some 13 primary languages in addition to English. About 25 percent of all patients seen in the general care clinics can communicate effectively only in Spanish. The language and ethnic diversity alone, without even accounting for transportation and economic factors, can have a profound effect on accessibility and continuity of health care. In my view the urban melting pot factor must surely be a major force in depressing the quality of care.

This background on health matters in New York City is perhaps oversimplified but, hopefully, for the non-New Yorkers in the audience, it serves to give you a bird's-eye view of the situation. To understand what might be done for community health through big city academic medical centers, I shall use East Harlem as the basis for reviewing urban health problems and Mount Sinai Medical Center and its affiliates as a prototype university medical center in a big city.

² Sol Blumenthal, Ph.D., "Demographic Data Related Health", *Statistics and Health Review*, Vol. 1, Number 1, Summer 1975.

What I can say from the perspective of 7 years of Community Medicine practice experience at Mount Sinai may not necessarily apply to the total spectrum of national urban health issues. However, I am confident from my contacts with urban medical centers throughout the country that many aspects of the New York City — Mount Sinai model are generic to the national scene. Indeed, I suspect that some of the lessons we have learned can also be usefully applied in areas well beyond the big cities.

The Mount Sinai Hospital was established in 1852. There were well-known clinical investigators and specialists associated with this hospital in upper Manhattan long before it became part of a university medical complex. However, it was not until 1968 that this hospital was transformed into an operational medical school and medical center. The clinical faculty was, for the most part, on the scene, but a second faculty in the basic sciences had to be recruited from the outside academic community. A unique feature of the Mount Sinai plan was to add a third faculty which was to be committed to the social health goals of the school. The selection of the late George James as Dean, President and first Director of this third faculty reinforced the high-level social commitment of the founding fathers. Dr. James was a national leader in community health and preventive medicine, and a vociferous and persuasive advocate of linking urban medical centers to real community health problems. When he referred to the community, he not only meant New York City generally but East Harlem specifically — for that is where Mount Sinai is located geographically.

One of his first missions was to move Mount Sinai into a university complex. He succeeded in establishing Mount Sinai within the system of The City University of New York (CUNY) — the largest urban university complex in the world. The CUNY leadership indicated their support of a medical component in their system by fully supporting ten professorships that would enhance working relationships of a private medical school within a prolific university. Dr. James immediately assigned two of the ten professorships to the Department of Community Medicine: one in medical sociology and a second in health economics. He was determined to see to it that a strong social sciences discipline link would be forged between university campus and the medical center.

Dr. James was not content to see the academic resources of Mount Sinai remain confined to Mount Sinai Hospital. He recognized that a 1200-bed hospital was more than adequate to teach medical students even if classes showed enrollments to 100 or more. Nevertheless, he was acutely aware of the importance of affiliating with other community hospitals so that the academic back-up and collaboration would improve health care services to a much broader segment of New York City's population. Affiliations with the Hospital for Joint Diseases in upper East Harlem, Beth Israel Medical Center on the lower East Side of Manhattan, Elmhurst Municipal Hospital in Queens, and the Bronx Veterans Hospital rapidly swelled total bed capacity to more than 4,000 beds.

If 3 beds per 1,000 population is a normal ratio, Dr. James had made a commitment to 1.5 million people. Although there was grumbling on the part of some faculty members regarding this ambitious undertaking, in general a city-wide system of Mount Sinai affiliations has been accepted and supported. This bold and ambitious decision became the tangible evidence that an academic medical center was obliged to carry its share of the urban health care burden. The Mount Sinai Board of Trustees endorsed the approach and the two succeeding Dean/Presidents have continued their strong support for the affiliation system.

I shall only mention one more of the many Jamesian progressive institution-building policies which profoundly influenced the social commitment of the Medical Center. He insisted that the third faculty group, which at Mount Sinai was housed under the rubric of Community Medicine, be an integral part of the total faculty. It was not to be managed as a separate school such as a School of Public Health nor as a non-academic arm of the Dean's office. He charged the third faculty with the academic responsibility of creating a group of professional problem-solvers addressing two major areas: health care delivery and environmental health. There was strong budget support, and faculty from many disciplines including social sciences, social work, management, epidemiology, and clinical areas were recruited.

