

**Case School of Medicine and Health:**  
**A Proposal for Radical Reform of Medical Education**

Just at the moment in time when the American people have recognized the urgent importance of a healthcare system that integrates Medicine and Public Health, policy makers have come to realize the deeply rooted alienation between the two professions. Medicine and Public Health are separated in education by different philosophies, content and modes of instruction; in practice by different goals, delivery systems and authority; and in public support by different levels of investment in infrastructure and societal appreciation. Events and circumstances of the past decade, including emerging and re-emerging microbial diseases, the growing importance of chronic diseases, persistent deficiencies in the quality of medical care and clinical decision-making, and the specter of public emergencies linked to acts of terror, have all emphasized the need for a renewed investment in public health education and infrastructure. These recent occurrences, in addition to the looming shortage of caregivers for the elderly and the increased focus on international health, provide a clear impetus to create a health care system integrated across medicine and public health, one that begins by reuniting the disciplines of public health and medicine into a single, complementary program of study.

To meet this objective, Case Western Reserve University (Case) proposes to create a School of Medicine and Health with the goal of enabling the professional integration that must be a core strategy in addressing the current crisis in the inter-professional relationships between medicine and public health. Through our recreation of the medical school, we will educate physicians to understand the interplay between the biology of disease and the social context of illness; between the care of the individual patient and the health of the public; and between clinical medicine and population medicine. The physicians who emerge from this experience will be individuals whose leadership in science, practice, and health care policy will reflect the interplay among the most enduring and salient themes in health and health care.

The Case School of Medicine and Health will challenge the profession of medicine to re-imagine itself as responsible not just for the care of patients with disease, but also for the prevention and control of diseases in individuals and communities, and ultimately for the health of people in the

United States and across the globe. Our proposal is intended not simply to reform medical education, but to shift existing paradigms in order to reinvent it.

#### Rationale: Medical vs. Public Health Education

The chasm between medicine and public health that is now so evident did not always exist. Well into the early part of the twentieth century, physicians who cared for patients with a disease were taught that they had a responsibility for the control and prevention of disease. However, the rise of independent schools of public health, separate from schools of medicine, initiated a health care culture that diverted the attention of physicians from the wider societal influences on medicine and focused physicians' attention almost solely on the care of individual patients. Health promotion and disease prevention became marginalized in medical schools as did any concentration on population health or the social and psychological determinants of disease. Although schools of medicine flourished with this narrower focus and reductionist approach to science, physicians progressively lost sight of their profession's previous responsibilities for ensuring the health of the public.

The structure of contemporary medical education itself has changed little in its evolution during the course of the past 100 years: year one of medical school focuses on the biology of "health;" year two on the biology of disease; year three is comprised of required clerkships; and year four is available for elective experiences. Western Reserve College of Medicine (which later became the School of Medicine at Case Western Reserve University) introduced a major educational reform in 1953 when it established the first integrated, organ-based curriculum complimented by early exposure to clinical experiences, a then revolutionary concept that was – and still is – widely emulated by medical schools around the world. However, most of the notable innovations in medical education, including the Case reform of 1953, have focused on the "process" rather than on the "content" of what medical students learn. Problem-based learning formats (e.g. Harvard's "New Pathway" system), better integration of basic and clinical sciences (e.g. Rochester's "Double-Helix" system), and graduate school style curricula (e.g. the Yale system) are also examples of this process-oriented type of educational reform. We seek to learn from and incorporate aspects of these educational experiments at other institutions in our new

curriculum, but will follow a different path by fundamentally changing the content of medical education.

