LETTERS TO THE EDITOR

Collaboration in Education of Primary Care Physicians

To the Editor:—In the April supplement of the *Journal*, entitled "Meeting the Need: Redressing the Specialist/Generalist Imbalance through Education and Training," a product of a cooperative effort of three generalist societies, Reynolds et al.[1] reviewed the role of collaboration in education and training of primary care physicians ("Collaboration in the Preparation of the Generalist Physician"). Unfortunately, the authors overlooked the long history and important lessons of the many efforts to educate physicians to practice in interdisciplinary teams and both the long-standing collaboration of internal medicine and pediatrics in the federal Title VII (Section 784) grant program and the 24-year collaboration between family practice, internal medicine, and pediatrics at the Residency Program in Social Medicine at Montefiore Medical Center and the Albert Einstein College of Medicine.

Interdisciplinary medical education has gone through three periods, beginning in the late 1950s and 1960s with considerable experimentation and documentation in medical student education in what was then called "comprehensive (family) medical care," beginning with Beloff and his colleagues at Yale.[2–4] Efforts in the 1970s focused on the primary care team and cross-disciplinary education in medicine, nursing, social work, pharmacy, and mid-level practitioners, among others.[5,6] The 1980s found interdisciplinary collaboration focused in such specialty areas as dialysis,[7] geriatrics,[8] and rehabilitation.[9] George Reader, who reviewed this literature in 1966 and again in 1976, noted "surprisingly little is being applied today, however, of what was learned previously through the various teaching experiments."[10] Despite success in teaching medical student interdisciplinary, comprehensive care, most experiments had only short-lived effects on student attitudes and were terminated for lack of financial or faculty support.[10] When we reviewed this experience and literature in 1988, we concluded that successful teaching depended upon clinical settings that were reorganized to improve *patient care* through interdisciplinary collaboration.[11]

While this literature has largely ignored graduate medical training, our review found 27 federally funded joint residency programs in primary care internal medicine and pediatrics, only two of which prepared trainees for dual boards.[11] We also found descriptions of collaboration, however brief, at 16 different academic health centers.[12–18] Triple board programs in pediatrics, psychiatry, and child psychiatry have also been started at six institutions. The Robert Wood Johnson Foundation also reviewed nine primary care residencies that it supported and found that six had some interdisciplinary collaboration.[19] Our conclusions paralleled those about comprehensive care a decade before: "Interdisciplinary graduate medical education has developed in community-based settings, such as neighborhood health centers, health maintenance organizations, and university health plans, and in hospital-based settings where traditional outpatient departments have been reorganized into model ambulatory care units or distinct primary care buildings or departments. Interdisciplinary education thus takes its place alongside interdisciplinary health care delivery and team practice organized for optimal primary care."[11]

Finally, the Residency Program in Social Medicine (RPSM) at Montefiore Medical Center and the Albert Einstein College of Medicine was founded in 1970 and has trained all three primary care disciplines collaboratively since 1973. The RPSM has graduated over 300 primary care physicians (104 family physicians, 117 general internists, and 88 pediatricians), two-thirds of whom enter practice in undeserved areas and half of whom make a career in such settings. More than 90% remain generalists. Its history, management, curriculum, and community-based ambulatory practices have been well-described in the literature.[11,20–24] This collaboration grew from the necessity with which Reynolds et al. conclude, "to serve first the interests of patients and society,"[1] specifically, the impoverished communities of the South Bronx. Of note, five of the 73 authors in the *Meeting the Need* supplement are RPSM graduates (Lillian Gelberg, Mark Linzer, Julia McMurray, Steve Shelov, and Benjamin Siegel).

A decade ago Joel Alpert and his colleagues noted, "Primary care specialties comprise several groups, among which there is no organizational unity, insufficient communication, and little professional cooperation. Yet these groups ... share the same basic concerns. Working in concert, they could have a profound effect on health care delivery in the U.S. ... A coalition, or organization, of primary care disciplines is needed to ensure that opportunities are not lost."[25] New initiatives, such as cosponsoring this monograph, strengthen the collaboration between the primary care disciplines. The collaborative achievements of and the lessons learned by those organizations described above should not be overlooked now, or, to paraphrase Santayana, we will inevitably repeat our own history.—A. H. Strelnick, MD, *Deputy Chair and Director, Graduate Medical Education*, Jane Bedell, MD, *Associate Director, Social Internal Medicine Residency*, Lydia Gonzalez, MD, MPH, *Director, Social Pediatrics Residency*, Victoria Gorski, MD, *Director, Family Practice Residency*, and Debbie Swiderski, MD, *Director, Social Internal Medicine Residency, Montefiore Medical Center, Bronx, NY 10467*

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In reply:—We appreciate the opportunity to commend those individuals who are involved in the Social Medicine Residency Program at Montefiore Medical Center. The ability to sustain a collaborative education program among different medical disciplines reflects a commitment to meet the needs of both patients and the community.