Teaching time throughout the four-year undergraduate program and residencies in community medicine in health care and environmental medicine evolved from this initial administrative impetus and support.

The commitment of the policy-making executive group (Board of Trustees, President/Dean) to the social health goals was a basic requirement if a viable third faculty was to germinate and grow. Dr. James and the Board of Trustees reasoned that the social commitment would be meaningless if it could not be translated into a full-time faculty of community health sciences functioning side-by-side on a day-to-day working basis with the basic science and clinical faculty of the medical center. From what I have seen in medical centers, if community medicine is not an integral part of a medical school-hospital complex, the impact of the third faculty is enormously attenuated with respect to student education, collaborative research, and service with basic science and clinical faculty colleagues. If we expect our physicians to be skilled and competent in identifying and solving health problems in groups of patients or people, we must insist that this education and training be made a necessary prerequisite for the M.D. degree. Physicians should be competent to utilize problem-solving skills, not only in clinical science but in laboratory and community health sciences as well.

An effective strategy and approach to translate at the medical center and community level what this third faculty could contribute was essential for an operational program. In this aspect the operational policy was borrowed from the land grant agricultural model. The land grant universities have evolved a magnificent model that in the agricultural field has probably been responsible

for the preeminence of United States agricultural industry in the world. The scientific basis for agricultural technology and practice has moved from the university academic halls to the experimental farms where the innovations are adapted to local and regional conditions.

Effective methods and technologies emanating from the model projects are channeled through Agricultural Extension Agents, who in turn educate and train the farmers — “the practitioners” — in the improved farming methods. The system of applying university/academic agriculture to the field, so to speak, has become a successful model of an orderly relationship. The university does what it can do best, that is, teach and do research. The academicians are not the agricultural industry but the research and development arm of this sector of our economy.

In academic medicine we can apply some of the lessons learned from the agricultural model. To define problems on a disciplined scientific basis, to initiate models of health care, and to provide technical assistance in promoting effective health services and delivery systems are legitimate functions to be shared with the community. Thus, inspired by the land grant example, we at Mount Sinai proceeded to emulate their model with necessary adaptations to the medical center and the New York City community.

I should like to draw on my own experiences to illustrate how the Mount Sinai third faculty constructed an operational program. Our first priority was to learn how Mount Sinai Medical Center could improve the health picture in East Harlem. East Harlem has been established by historical custom as the area of upper east Manhattan from 96th Street to the Harlem River. During the early 1900's it was the home of the Italian and Jewish immigrant workers, although they have largely been replaced by Black and Puerto Rican minority groups. Although always an area of relatively low income and working-class housing, it has deteriorated into the typical ghetto area for which New York City has become infamous.

In 1968 the East Harlem community was in a high fever of frustration and anger over the many inequities that plagued the inner cities. There were many angry confrontations over health care services. Community demands transcended what the establishment considered the legitimate medical care issues. Health-related issues in employment, housing, education, transportation, and security became entangled with the more medically oriented issues of hospital and clinic situations. There has been serious antagonism between blacks and Puerto Ricans for political power and leadership roles in the various community issues — including health.

There were times when one was almost intimidated by angry residents into providing Medical Center missionary health services to underserved neighborhoods. It seemed as if the application of the agricultural model, so attractive in theory, would never have the chance to be tested. After the initial turbulence, the East Harlem community appreciated the pattern of our social

commitment whereby we assisted them in defining their health problems and helped them solve them.

Perhaps one of the earliest encounters with a frustrated and hostile neighborhood organization will serve to illustrate the point. The director of a neighborhood association in the northernmost section of East Harlem made an appointment. There was no question about the incredibly bad housing, extreme poverty and lack of any primary care in the confines of the neighborhood area with its population of 4000 people. Demands were made to assign Mount Sinai physicians to the neighborhood association in order to provide accessible health care. We agreed to explore their problem in detail. This was an early exercise in setting goals and priorities. A careful analysis of the situation revealed that the most urgent need was for transportation of the elderly and of mothers with their infants and children who had health care arrangements within the general area but not in the immediate neighborhood. Documentation of the issues led to alternative solutions, namely the operation of a health bus by the neighborhood association. Our academic group provided the data and assisted in project presentation which enabled the community organization to receive funds for a bus. The driver, hired by the community, was trained at Mount Sinai in emergency first-aid and assistance in moving the sick and disabled. In addition we gave on-the-job training to community workers in health work. They were trained to work with families and to relate to the public health nurses, the Hospital for Joint Diseases, as well as other health care provider agencies and organizations. The "health crisis" for the community neighborhood group was resolved. Such a self-help project with our technical assistance effort served as a concrete example of how *working with* a community was a positive contribution. The neighborhood association was strengthened by this academic link and is now functioning very well in meeting its health-related support system requirements. This was one of the first of a series of academic-community projects which demonstrates the application of the land grant agricultural model.

