To the Graduate Council:

I am submitting herewith a dissertation written by Bonnie J. Lenihan entitled "The Economic Implications of Informal Sector Health Care." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Economics.

William E. Cole, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Vice Provost
and Dean of the Graduate School

THE ECONOMIC DEVELOPMENT IMPLICATIONS OF INFORMAL SECTOR HEALTH CARE

A Dissertation

Presented for the

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Degree

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ABSTRACT

A case study approach is used to assess informal sector health care for its ability to improve the health of the population and for its implications for economic development. Data on treatment outcomes are drawn from two anthropological studies of physicians in Mexico City and Spiritualist temple healers in rural Mexico. An indicative study of cost-effectiveness is conducted to compare physician and Spiritualist temple treatment; costs are derived from market prices collected in Mexico City and from government documents. The following are identified: Mexico's health care sectors; the kinds of health complaints responding to temple treatment; the nation's estimated aggregate health care resources and annual expenditures by sector; the public portion of expenditures and the population segments it covers; and institutional influences upon differential demand for each sector's services.

A comparison of treatment outcomes indicated no significant difference between physician and temple treatment success rates ($p>.05$). Costs per successful treatment by physicians exceeded those by temple healers on average by 12% for prescriptions and by 2,569% for labor, capital, and materials. Cases reflecting somatized depression were most responsive to temple treatment. Curative and preventive services accounted for 33.27% of the estimated national total expenditures on health care, of which only .08% went to informal sector providers. The public sector accounted for 66.63% of total health care expenditures; 86.70% of the public expenditures

went to health care coverage of the half of the population comprised of formal economic sector workers and their dependents.

Conclusions are as follows: 1) informal sector health care is inexpensive relative to formal sector care and is able to ameliorate certain kinds of widely occurring health complaints; 2) it provides a treatment function not available in formal sector care; 3) the health care system in Mexico is unduly narrow in scope and extremely unequal in the distribution of its benefits; 4) informal sector care (as well as greater emphasis on preventive measures) is likely to improve and extend health care for the total population; and 5) a cost-effectiveness approach provides an economic basis for choosing one type of health care intervention over another regardless of sector of origin, but it is unable to address externalities which are beyond the scope of monetary evaluations but may negatively impact upon development.

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CHAPTER 1

INTRODUCTION

I. THE HEALTH CARE SECTORS

A taxonomy developed by the International Labor Office (ILO) to describe the dualistic urban economies in less developed countries (LDCs) delineates two sectors of an economy: a formal sector and an informal sector (Sethuraman 1976). The sectors are differentiated on the basis of economic characteristics of business enterprises. The formal–informal distinction has not heretofore been used in connection with suppliers of health care. It will be applied here to the entire health care sector of the national economy: the collection of enterprises external to the household which engage primarily in the diagnosis and treatment of health complaints.[1] It is worth remembering that informal enterprises for providing health care are found in the rural areas as well as in the urban economy.

The ILO schema can be adapted to a nation's health care sector by distinguishing formal from informal sector health care enterprises on the basis of their economic characteristics. The formal--informal distinction is recognized by ILO researchers as somewhat imprecise in that a particular enterprise may reflect several but not all of the characteristics typifying a sector. Those characteristics relate to the following: 1) legal status, 2) scale

[1]Health-related enterprises whose basic business is not diagnosis and treatment (whether direct or by prescription) but rather is the sale of pharmaceuticals, herbs, ointments, health foods, orthopaedic or other health aids are excluded.

of production, 3) source of inputs, 4) capital-to-labor ratios, 5) government protection and promotion, and 6) formal education requirements.

Formal sector health care enterprises are duly constituted within the existing legal framework; informal sector firms, in contrast, tend to operate without legal sanction. Formal sector personnel may be employed by public or private health care agencies, or they may be self-employed. Informal sector personnel are individual healers operating independently in markets neither licensed nor subsidized by the government; they are typically self-employed, with health care often not their sole occupation. Formal sector enterprises engage in relatively large-scale production of services (often in hospital and clinic settings), use imported equipment and supplies, and employ relatively capital-intensive diagnostic and treatment techniques. Production in informal sector enterprises, on the other hand, is relatively small-scale and entails the use of indigenous inputs; diagnostic and treatment techniques are relatively labor-intensive. The markets in which formal sector enterprises operate are protected by government as through licensing, and promoted by government as through subsidization of medical education and health care services. The government's position toward informal sector health care enterprises may range from permitting but ignoring them to outlawing their activities. Formal sector enterprises require formal, often extensive, education of personnel; informal sector personnel are required little if any formal education, but they may undergo informal, sometimes extensive, training.

