

Extramural Training of Medical Students: Lessons from Southeast Asia

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Several medical schools in Southeast Asia have identified deficiencies in their undergraduate medical education that result in inappropriate training of students for the health-care problems that exist in their respective countries. Curriculum changes have been made that take students out of the laboratory and the subspecialty-oriented university hospital and place them in extramural programs in the community. Both the deficiencies identified and the solutions developed merit study by North American medical educators, especially those teaching primary care in family practice.

As a World Health Organization Fellow in Community Medicine in Southeast Asia during the summer of 1975, the author visited medical schools whose curricula took the classroom outside the academic center. These extramural programs were developed in response to a call for change from students, faculty, and government officials who criticized the exclusive laboratory, subspecialty, in-hospital orientation of their Western simulated medical schools as inappropriate for meeting the primary care and health needs of the people, especially of those in rural areas.¹⁻¹⁰

This paper will review innovative programs in extramural medical education in Southeast Asia. Many of the lessons learned from studying these programs are applicable to departments of family practice and others in medical schools in North America that are attempting to offer students comprehensive primary health-care education in community settings.

Chiang Mai University in Northern Thailand

An analysis by the medical faculty of undergraduate medical educational

policies in 1972 and 1973 revealed program deficiencies in this Asian university with which many North American medical educators could identify.

1. Medical education over-emphasized individual physical care and ignored the comprehensive view of the patient within the context of the family and community.

2. Medical education was too specialized. Students needed to be encouraged to participate in primary care or family practice.

3. Medical students lacked experience working in health-care systems not based on the university model.

4. Medical students were not prepared to continue their self-education after graduation.

5. Medical students lacked skills in communicating with other health workers and with rural patients.

6. Medical students lacked training as agents for change in health-care delivery.

7. Medical students were ignorant of environmental influences on health care.

8. Medical students were not trained to use local community resources.

The medical faculty at Chiang Mai University, after analyzing the problems of its undergraduate medical education policies, recognized that although major curricular changes might be necessary to correct the flaws, political realities of university

life prevented a major overhaul. A multidisciplinary faculty committee developed a five-week course in Comprehensive Health Care for sixth-year (senior) students that aimed simply to improve student understanding of community health problems. At the beginning of each course ten students and two faculty members were introduced to the problem-solving method of approaching a patient or a community. Living in a rural district for ten days, team members spent mornings at district clinics working in curative medicine and afternoons making home visits where preventive medicine was emphasized. The team convened in the evening to discuss community problems and decide what they might do to improve the health-care system.

During the final weeks of the course, spent at the university, the team identified consultants and resources to aid them in their problem solving. The course concluded with presentation of the team's project, critique of the project, and course evaluation.

Student input was a vital part of the course and its evaluation. Course modifications resulting from student recommendations included a curative medicine component in the field exercise (originally entirely preventive) and involvement of a multidisciplinary faculty in the field exercise.

University of Malaya

In 1969, riots between Malays and Chinese resulted in major political changes in Malaysia that affected education and health-care delivery. Long-smoldering Malay antagonism against the Chinese exploded, with the eventual result that Chinese influence was reduced in government, industry, education, and health care. Malays, who represent the largest ethnic group in Malaysia, felt that more of their people should hold university positions and that health services in the rural areas, where most Malays lived, needed immediate improvement. Malaysian Ministry of Health statistics for 1975 indicate that only 113 of the country's 2,500 doctors were Malays. This ratio should improve during the next few years, as Malay demands for reform have resulted in the government's establishment of residential schools for educationally disadvantaged children as well as increased

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quotas for Malay students in professional schools. The Year Zero Plan of the University of Malaya, which helps 40 Malay students make up basic science deficiencies so they can enter medical school on a par with the 58 direct-admission classmates, will also result in a greater number of Malay medical graduates. Finally, the new National (Kebangsaan) University in Kuala Lumpur, established to train doctors who will meet the health-care needs of rural Malaysians, has a largely Malay student body. The first class of 40 students will graduate in 1980.

Although the University of Malaya has a Western orientation, the faculty of the Department of Social and Preventive Medicine, sensitive to local needs, has developed a program geared to introduce students to rural community health problems. Courses in the first two years of medical school emphasize the basic science of public health; in the third and fourth years, however, three innovative courses take the students out of the university center and place them in rural settings. The program consists of Rural Health Survey, a Social Medicine Case Study, and a District Health Survey.

A team of seven or eight students and a faculty member participate in the Rural Health Survey, a consumer-oriented program. They spend 2½ weeks in a community that is one to two days' travel from the university. Students learn to survey a rural community's health problems and gain first-hand exposure to cultural, medical, and environmental features of life in rural Malaysia.

