Synergism in Medical Education and Service: An Example From the Northwest

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LARGE SEGMENTS OF THE U.S. POPULATION experience difficulty obtaining health services. The United States is culturally and demographically diverse, and the patterns of medical underservice reflect this diversity. Effective interventions designed to improve the distribution of medical care require an understanding of regional variations.

The Pacific Northwest has a regional flavor and cohesiveness that influences the patterns of medical education and service. America's last frontier, the area is characterized by low population density, small and widely separated agricultural communities, and few large urban centers. The progressive atrophy of rural health systems that occurred in the wake of the technologization of American medicine over the last three decades had a disproportionately severe impact on the Pacific Northwest and Alaska. In a region that was fundamentally rural, the majority of towns and villages had begun to experience deficiencies in their local health care systems by the early 1960s. The most pronounced phenomenon was the aging, death, and retirement of a generation of country general practitioners who had formed the bedrock upon which the rural health care delivery system was built. And in an era of increasing specialization, there were few replacements.

Thus, in the Northwest, the problem of underserved populations has been largely the lack of medical care in rural areas. In the late 1960s, a number of simultaneous but integrated attempts at solution were initiated. This attack came from three directions: the creation of a regionalized medical education program, the renaissance of the discipline of family medicine, and the establishment of the National Health Service Corps.

Regionalized Medical Education

The WAMI program—an educational consortium including the States of Washington, Alaska, Montana, and Idaho—provided the institutional and organizational environment in which changes in educational and service patterns could occur. WAMI represents a perceptual revolution; the campus of the medical school is actually the regional community it serves. By encompassing a four-State area—Washington, Alaska, Montana, and Idaho—and decentralizing medical education into the existing educational establishments and medi-

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cal practices within those States, WAMI introduced a qualitative and persistent change in medical education in the Northwest (*1*). Medical education became explicitly linked with the needs of the people who were served by the network of educational establishments in the four States; class size, composition, and even curriculum were suddenly grounded in the reality of regional needs. Although initially this consortium had little impact on the traditional core of a biomedically oriented medical school, the regional imperative has gradually permeated almost every aspect of the school, from the teaching of basic sciences to continuing medical education conferences. The allocation of residency slots is beginning to take into account regional manpower needs; library services penetrate into small towns; telephone networks tie referring physicians and consultants together; and innovation can be rapidly replicated as successful models disseminate throughout the network. WAMI has provided the structural framework into which the other strands of the cable can be woven.

Rebirth of Family Medicine and Primary Care

The same forces that permitted a staid medical school to reorient its objectives also sparked the resurgence of family medicine as a credible academic discipline. WAMI was created and the medical curriculum overhauled during the same period, the late 1960s. A department of family medicine emerged at the University of Washington that immediately captured and has maintained the interest of almost half of the medical students in the WAMI program (*2*). A network of family medicine residencies grew in the WAMI region, initially supported by funds from the W. K. Kellogg Foundation, but now, as is the case with WAMI, largely supported by the individual States. Currently 9 affiliated family medicine programs account for approximately 23 percent of all the WAMI residency slots, and further family medicine training programs are planned in Alaska and Montana, two of the few remaining States in the country currently without such programs.

Family medicine training attracted students who wished to develop the skills to practice in the underserved rural areas of the region. With a focus on continuous care and comprehensive scope, the graduating family practice resident has the versatility and the pragmatic self-sufficiency to adapt to the wide variety of demanding situations that characterize underserved areas. The injection of primary care concerns into the traditionally narrow specialties of internal medicine, pediatrics, and obstetrics and gynecology has been partially a response to the success of family medicine among students, patients, and communities. The injection of these concerns has had a salutary effect in humanizing

these disciplines and broadening the vision of educators in those specialties. Thus, the generation of students and residents traversing the educational continuum in the 1970s has a very different orientation than the generation that preceded it.

The National Health Service Corps—Phase 1

It is no accident that the impetus for the National Health Service Corps (NHSC) came from the Pacific Northwest. Sponsored by Washington's senior U.S. Senator and jockeyed through Congress by a Seattle physician and law student, the Corps became the mechanism through which physicians and other health care professionals were introduced into underserved areas (*3*). The NHSC in the Northwest is administered through the Federal Department of Health, Education, and Welfare's Region X, whose borders are nearly coterminous with those of WAMI.

Since Federal officials had worked closely with the educational administrators in the region in establishing the WAMI program and creating physician's assistant and nurse practitioner programs, the Corps was accepted in a fraternal sense by both the educational establishment and the major professional societies. A self-appointed unofficial ad hoc advisory committee of local physicians, nurses, and administrators helped target the initial NHSC interventions, and the medical and nursing societies, the University of Washington Medical School, the Regional Medical Program, and other official organizations did much of the developmental work for the Corps, selecting and preparing communities for the initial wave of NHSC assignees.

In the first major phase of the National Health Service Corps, in which the emphasis was on the establishment of freestanding rural practices in a private sector model, Region X placed more assignees per capita than any other region. Within 4 years of the Corps' inception, almost every critical health manpower shortage area identified in the first round of designations in the State of Washington had a NHSC placement. A substantial number of the first NHSC physicians were graduates of either the WAMI program or of a residency in the family medicine residency network, and the Corps was seen as a conduit through which well-prepared committed physicians could establish rural practices that they would ultimately inherit. (*4*).