It soon became apparent that we should not simply wait for clients to come with problems. It was made a high priority to establish a solid base of information about the health picture in East Harlem. An HEW grant enabled us to cooperate with the East Harlem Health Council — a community-wide health group which included both consumers and providers of health care, but clearly was dominated and led by local East Harlem residents. It was agreed that we needed an unbiased assessment of the real health situation — not a potpourri of health demands based on priorities stemming from special interest groups. This decision to undertake a household survey proved to be a most significant step in our relationship with the community.

All plans for household survey were reviewed with the community through the East Harlem Health Council. Questionnaires were checked out in Spanish as well as English and each question pretested to be sure it was effectively

communicated. Then a 2% straight probability sample of households was selected and 78% of the sample was completed. Because our survey was carried out in 1970 our data could be compared with the U.S. census information. Many interesting insights were obtained regarding health in the East Harlem population. I shall only touch on a few details since a comprehensive review would consume the entire presentation. (The information from the East Harlem survey is abstracted directly from Dr. Louise Johnson's concluding report.)*

"East Harlem covers an area that includes ten neighborhood sub-areas: five arose spontaneously as genuine neighborhood associations and five were arbitrarily established for administering poverty funds. By objective criteria in our survey of the 1163 households, the sub-areas were alike with respect to most common problems within a range, i.e., from one-fourth to three-fourths of the housing units were of extremely poor quality; from one-third to one-half of the households had no income from work; and from three-fifths to four-fifths of the respondents stated that their activities were restricted for fear of crime.

"In all of East Harlem there were 163,000 persons: 45 percent were found to be of Latin American ancestry (the vast majority born in Puerto Rico); 35 percent were blacks (four out of five were born in the Southern States); 17 percent were whites of direct European ancestry (one-third born in Europe or the British Isles); and 3 percent were of other ethnic backgrounds. Three-fourths of the blacks and Latins and nine out of ten of the whites of European ancestry have lived in New York City for 10 years or more. Two-thirds of the persons of Latin American origin accepted an interview in English. The population showed as much residential stability as the average New Yorker; 48 percent had moved in a five-year period.

"There were more one-person households (30 percent) than in New York City as a whole (25 percent), as well as more especially large households. There were more children under 18 years of age (44 percent) than in the nation (33 percent) or in New York City (25 percent).

"Forty percent of the households reported no income from employment. In nearly all of these households welfare or Social Security provided maintenance. In 50 percent of the households where there was some income from employment, the total take-home pay for the week before interview amounted to no more than \$100. Female breadwinners earned decidedly less than male.

"The East Harlem population is like other low-income populations in reporting high prevalence of a set of severe chronic conditions. Rates of heart trouble, high blood pressure, diabetes, trouble with bones and joints, asthma and chronic bronchitis were higher than for the general population.

* *The People of East Harlem*. L. A. Johnson, Ph.D., editor, 1974.

“Utilization of medical care facilities showed a different pattern for New York City than for the nation. A study of a cross-section of Americans in 1967 showed that whites made an average of 4.5 visits and nonwhites, 3.1* The East Harlem data showed mean visits of 3.4 for Latins, 4.2 for blacks, 2.7 for whites of European ancestry, and 2.5 for persons of other ethnic status.** Minority group women made decidedly more visits than men of the same ethnic status, but white (European) men made more visits than white (European) women.

“Three out of five respondents said that they received all their medical care from hospital and other types of clinics; one in four got all their care from private physicians; the remaining 13 percent used both private physicians and clinics.

“Just over half—56 percent—of visits for medical care were made to facilities located within the boundaries of East Harlem. Men were more likely than women to have gone outside East Harlem to get care.