In the Social Medicine Case Study the student learns to apply social and preventive medicine to the care of the individual and his family. The student meets the patient in the local hospital and establishes a data base, problem list, and treatment plan. The student then talks with the patient and family to obtain environmental data such as dietary and sanitation practices. A visit to the patient's home augments and validates information gathered in the hospital and gives the student a chance to see conditions for himself. Other members of the health-care team — a public health nurse, a medical social worker, and a dietician — may supplement the student's data on the family. Finally, students and faculty members meet to discuss the curative and preventive aspects of the case and estab-

lish a comprehensive plan for the patient's management.

The District Health Survey, the final phase of the fourth-year program, exposes students to the many individuals and agencies who serve the people of Malaysia at the district level. Since the students must work with public health agents to complete their surveys, they gain an intimate view of the government health services.

Student motivation is the highest for the rural survey, since contact with an isolated rural community is an adventure for most city-raised medical students. Besides offering them a view of rural life, however, the rural survey also exposes them to the most primitive health-care delivery system. The rural communities have been enthusiastic in receiving the students, largely due to the orientation and interchange that takes place between faculty, students, and village officials before the students initiate their village activities. Students quickly learn that the community has much to teach them, and that it is a worthwhile setting for medical training and service.

Posting fourth-year students in a satellite teaching unit in a district hospital, under the supervision of a faculty member, is a recent innovation of the curative-medicine section. A hospital about 40 miles from Kuala Lumpur exemplifies the problems of health-care delivery in most of the country's other district hospitals. Fourth-year clinical clerks learn to work with heavy patient loads, shortages of supplies and equipment, and limited laboratory facilities. Faculty members of this program feel that problems imposed on a medical education program by a hospital with limited facilities and numerous patients do not detract from its being a worthwhile experience; rather, this extramural program realistically prepares the medical students for the difficulties they will encounter later as physicians in district hospitals and rural health centers.

University of the Philippines, University of Santo Tomás, and Cebu Institute of Medicine

As in both developing and industrialized countries, the Philippines desperately needs a health-care system based on efficient use of economic and human resources. In a country whose annual population growth rate is 3.5

percent, one of the world's highest, where 45 percent of the population is under 15, where 70 percent of the population is rural, and where 60 percent of the population dies without professional care during their terminal illness,¹¹ it is obvious that much in the way of human and economic resources is required.

The Philippine Department of Health has an excellent plan for a health-care delivery system that reaches from a medical subcenter in the rural community (*barrio*) to the regional and national hospitals; unfortunately the dearth of physicians and allied health workers prevents the system from being effectively implemented.

To redirect the flow of health-care personnel into community and rural health practices, the University of the Philippines' College of Medicine initiated the country's first comprehensive community health program. The pioneering faculty that introduced the concept in 1963 had to overcome reluctance of individuals at many levels in the government, the university, and the communities before President Romulo formally launched the program in 1967.

Community acceptance was not considered a major hurdle, as most barrios, rural towns, and cities desperately needed improved health-care facilities. In the Philippines, however, as in many countries, the people who live outside politically important urban sectors suffer from unfulfilled government promises. Thus, rural leaders had to be convinced that this program would be directed toward meeting local needs, that it would involve local personnel as decision-makers and deliverers of health care, that it would offer continuous health care, and that it would not threaten local practitioners or health agencies.

The University of the Philippines' major models are done in a rural community 68 kilometers from Manila and in an urban slum and squatter neighborhood (*barangay*) near the medical school. The University of Santo Tomás has its Community Socio-Medical Project in a rural barrio made up largely of people relocated by the government from Manila's slums. Senior medical students at the Cebu Institute of Medicine in Cebu City, Philippines, who have received basic training in clinical and preventive med-

icine, rotate through four community service models under the supervision of faculty and family medicine residents. The resident physicians spend two thirds of the year with medical students in the school's extramural programs.

In the Cebu Institute of Medicine's rural service model, medical students cooperate with the barrio rural health unit nurse practitioner and public health worker to deliver curative and preventive medicine. In the urban service model students participate as members of a team made up of a senior medical student, a nutrition health aide, and a paramedical worker that cooperates with governmental agencies to do health surveys, run neighborhood dispensaries, and direct health education programs. The third program, hospital-based community medicine, builds a bridge between hospital and community medicine. The students spend half their time with patients in the hospital and become involved in public health practices in the field. In the fourth model, community-based medicine, the senior students live in rural areas where they become intimately involved in the health care of residents of a community and study social and cultural influences on patient health. Experiences in all four extramural locations are designed to expose the students, who have been isolated in the university center throughout their training, to the comprehensive nature of community health problems.