The present study will assess informal health care sector health care for its ability to improve the health of the general population, and for its implications for economic development. The assessment will take the form of a comparison of two representative types of informal and formal sector health care in terms of treatment effectiveness and relative costs. The actual economic and cultural context in which the study was conducted is Mexico. Mexico's formal health care sector enterprises are mostly biomedical in orientation; homeopathic physicians constitute a small residual. Informal health care sector enterprises are comprised mostly of traditional healers (e.g. curanderos, midwives, herbalists) and Spiritualist temples. As can be surmised from their composition, the health care sectors differ markedly in the conceptual frameworks guiding their diagnostic and treatment practices. It is worth noting that pharmacy personnel, even those with less than a secondary education, are often willing to prescribe biomedically-based medication to customers. Most pharmaceuticals in Mexico, including those for injection, can be purchased without a physician's written prescription. It is not unusual for ailing persons to either self-medicate or submit themselves to the ministrations of family, friends, or neighbors; such practices are called "popular sector" health care by Pedersen and Baruffati (1989). While those practices may resemble those found in the informal sector, they are defined here as being outside that sector (and the formal sector as well) because it is not health care enterprises which are performing them.

The formal health care sector in Mexico enjoys far superior social, political and economic status relative to that of its informal sector counterpart. National health care system planners and personnel, themselves biomedically trained, tend to associate formal sector health care with modern science and informal sector care with "ignorance, superstition, and quackery" (Leslie 1983:315). Traditional healers have been losing credibility where physician care has become available, and their number has dwindled. The Mexican population has by now come to accept the physician as the primary health resource (Foster 1977). Yet at the same time, Spiritualist temples have been growing rapidly in number and constitute a "vigorous and growing" health care delivery system (Finkler 1985:2). The fact that an informal health care sector perdures where biomedicine is available and widely accepted reflects ongoing demand for its services. This would seem to indicate that this sector yields a valued service not being provided by the formal sector.

II. THE SIGNIFICANCE OF INFORMAL SECTOR HEALTH CARE TO ECONOMIC DEVELOPMENT

Human capital theory identifies expenditures in health care not as consumption or welfare items but rather as investment in human capital (Schultz 1980)). The importance of health for economic development is in how it affects the quality of the labor force: improved health raises the quality of human capital and thereby contributes to increased labor

productivity. Investment aimed at acquiring and maintaining health brings benefits in the form of increased "healthy time"; this translates into either more work hours or better quality work from a more alert, accurate, and energetic worker, or both. From the basic needs standpoint, health (like education and nutrition) is valued in its own right apart from its effect on present or future productivity (Hicks & Streeten 1979). Investment expenditures for the attainment and maintenance of good health are for preventive or curative measures. The current development rationale for improving health has been in terms of its direct effect on the welfare of the target population (Cumper 1982). Measures to that end have been oriented toward establishing Western health standards and practices in LDCs. These are comprised of public health measures and national health care systems founded upon biomedicine for curative purposes (Gish 1979).

Biomedicine is recognized as scientific and rational in its approach and, above all, modern. As such it is consonant with modernization ideals implicit in the development goals of LDCs (Myrdal 1968). Establishment of a Western (a.k.a. cosmopolitan, modern, allopathic, scientific) health care system in an LDC represents the importation of a "bundled" good of Western medical knowledge, diagnostic and treatment techniques, equipment, pharmacopoeia, organization, administration, personnel education and training, professional associations and standards. The system is highly capital-intensive and the resources required (e.g. hospitals, clinics, dispensaries, equipment, physicians, nurses, technicians) are costly and thus

difficult to provide for the entire population. Choices of health problems to address, stages at which to intervene, strategies, and technology to employ have been determined largely by persons in the medical professions. Thus medical personnel in LDCs (like their counterparts in more developed countries) have been able to decide what health care resources will be used on the basis of their own professional assessments rather than on the basis of most effective use of scarce resources (Cumper 1982; Parker 1978).

