The Public Hospital in American Medical Education

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ABSTRACT *The importance of the public hospital system to medical education is often absent from the debate about its value. Best known as a core provider of services to the underserved, the safety net hospital system also plays a critical role in the education of future physicians. Particular strengths include its ability to imbue physicians in training with core professional values, to reveal through the enormous range of clinical experience provided many of the social forces shaping health, and to foster interest in and commitment to advancing population health. Faculty teaching in the public hospital system has unusual opportunities to reveal to learners the broader meanings of their diverse and rich experiences. Now, as an alarming array of pressures bearing down on the safety net system threaten its stability, the potential negative impact on medical education, were it to shrink or be forced to change its essential mission, must be considered. As advocates of the safety net system marshal forces to rationalize its funding and support, its tremendous contribution to the training of physicians and other health care professionals must be clearly set forth to ensure that support for the public hospital system's health is appropriately broad based.*

KEYWORDS *Medical education, Public hospitals, Safety net, Residency training*

"The young [wo]man is exceptionally fortunate who enjoys the intimacy of such a teacher. And it must be confessed that the great hospitals, infirmaries and dispensaries of large cities, where men of well sifted reputations are in constant attendance are the true centers of medical education." Oliver Wendell Holmes, Valedictory Address to the graduating class of Bellevue Hospital College, 1871.¹

The nation's safety net hospital system, showing signs of stress in the face of multiple concurrent challenges, is rightly regarded as a core provider of services to the underserved. Its roles in providing trauma care, supporting preparedness, and meeting the medical needs of the poor are typically highlighted when policy arguments are made for enhancing the system's fiscal health. Often overlooked, however, is an additional critical role that the safety net system plays, that of educating future physicians.

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The goal of medical education is to rapidly advance the knowledge of young women and men and create future clinicians, investigators, and educators who will guard and advance the health of our population, and the setting in which this education occurs must advance this goal. As most Americans agree that all in our country should have access to high-quality health care, the education of physicians must imbue this value. Although obvious differences exist between today's major municipal and county hospital systems and the American almshouses of the early eighteenth century, the mission they share—particularly the ability to care for, improve the future of, and learn from America's most vulnerable—is fundamentally important to physicians' education.

In America's public hospital system, the extraordinary changes in medicine and health care fueled by three centuries of scientific and technologic discovery are juxtaposed with the unchanging core principle of providing care to all comers.^{2,3} This essential mission of the safety net health system, affirming its social contract as a guarantor of the health of the public, provides an invaluable context in which physicians in training can develop and internalize core professional values. Whereas students and house officers who train in such settings are influenced by it directly, even those who train in other settings are reminded by the public hospital system of social tenets central to the practice of medicine.

Yet an alarming array of pressures bearing down on the safety net system threaten its stability, forcing consideration of the potential negative impact on medical education were it to shrink or be forced to change its essential mission. Current challenges include intense fiscal pressures, new unfunded mandates, competitive quality targets made all the more challenging by severe fiscal constraints on revitalizing health IT infrastructure, and threatened Medicaid cuts that would siphon billions from the public hospital system.⁴ Concurrently, the number of uninsured Americans continues to grow unabated, recently reaching an all time high of 47 million persons or 15.3% of the US population.⁵ Combined, these diverse vectors can bring even the most prominent public hospitals to the brink of collapse, as seen recently in the near miss of Atlanta's Grady Hospital⁶ and the closure of Los Angeles' Martin Luther King Jr.–Harbor Hospital.⁷ Often absent from the debate about the value of such public hospital systems is consideration of their importance to medical education. As advocates of the safety net system marshal forces to rationalize its funding and support, its tremendous contribution to the training of physicians and other health care professionals must be clearly set forth to ensure that support for the public hospital system's health is appropriately broad based.

