

Manpower Issues in Saudi Health Development

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IN LIGHT OF THE CURRENT DEBATES ABOUT APPROPRIATE manpower policy for the third world by the World Health Organization (WHO) and others, it is intriguing and important to consider the case of Saudi Arabia. We will examine Saudi health care accomplishments both for their intrinsic significance and as a means of examining the question of whether there is a "single best" manpower strategy for developing countries. That there is an optimal strategy is implied by WHO's advocacy of the primary health care (PHC) model. We will argue that the PHC model is not the most appropriate for Saudi Arabia and countries like it. In other words, just as the realization has dawned on scholars in recent years that the developing world is not monolithic but contains within it enormous heterogeneity and diversity, it has been our perception that pluralism ought to be the principle guiding the evolution of health care systems in developing countries.

Without claiming that Saudi Arabia has a highly coherent health care policy, we will attempt to show that the course it has taken does "make sense" and that it is closely linked to its very rapid emergence over recent decades as a new and distinctive society. Its path of health development can be taken as an indication that, in some instances,

a health-service mixed economy, combining elements of planned primary care emphasis with emergent specialty-oriented trends, is a realistic line of devolution. Yet, not unexpectedly, given that there are no perfect policies or strategies, there are problems. Like many developing countries bothered by a sense of lagging behind the industrialized West, Saudi Arabia may be too enraptured with high-technology, specialty-oriented medicine. It is perhaps not giving enough attention to the *current* needs of the population for primary health care. Also of great concern in Saudi Arabia is a growing dependency on foreign workers, including physicians—exacerbated by the use of technologies which require skills very scarce among native Saudis.

Saudi Arabia as a wealthy country falls in a special category in the developing world. A wealthy developing country may seem a contradiction in terms, given that the status of “developing” is usually associated with a low gross national product (GNP) per capita. Yet, among developing nations there is great variation in this parameter. A recent compilation indicates a GNP per capita for Saudi Arabia of \$6,040; for Bangladesh, \$90; for India, \$150; and for the Philippines, \$450 (Golladay 1980). As is well known, Saudi Arabia’s wealth comes from oil. Within the ranks of the oil-producing nations, Kuwait, Bahrain, Oman, Qatar, the United Arab Emirates, Iran, Iraq, and Libya can also be reckoned as wealthy.

In the area of manpower development these oil-producing third world countries are now recognized as a separate category by some health policy analysts (Gish and Godfrey 1979:1). Whereas most developing countries export physicians, these countries import physicians as well as export them; some, including Saudi Arabia, are in the very special category of “pure recipient” of physicians, importing many but exporting virtually none at all (Mejia, Pizurki, and Royston 1979). (Saudi Arabia sends many of its own physicians abroad for training, but they almost always return.) With a GNP per capita that exceeds \$1,000, these oil producers generate a market demand for physician services that cannot be met by the supply of indigenous physicians. In contrast, the poorer developing countries do not spend enough in the health care sector to employ all the physicians that they train, and, consequently, many of the latter seek a livelihood abroad. The oil producers, as well as the industrialized West, are the beneficiaries of this pool of “surplus” physicians. The loss of physicians sustained

by the poorer developing countries points to a reason why, for them, PHC may be a wise strategy. Indeed, it is in part because many developing countries overproduced specialist physicians that WHO came out in favor of a policy which placed less emphasis on physicians and high technology, curative medicine, and more on village health workers, disease prevention, and environmental health (Benyoussef and Christian 1977).

Our analysis of Saudi manpower policy focuses on the balance between primary care and higher level, technology-intensive care, and on the utilization of expatriate (foreign) physicians. Manpower analysts will recognize these as important items in health policy debates in the West—both historically and contemporaneously. Where the similarities to western situations are particularly striking we will discuss them.

The Demography of Saudi Arabia and Its Health Implications

Health manpower in Saudi Arabia must be seen in the context of its demographic situation. Let the reader be aware, however, that information on health, population, and literacy comes from estimates which are "characterized by uncertainty" (Sebai and Baker 1976:359). For example, a national population census, never published, was conducted in August-September 1974. It is reported to have tabulated some 7,012,000 persons, but World Bank demographers and other knowledgeable experts at that time placed the population at 4 to 5.5 million. The lack of authoritative statistical data is one significant way in which Saudi Arabia resembles most developing countries.

Despite its great wealth, Saudi Arabia has the characteristic demographic profile of many underdeveloped countries: a population that is largely rural (72 percent), but with a high rate of urbanization; a relatively short life expectancy (45 years); a high birthrate (49.5 per 1,000 population per year); a relatively high death rate (20 per 1,000); and a high infant mortality rate (152 per 1,000 births). Its age composition marks it as one of the most youthful countries in the Middle East, with a median age, in 1976, of 17.6 years and with 45 percent age 14 or younger. A 1981 household survey of a typical rural community, the village of Rabaiyah on the Arabian Gulf island

of Tarut, revealed that, of 1,747 individuals in 200 households, only 9 percent were over 44 years of age; 56 percent were under 15 years (Bhatty, Al-Sibai, and Marwah 1983).

Unlike most developing countries, Saudi Arabia—with a population estimated in 1979 of at most 9.3 million people and an annual growth rate of 4.5 percent—is not dismayed by rapid population growth (Raymond 1978; Nyrop et al. 1977). Most developing countries are struggling to curb fertility, but Saudi Arabia encourages it and, within health service development, places a high premium upon child and maternal health.

The prevailing pattern of disease in the kingdom resembles that found in other developing societies. Infectious and parasitic diseases abound. Among the most common are trachoma, tuberculosis, amoebic and bacterial enteric diseases, schistosomiasis, roundworm, bejel (a chronic nonvenereal syphilitic infection), and sickle cell anemia. Though reduced in its incidence over the past two decades, malaria remains a serious problem.