“When they were asked about specific reasons for putting off the visit to a physician, lack of money and time appeared to have been deterrents for about one-fourth of the respondents. People who went to private physicians and those who went to clinics were alike in the extent to which they said that scarcity of money and time had kept them from getting care.

“Half of the respondents said that doctors do not take enough time to explain things to their patients; one-fourth of the people said that health personnel treat them like “a bother and inconvenience”; and one-fourth expressed disagreement or doubt about whether most doctors are sincerely interested in helping their patients. Resentment about having to wait for an appointment or to see a physician was strongly associated with relatively low evaluations of the sincerity of most doctors.”

All of the survey findings were reviewed with the community and a special monograph was published and shared so that local organizations could use the same sophisticated data base for their grant applications to government or foundations.

We have plans to update this information to evaluate the effects of various health care programs in East Harlem. Our clinical colleagues who have need for community health information also utilize this common data bank.

* U.S. Dept. of Health, Education & Welfare, Public Health Service. “Differentials in Health Characteristics by Color, United States July 1965 - June 1967” (Washington, D.C.: U.S. Government Printing Office, October 1969) p. 18.

** In New York City, number of visits for medical care is inversely related to income. See *Physicians Visits, New York City, 1964*. Population Health Survey Research Bulletin RB-662-68. Population Health Survey Research, The City University of New York.

Health-Related Activities

I have already mentioned the difficulties of sorting out, setting priorities for, and supporting selected health-related projects from the straight medical projects which communities insist are in the purview of a medical center. There is a role for a medical center in helping people to obtain improved services in housing, education, communication and transportation. These health-related activities can be negotiated with the community so that they participate in the planning and management of the project, receiving primarily technical assistance and backup support from the medical center. I shall present several of these examples to demonstrate the principles involved.

Two years ago an East Harlem organization which operates a major settlement project indicated its need for a minibus to transport people from the community to various health facilities. They had heard of our earlier role with the upper East Harlem Neighborhood Association. We analyzed their problem, jointly wrote a proposal and then submitted it to a small foundation. The project was supported and the director of the Settlement House is documenting use of this health transportation system. They have now built the health transportation program into their regular budget since the project has clearly demonstrated its value to the agency. We are currently helping the Settlement House in a pilot home health care program for the elderly funded by the City. Again our role was that of a technical assistant plus a kind of ombudsman in helping the community group find the appropriate funding source. This type of project serves as an educational experience for the agency and increases the sophistication of the community organization in providing a wider range of health services. A Chinese proverb says that if you want to help the people for a year, plant rice; if you want to help for ten years, plant trees; but if you want to help people for a hundred years, educate them. We are able to assist these community organizations in expanding their traditional roles to include health services through teaching and training their administrative and service staff.

Another example of a health-related community request was a demand for more professionals from the black and Puerto Rican minorities to be hired by Mount Sinai Hospital and enrolled in the medical school. We at Mount Sinai Medical Center had been frustrated in recruiting qualified candidates and found ourselves in competition with medical schools not only in New York City—but on a national scale. Many of the CUNY preprofessional minority students were being recruited like football or basketball stars. We felt this competitive route was not the way to address the problem of minority representation on the Mount Sinai faculty.

In discussions with the administrators of the Benjamin Franklin High School, we learned that 80% of the students entering the high school had dropped out before the end of the final year. Cooperating with the high school administrators, the Board of Education and the parent-teachers associa-

tion we developed a special education project initially funded by a foundation but now supported by the Board of Education and HEW.

The crux of the problem was the overcrowding of the high school with chaos and confusion in management of students, their records, lack of motivation and rapid turnover of faculty.

It was clear that the dropouts included many bright but "turned off" students. We set up a program beginning with sophomores who were potential dropouts — that is, we excluded college bound students from the program. Students who enrolled in the Benjamin Franklin High School-Mount Sinai project were volunteers. They were given two kinds of support — first, special classes to supplement their competence in math, English and science through special courses in health subjects and, secondly, work placement of students in health service or research settings at Mount Sinai Medical Center. Although the program was initiated in 1970 in an East Harlem storefront, it since has been transferred to the Mount Sinai campus — in the basic sciences building. Indeed, the final year of high school is entirely conducted in the Mount Sinai setting. Moreover, several academic courses are given full academic credit at the Hostos Community College in the Bronx — part of the CUNY Community College network.