A BRIEF HISTORY OF THE PUBLIC HOSPITAL

The modern responsibilities of the hospital originated in the roles of the almshouse and the hospice.⁸ These early settings and forms of care evolved into the development of public and private hospitals in the nineteenth and twentieth centuries designed almost exclusively for the supportive care of the indigent and economically dependent.⁹ Patients hospitalized in this early phase of hospital development were typically afflicted with physical and mental disorders for which specific treatments were largely lacking, such as plague and "insanity," or with otherwise unmanageable conditions such as violent behavior, acute and chronic disability, and destitution (e.g., homeless women before and during childbirth).² In its earliest developmental phases, the role of the "modern" hospital as provider of last resort was not that different from that of the current public hospital.

Soon, however, the great medical accomplishments of the nineteenth and twentieth centuries gave rise to a hospital environment known for the aseptic practice of diagnostic and therapeutic interventions.⁹ These scientific advances altered the public's view of the hospital, as the ill and injured became users of the health care system regardless of their economic status. This medicalization prompted the transformation of the hospital and the public's perception of medicine, as well as the Carnegie Foundation's study of American medical education under Abraham Flexner.¹⁰ Yet whereas public institutions gave rise to numerous major advances in science, technology, and medicine, the gap between the public hospital "safety net" and care delivered in private institutions only widened. In ensuing decades, federal legislation addressing hospital construction (the Hill Burton act) and access to care for the poorest Americans (Medicaid and Medicare) served to improve the legal standing of the most disenfranchised and to establish many of the principles of the "safety net."⁹

THE PUBLIC HOSPITAL TODAY

Today, America's public hospitals provide a tremendous volume of care, averaging 405,000 ambulatory visits and 18,000 admissions per site in 2004. Uninsured persons accounted for 37% of outpatient visits and 23% of admissions.¹¹ Public hospitals care for a disproportionate share of America's poorest and most disenfranchised and shoulder heavy responsibilities in prison health, disaster response, trauma care, and substance abuse treatment.^{12,13} Special emphasis is placed on meeting the needs of vulnerable populations, including the uninsured and underinsured, immigrants both legal and undocumented, minority populations, the homeless, the disabled, high-risk mothers and infants, victims of violence, and persons with limited or no proficiency in English.¹⁴ These social comorbidities add substantial complexity to the management of the common chronic conditions for which most public hospital patients seek care, from diabetes and depression to tuberculosis and AIDS. The public hospital's social contract is manifest in this core commitment to provide comprehensive quality care to all.

MEDICAL EDUCATION AND THE PUBLIC HOSPITAL

Public hospitals have played a central role in American medical education, and many great physicians have obtained a substantial part of their experience at public institutions. From their earliest establishment, public hospitals have endeavored to educate the nation's physicians. The mission of communities to ensure excellent health care and the mission of academic medical centers to train the best physicians converge in the public teaching hospital.

Although medical education encompasses many stages of training, we focus our remarks on undergraduate (medical student) and the initial phase (internship and residency) of graduate education. Medical students are impressionable, and whereas they may elect a medical school based on its academic reputation more than its affiliated hospital, initial clinical encounters with disenfranchised patients can have a powerful and enduring impact. House officers, although less impressionable, are more likely to accord heavy weight to their choice of hospital as training ground.

Attending to America's poorest patients in its public hospitals, students, and house officers are stimulated to create solutions for problems much of society overtly or unconsciously regards as beyond solution, such as homelessness, poverty, substance abuse, and domestic violence.¹⁵ The cauldron of the safety net system

forges among motivated physicians in training a hard-edged creativity and, for many, a life-long quest to address the social determinants of health, disease, and health disparities. Enduring skills and commitments evolve from this process. Important, policy-relevant research is born of bringing trainees not yet accepting of the status quo into close contact with some of the harsher inequities of modern health care delivery. Prison health, for example, a daunting challenge rarely addressed by physicians in training except in public hospitals, can be found amenable to improvement by students and house officers in this environment, allowing for research that creates new solutions.¹⁶ Another challenging circumstance routinely encountered in the public hospital is the arrival of the newest uninsured immigrants.¹⁷ Diverse cultures and language barriers spur renewed study of doctor/patient relationships, communication, adherence, and quality of care, extending opportunities for the scholarship of optimizing service delivery and for treating persons who may have new and at times rare or late stage disorders.¹⁸