The World Health Organization (WHO) recognized the trend of modern health care sectors in LDCs to absorb ever-increasing amounts of scarce resources but still benefit only a fraction of the population. In 1978 a joint WHO/UNICEF conference at Alma-Ata (U.S.S.R.) promulgated the goal of "health for all by the year 2000," i.e. "a level of health that will permit [each individual] to lead a socially and economically productive life" (WHO/UNICEF 1978:3). It considered neither feasible nor desirable the multiplication of biomedical resources to provide for the total LDC population. Instead, it called for new approaches to health care:

> most conventional health care systems are becoming increasingly complex and costly and have doubtful social relevance. They have been distorted by the dictates of medical technology and by the misguided efforts of a medical industry providing medical consumer goods to society. Even some of the most affluent countries have come to realize the disparity between the high care costs and low health benefits of these systems. Obviously it is out of the question for the developing countries to continue importing them. Other approaches have to be sought (WHO/UNICEF 1978:38).

WHO/UNICEF advocated "primary health care," with its emphasis on prevention, health promotion, and basic curative services for the total

population. It also encouraged LDCs to supplement their existing biomedical resources with those of traditional medicine where possible.

In response to the WHO challenges, the governments of many LDCs made concerted efforts to divert additional funds to their health sectors and to extend basic health services to the rural population. Increased emphasis was placed on prevention through improving the physical conditions in which people live (e.g. poverty, malnutrition, poor sanitation and hygiene, inadequate potable water supply, poor housing, insect disease vectors) which directly affect their health. Yet curative services offered by the official health care system (i.e. that under the guidance of the national health ministry and all of its levels) continue to be founded solidly upon biomedical technology. The resources of traditional medicine, with certain exceptions, remain largely untapped by the official health care system. As noted by Olayiwole Akerele of WHO, "one might say that traditional medicine has the support of the population and the opposition of the health professions (1987:178).

Mexico provides an example of a country containing substantial non-biomedically oriented health care resources beyond those of traditional medicine. Traditional medicine has been defined as "ancient and culture-bound health care practices which existed before the application of science to health matters in official modern scientific medicine" (Bannerman et al 1983:9). Yet the practice of traditional medicine is not static but rather evolves over time, assimilating new bits of knowledge and adapting to new

conditions (Anzures 1983). Nor does traditional medicine exhaust the practice of health care outside of biomedicine. In Mexico, for example, Spiritualist healing represents a syncretism of religion, folklore, and traditional medicine, and incorporates remedies from biomedicine as well (Anzures 1983; Kelly 1961; Finkler 1985). Thus for purposes of examining a country's non-biomedical health care resources in terms of their potential for improving and extending health care, the focus of attention need not be traditional medicine but rather the more inclusive category of informal sector health care.

III. ORIENTATION OF THE STUDY

The study is designed to assess some of the implications of a national health care system based solely upon the formal sector. Formal and informal health care sectors exist side by side not only in LDCs but also in highly industrialized countries such as the Unites States and Japan as well (Glik 1989; Sasaki 1976). The specific characters of the health sectors vary considerably across cultural contexts, yet certain common traits can be identified. Mexico provides a specific context in which to examine the traits distinguishing the sectors, some of which will be unique to that country.

Two research studies from the anthropological literature make possible a case study comparing formal and informal sector health care on the basis of treatment outcomes. Kaja Finkler (1980; 1985) conducted a study of treatment outcomes of Spiritualist temple healers in a rural area of

Hidalgo State, Mexico and a subsequent study (1990) on outcomes of treatment by physicians in Mexico City. Material from those works will be used in the present study to compare treatment success rates achieved by physicians and by temple healers. Treatment inputs will then be identified, costs assigned to them, and those costs compared for both types of interventions. Information on costs for temple treatment will be gleaned from government figures on minimum wage for labor inputs, and from market prices collected in Mexico City in August 1989 for capital, prescription, and other material inputs. Costs for physician treatment will be derived from official government reports on its health sector budget appropriations, and from actual market prices collected for prescription items. Since similar outcomes imply similar benefits, the need to compare economic benefits is eliminated. This approach does not constitute a rigorous cost-effectiveness analysis. The study does demonstrate the exceedingly disparate costs involved for each treatment approach.