The results of this project have been dramatic. For the three-year period from 1972-1975, there were 132 seniors in the program. Of these, 115 (87%) graduated. 91 (79%) of the graduates were accepted in college. It is important to note that all of the students accepted in the program were D students with a grade of 69 or lower. While we emphasized the health career opportunities we have never insisted that students remain in a health track. Nevertheless, the program has had a major impact in promoting minority participation in the health field. We fully expect the health manpower development project to have a beneficial effect in East Harlem. Community leaders have been most supportive of the program and the criticism of minority representation in Mount Sinai has dissolved. Our Board of Trustees and administration have now agreed to transfer the education project from the Department of Community Medicine into the Dean's office. The East Harlem program has truly become "institutionalized" with a cooperative arrangement among medical school, CUNY, Benjamin Franklin High School and the New York City Board of Education.

Housing is another sore issue in the East Harlem community, as it is in most inner city areas where large institutions encroach on the limited housing stock in contiguous neighborhoods. Conflicts between neighborhood associations primarily concerned with housing issues and the health institutions, particularly Mount Sinai, were abrasive, heated and destructive to the social health goals of the Medical Center. Special conferences were arranged between community groups and top officials and a much more enlightened understanding of mutual problems developed. One of the members of our depart-

ment conducted a study of housing and health in East Harlem. What he found was startling. Most of the housing stock in East Harlem that was decaying and abandoned had fallen into this category because of lack of maintenance. Indeed, 70% of the abandoned tenement buildings were structurally sound but because of poor maintenance and neglect, the building became uninhabitable. Rats, roaches, dangerous electrical and plumbing hazards, boilers in disrepair, and falling plaster were also health-related environmental problems. It would be hard to make the case with community leaders that the relationship between housing and health was not documented satisfactorily from an academic point of view.

Reviewing the findings of this study with a representative community group, we developed a project which might serve as a model for solving this difficult problem. The area for attack seemed to be at the point of preparing maintenance personnel who could be trained to do building repairs. The typical building "super" was the unskilled individual who rendered minimal janitorial service in lieu of paying rent for his apartment. Not infrequently the individual was a "wino" who essentially did nothing to maintain the building.

With the help of a special grant from New York State we obtained funds to train special maintenance personnel. These people were considered environmental extension agents. Not only were they trained to do building repairs and maintenance but they were also educated in environmental health hazards. They learned first aid and also how to suspect health problems that could be referred to the public health nurses or public health sanitarians.

Internal interracial and ethnic political problems terminated the community's ability to carry on this project in its original formulation. However, various stable community agencies have picked up the principles of this program and incorporated it into their structure.

This case of "health and housing" illustrates the importance of helping others to help themselves. By providing technical assistance to the community and remaining outside the political squabbles, we were not at all responsible for the organizational demise of the project. We were not placed in the position of taking on the fiscal responsibility for this project when, because of community disunity, they were no longer able to conduct a viable program. Had Mount Sinai been eager to control the funding and development of such a project we most certainly would have been assigned the continuous responsibility. A continuing commitment of this nature would have had calamitous financial implications for the medical school. The philosophy of helping others help themselves seems to be a sound one with respect to a social commitment policy for an academic medical center.

Further opportunities for helping East Harlem in community development continue to crop up. The closed circuit television station in the Gaylord-White senior citizen complex represents a communications project in health. The

them to providers in the area. Families of the enrolled children will be given the option to choose from among three health care provider groups who can fulfill the comprehensive health services for the enrolled school children. This pool of providers would include Mount Sinai Hospital, HIP, the East Harlem Tenants Council Neighborhood Health Center as well as other qualified groups and institutions. Periodic assessments and evaluations would be carried out by the Health Plan Office and in an early development period our academic group would conduct this aspect of the project guided by an Advisory Committee made up of community representatives.

Funds to carry on this school health model will be provided by government as it sees this project as having potential as a mechanism for utilizing national health insurance funds in the future. This model is inspired by the prepaid group practice marketing policies; here the children in school can be thought of as the "working population." Although in the initial stages only Medicaid-eligible children can participate, feasibility for a more ambitious coverage can be ascertained from this pilot experience.