Currently the “concepts” and “methods” of public health are taught in medical schools through special courses for epidemiology, biostatistics, and health policy. Such courses are frequently marginalized within the curriculum, avoided or disdained by the students, and viewed as necessary not because of their intrinsic value but to pass licensing exams. Students rarely acquire a deep appreciation for the central importance of (and distinctions between) infectious and chronic diseases or the field of epidemiology. Through their limited exposure to public health courses, medical students are frequently unable to garner a sophisticated appreciation for the importance of the distinctions in delivery and payment systems, quality assessment and improvement, or the quantitative basis of clinical decision-making. Segregated into courses considered avoidable, the central principles of prevention become trivialized in medical school, overwhelmed by the treatment paradigm that dominates the medical profession.

An increasing number of medical students do, however, wish to pursue careers in public health. The only venue presently available to these students is to earn public health degrees either after graduation from medical school or through a joint M.D./M.P.H. program. According to the Association of Schools of Public Health, the number of graduates from schools of public health with M.D.’s increased over the course of the past decade.<sup>1</sup> Yet while the number of physicians earning M.P.H. degrees is increasing, they comprise an ever smaller percentage of the overall number of graduates emerging from schools of public health.<sup>2</sup> While these physicians unquestionably benefit from their interdisciplinary training alongside individuals from widely varying fields, the education they receive does not apply, nor does it tie, the goals and philosophies of public health directly to medicine as closely as it could or ought to. By creating a School of Medicine and Health, we hope to offer an extraordinary opportunity for physicians-in-training to become imbued with the philosophy of public health by giving them hands-on opportunities working in the community, as well as providing them with an intensive and thorough research experience with mentors on the faculty.

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<sup>1</sup> Association of Schools of Public Health (Mah-Sere K. Sow, M.P.H.), *2002 Annual Data Report*, April 2003, p. 64.

<sup>2</sup> Association of Schools of Public Health, p. 64.

### Philosophy of the New Case School of Medicine and Health

At the core of a great research-intensive School of Medicine and Health is a commitment to generating new knowledge across the full spectrum of research and scholarship that strengthens the science of health and health care, and improves the practice of medicine and public health. Research and scholarship will be the animating force that invigorates the learning experience for our students and enhances the practice environment for our physicians. The ultimate mission of our School of Medicine and Health must be to improve the health and health care of the public – both in the U.S. and abroad - through individual and population-based research, practice (individual and community), and service. The ethos of our School will be defined by a concentration on the central value of discovery, by the focus on health as well as disease, and by the expectations we create for scholarship and practice that dissolve the boundaries between the care of the individual patient and the commitment to the health of the community.

The curriculum of the new School of Medicine and Health will reflect our commitment to an integrated philosophy for medicine and public health. Epidemiology, quantitative methods, disease prevention, quality assessment and improvement, population medicine, social determinants of disease, health promoting and health damaging behaviors, all must be inserted seamlessly into courses that provide the core experiences of Medical School. Students who now belittle (without knowing) cardiovascular epidemiology need to see the pioneering benefits of that research on the prevention and treatment of heart disease. Too few students appreciate the influence of the work of Ancel Keys on the dietary fat-heart disease link, or the achievements of the Framingham study and other population studies on the identification of cardiovascular risk factors. Too few students are aware of the relationship between these path-breaking epidemiologic studies and the elegant fundamental research of scientists such as Brown and Goldstein or the subsequent development of powerful cholesterol lowering agents whose effectiveness was demonstrated in clinical research. Many students remain unaware of recent studies documenting lower than recommended use of these agents where indicated and too few students see the link between new epidemiologic studies that have identified the important potential role of inflammation in the development of atherosclerosis and the basic science research now exploring that topic. Integrative science that emphasizes the value of

epidemiology, statistics, prevention and clinical science on par with and complimenting fundamental science will be a hallmark of the new Case School of Medicine and Health. The overarching strategy will be to achieve full integration of Medical and Public Health content into the mainstream instruction of medical students.