Public hospitals provide a training ground for future physicians that is unique in several core attributes. Most importantly, public hospitals embody a sense of mission. This core ethos, of working in a place that exists to minister to the sick regardless of walk of life or ability to pay, is enormously influential in shaping the worldview of physicians in training. Some would argue that the social context of many public hospital patients constitutes a clear and present danger to their well-being, so that the student and house officer share responsibility for assisting in a response. For many young doctors, training in the public hospital setting reaffirms the very values that led them to the choice of medicine as a career, diminishes a sense of isolation and distortion of motives, and provides them with countless role models of physicians who have chosen and derived great satisfaction from a life of public service.

The safety net helps imbue future physicians with a deep sense of responsibility. Medical students and house officers witness, in the public hospital patients they care for, the absolute reliability of the safety net: if someone falls, the net is there. To trainees, the public hospital thus models one of the core values of learning to be a physician—the heavy but “natural” responsibility of committing to provide care for another human being. As much as the buck stops at the door of the public hospital to which an indigent patient is brought by ambulance, it stops in the hands of the house officer and nurse assuming that patient’s care a few minutes and hours later. Experiencing the public hospital’s unwavering presence for its patients fosters similar commitment among those becoming physicians in its halls.

Across the globe, human migration is reconfiguring urban centers as never before. From New Orleans to Nairobi, half of the world’s population now lives in urban centers.¹⁹ How are we educating the next generation of physicians in the core challenge of meeting the health care needs of urban immigrants and displaced persons? Where are the systems and expertise being developed to provide longitudinal high-quality care to diverse, multilingual populations on a large scale? America’s large public hospital systems work continuously to advance strategies to meet these challenges. Students and house staff training in safety net institutions watch and participate as system-based solutions are developed to these evolving challenges. Solutions to communicating successfully across diverse languages and levels of health literacy, forged in safety net settings with immediate needs, can be exported to advance effective health care delivery across cultural divides in other settings as well.²⁰ The public hospital system is, *de facto*, educating future leaders of the physician workforce who will need to address the health consequences of globalization, urbanization, and human migration.

Learners in the Safety Net: Revealing Meaning in the Public Hospital Experience

Medical students and house staff are drawn to training programs with strong public hospital components, attracted by the richness of “pathology” they anticipate, a dual sense of mission and adventure, and the relative independence and autonomy they imagine awaits them. This allure is often counterbalanced in actuality by the experience of working in systems that are underresourced, at times chaotic and frustrating, and perceived at times as revolving doors for patients whose unmet psychosocial needs foster frequent repeat hospitalizations.

The great challenge and opportunity to the educator in the public hospital is to reveal to learners the broader meanings of their experience. The rewards and challenges of providing care in this setting must be made to come alive as a core ‘text’ of the training experience. A resident frustrated at a patient’s not having filled a prescription can be helped to appreciate first-hand the web of barriers posed by low health literacy, English as a second language, and making ends meet without insurance. The student who comments on the “amazing pathology” encountered on the wards can be shown the pathology of the forces that lead to the patient’s delayed diagnosis. A house officer complaining after a heavy string of admissions that the emergency department did not go “on diversion” can be helped to understand why the safety net cannot go on diversion—and how this must be mirrored in the responsibility the young physician accepts for his patient’s care. The delivery system itself models core concepts of ownership, responsibility, and commitment: making this point to trainees offers a counterpoint to the diffusion of ownership and responsibility associated with shifts and work hours regulations.

The intersection of medical, social, economic, and cultural forces in the urban public hospital can be intense and can range from challenging to bewildering for the trainee trying to usher a patient to health. Yet such circumstances, invariably unpredictable and rich in problem-solving opportunities, can serve up essential training lessons. Medicine is an inherently uncertain art, rarely practiced best through narrowly deterministic thinking. By teaching trainees to be both open to and keen observers of the flux of circumstance in the public hospital setting, core lessons in preparedness, rapid assimilation of new information, and the spirit of inquiry can effectively be fostered. The teacher can transform the milieu of uncertainty into one of hypothesis. Working with mentors secure in thinking through multiply determined clinical scenarios, most often with incomplete evidence, provides a rich environment for intellectual growth and independence. Training to provide quality care in underresourced settings is education in preparedness.