Characteristics distinguishing Spiritualist temple patients from patients presenting themselves to physicians will be identified. Next, the symptom collections presented by those temple patients who were successfully treated will be examined. From these data, impressions will be drawn as to the nature of the health complaints which are alleviated by Spiritualist temple treatment but are not responsive to treatment offered by physicians.

The kinds of health care enterprises found in the case study will be situated in the broader context of the formal and informal health care

sectors in which they participate. The economic characteristics distinguishing formal from informal sector enterprises will be identified; these will readily show why informal sector care is so inexpensive relative to that of the formal sector. The major groups comprising each sector in Mexico will be described: biomedical enterprises and homeopaths in the formal sector, and Spiritualist temples and traditional medicine practitioners in the informal sector. A look at the differing conceptual frameworks typifying formal and informal sector enterprises will help explain why temple treatment may succeed where physician treatment fails. In addition to the two sectors comprised of health care enterprises, the "popular sector" involving self-care and the related popular medicine movement will be identified. Descriptive data will be drawn from government and medical anthropology literature, and from personal contacts in the fields of health care and anthropology in Mexico.

In order to gain perspective as to the relative economic magnitude of each sector, Mexico's health care sectors will be examined for their aggregate resources and the annual expenditures associated with their services. Figures will be determined for the public and private components of the formal health care sector, and for the informal health care sector. Data on public and private formal sector resources, and on public sector expenditures, are available from government sources. Although there is no aggregate information available on private formal sector expenditures, the number of informal sector resources, or expenditures on informal sector

care, figures can nevertheless be estimated from government and private reports, and from explicit average costs of Spiritualist temple treatment as determined in the case study. An additional figure will be estimated for "personal sector" expenditures, i.e. consumer expenditures on treatment substances regardless of by whom they were prescribed (physician, healer, or self). The public sector will be found to account for a hefty portion of all health care expenditures. The portion of the aggregate health care bill spent on national government health care agencies will be determined, as will the portion going to preventive and curative services. The distribution of public sector health care coverage will be determined by government data on expenditures by agency, and on the population segments eligible for services from each agency.

That formal sector care turns out to account for nearly all of the annual national health care expenditures calls for a still broader perspective in which to situate formal and informal health care sectors. For this reason, institutional forces will be identified which influence differential demand for each sector's services. Government influence will be inferred from the spending patterns of its health care agencies. Medical anthropology and related sources will indicate the nature of the pervasive attitudes held by the biomedical establishment and the Catholic Church which serve to influence the choice for health care in favor of biomedical care.

The results of this examination of Mexico's health care sectors will suggest that a national health care system overwhelmingly biomedical in

orientation is unduly narrow in scope and that, in its current design, is extremely unequal in the distribution of its benefits. The study will highlight the low cost of a kind of informal sector care (Spiritualist temple treatment) and its ability to ameliorate certain kinds of widely occurring health complaints. It will also point out the inherent dilemma in the promotion or subsidization of such services by a government committed to modernization.

CHAPTER 2

ECONOMIC IMPLICATIONS: A CASE STUDY

An indicative comparison of cost-effectiveness will be conducted to illustrate the potential economic advantages of informal sector health care relative to that provided by the formal sector. Anthropological studies on Spiritualist temple healing practices in Mexico (Finkler 1980; 1983; 1985) offer outcome data for a type of health care representative of that provided by a large segment of that country's informal sector. Kaja Finkler's (1990) research on outcomes of physician treatment in Mexico provides data which can be used to compare the effectiveness of temple healing practices (representing informal sector care) and biomedical interventions (representing formal sector care). Information on costs related to temple and physician treatment consists of prices gathered from primary sources in Mexico City and data taken from Mexican government documents.