In establishing the NHSC sites during phase 1, the University of Washington Medical School undertook several specific support activities:

1. **Continuing medical education.** The Department of Continuing Education at the university developed and presented annually an inservice training conference tailored to the needs of NHSC assignees. This conference, now entering its fifth year, is planned jointly by the NHSC assignees and the medical school faculty and serves not only to transmit information but to build ties between field assignees and consultants within the University of Washington system. In addition, the annual review course of the university's Department of Family Medicine has been heavily subscribed by Indian Health Service and NHSC physicians.

2. **Outreach activities.** A variety of outreach activities are extended to NHSC assignees in the WAMI region. A toll-free regionwide telephone line called MEDCON has been installed that links community physicians to consultants at the university's medical center. Through arrangements with the university, this service has been explicitly extended to all NHSC assignees in the Region X area, including nurse practitioners and physician's assistants. After assignees identified obstetrics as a problem area, a member of the obstetrics faculty made a series of visits to NHSC sites to see patients in consultation, present didactic material to the staff of the practice and the hospital, and work with the hospital staff in reviewing and updating standard obstetrical orders and operating procedures. In addition, family medicine residencies in communities near NHSC sites aided physician recruitment and extended invitations to the contiguous assignees to participate in the periodic continuing education programs held at the sites.

Challenge of the Scholarship Program—Phase 2

With the passage of Federal Law 94–484 in 1976, the Federal strategy towards underserved communities was profoundly altered. The focus of attention shifted partially to a growing cohort of students and residents who were not yet, but would because of the scholarship program become, assignees in the National Health Service Corps. The future tenor of the NHSC will be set by assignees whose service is motivated by a combination of factors. Although many will continue to be stirred by altriuism and adventure, the obligatory nature of the service will also have a pervasive effect (*5*). In the Northwest to date, the establishment of the NHSC program has been marked by collaboration among Federal agencies, educational institutions, and the private sector. Phase 2 of the NHSC will see debate and even dissension as a growing number of assignees are placed in settings which differ from the private-sector models that were the earlier template of phase 1. However, if handled openly and sensitively, this process could increase the extent to which governmental and private entities collaborate in the solution of difficult problems.

As part of its support of the NHSC, the University of Washington Medical School has initiated some new

programs that reflect the changing composition of the National Health Service Corps. These programs include:

1. **Selection of appropriate students for NHSC scholarships.** Although the Federal Government awards NHSC scholarships directly to students, the medical school has an interest and responsibility in insuring that the most appropriate students apply and are selected. All students entering into the WAMI program are contacted upon their acceptance into the University of Washington Medical School, so that the nature of the NHSC program can be explained to them. An attempt is made to dissuade those whose motivation is purely pecuniary; the goal is to identify that cohort of students whose motivation is consonant with the needs of underserved populations and to stimulate them to apply for scholarships. As part of this process, medical school faculty members are available to counsel incoming students on the advisability of applying for NHSC scholarships.

2. **Creation of a longitudinal medical school curriculum for students seeking to care for the underserved.** Under the auspices of the Department of Family Medicine, an attempt is being made to graft onto the basic advisory system an opportunity for scholarship and other interested students to have a sequential set of experiences with underserved populations. Although this effort is still in the formative stage, during the past year several meetings have been held between all scholarship recipients within the four school classes and interested faculty and regional office personnel. It is hoped that by identifying for first- and second-year students, various clinical and community experiences in Seattle and in other communities within the WAMI region, a sense of solidarity can be built among these students, and the deculturalizing influence of medical education can be combated. The model for this effort has been the University of Arizona's CUP (commitment to underserved people) program, described elsewhere in this issue.

3. **Advanced preceptorships at Public Health Service sites.** With grant funds awarded to departments of family medicine by the Bureau of Health Manpower, Health Resources Administration, advanced fourth-year preceptorships have been established in the WAMI States for scholarship recipients. For these awards, Indian Health Service and National Health Service Corps sites have been selected on the basis of their clinical excellence and stability and the enthusiam and depth of community support for having a medical student in residence. The assignees at these carefully screened sites are being incorporated into the clinical faculty of the Department of Family Medicine at the University of Washington Medical School. The first students are currently finishing preceptorships at these sites, and initial reports from students, Public Health Service physicians, and community members alike have been highly favorable. For the most part, WAMI students with scholarship obligations have been placed in the preceptorships, but the NHSC staff is also coordinating its activities with the preceptorship program being administered by the American Medical Student Association.

Residual Problems

Although the supply of physicians to underserved rural areas in the Pacific Northwest has increased, persistent shortages remain. The experience over the last decade shows that many communities are too small to maintain or retain physicians or other health care personnel. The structural imperfections that have contributed to maldistribution—a skewed reimbursement system, illogical licensure and certification systems for rural hospitals, malpractice anxieties—have not disappeared. Small rural health systems remain fragile entities, vulnerable to changes in the law or personnel. Also, the problem of the urban underserved has become more visible, and this problem is much more difficult to analyze or solve because of its roots in fundamental socioeconomic and cultural differences in the underserved population itself.

However, the process that has worked to bring together the three programs described here can also be applied to the solution of other health delivery problems. Clearly, no one program operating in a vacuum would have had the impact of a combined assault from different but compatible directions. Synergy between medical education and those programs that deploy the resources which medical education creates is fundamental to bringing care to the underserved.

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