An increase in life expectancy—to be anticipated as the standard of living rises and health services become generally available—implies a rising toll of degenerative and chronic diseases. As more younger persons begin to partake of an affluent life style, one can expect an increase in chronic conditions such as diabetes, hypertension, obesity, and coronary heart disease. The population as a whole will, therefore, not have to age before these diseases make their appearance.

It is relevant to note that the overall literacy level in the mid-1970s was estimated at 15 percent (Hudson 1979:48; Nyrop et al. 1977:viii). With a youthful population and an expanding educational system (including some adult education), the literacy level can be expected to show a steady annual increase (Al-Shami 1982). Saudi government figures for 1981 claim a 42 percent literacy level. Lack of literacy profoundly affects many sectors of societal development but, in this context, we point out that efforts at health education may be markedly curtailed by it. In the realm of clinical medicine also, patient illiteracy and an associated low level of comprehension concerning disease and treatment may limit medical effectiveness. Further, the literacy level has many implications, also, for how quickly an indigenous supply of competent health providers can be produced. Professional training must be built upon a basic foundation of literacy.

Another significant fact about the Saudi population is its comparative

homogeneity. In their comprehensive analysis of Saudi development, Braibanti and Al-Farsy (1977) state:

The high degree of cultural, ethnic, linguistic, and religious homogeneity found in the Kingdom surpasses that of Japan, South Korea, Iceland, and the Scandinavian countries, which are commonly, and rightly, classified as homogeneous polities. This homogeneity has deeper roots than ethnic Arabism and a citizenry . . . virtually 100 percent Muslim. It derives from a unique temporal and spatial convergence of culture and religion.

Saudi homogeneity has important health service implications. In matters of health planning and policy, subcultural variation can pose a significant obstacle to the standardization of services. Separate strategies may have to be devised to accord with the practices and preferences of different groups. Some health practices are related to strongly held religious and moral values; these may inadvertently polarize a more heterogeneous population as abortion has done in the United States.

Primary Care

Primary care has figured prominently in discussions of health services for the past decade (World Health Organization 1978). Definitions of it vary but usually include the following elements:

1. An emphasis upon the prevention of disease through the eradication of environmental causes and the education of individuals and families to promote health through diet, household safety, avoidance of noxious influences, and the like.
2. The targeting of health resources against health threats which are prevalent in local communities, rather than those which happen to be most challenging to health professionals or most threatening to affluent city-dwelling population groups.
3. Preparation of health workers to carry out the tasks implied by the foregoing considerations.

The third element calls for a radical change in the outlook and training of health personnel—away from a physician-centered, hospital-based, “top-heavy” structure of health professionals that is geared to

provide specialized services for episodic illness toward a broader-based pyramid of personnel whose skills are more flexible and more able to deal with the most widespread health problems. Within the boundaries of the medical profession itself, the primary-care emphasis implies a larger component of family doctors, general practitioners, general internists, and general pediatricians—physicians who are oriented to the patient as a person and to his or her long-range health needs. It implies a correspondingly smaller component of highly specialized physicians such as neurosurgeons, oncologists, and endocrinologists than is found in many societies.

A persistent, if sometimes unspoken goal in the philosophy of primary care is the availability of health services to all sectors of the population—the reduction of financial barriers which keep poor people from obtaining care, a broad geographical spread of health facilities, and the promotion of nonelitist, egalitarian attitudes among health professionals.

A greater emphasis upon primary care has been advocated both for developed societies and for developing societies. Proponents argue that, for developed societies, primary care (not to the utter exclusion of more specialized health resources) will lead to a better fit between health resources and the actual health needs of the population, preventing the kind of “waste” which occurs, for example, when a woman in a normal pregnancy draws upon the expertise of an obstetrician, whose training equips him to deal with high-risk pregnancies. For poor, developing nations, proponents argue that primary care yields a greater return per unit of investment than do more sophisticated and specialized modalities, in terms of actual health care delivered and in view of the health needs of the population.

The earlier demographic sketch of Saudi Arabia suggests several reasons why it might foster a strong primary care strategy in its development of health resources. Its status as a developing society, its pattern of endemic diseases, and the extant deficiencies in control of environmental health risks all argue for a build-up of primary care modalities. Pronouncements and plans emanating from the Ministry of Health have suggested such a priority. Some Saudi medical leaders, such as Zohair Sebai (1981), dean of the fourth and newest medical school in Saudi Arabia, are eloquent advocates. All four of the Saudi medical schools (state owned and operated) have departments of com-

munity medicine and give credence to concepts of community health and primary care. Further, the monarchy has issued an edict declaring health care to be a right of citizens and foreign workers. This would require a rather rapid deployment of basic health care services throughout the kingdom. To ensure that there are physicians in remoter areas, the government has made a requirement for licensure of working for 12 months, under supervision, in a rural hospital. In addition, it offers financial incentives to government physicians who agree to practice in specified rural areas. A physician receives a bonus of from 10 to 20 percent of his base salary plus between \$85 and \$145 per month for personal travel (Mejia, Pizurki, and Royston 1979:394).

Saudi Arabia will have a substantial cadre of primary care physicians within a decade, most of them women. Each medical school has women students, and the trend seems to be in the direction of increasing the female proportion. In some currently admitted classes, almost one-half are female. Women physicians, however, do not share their male counterparts' opportunity to go abroad for specialty training. Saudi Arabia is currently unable to provide training in the medical and surgical specialties within its own borders; consequently, it sends many of its male graduates to other countries, typically England, Germany, and the United States. Saudi women physicians are prohibited from training in foreign lands (unless accompanied by a male member of their families), although that restriction may be changed as Saudi women acquire more public rights and greater equality in what has been a male-oriented society.