Another experiment within the school health project has been the application of new technology to the categorical high priority health problems. One of the most significant health care priorities has been eye care. A Mount Sinai ophthalmologist invented and pretested an automatic refraction instrument. It essentially produces a refraction by electronic methods and can produce an eyeglass prescription comparable to what an ophthalmologist or optometrist does in his office. The advantage of the automated refraction instrument is that it can be operated by a technician with limited scientific and formal educational background. The instrument is portable and the time involved in obtaining prescription is very short. Moreover, not only is the screening for visual acuity accurate and fast, but a prescription is generated on the spot.

We have been evaluating the automatic refraction instrument for the past four years. It is clear that the technology has been perfected to the point where mass production of visual screening and refraction service is possible for all children. As an aside, one can get children as young as age 2 to sit still in front of the machine for the refraction process. We have already done 2,000 refractions on school children. In addition to generating eye care services, we also have an incredible bank of data on refractive defects in various population groups. To date, epidemiologic findings show incredibly high rates of myopia (nearsightedness) in Puerto Rican girls, especially between age 10 and 14 years.

There are legal questions concerning the supervision of techniques by ophthalmologist or optometrist. These issues are being clarified. Sophisticated decisions on prescriptions for refraction on special problems are being designed into a computer attachment to an ophthalmometron which will reduce the number of referrals to the ophthalmologist.

Without good rapport with community groups, the experientments of applying this new technology to the community would not have been possible. Indeed, I am convinced that if this automatic refraction device had not been taken out into the community schools, it would have remained as a special machine in offices of specialists. The mass production of refraction in community settings is a major contribution to health service needs of the community. We are currently conducting compliance studies to determine the ultimate benefits of this program. Epidemiologic information will assist us in finding high risk groups and may also shed some light on the natural history and perhaps etiology of refraction defects. Collaboration with our geneticists has been a part of the program from the beginning. One of the neighborhood family health centers in East Harlem which I shall describe is already conducting an assessment of how it can incorporate the automatic refraction service into its patient care program.

The example of applying a new technology to a population, especially a school age group, has stimulated parallel school health screening in other areas. The speech therapist has developed a pilot experiment on tape recording speech patterns from each child. The tapes are then evaluated at Mount Sinai and suspect cases referred to the Speech Clinic. Tapes, of course, can be recorded by ancillary personnel from school or health staff. The orthopedists are using television tapes whereby a technician follows a protocol for instructing a given child through various positions and gait. Later these television tapes are screened by orthopedic specialist. This is an attempt to get high-powered, sophisticated specialists to the child in a community setting. Without cost-effective and precise screening, overproduction or inappropriate referrals to specialty clinics would result. We are only in the embryonic stages of the extension of specialty screening techniques into the primary care settings. Much more critical assessment must be incorporated before these techniques can be marketed on a large scale.

What can be projected from these pilot studies, however, is the importance of the community dimension in adapting technology to the practice situation. The congruence with the land grant agricultural model is again reaffirmed!

One of the most successful demonstrations of evolving an improved health care system from an existing health service model is beautifully illustrated by the Wagner Child Health Station. The New York City Health Department has about 60 Child Health units scattered throughout the city in high risk areas for child growth and development. Five of these stations are located in East Harlem. Our academic group shared a common desire with the New York City Health Department to convert an existing child health station which provided limited preventive services to a comprehensive front-line primary child care program. By mutual agreement, Wagner Station on 121st Street was chosen for the pilot model project. Funding came from multiple sources: city, Federal Model Cities, and foundations. The Field Foundation, the Robert Wood Johnson Foundation, and the New York Community Trust

them to providers in the area. Families of the enrolled children will be given the option to choose from among three health care provider groups who can fulfill the comprehensive health services for the enrolled school children. This pool of providers would include Mount Sinai Hospital, HIP, the East Harlem Tenants Council Neighborhood Health Center as well as other qualified groups and institutions. Periodic assessments and evaluations would be carried out by the Health Plan Office and in an early development period our academic group would conduct this aspect of the project guided by an Advisory Committee made up of community representatives.

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have been principal backers from foundation groups. This program was initiated in 1969; I here present only a few highlights of its six-year history.