The Philippine medical schools appear to have accepted these comprehensive extramural community health programs as permanent fixtures in their curriculum. Philippine health officials hope that these university models will not only generate a cadre of physicians who will serve the medically deprived but will also provide testing grounds for innovative ideas in health-care delivery that will eventually improve the health status of the Philippine people.

Discussion

A review of undergraduate medical education programs in Thailand, Malaysia, and the Philippines indicates that extramural community service programs are a reality in Southeast Asia. Government and academic

rhetoric has been translated into curricular modifications that have exposed medical students to primary care health problems. The initial goals of these programs have been realistic in that they have aimed to improve medical students' attitudes and knowledge about medically deprived people in both rural and urban settings.

Although preventive medicine dominates most of the programs studied, a more holistic view of primary care is developing that includes curative medicine as well as integrated services designed to meet other problems of the medically deprived — poverty, poor housing, poor nutrition, and lack of education.

In the programs studied, the individuals who are responsible for the community-oriented primary care programs are, in general, members of the departments of preventive medicine, social medicine, or public health; however, a multidisciplinary trend is evident. Two purposes served by the multidisciplinary approach are to increase the number of faculty members exposed to extramural primary care medical education and to emphasize the need for cooperation among medical disciplines in establishing a comprehensive scheme for primary health-care delivery.

Problems identified by the administrators of these comprehensive community medicine programs include lack of trained personnel, limited financial support, low status in curricular planning, poor faculty support, limited interdepartmental cooperation, a dearth of information in the literature regarding comprehensive health models in the developing world, and poor student motivation. Field problems include student transportation, housing and meals, identification of formal and informal community leaders, and the establishment of communication with community leadership as well as with other health-care agencies.

One of the major hurdles in most programs is the division of responsibilities between ministries of health and of education. In the United States an analogy might be drawn by the failure of cooperation between health-care delivery planners and the educators of health-care personnel.

To resolve these and other problems, leaders in extramural comprehensive health programs in the three

Southeast Asian countries visited made the following recommendations, many of which apply in North America:

1. A community health program needs long-term governmental support and commitment to develop health-care personnel and facilities. Medical educators and planners should work for harmony in the development of human resources and health-care delivery systems.

2. Optimizing a country's human resources requires improving the physician-patient ratio in rural areas and implementing the health-care delivery team concept wherever possible for maximum utilization of allied health workers.

3. In urban and rural communities identified by medical schools as community teaching-service areas, planning should aim for continuity of patient care, rather than depending on the irregular schedules of students and faculty.

4. Medical students should be scheduled to participate in field programs throughout their medical education, at levels compatible with their experience. For example, freshman can identify problems and resources in a community and seniors can learn to diagnose and treat individual, family, and community health problems.

5. Faculty support should be multidisciplinary and should emphasize student exposure to cooperative efforts between curative and preventive medical services. Family and community diagnosis should be incorporated into the evaluation of individual health problems to reinforce student and faculty understanding of the dynamics of comprehensive medical care.

6. Whenever possible, faculty should use problem-solving field exercises to develop educational concepts and skills in public health and comprehensive medical care.

7. Resident physicians in primary-care fields such as family medicine, pediatrics, and internal medicine who have participated in community health programs should be encouraged to enter the academic phase of the university's program.

8. Due to the rapidity and frequency of societal, cultural, and economic changes, comprehensive community health programs should undergo regular and intensive evaluations. Students and faculty alike should be

required to monitor educational objectives to ensure their relevance to identified needs and resources of the community.

9. Although some comprehensive health-care leaders consider beneficial the administrative advantages of a fixed teaching neighborhood, community, or district, others feel that a permanent extramural community health teaching service center could become so institutionalized that it would duplicate the university center. Thus, as the service/teaching center increases in size and sophistication care must be taken that it does not become another artificial health service where students fail to encounter the realities of the country's health-care problems.

10. The university's comprehensive medical education programs must meet their nation's needs as well as instruct the students in the scientific advances basic to modern health care.

Conclusion

Medical schools in Southeast Asia

are participating in undergraduate medical education programs that expose students to the primary health-care problems of the people. Although extramural programs offering comprehensive community health-care services are, in general, exploratory, the stimulation provided by dedicated faculty, motivated students, and grateful community members offers much encouragement for future faculty, administrative, and governmental support.

A stimulus for the development of these extramural teaching programs was the recognition that the Western medical curriculum did not help students cope with the realities of the country's health-care problems. For those who pioneered curricular changes, the goal was not to dispense entirely with the Western medical educational model but rather to modify it so that graduates would be better suited for the needs of the home country rather than for export to the Western world.

Medical educators in North America, particularly those in family medicine, can find many parallels in the lessons

learned and the recommendations made by their colleagues in Southeast Asia.

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