The fact that by 1990 women will, according to WHO estimates, represent over 50 percent of the Saudi medical work force (Mejia, Pizurki, and Royston 1979:391) may be interpreted as a sign that the mores governing the woman's role in Saudi society are becoming more flexible. The Saudis, however, had little choice but to produce women doctors; otherwise, they would have risked violating the strict moral code that forbids men from having close contact with women to whom they are not related by blood or marriage. While the traditional code is at times relaxed, insofar as some Saudi women do see male physicians, it is probably also true that many women hesitate to seek medical services in order to avoid what would be for them a very stressful encounter with a male physician. Therefore, in order to facilitate access to medical care for a significant segment of the population

as well as to preserve Islamic standards of sexual modesty, the Saudis are having to make paradoxical compromises in cultural tradition—women physicians being one of them.

The investment being made by the state in producing women physicians serves to indicate that the Saudi leadership is quite aware of and responsive to the need for primary care. In a country where 70 percent of the population consists of women and children, one would expect emphasis to be placed on primary level child and maternal care. It also happens to be the case that women universally—in the developing and developed world—are attracted to these fields. Thus, bound by tradition or no, the Saudis have come up with an arrangement that makes considerable sense.

Notwithstanding the investment in primary care “womenpower,” Saudi policy concerning the balance between primary care and specialized manpower is somewhat equivocal. The general force of western, specialty-oriented models of medical education is very strong, as it is in many other developing societies, where the supply of nationally trained health professionals is, as a rule, rather limited. Since medicine is the premier health profession, the western orientation of medical education can quickly establish a model for practice throughout the whole realm of professional health activities.

In the case of the Saudi medical schools, the major thrust of the curriculum seems to be on the side of specialty-oriented, hospital medicine. Many of the new graduates seek to establish their professional credentials by undertaking western-based examinations such as the Fellowship Examination of the Royal College of Surgeons of Ireland (*Al-Resalah* 1981). Unlike most physicians in the West, however, many also evince a career interest in medical administration rather than clinical practice.

Consistent with the overall objective of building up the physical infrastructure of the country, as enunciated in the first two five-year plans (*The Kingdom of Saudi Arabia* 1979), many Saudi health planners are energetically disposed toward the construction and expensive equipping of new hospitals. Credence is paid toward primary care but, at the more telling level of budget allocations, it does not fare as well. The general economic situation of Saudi Arabia virtually mandates a great deal of rapid spending for health services as well as national defense, highways, and urban services to the burgeoning cities. Military spending favors the acquisition of weapons which will soon be eclipsed by

technologically superior successors. In health programming, there is a parallel emphasis upon the acquisition of the most advanced diagnostic and therapeutic equipment. The desire and ability to possess the latest medical "hardware" similarly leads to a situation where tomorrow's incrementally better model is already on the horizon when today's is installed. From the standpoint of health manpower development, this is also a situation which imposes major requirements for skilled personnel to operate and maintain the equipment, and where the meeting of these requirements tends to divert personnel away from primary care. An unintended consequence of the emphasis upon the procurement of advanced equipment, which has its own rigid requirements for personnel, is that this course impedes the clear perception of overall trends in the growth of health manpower.

A word of caution, however, is in order about the use of budget allocations to indicate health policy priorities. The sheer fact that great sums of money are spent on the procurement of medical technology does not necessarily mean that primary care is being given short shrift. It may simply mean that primary care, typically being much less expensive, is not claiming as large a share of health expenditures.

Expatriate Physicians

In 1981, there were approximately 5,300 physicians working in Saudi Arabia (Sebai 1981:20). Of these, only 460 (9 percent) were Saudi nationals. Most expatriate physicians come from Egypt, Pakistan, and India. There are a number of Palestinian, Syrian, and Iraqi physicians as well. The past five years has seen a shift toward Europe, Great Britain, and the United States as major suppliers of expatriate physicians.

Before looking at Saudi prospects for freeing themselves from their extensive reliance on expatriate health workers, particularly physicians, we should understand the general situation of expatriates in Saudi Arabia. An essential fact is that, aside from religious pilgrims with relatively short stays, all expatriates enter the kingdom as workers or the dependents of workers. Immigration policy does not permit entry for casual personal purposes such as tourism. Most expatriates are manual workers who participate in the many construction projects or in routine activities such as building maintenance and trash collection. Much of the flourishing mercantile, commercial, and administrative

activity throughout the kingdom is conducted by white collar expatriates working in shops, banks, insurance agencies, importing concerns, restaurants, hotels, and government ministries. Expatriates also contribute substantially in all professional fields, especially petroleum production, engineering, computer programming, teaching, and health care. Expatriate professionals enjoy preferential living advantages over less-skilled expatriates, such as being able to bring dependents into the kingdom and to own a motor vehicle.

Although all expatriates are equal in their legal status, there are cultural gradations among them which have an important practical bearing in regard both to their ability to adjust comfortably to Saudi society and, reciprocally, their acceptability to Saudi people. Among the ranks of expatriates, the distinction between Arab and non-Arab is fundamental. This distinction reduces to language. All Arabs speak Arabic as their first language; no non-Arabs do, although many Muslim non-Arabs, such as Pakistanis and Turks, use it as a second language or have reading familiarity through knowledge of the Qur'an (Patai 1976). Religion is also important, but probably less so than language. Most Arab expatriates are also Muslim, but there are some Egyptian and Palestinian Christians.

Saudi official policy and private sentiment toward expatriates are ambivalent. As in most nations with substantial foreign populations, the indigenous citizenry holds ethnocentric attitudes which view the foreigners as a source of potential trouble and cultural corruption. In Saudi Arabia, such attitudes are enhanced by widespread nationalistic feelings and a palpable sense of pride in the accomplishments of Saudi society as a "new nation." Many Saudis look with some trepidation at what has happened in Kuwait, their small northeastern neighbor. Kuwait is their superior both in wealth and progress, but it is a land where foreign workers substantially outnumber nationals, especially in its elaborate health care system (Meleis 1979).

On the positive side of the ambivalence, there is admiration for technology and respect for the know-how that makes technology work. Lacking their own cultural models for establishing formal organizations, Saudis are aware, and appreciative of, the administrative-managerial skills requisite to the maintenance of the organizational contexts within which physical technology can operate smoothly. Since, however, administration involves "human factors" and cultural values (such as

the universalism of a merit review system), their appreciation is tinged by a cautiousness vis-à-vis potential alien influences.