The essential feature of the Wagner Child Care Center was to provide a comprehensive range of health services to a neighborhood population of infants and children under age five. Two thousand children were the target denominator population. A pediatrician with a background of work in a similar child care model in Nigeria was joined by a pediatric nurse clinician. Together they supervised and directed the work of other professionals and community health workers. This teamwork, with emphasis on nurse practitioner primary care backed up by a specialist pediatrician, with six community health workers assisting in the clinic, but alternating with visits to families in the home, was the core of the delivery plan. Algorithms or protocols for nurse practitioner care were developed, the use of bidirectional television linkage between child health clinic and the specialists on Mount Sinai campus were additional features. Constant evaluation of services, including sessions with neighborhood advisory groups of mothers, was a feature crucial to the success of the program. Cost-effectiveness of community health workers has also been included in the overall assessment of the program.

As a result of the loss of Model Cities funding and city cutbacks which affected all innovative programs, the Wagner project, as successful as it had been, was faced with termination. However, another one of our community clients came to the rescue. The East Harlem Tenants Council, a Puerto Rican community organization which had for many years concentrated on housing issues, had begun planning a Neighborhood Family Health Center for a population of 30,000 people. We were invited to provide technical assistance in planning their project, preparing an HEW grant application, and helping to secure secondary care backup from the Hospital for Joint Diseases and tertiary care from Mount Sinai Hospital. Progress was made on all fronts and the project was activated in July 1975. Because of the favorable experience which the East Harlem Tenants Council had with families using the Wagner program, an agreement was reached whereby they would incorporate the total Wagner program as the core initial activity of the East Harlem Tenants Council Taino Towers Neighborhood Family Health Center Project. Today most of the professional staff for the neighborhood Health Center are Mount Sinai physicians who provide primary care on session block basis. Our faculty continues to be paid consultants in planning and evaluation work. The practicing physicians are paid on the basis of the customary fee scale. We recently have been asked by the East Harlem Tenants Council Board of Directors to assist them in learning how to use an information system in developing sophistication in decision-making. Thus, our joint cooperation and collaboration continues to expand in a wide range of health care issues.

The network of regionalized service moving from primary care in the community to community hospital and to university hospital could not have been

generated without the constant collaboration of an academic group with the community organizations.

This illustrates again the mutual benefit gained when the academic service program has been clearly defined. This in essence is what community medicine "practice" is all about. It indicates the role for the third faculty in actively assuring that the social responsibilities of the university medical center are fulfilled.

I have purposely reviewed the third faculty problem-solving approach as it was applied to our contiguous community or neighborhood. This was a particularly important priority for Mount Sinai when the Department of Community Medicine was established. There are, of course, many other "communities" which have a need for the skills and knowledge base related to population health problems. There is the *academic community*. Our special associations with the CUNY Graduate Center, the City College Biomedical Program and Nursing School, the Baruch College Division of Health Services and the Hunter School are exciting collaborative university-wide linkages. The following are some of our joint programs within the Medical Center. We are currently developing a project with our Department of Microbiology to conduct an influenza vaccine program in anticipation of the next pandemic. Another client is the Mount Sinai Hospital community. The hospital actually funds a full-time core of faculty from Community Medicine to examine a wide range of health care delivery problems within the hospital and outpatient/emergency room setting. Dr. Pomrinse, Vice-President for Hospital Affairs, considers our faculty as a resource for "research and development" in improving patient care services. The hospital administrators frequently turn to us for help in defining health care problems as well as in giving regular feedback on critical issues for policy. One example that may quickly illustrate this operational research activity deals with a request by Local 1199, the Drug and Hospital Workers Union, to have Mount Sinai Hospital establish a Mount Sinai-1199 HMO. After a careful collection of data and appropriate analysis, we were able to show quite clearly that, at this time, such a venture would be a fiasco. The documentation of this recommendation was so clearcut and convincing that Union 1199 directors redefined their goals in the direction of working out an agreement with an existing HIP Medical Group.

Joint projects with our clinical department colleagues are commonplace. I have already described community-oriented programs with Ophthalmology, the Speech Department, and Orthopedics. However, a wide range of cooperative study groups in Medicine, Pediatrics and Surgery are also in progress. These include categorical problem areas such as breast cancer, hypertension and diabetes, as well as ambulatory care services. Without the integrated clinical-basic sciences and community medicine interplay on a day-to-day basis, I doubt that so many and diverse opportunities for joint projects would have evolved. Sitting on medical school and hospital committees on a coequal basis increases the rapport and understanding of what each of the

three faculties can contribute to each other. Even the Dean's small advisory body reflects the integrated faculty policy as I sit with two clinicians and a basic scientist in a four-person committee. The importance of the representation of the three faculties is not lost in reinforcing the integrated concept to the entire academic faculty.