The work of William Haddon, initial Director of the National Highway Traffic Safety Administration, typified this approach. His systematic analysis of “accidents” demonstrated that the events under study were in actuality injuries that could be prevented by addressing the agent, the host, and the environment before, during, and after the event. This “Haddon Matrix” approach can afford a structured framework for trainees working to divine order from apparent chaos as they face the challenges of caring for patients in the public hospital system.²¹

The immediacy of patients’ predicaments in the safety net setting affords less opportunity for learners to distance themselves from their patients intellectually than in other settings. This proximity creates rich opportunities for teaching the art of communication, too often neglected or glossed over in medical training.²² Primary care residency training has flourished in this health care delivery setting, addressing

health manpower shortage needs and equipping generations of generalists in the skills and ethos of providing high-quality continuity care to the medically underserved.²³

The schism between the worlds of clinical medicine and public health has hindered advances in population health that might be achieved if proven preventive and treatment interventions were systematically offered to eligible patients.²⁴ The impact of this divide is particularly apparent in settings caring for the underserved where stark disparities in health are readily apparent. Adverse outcomes after missed opportunities to apply simple interventions such as cancer screening or hypertension treatment are common among patients seeking care in safety net systems²⁵ and provide teachers with opportunities to address trainees' attitudes and knowledge regarding health disparities. Medical education is an important front in the campaign to diminish health disparities, and public hospitals provide many and rich 'teachable moments' in this regard.²⁶ For research-oriented trainees, witnessing these system failures first-hand can be a powerful stimulus to advance the science of implementing and disseminating effective interventions. The complex needs of the most deprived American or newest immigrant are often invisible in private sector health care delivery settings. Yet the vigilant trainee in any public hospital is constantly reminded of the inadequacies of local and global health care. Real advances in population health require the acquisition of such experience and knowledge, and public hospital training can forge future scientists committed to the "bedside-to-population" phase of translational research.

New challenges in clinical and social epidemiology are advanced in this setting as well. Physiologic mediators of poverty and immigration, such as chronic stress and malnutrition, can evoke multigenerational changes in gene pathways mediating growth, metabolism, and behavior in humans, as in other mammals. Current "epidemics" of obesity, diabetes, attention deficit disorder, and Asberger's syndrome, as well as low birth weight and preterm birth, may have important roots in such mechanisms.^{27,28} First-hand experience of the immediacy and impact of such stressors can provide invaluable insights to tomorrow's investigators.

CONCLUDING THOUGHTS

At a time of reinvigorated debate regarding uninsurance and the benefits of universal care,²⁹ we reflect on the importance of the safety net health care system to the development of the physicians who in the future will bear responsibility for creating solutions to the complex challenges of ensuring sustainable access to quality care for all.

We do not argue that public hospital training is the best available for all future physicians. Rather, we believe that support of the training mission of public hospitals is essential to sustaining the health of American medicine and the population it serves. Nowhere are the root causes of health and health care disparities more discernible or better able to forge among trainees a life-long commitment to advancing the whole population's health.

Students and residents training in public hospitals learn first-hand the core challenges of delivering effective health care. Lean infrastructures necessitate the development of communication, coordination, and oversight skills critical to overcoming the epidemic of medical errors associated with fragmentation of care. In this setting, trainees can be taught the art of delivering care tailored both to the individual's unique circumstances and to the complexities of the health care delivery

system. The impact of having as colleagues and mentors physicians and other health care workers motivated primarily by the rewards of a career of service is invaluable.

The public hospital experience is irreplaceable in the education of America's physicians, yet the system is underresourced and in a state of chronic crisis.³⁰ As we witness the gulf between the rich and poor grow ever wider and continue to tolerate no insurance for 50 million fellow citizens, it is essential to acknowledge and to continue to support the public hospital system's contribution to the skills, idealism, professionalism, and spirit of inquiry of the physicians of our future.

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