### Curricular Themes

In order to integrate fully the core concepts of health and disease prevention into a curriculum that has traditionally focused on the principles of illness and disease treatment, we will define a new foundation upon which our novel curriculum will be built as opposed to simply “enriching” the existing curriculum by the addition of new material. We can no longer rely on adjustments in the educational process and we can no longer hold sacred certain topics that we have always “covered.” We propose to radically rethink the very nature of the traditional approach to educational reform that has been prevalent since the evolution of the organ system method over 50 years ago. While the clinical and basic science education of our students will continue to be an important priority, graduates from the Case School of Medicine and Health will also be required to demonstrate mastery in four themes that have been endorsed by the faculty. These four cornerstones of our new curriculum will include - research and scholarship for all students; clinical mastery; professional leadership; and civic professionalism.

Substantial and thorough experience with research and scholarship is envisioned for each student for several reasons. All students need to learn the methods of science, as well as experience the inspiration and excitement of discovery. We will design the curriculum to encourage all students to explore a topic in depth with the specific goal of exposing the students to the limits of our knowledge as opposed to covering superficially a large number of facts. In addition – and just as importantly – we will require every student to undertake research because research experiences make physicians better doctors. The scientific method prepares the student for the rigorous methods of clinical decision-making that are at the core of outstanding medical practice.

Our approach to the clinical education of students must also change to ensure that each student achieves mastery of clinical skills appropriate for their level of patient responsibility. Achieving “competence” in clinical care is no longer an acceptable benchmark when medical errors are

recognized as a critical issue in American medicine. Students need more exposure to a larger number of patients, as well as a more comprehensive and objective assessment of their developing clinical abilities. Students will be mentored by master clinicians and faculty in the principles and methods of the clinical examination even as they are guided to strengthen their skills in communication and clinical reasoning.

Although taught in business schools and other disciplines, leadership is a skill that is often ignored in medical education. Leadership can be learned and is a critical asset for those who wish to be instruments of change in our society. Every student at Case will develop an understanding of organizational structure and behavior and the core leadership skills that are needed to instigate change in our local and national health care delivery systems. These skills will be taught in special courses designed for medical students by the faculty at the Weatherhead School of Management who are national authorities on these topics.

Finally, at the core of the integration of Medicine and Public Health is the creation of doctors with a firm commitment to civic professionalism. The social contract between physicians and public has long been eroding with physicians being perceived as putting their own self interest ahead of the interest of their patients and the larger community. By reinventing our curriculum and orienting our philosophy toward improving the health of the American people, we will help students at the Case School of Medicine and Health learn to meet their obligations as professionals not just to the health of their own patients, but to that of the community, society and our health care system.

#### Curricular innovation vs. curricular reform

Major curricular innovations, even those designed only to better integrate science and medicine, present a tremendous challenge. Most schools that have attempted such traditional, “process-oriented” reforms have benefited from visionary leadership as well as substantial support from private foundations. For instance, the “New Pathway” at Harvard Medical School was the brainchild of Daniel Tosteson, Harvard’s dean for almost 20 years, who was hired by the President of the University with full backing of his curricular reforms. The much lauded “Double Helix Curriculum” at the University of Rochester was made possible by unique new

classrooms designed and engineered specifically for the model curriculum focusing on problem-based learning, and were constructed with the help of substantial grant support. In the case of the Western Reserve “experiment” of the 1950’s, the curricular reform was orchestrated under the leadership of an extraordinary educator and visionary, Joseph Wearn, and supported by grants that are the equivalent of about \$100 million in today’s dollars.

What we propose to do – to create a new medical school and a new curriculum – is even more challenging. The University and School of Medicine are committed to this unprecedented experiment and aim to produce a generation of physicians who are able to incorporate the fundamental concepts of population health into the practice of Medicine. We seek to produce physicians whose understanding of disease is shaped by knowledge of the social and behavioral determinants of health. The inextricable linkage we seek between clinical education and instruction in population medicine is a sweeping and revolutionary shift that will require significant financial support to recruit new faculty committed to this paradigm as well as provide existing faculty the time and resources needed to plan and implement this new model of medical education.