I. SPIRITUALISM AND MEXICO'S INFORMAL HEALTH CARE SECTOR

The Providers

Informal sector health care practitioners are so identified not according to any particular epistemology or set of practices but, as discussed in the preceding chapter, according to the economic characteristics of the health care enterprise. In Mexico these practitioners include traditional

healers, Spiritualist healers, and a miscellany of sorcerers and hucksters. In a government survey of over 13,000 traditional healers, healers were counted and classified under four major headings: 24% as curanderos, 53% as midwives, 6% as herbalists, and 17% as bonesetters (Lozoya et al 1988). Regardless of their major classification, individual healers vary according to their personal specialties and subspecialties and may perform functions typical of more than one major category. The current practices of traditional healers have been influenced by factors such as mass migration, communication, and education, as well as modern public health and hygiene services and the proliferation of pharmaceutical products (Anzures 1983:105-106). Spiritualist healers use elements of traditional medicine, folklore, and religion in their principles and practices, and their remedies include natural preparations as well as synthetic ones commonly used by biomedical practitioners (Anzures 1983; Kelly 1961; Finkler 1985).

Traditional healers are an estimated 4.1 times more numerous than physicians in rural Mexico; however, traditional healers under the age of 40 are becoming a rarity, and their supply is expected to dwindle (Lozoya et al, 1988). Traditional healers such as curanderos are thought to be losing credibility wherever biomedical practitioners are available; meanwhile, the number of Spiritualist healers is believed to be on the rise (Finkler 1985). The actual number of Spiritualist healers in Mexico is unknown; their "centers pop up like mushrooms after a rain and no informant has the slightest idea of the total" (Kelly 1961:193). One expert on the subject

estimates the number of Spiritualist temples to be more than one thousand in Mexico City alone (Ortiz 1989).

Spiritualism: Religion and Health Care System

Members of this religious sect consider Spiritualism first and foremost a religion, and they view the provision of health services as an adjunct to the religion (Finkler 1985). Spiritualism in Mexico was begun in 1861 by Roque Rojas, a Catholic priest whose unorthodox activities failed to curry favor with the Catholic Church. Its beliefs are predominantly Judeo-Christian and incorporate elements from both the Old Testament and the New Testament. They also include the belief, widely popular in Europe during the mid-1800's, that humans have the ability to communicate directly with spirits of the dead. Spiritualists also believe that God speaks directly to the people through appointed temple functionaries during temple "irradiations." These occur during religious services and resemble exhortative sermons. God emphasizes divine goodness, obedience required from the people, and God's own promise to bestow upon them goodness (but not wealth) in return.

Spiritualism as a health care delivery system is a natural outgrowth of its beliefs regarding direct communication between the living and the dead, an interaction which can be to their mutual advantage. During certain temple rituals, temple mediums in trance "give light" to perturbed spirits and thereby put them at peace. Perturbed spirits are believed to be those of persons who died a violent death; in their unhappiness these spirits

afflict the bodies of living persons and thereby cause sickness. Once at rest these spirits no longer interfere in the health conditions of living persons. More evolved spirits, or "spirits of the light," are assigned the actual work of diagnosing and prescribing treatment for patients seeking health care from Spiritualist healers. The healers themselves enter a trance and take on the role of medium through which these spirits (the healers' "spirit protectors") speak and act. Physicians and the Catholic Church actively promote the idea that Spiritualist healers are witches and are to be avoided.

Most Spiritualist treatment is provided at Spiritualist temples. These enterprises are often quite small. Anyone can found a temple and run it (as temple head) for as long as the entrepreneur has legitimacy and, of course, clients. Temples are often as small physically as a single room in the temple head's home, or they may stand as separate buildings. Temple heads have the option of affiliating their establishment with one or more larger temples, the most prestigious affiliation being one linked with El Templo del Medio Dia in Mexico City. That temple is the largest and sets the standards for rituals, practices, and doctrinal content, all of which nevertheless can vary considerably from temple to temple. In fact, a neighboring temple visited by the author employs the Sign of the Cross in its prayers, encourages the use of rosaries and scapulars, and prominently features a decorated paschal candle in its sanctuary. The presence of these Catholic trappings in a Spiritualist temple is highly unusual given Spiritualism's vehemently anti-Catholic orientation (Finkler 1989b; Ortiz

1989); however, it can be explained by the fact that the head of this particular temple is a former Catholic nun.