I have already referred to the large complex of Mount Sinai Hospital affiliates. In each of the four affiliated hospitals, we have established a Department of Community Medicine. Each of these units has core funding from the hospital budget. Health care services research aimed at improving patient care and linkages to community populations is the prime responsibility of each program. The Elmhurst Hospital Health Services Unit includes a specialist in systems analysis, a biostatistician, a medical sociologist, and research assistants. Medical students are assigned to these affiliates for regular clerkship teaching. Residents in Community Medicine have been fully funded from each of the hospital affiliates. Currently we are providing faculty development for the affiliated institutions. We have been impressed with the eagerness and enthusiasm of junior and senior faculty at these hospitals for undertaking continuing education in improving their competence in teaching and research activities related to health care problems. In all candor, very few faculty in these hospitals have had much formal training in operations research and, moreover, their interest and concern has been excited by medical students and residents. We see a splendid opportunity to help establish core "third faculties" in each of the affiliated institutions. Each of the community medicine units in the affiliated hospitals has the backup of various experts in health services research so that the academic resources readily can be shared throughout the affiliated hospital complex.

We have considered contributions which a third faculty can make to the local community, the medical school and university hospital as well as its affiliated hospitals. I cannot here review our programs related to city-wide organizations such as the Phoenix House (Therapeutic Community) Health Systems, the Jewish Child Care Association, or some of the state and national programs for which we have operational research backup resources. Moreover, I have deliberately omitted Dr. Irving Selikoff's environmental health group because its activities would require an extensive review beyond the scope of this presentation. I have not taken the time to detail our educational and training programs because inherent in what I have described as community medicine practice lies the substance on which our learning-by-doing educational philosophy thrives. Without a problem-solving approach in the real world of health care delivery and environmental medicine, how could one capture the interest and attention of medical students? Since all our medical students rotate through four-week clerkships in Community Medicine, we have an operational health research task force of student-faculty teams that currently provides 6 person-years of "R & D" activity. When our class enrollments peak at 120, this provides 9 person-years of R & D input.

With the many students taking elective work throughout the four-year undergraduate curriculum and the minimum of five residents in Community Medicine, there is a "social health" contribution to our many client communities of 15 person-years of R & D input. This represents an enormous student contribution of service which, in addition to its inherent education and training value, has already had a significant impact on the delivery of health care in our institutions and contiguous communities.

I will be so presumptuous as to say that no viable teaching program could possibly succeed without a living practice substrate. Until a third faculty defines its communities or population groups with important health care and environmental issues, a practice cannot be established.

We are only seven years into the experience of helping the university medical center realize its potential of improving the health situation in our big city. While the model for a third faculty seems to have been rooted at Mount Sinai, there will be the incessant demand to do more and to do it better. In my opinion, the changing role of the university medical center cannot and will not be to retreat into the ivory tower but inexorably to broaden and deepen its social commitment to the community.

As I said at the beginning of this lecture, there are 48 university medical centers serving in metropolitan areas of greater than one million population. If each center contributed its fair share of technical assistance and model building to the solution of its regional urban health problems, I believe society would reap immeasurable benefits and respond by strong support of university medical centers. The time has come for the policy-makers in academic centers to acknowledge the changing role of universities and mobilize their resources for society. To evade this issue is to have society impose its pattern of change on the academic structure. Nowhere is this more clear than in the rough-and-tumble big city environment. But, as I said at the outset of my lecture, what is true of the big city health crisis today, in an exaggerated form, may be the lot of others tomorrow.

THE MERRIMON COMMITTEE
(1974-75)

Faculty

John B. Graham, M.D., Chairman
Charles H. Hendricks, M.D.
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Students

Mr. James B. Holt
Mr. David C. Lanier
Mr. Walker A. Long
Mr. Van J. Stitt, Jr.

ARRANGEMENTS

Miss Maria A. Leon