### Why Case?

Since 1843 the School of Medicine at Case has dedicated itself to educating physicians to care for patients with competence, creativity, and compassion. In the process, it has achieved worldwide prominence for being in the forefront of innovative medical education, biomedical research, and healthcare delivery. As the largest biomedical research institution in Ohio, the School of Medicine, working in conjunction with its affiliated hospitals, has achieved a national and international reputation as an innovative research center. With 13 basic science and 16 clinical departments, the School of Medicine is ranked 15<sup>th</sup> among the nation’s 125 medical schools in research funding received from the National Institutes of Health.

Case School of Medicine is currently at a watershed period in its history, and one that presents numerous unparalleled opportunities to contribute to the success of the new curriculum. Last year, the School of Medicine and the Cleveland Clinic Foundation agreed to create an entirely new medical college under the auspices of the School of Medicine that is specifically designed to

train clinical investigators (When Cleveland Clinic physicians are fully integrated as Case faculty, the School of Medicine will move into the top 10 for NIH research funding). The Medical School has also just entered into a fifty-year partnership with University Hospitals of Cleveland – an affiliation that will unite our powerful research efforts under the Case Research Institute. These recent agreements, in addition to our longstanding partnerships with MetroHealth Medical Center and the Louis Stokes Veterans Affairs Medical Center, align the Case School of Medicine with all of Cleveland’s major hospitals. This circumstance permits the school to impact and affect the health of the city and its residents through the placement of its clinical and research faculty at these institutions.

Case has a further advantage in its efforts to create a new School of Medicine and Health through its relationship with the City of Cleveland and its Department of Public Health. Cleveland is a city that typifies America’s urban communities in its demographics, size, economics, and health. In an effort to improve the health status of Cleveland residents, the University has declared its intention to partner with the City. As a first step in this process, the University has offered the City a building on the Case campus, adjacent to the Medical School, where it can relocate its Department of Public Health. In addition, the University is working with the City to recruit a Commissioner of Public Health who will hold a senior faculty appointment at Case. By placing the City’s Department of Public Health in close proximity to the students and faculty of Case, we will not only bring issues of public health to the forefront in the academic community, but also offer our students experiences in public health practice that will improve the health of Cleveland residents. Our philosophy will also require us to work closely with all of the other graduate and professional schools at the University (Law, Business, Engineering, Dentistry, Nursing, Social Work), as well as the College of Arts and Sciences where we are developing an undergraduate major in Public Health Policy and Practice.

### Conclusion

The failure of physicians to learn the fundamental concepts and methods of public health has had numerous consequences. Physicians must be one of the “early detection” systems for new and re-emerging diseases, yet few physicians are prepared to function effectively in this role. The public

health infrastructure in local and regional communities has atrophied in part because of the disinterest of physicians in the integrity of community-level health services. And physicians are more likely today to advocate for their own self-interest (e.g. malpractice reform and payment rates) than the national interest (e.g. 45 million uninsured and widespread health disparities.)

The new Case School of Medicine and Health proposes a radical restructuring of American medical education. In this brief summary, I have tried to describe the philosophy and foundations that will underlie the new school. It is this philosophy that is motivating our faculty to engage in an institution-wide planning process that seeks to implement a new curriculum for the class entering Case in 2005. Our challenge is great and the risk of failure is high. We believe that the risk is worth taking because the potential benefits are so great. Our faculty hope to attract students excited by the interplay between the individual and the community, between basic science and patient/population science.

The possibility for success would be greatly enhanced by the commitment of individuals who would become a catalyst for change at Case by providing the financial support and intellectual partnership that would propel us forward and help us achieve our goal. Such support would signal to students, faculty, and the professions of medicine and public health the existence of -- and perhaps more significantly, underscore the importance of -- a bold experiment in education that holds the promise of radical reform of the healthcare system. We are hopeful that many individuals will join with us in this partnership for change.