Spiritualists are disallowed by their own rules to charge for healing services; at most temples, patients drop a small "offering" of money into a container as they leave the temple after receiving treatment. The money goes to the temple head for temple and living expenses. In some cases, heads of the larger temples are able to live well and support many relatives from this income (Ortiz 1989). To illustrate potential patient volume, one of the largest temples (Templo de la Fe) in Mexico City received 6,785 persons during a single day's 12-hour healing period and accommodated 854,581 persons seeking treatment in a year (Ortiz 1989). Healers performing the actual treatment in the temples are not paid.

Adherents of the Spiritualist religion account for only a small percentage of the people seeking Spiritualist treatment for health problems (Finkler 1985). However, both adherents and clientele tend to be from among the poorer, less literate, and generally marginal members of society. In general,

> spiritualism is associated with mestizo, not native peoples, and is primarily an urban phenomenon, particularly prominent in the low-income areas of large cities and in towns characterized by a sizable floating population or by disruptive contacts with modern commerce and industry. Accordingly, the followers are found chiefly among those whose cultural roots either are shallow or disturbed (Kelly 1981:192).

The expansion of Spiritualism into rural areas in recent decades is associated with improved linkages via new roads and public transportation, and with

the erosion of credibility of the local curanderos where physicians have become available (Finkler 1985).

The Spiritualist religion as a rule does not encourage social change or improvement in the adherent's marginal status. For example, it forbids "taking up arms against one's brother, participating in civil wars, abandoning one's children, and believing in idols and witches (Finkler 1985:21). "Idols" here include the pantheon of saints associated with the Catholic Church. Even divine will seems to favor the economic status quo: during "irradiations" God expresses concern that, if gifted by wealth, the people will desert their God. Spiritualism supports social change to the extent that it exhorts males to curb their drinking and rejects any belief in witchraft.

II. SPIRITUALIST TEMPLE TREATMENT: EFFECTIVENESS

The Setting

The Spiritualist temple which provided the locus for research on Spiritualist treatment outcomes is located in "Juarez," a rural Mexican village in Hidalgo state approximately 80 miles north of Mexico City. Finkler (1985) reports that peasants and daily wage laborers predominate in this area which is considered among the poorest in Mexico. The average ejido parcel is 7.4 acres, enough to provide a minimum income for a family; many are less than a third of that size and no new lands are available for

redistribution. Younger men commonly seek out daily wage labor in the region or else in Mexico City.

Physicians and Spiritualist healers are "the predominant health providers in the region" (Finkler 1985:41). In choosing among them for treatment of a given health complaint, clients consider who they believe can remedy the symptoms and end the illness state. Morbidity patterns are markedly influenced by ecological characteristics. Juarez is in a semi-arid region which is irrigated by untreated sewage waters flowing from Mexico City. While contributing to high agricultural yields, this water source contains industrial chemical wastes and vectors for the transmission of enteropathogens. Drinking water flows through other conduits; the extent to which it may be contaminated by the sewage waters is unknown. Sanitary conditions are poor given the lack of indoor plumbing facilities for most houses and the collection of garbage amassing at the town dumps. Not surprisingly, parasitosis is endemic; enteritis and diarrhea, along with respiratory disorders are the most common causes of morbidity in the region. This is consistent with the morbidity profile of Mexico for transmissible diseases (INEGI 1989).

Nuclear families are the trend and account for 57% of the region's population (Finkler 1985). Women in nuclear families tend to be socially isolated; they must ask permission of their spouse to leave the household. Many women engage in petty commerce (e.g. washing clothes) to augment their spouse's income. High levels of alcohol consumption by males

contribute to a drain on household funds and to physical abuse of women. Drinking heavily with other men provides males with a social outlet and is an aspect of machismo as well. Illness is often attributed (especially by women) to anger between spouses. As Finkler notes, "it is safe to say, based upon what is currently known about stress, that inimical ecological, social and economic conditions contribute to symptom formation" (1985:40).