It should be noted also that the historical absence of a colonial occupation in Saudi Arabia is a factor which substantially frees Saudis, whatever their ambivalence, from the acute psychological conflicts which have affected many postcolonial nations of Africa and Asia (Fanon 1966). Saudi Arabia experienced only a light mantle of "foreign influence" from the Turks and later the English, which never achieved the geographic, economic, or cultural penetration of full-scale colonial dominion. It has thus been free of foreign rulers, of alien "civilizers" and missionaries, and, to a great extent, of foreign commercial agents, agriculturalists, and industrialists.

Its only source of exploitable, exportable wealth has been, and remains, petroleum—and, more recently, natural gas. Starting in 1933, shortly after the political unification of the kingdom by Ibn Saud, Saudi Arabia commenced an economic-technological reliance upon foreign, primarily American, oil companies to exploit its petroleum wealth. These companies paid substantial royalties to the government. The royalties soon became the government's major source of revenue. The Arabian-American Oil Company (ARAMCO) was granted warrant to do whatever was necessary to obtain the oil; this included construction of roads, housing compounds, schools, hospitals, and clinics. The history of modern Saudi Arabia and ARAMCO are inextricably linked (Nawwab, Speers, and Hoyer 1980). Recently, Saudi Arabia became the exclusive owner of production apparatus, divesting ARAMCO of its earlier part-ownership but retaining it as operating agent. The number of Saudi employees in ARAMCO, including some in high executive and professional ranks, is increasing. At the same time, vast new enterprises are being assigned to ARAMCO, such as the development and operation of electrical power networks. Its mandate is still highly technological, but is no longer confined strictly to oil. For these tasks, the number of ARAMCO expatriate employees is increasing rapidly.

The expatriates who first entered the kingdom to set up oil production were engineers and geologists. They were highly trained technical personnel who could be seen by the Saudi rulers as human extensions of the machinery they brought in—men there to do specific jobs in difficult terrain, oil pioneers who could be counted on to take a distant, respectful cognizance of Saudi culture. ARAMCO did a great deal to

bring formal education to Saudis and to raise living standards, especially in the oil-bearing areas of the kingdom, but all its effort could still be subsumed under the rubric of "the oil business," without explicit attention to the sociocultural changes being set in motion by the expanse of its adjunctive activities.

Even a more candid acknowledgment of the effects of this technological invasion could, nevertheless, accept the potential risks of dependence and cultural change as an inevitable concomitant of the means by which Saudi Arabia was achieving great wealth. The technology was neutral; the men who ran it and who created the administrative structures for oil production were nonthreatening; and the income thereby generated for the kingdom made possible a better life for the Saudis. But in the next stage of reliance upon foreign help, starting around 1970, expatriates entered the kingdom not only to produce oil but to carry out enormous projects of social, educational, and economic development which could no longer be seen as "oil-production related." These new expatriates worked on the other side of the ledger, using the kingdom's income according to the planned priorities of progress. Instead of creating income, they spent it. This stage was immensely accelerated by periodic increases both in the unit price of oil and in the volume of production. It still continues vigorously despite the slide in the world demand for oil.

Saudi striving for mastery of its social and economic destiny will lead eventually to the replacement of expatriates by Saudi citizens, in health services as in all other fields of endeavor. Current indications, however, are that the share of total work which is accounted for by expatriate effort is rising, not falling. In actual numbers, more Saudi personnel are entering all fields, but the total scope of development is so huge that expatriates account for an increasing proportion.

Not only are the Saudis heavily reliant on the services of expatriate physicians overall, but this is particularly the case in public medicine, general practice, and technology-intensive, hospital-based subspecialty practice. Of the 1,900 physicians employed by the Ministry of Health, only 132 (7 percent) are Saudis. Many of the general practitioners are physicians from the Near and Middle East who have established themselves in private practice in Saudi urban areas; some work in rural areas in government health centers. The highly specialized staffs of the new hospitals, such as the Riyadh Military Hospital, consist, for

the most part, of physicians from Europe, Great Britain, and the United States.

Perhaps to speed up the "Saudi-ization" of medicine, a component of Saudi health manpower policy is the granting of Saudi citizenship to applicants in designated categories. The naturalized health professional is not as fully "of the culture" as the native Saudi health professional; but he is, indeed, a Saudi citizen, no longer an expatriate. He can be expected to settle and work in the kingdom instead of leaving after a few years, as most expatriates do.

Expatriate physicians desiring Saudi citizenship must, like other applicants, appear before a royal Shariah court and, if not already Muslim, embrace Islam as part of the naturalization process. Most naturalized Saudi physicians are Near Eastern nationals who received their medical training in Egypt, Syria, Iraq, or Lebanon, some with additional postgraduate training in Europe or North America.

While one can understand the sense of thwarted national autonomy which comes from extensive dependence upon expatriate physicians, one should also ask: What difference does it make to the Saudi patient, or to the quality of medical care, whether or not the physician is a fellow national?

One could well argue that contemporary medical practice is grounded in universal scientific concepts and that the national identity of the practitioner is of minor importance, so long as he or she has mastered the requisite skills and techniques.

There are, of course, different types of medical practice, some more impersonal and narrowly focused than others. The personal characteristics and style of the radiologist or pathologist matter little, since such physicians do not ordinarily meet patients, their task being limited to interpreting disembodied "signals" from the patient. At the other extreme, family physicians, internists, and obstetricians relate directly to patients. Such physicians frequently offer counsel and emotional support. Even in the more strictly medical domain of diagnosis and treatment, cultural sympathy between doctor and patient may be a critically important factor in facing illness, especially illness of chronic duration or where active patient involvement in treatment is essential. Aside from the question of treatment outcome, the patient's liking for a physician and sense of satisfaction in the relationship are important considerations which may be enhanced by cultural affinity.