Our article, however, was written to offer suggestions regarding implementation of collaborative education initiatives for the majority of residency program directors who, lacking external funding, may be unable to restructure their programs completely. After outlining elements of collaboration, we described several programs that have been sustained over time (the geriatrics fellowship, the adolescent medicine fellowship, and the medicine–pediatrics residency). It is important to note that the number of medicine–pediatrics residency programs increased throughout the 1980s without federal or foundation funding. The success of these programs required that: 1) the practice sites be models of collaboration; 2) the certifying Boards support the new programs, ensuring that the new structures be maintained; and 3) patients be served optimally with input from various health professionals, including specialists, generalists, and nonphysician health professionals.

To respond to the needs of most medical educators seeking to develop collaborative education programs to train the generalist physician for the future practice of medicine, we described several strategies that could be implemented along the continuum of medical education from medical school through residency for enhancing the learning of skills in collaborative patient care.

Last, we recognize that collaboration between medical disciplines has been attempted several times over the past 30 years with federal and foundation support. In reviewing the literature, including collaborative programs in medicine and nursing, and participating in the design of a collaborative education program during one of the more recent periods of foundation support, we appreciate the challenges of sustaining collaborative education and patient care within institutions that are vertically organized and department-based once external funding ends. New funding from the Veterans Affairs administration has allowed us recently to implement a more collaborative residency for internal medicine and psychiatry that involves physicians, physician assistants, nurse practitioners, and social workers, again emphasizing the role of grant funding in enabling change.

We believe that teaching and reinforcing skills in collaboration are critical to future physicians, many of whom will practice medicine in managed care settings and group practices. Perhaps changes in the structure of the health care system itself will pressure educators to design new collaborative education programs.—P. PRESTON REYNOLDS, MD, PhD, *University of Pennsylvania School of Medicine, Department of Medicine, and University of Pennsylvania, Leonard Davis Institute of Health Economics, Philadelphia, PA 19104*; ANGELO GIARDINO, MD, MSEd, *University of Pennsylvania School of Medicine, Children's Hospital of Pennsylvania, and University of Pennsylvania, Leonard Davis Institute of Health Economics, Philadelphia, PA*; GARY ONADY, MD, PhD, *Wright State University School of Medicine, Departments of Medicine and Pediatrics, and Program Director, Medicine–Pediatrics Residency Program Director, Dayton, OH*; and EUGENIA SIEGLER, MD, *University of Pennsylvania School of Medicine, Department of Medicine (and Geriatrics), Philadelphia, PA*

"Iatrogenic Polydipsia"

To the Editor:—To the various causes of polydipsia I offer a yet undefined and probably overlooked etiology for which I suggest the term *iatrogenic polydipsia.*

Quite often physicians order their patients to "drink a lot," as a therapeutic modality. Since excess water intake can, under certain conditions, lead to water intoxication,[1–3] some precautions are advocated when recommending the patient to increase the amount of drinking water. This is especially true concerning older adults, for whom possibly the most serious and least well-recognized fluid and electrolyte problem is water intoxication[4]:

> A 70-year-old generally healthy man was admitted to the hospital due to fever and complaints compatible with lower urinary tract infection. He had been well until five days earlier, when typical symptoms had occurred. He had visited his general practitioner. Microscopic examination of the urine had confirmed the diagnosis, and an oral antibiotic (trimethoprim/sulfamethoxazole) had been started. The patient had been advised to keep a high water intake. Following his physician's order, the patient had drunk about 25 to 30 glasses of water per day, for five consecutive days.
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> Upon admission the patient complained of headaches accompanied by drowsiness and weakness, which had not been present at the beginning of the acute infection. There was no history of renal or cardiac failure, or regular use of medications. His temperature was 39.0°C. The pulse and blood pressure were normal. Physical examination did not yield pathologic findings. There was no sign of peripheral edema. The results of the neurologic examination were normal. The laboratory tests demonstrated moderate hyponatremia (127 mmol/kg) and low serum osmolality (258 mmol/kg). The glucose, potassium, blood urea nitrogen, and serum creatinine levels