From the physician's side as well as the patient's, there are various contingencies of practice which lead the physician to carry out good medicine of a more indifferent brand. With particular reference to the Saudi context, Sebai (1981:117) suggests that expatriate status is one such contingency. He studied a health center in the village of Souk in Turaba oasis which had three physicians, none of whom were Saudi, and eleven ancillary personnel of whom three were Saudi. On the basis of this study, supplemented by other observations of medicine in Saudi Arabia, he offers the following opinion:

In many instances the expectation of an expatriate physician working in a foreign country such as Saudi Arabia is to establish himself financially before he returns back home. Nothing wrong with that, but the problem comes when he considers his stay in the country as a transient stage, which does not require him to identify himself with the people or with their problems.

Sebai's opinion coincides with a sentiment commonly expressed by other Saudis, viz., that expatriate professionals work solely for the money and, notwithstanding their professional status, cannot be expected to perform with the same dedication or conscientiousness that a Saudi professional does. With a deep interest in the promotion of primary care and health education, Sebai also believes that the expatriate physician is less able than the Saudi physician to exert health leadership at the community level; in an insecure position, the expatriate physician is more likely to be rule-bound, not able to inspire confidence in patients, and not disposed to guide them to better health practices in their daily lives.

The charge of being venal or mercenary—less concerned about the patient than the domestic physician—is often made against foreign physicians who migrate to countries that are wealthier than their homelands. American doctors similarly impugned the motives of their foreign counterparts for wanting to practice in the United States. There have been no systematic studies to show, however, that foreign physicians have any greater ambitions for high income than their domestic colleagues. Whatever evidence there is in Saudi Arabia suggests that for *both* Saudi and non-Saudi physicians alike, a job profiting from medicine has great allure, so much so that it is producing a brain drain internally out of direct-care medicine. (We should emphasize

that the comparison is between native-born Saudis and naturalized citizens, not between Saudis and expatriates.)

Internal Brain Drain

The naturalized citizen acquires the right to own real property, acquire a commercial license, and engage in business activities. He can become the legally and economically dominant "Saudi partner," contracting in all manner of business activities. For some physicians, these entrepreneurial rights appear as a major anticipation in becoming a Saudi citizen, rather than being incidental to the continuation of a medical career.

Although the intensive nature of medical training tends to forge a lifelong calling or commitment to the technical and patient-care aspects of medical work for most physicians, there is the ever-present possibility that the entrepreneurial potentials which also lie within their role will become dominant. This occurs to some extent everywhere, as manifest in the United States through physician financial interests in the so-called "medical-industrial complex" (Relman 1980), and in the Soviet Union through semi-legal private medical practice (Sidel and Sidel 1977).

The tendency is very strong in Saudi Arabia, we believe. Given the bullish state of the Saudi economy, one might well expect that some Saudi physicians, native-born and naturalized alike, would be stimulated more by abundant economic opportunities than by a single-minded dedication to medical practice. The following newspaper account is suggestive (*Arab News* 1981:2):

DOCTOR'S COMMERCIAL LICENSE WITHDRAWN

The Commerce Ministry has withdrawn the commercial license of a naturalized doctor because he abandoned the profession to engage in business, according to ministry sources.

The source told *Al Jazirah* [an Arabic-language newspaper] Tuesday that the Ministry of Health had requested the cancellation of the doctor's commercial registration because some foreign doctors here are granted citizenship provided they continue serving in the profession for which they were permitted to naturalize. A few quit the profession

to do business, they said, despite their promise to the authorities that they would not.

All such cases will be affected immediately, the sources said, on orders received from the royal court because naturalization was originally given "on account of their professions." Quitting the profession will defeat the purpose of naturalization, the court said.

Although physicians are free to negotiate contracts in all manner of enterprises—automobile dealerships, apartment construction, videotape rentals, hotels—it appears that they gravitate toward health-related activities such as the establishment of private hospitals, clinics, and pharmacies, and the importing of pharmaceuticals and medical equipment. The physician's professional identification with health-related entrepreneurial activity may provide an aura of medical respectability to what might otherwise appear as commercial exploitation of illness.

What is the Saudi government's attitude toward the "internal brain-drain" of Saudi physicians into business? As noted, it has acted on occasion against naturalized physicians, but it is less likely to do so against native Saudis, even though they are trained entirely at public expense. To do so would be antithetical to a Saudi religio-economic preference for freedom in the marketplace. It would also be inconsistent with government sponsorship of education as a basic social value in its own right. Official thinking inclines toward the belief that even if a professionally trained native Saudi fails to practice, he will nonetheless have undergone considerable education and be able to participate more effectively in the development of Saudi society in whatever field of endeavor he ultimately enters. Since not only medical education but the whole of higher education and the creation of a national cadre of highly educated persons are so new in the kingdom, there is some merit in this broader, permissive view of the purpose of publicly financed education. It should be noted, too, that all medical students who accept the government stipend of 400 riyals a month are thereby obligated to practice medicine for five years in the public sector. After that, they are free to do as they please.

In allowing native-born Saudis to opt out of direct-care medicine, the Saudi government makes it even more unlikely that it will achieve medical self-sufficiency in the near future. Bestowing citizenship on expatriate physicians, while one way to meet that goal, is viewed by

the Saudis as an expedient measure, not one that is welcome or intrinsically appealing.

Parallels Between the United States and Saudi Arabia

There are several significant parallels between the United States and Saudi Arabia in the career contingencies of expatriate physicians. In both nations, expatriate physicians are attracted not only by the economic opportunities in medical practice, but also by the general availability of supporting personnel, supplies, and equipment, which tend to be scarcer in their country of origin. In both nations, expatriate physicians cluster into highly essential but relatively low-prestige positions in public institutions and government service, while native physicians occupy medical echelons of higher prestige; this trend is better delineated in the United States than in Saudi Arabia at present.

Although Saudi Arabia aspires to full self-sufficiency in Saudi physicians, it may be that it will in fact rely indefinitely upon expatriates to man its "hard-to-fill" positions. Further, Saudi Arabia has signified no firm intention to diminish its reliance upon expatriates for many paraprofessional and medical technician posts, although it does have schools of nursing. The following statement in 1978 by the Ministry of Health summarizes a complex policy view regarding manpower development:

Saudi Arabia cannot and will not depend forever on expatriate health manpower. It must and it has already started to develop its own *Saudi* health manpower in all fields of health, medical and paramedical practices in parallel to the development of a network of health facilities and programmes to cover all parts of the Kingdom.

Although manpower and money are the critical issues in developing countries, the lack or the deficiency of which prevents them from expanding and/or upgrading their network of health services and forces them to provide different alternative solutions to their health problems, solutions which might sacrifice quality of care for any kind of care by specially trained, less experienced local manpower; in Saudi Arabia this problem can be reasonably circumvented by well-qualified expatriate health manpower to run the expanding network of health services, even in remote villages. At the same

time, the educational and training programs for developing the *Saudi* health manpower continue in a planned, quality-oriented manpower to replace the expatriates gradually and without disruption.

Developing a qualified, trained manpower is a difficult and long-term process and it must be planned carefully so that no category of manpower is developed that in the long run becomes redundant and useless as has been experienced in many countries.

What the health ministry implies here is that despite the strong desire to achieve self-sufficiency, Saudi Arabia does not intend to invest heavily in the training of its own mid-level practitioners or physician substitutes, even though they could be trained in less time and at less expense than physicians are.

In similar fashion, the United States for many years resisted the option of training mid-level practitioners. Stevens and Vermeulen (1972) have noted that the importation of foreign doctors by the United States deterred utilization of nurse practitioners and physician assistants, and that much of the work that foreign medical graduates did in American hospitals could be done by mid-level personnel at much less expense to the client.

In the WHO study of medical migration, Mejia, Pizurki, and Royston (1979:405) stated: "In recipient countries, the availability of a constant supply of foreign trained, and hence cheap, health manpower leads to complacency with regard to effective health manpower planning."

Because of the large contingent of foreign physicians in the United States, American-born physicians have had great latitude to pursue careers of their choice (Stevens and Vermeulen 1972:17). This *laissez-faire* approach to medical manpower development has resulted in maldistributions of various sorts. To some extent, the foreign doctors have entered pockets of social need; they have served in inner city hospitals, in state mental hospitals, and in rural areas. The availability of a large pool of surplus foreign physicians has also allowed government officials to avoid facing various sociomedical realities and to avoid establishing firm incentives for restructuring the landscape of medical care.

Many expatriate physicians in Saudi Arabia fill service vacuums created by the reluctance of Saudi physicians to practice in certain settings. Dr. Sebai recently reported that students at his medical

school in Abha refused to go on field rotations in villages because they were "horrified at the idea of practicing medicine away from the equipment and professional atmosphere of a hospital" (Carpenter 1982:1387-88). For much the same reason, so few Irani physicians would work in Iran's rural villages during the reign of Shah Pahlavi that Afghanistani physicians had to be hired for these posts. At that time Afghanistan had a ratio of only 1 doctor for 28,290 persons (Golladay 1980; Ronaghy, Cahill, and Baker 1974).

Because the number of Saudi physicians is still small, it is too early to tell how strongly they will follow their western counterparts in seeking specialist careers, thus leaving a partial vacuum for expatriate physicians to fill. Even with the involvement of Saudi women physicians in primary care, there is the distinct possibility that many first-contact or primary care physicians will be foreigners, which does not bode well for doctor-patient communication and for the kinds of educational-preventive effort which will be important for the general upgrading of the health environment. Already at work is the tendency noted above for Saudi physicians, native and naturalized, to become medical entrepreneurs, establishing private clinics and hospitals, and employing expatriate personnel who will render direct clinical services.

Future Prospects

It is difficult to convey the magnitude and pace of change that is transforming Saudi Arabia from a tribal society to a modern nation-state. Regular visitors to Saudi Arabia say that, upon returning to a location that they had been at just six weeks before, they fail to recognize it. Traditional ground-hugging buildings are being replaced by high-rise structures. Street maps are quickly outdated. Traffic patterns are frequently changed to allow for new construction. A telling note in the table of contents of *The Kingdom of Saudi Arabia* (1979) apologizes for any discrepancy between the current situation and the facts as they report them. The printed word cannot keep up with the transformation process.

Because change proceeds in quantum leaps rather than in smooth continua, the Saudis keep their eyes on the future. Accordingly, they must develop a health care system that is as much in the future as

in the present. Riyadh's renowned King Faisal Specialist Hospital is a case in point (Nyrop et al. 1977:82-83):

The medical technology system was designed to free hospital staff from as much routine administrative and test procedure as possible. . . . The center had fourteen computer systems, the most important of which was the hub of the medical information storage and distribution network. . . . Such technological exploitation minimized human error and enabled the center to overcome some of the severe restrictions otherwise imposed by the shortage of medical staff. In every department equipment was the most advanced available in the world, in some cases designed specifically for the center. Some of the technology under development has influenced work in the United States, Great Britain, and France, an extraordinary circumstance for a country that has had secondary education for only twenty years.

If one would agree that need-satisfaction, equity, and a rational use of resources are desiderata of a health care system, then Saudi Arabia would seem to be on target.

The WHO model of health manpower, because of its emphasis on primary care and environmental hygiene, holds some merit for Saudi Arabia in its current stage of development. Yet, if socioeconomic development continues at its present explosive rate, one may expect the health care needs of the population to change and to expand dramatically. An elaborate hospital building program and the recruitment and training of specialists to staff the hospitals would then seem warranted to meet the rising demand for secondary and tertiary care.

Road accident injuries are a revealing case in point. Tamimi et al. (1980:251) observe: "Development in Saudi Arabia is proceeding at a tremendous rate, aggravating the problem of road traffic." They found that the number of road accident admissions in the six hospitals of Abha Province in southwest Saudi Arabia increased from 850 in 1975 to 1,477 in 1977. During the same three years, the number of licensed drivers increased more than fourfold, from 3,207 to 14,691.

Other health hazards characteristic of affluent, developed countries are on the increase. Although the Islamic injunction against alcohol is still widely observed, the old tabu on tobacco has been relaxed and tobacco smoking is becoming widespread. One can expect that Saudis, only recently exposed to western indulgences, might find them very tempting. Already this is happening to many who leave the country

for extended periods to train or do business in western countries. Also, one must consider that many Saudis are at an age when they can be easily influenced. Persons in their teens and early twenties are not known for their ability to practice self-restraint. Indeed, the explosion of auto accidents is in part because so many young men (females are not permitted to drive) are driving and their tendency is to be reckless on the road.

While it can scarcely be maintained that dates, a long-time dietary staple, are dentally beneficial, the more recent high consumption of soft-drink beverages is similarly injurious. The growing reliance upon imported foodstuffs has undoubtedly diversified the traditional Saudi diet but also has probably raised levels of caloric and fat intake to those of developed countries, with concomitant increased risk of obesity and various diet-related chronic diseases. Aside from the rising risk factors, the sheer reduction of infant mortality will enable more of the population to move into age ranges where chronic disease takes a larger toll. These considerations argue both for a health strategy of prevention and reduction and, equally, for dealing with the chronic diseases and illness episodes characteristic of adult populations.

The declaration that health care is a right in the kingdom, with all that this implies in the way of equity, would have been meaningless and, potentially, a serious political liability if a health care system is not put in place as quickly as possible. Public sector health care is filling in the gaps that would have existed had medicine been left a matter of private initiative only. Because of government financing and participation in health care delivery, persons living in the remoter areas are not bereft of services. It is anticipated that the Saudis will be able to link up all parts of the kingdom medically through the use of flying ambulances and doctors. Regionalization of medical resources has been aided by the establishment of a medical school in each of the four major separate regions—eastern (Dammam), central (Riyadh), western (Jeddah), and southwestern (Abha).

Although both government and private medicine exist in the kingdom, they do not constitute a "two track" system for the rich and poor as is typical in many western countries. There is no counterpart in Saudi Arabia to the infamous "Medicaid mill" in the United States. Government teaching hospitals are virtually as well-resourced as the U.S. Bethesda Naval Hospital where high federal officials receive free care, but the Saudi hospitals are open to all social strata.

In a country where capital is abundant but native sources of labor are scarce, it would seem reasonable to have a health care system that is technology-intensive rather than labor-intensive. Totally unsuitable for Saudi Arabia would be the mainland Chinese model that tries to use human labor wherever possible as a substitute for costly technology.

Saudi Arabia's material abundance makes it quite different from the West in its attitude toward the utilization of advanced medical technology. Many western nations, being in the throes of an extended economic malaise, are searching for ways to control the cost of health care made explosively high in part by the technological nature of modern medicine. Twenty years ago, health care providers and institutions were viewed first of all in terms of the benefit they provided to society, through professional health care. Although health care has obviously never been "free," in terms of real resources and of financial outlays, the accent was strongly on its value to society; it was worth the cost, insofar as anyone was concerned about the cost. Now that accent is reversed; it is scarcely an exaggeration to say that the physician is gauged more nowadays by the "economic damage" he wreaks (not to mention iatrogenic effects and other clinical factors) than by the positive benefits of his work. Brian Abel-Smith has estimated that a practicing physician, because of his access to diagnostic laboratories, high-paid consultants, and tertiary care hospitals, generates around \$500,000 of medical costs each year (Evans, Hall, and Warford 1981:1121). Cost-containment provides a powerful impetus for current policy initiatives in favor of health promotion and primary care. Indeed, one imagines that if health care costs had not soared and become a major political issue, health promotion and primary care, despite their intrinsic worth, would not have received so much attention from policy analysts and makers. Although the future shape of health resources remains to be determined, clearly cost considerations will provide an austere discipline for their restructuring.

While Saudi Arabia seeks a rational program of health services, the progress it achieves will lack the rigor of cost-containment. Its wealth, though not limitless, is great enough to induce a degree of anomic drift, particularly in direct human service fields such as housing and health. Although there is concern not to squander financial resources and well-justified vigilance against exploitation by foreign purveyors, Saudi planners nevertheless are not burdened with the hard choices of the variety that many poorer third world countries have to deal

with. The former do not have to contemplate giving up one thing for something else. The Saudis can and do have both primary care and higher levels. In contrast, many third world countries, by deciding to create large urban medical centers, have left the countryside and much of the population without adequate health care.

Whereas western health analysts think in terms of a general framework of cost/benefit, Saudi planners think in terms of "absorptive capacity," meaning the capacity of an outlay made in the present to encumber or absorb plannable related outlays in the future. For example, it may be projected that the undergraduate training of Saudi medical students in Saudi medical schools will cost a certain amount and that, subsequently, the postgraduate training of an estimated proportion choosing to specialize will be a future, related expense. In a similar vein, medical equipment, once acquired, entails the ongoing cost of supplies, maintenance, repair, and upgrading, all of which reflect its absorptive capacity as projected future expenses.

It has been observed that medical technology, in contrast to the type used in basic industry, often increases the demand for human labor rather than reducing it. However, future generations of technology may ultimately replace such human input, so that at some point the technological investment will begin to pay off in terms of lessening manpower requirements. For example, coming along are so-called "smart" or "friendly" computers that can self-program. Human computer programmers will perhaps not be as extensively necessary as they are at present. Computer technologists and systems analysts will still be needed, but their number may become far lower. Furthermore, because of the Saudi abundance of capital and desire to reduce reliance on foreign workers, they would consider it a good tradeoff to have to employ one very expensive computer technologist instead of several, less well-paid technicians.

In considering the implications of the Saudi case for other oil producers, one must be reminded that in terms of health manpower policy not all of these countries are alike: while most are distinguishable by the fact that they import physicians, some export them, losing them permanently to other, usually richer countries. The oil producers with larger populations—Nigeria and Mexico—are the ones that export physicians. Even though they may have large oil reserves and a substantial oil income, their wealth is divided by a big population, making the GNP per capita correspondingly smaller. This means, in turn, that

effective economic demand for physicians is not enough to keep fully employed all of the physicians that are produced.

The oil producers with large populations have been hit hard by the recent downturn in the price of oil. Under pressure from western creditors, some are engaged in retrenchments for health care and social services. To the extent that oil producers base their income on oil and have no way to buffer themselves from fluctuations in oil prices, one can expect government-backed programs, including those in the health sphere, to develop fitfully.

As oil producers are contending with an unexpected fall-off of demand for their product, they are learning that oil is not the panacea for the woes of underdevelopment that they thought it would be. Even those oil-producing nations, such as Saudi Arabia, which are not as highly vulnerable to the downturn, are realizing that great wealth is not an unqualified boon. These nations suffer from the condition of having too many choices and an anxious sense that socioeconomic progress which elsewhere took decades or centuries must be accomplished very quickly, "or else."

Because Saudi Arabia can solve its short-term problems by importing technology and physicians, it will no doubt continue to do so, even though it delays the time when it will be self-sufficient. Nations with fewer means, forced through expediency to become self-sufficient, may in the end come out farther ahead. On the other hand, the Saudi record thus far suggests that they will be able to retain control amid the many changes which lie ahead.

Conclusion

Although we have laid particular emphasis on the idea that Saudi Arabia has a model of health care development that is quite different from that of most of the third world, we need to stress, too, that Saudi Arabia is not necessarily headed in the direction of having a westernized health care system, despite having much western technology and a system of medical education like that of the West. Indeed, it seems to be following a course of development different from both the third world and the West.

Whereas for most of the western world the cost of medical technology is a problem, for Saudi Arabia it is a solution to a more pressing problem—how to rationally allocate the dividends of its oil wealth

so as to maintain political stability rather than disrupt it through inflation. It is not the cost of modern technology that the Saudis worry about but rather its effect on tradition. Medical technology seems less threatening in this regard; for example, the Saudis have been able to use audiovisual equipment in a medical context to preserve tradition. Through television monitors male instructors can simultaneously teach women medical students, as the former, in person, teach male medical students. The women thereby presumably get the same education that their male counterparts get.

The selection of technology will, thus, be determined not by its costs, as it increasingly is in the West, but by its "cultural compatibility." Although Islam is a highly traditional religious and cultural force, it has strong activistic and interventionist strains which, applied to health, can be arrayed against fatalistic and passive tendencies. At Saudi medical conferences, the names of the medieval physicians Avicenna (Ibn Sina) and Al-Razi are frequently invoked in the hopeful expectation that Arab physicians of the rising generation will once again be in the forefront of medical progress.

One can foresee the possibility that the Saudis will have a heart transplant program on an impressive scale. In the United States a ceiling is being placed on the right to health care, such that only a few will probably be allowed the privilege of a heart transplant (Knox 1980). One indication that the Saudis will promote abundant access to the best that medicine can offer is the decree from the late King Faisal that cancer should receive special emphasis in government health programs. Since contemporary cancer treatment requires sophisticated and highly coordinated medical resources in many specialties, the government's designation of cancer can be seen as indicative of a desire to make available technologically advanced modalities of medicine to the public. Implementation of the Saudi "war on cancer" is proceeding with the build-up of medical specialists, equipment, and coordinating capabilities (El-Akkad 1982).

Primary care may well be more technological and specialized than it is in the West. Telecommunications systems will link up the medical center with village health centers. There are plans for fleets of helicopters and planes fully equipped with monitoring devices to transport patients back and forth. Saudi physicians may show more of an interest in rural health care than they do presently if they have adequate technological support (that is, laboratories and X-ray capability), and if the city is no more than a brief plane trip away. With a good

transportation and communications system, the Saudis could have the equivalent of area health education centers (AHEC), an approach used successfully in the United States to get health professionals to train in settings remote from medical centers. The existence of a "teaching environment" in rural areas might serve as an inducement for health professionals to set up practice there.

In Saudi Arabia primary care may eventually be delivered entirely by specialists, that is, by internists, pediatricians, and obstetrician-gynecologists rather than by general practitioners or family practitioners. This specialized approach to primary care has existed in Cuba for some time, and derives from the Czechoslovakian polyclinic model (Boffey 1978; Roemer 1973). In the United States it would be called a multi-specialty group practice. Given this alternative arrangement, specialization does not necessarily pose a threat to primary care, especially if the specialists are at a more primary level. If enough Saudi medical students lean away from careers in "superspecialties" such as cardiology, nephrology, and plastic surgery, then primary care could receive its full measure of physicians. Further, even if relatively many students are trained in the superspecialties, they might, like their American counterparts, form a "hidden" system of primary care (Aiken et al. 1979).

At such time as Saudi women physicians are given good opportunity to specialize, we expect that the primary care fields will nevertheless be well represented in their medical practice. Even in the United States, where women physicians theoretically can go into any field they want to, they are showing a preference for internal medicine, pediatrics, family practice, and obstetrics-gynecology (Braslow and Heins 1981).

Thus, the Saudis will fashion a health care system that will accord with their particular needs—not only epidemiological, but also geographic, political, economic, and cultural. Like Saudi Arabia itself, health care is experiencing unprecedented change. For this reason alone, the emerging Saudi system will be unique and innovative. Some of its components will be adopted by other wealthy and developing countries. Western countries may also look to Saudi Arabia as a natural laboratory of health care experimentation.

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