The Healers

Temple treatments are conducted by the healers, who are not paid for their work. Healers are recruited from among temple patients whose symptoms perdure despite temple treatment. Their symptoms more frequently include anxiety, depression, and chronic pain than do those of other patients. Healers tend to identify such patients as having spiritual problems and instruct them to enter "development," i.e. attend temple services regularly and be indoctrinated in Spiritualist beliefs (Finkler 1983). Should patients accept this process, they become adherents to the religion and temple "regulars." Certain "regulars" may be named, as if according to divine choice, by the presider during temple services to become healers. Those so named are encouraged to continue in "development" during which time they are also taught how to enter a trance. Recruits are deemed ready to function as healers as soon as their personal "spirit protector" identifies itself during a temple service. Approximately two-thirds of the "regulars" are women.

The Patients

Most temple patients (88.9%) are not adherents to the Spiritualist religion and do not share the healers' beliefs; only 11.1% of the patients are "regulars" (Finkler 1985). Their first time seeking Spiritualist treatment typically follows unsuccessful treatment by one or more physicians for the presenting symptoms, or they may come hoping to avoid recommended surgery. It is not unusual for patients to consult four or more physicians for a given health complaint. Patients with an illness not curable by medical means usually conclude it is caused by witchcraft; they may seek Spiritualist treatment for it even though Spiritualists forthrightly deny the existence of witchcraft. If successfully treated on the first visit, these "first-comers" are likely to return for treatment of subsequent illness episodes and become either "habitual temple users" or temple "regulars."

Of a sample of 1,212 patients, Finkler (1985) identified 23.4% as "first-comers," 65.4% as "habitual users," and the rest as "regulars." "Regulars" seek temple treatment as a first resort for any illness while "first-comers" seek it as a last resort. The "habitual users" discriminate between grave and non-grave illnesses according to prevalent cultural notions; they tend to seek temple treatment for culturally defined illnesses not recognized biomedically (e.g. susto, empacho, aire) and for illnesses which they perceive as non-grave. Children accounted for 27% of the sample; of the adults, 79.5% were women and 20.5% were men.

The Treatment

Patients come to the temple on healing days and wait their turn (often for hours) in silence in the temple anteroom until one of the several healers is free. They then approach the healer and pronounce the requisite ritual greeting to the healer's "spirit-protector." The healer, already in a trance, spends on average 7.1 minutes with the "non-regular" patient (23 minutes with each "regular") and may or may not inquire about the latter's symptoms. The healer acts as medium to the "spirit-protector," who identifies the patient's problem and prescribes a remedy. The healer also "cleanses" the patient with sweeping hand motions and light massage of the patient's entire body. Patients tend to find the "cleansing" (limpia) the most beneficial part of the treatment. The healer's assistant writes down the prescription and hands it to the patient. The typical prescription includes items for baths, teas, massages, and perhaps commercial preparations (including antibiotics). Men are typically encouraged to cut down on their drinking. The patient is free to leave a small "offering" to the temple on the way out.[1]

Actual treatment elements such as limpia and the prescription can vary considerably for the same health complaint according to temple or healer. The author's own experience as patient (presenting complaint: back pain) at two different temples offers an illustration. For the limpia the first healer, in trance and with eyes closed, brandished a long kitchen knife in

[1]Finkler reports that the offerings of patients upon leaving the temple ranged from one to ten pesos (one peso = .045 $U.S. in 1979, when the study was underway).

rapid sweeping motions about the author's body. She also used a plastic bottle originally labelled for dishwashing detergent and very liberally sprinkled a strong-smelling liquid upon the author's head and shirt. She prescribed several teas, honey capsules, a scapular or rosary to be worn or carried to ward off evil, use of the temple liquid mixture in a poultice and for the daily sprinkling of the home, daily prayers, and regular attendance at temple services. In contrast, the second healer required just a few drops of liquid upon her own hands and upon the head of the patient for the limpia. Her prescription was quite lengthy (e.g. teas, baths, poultices, changes in diet) and confused and necessitated the taking of copious notes by the author's interpreter while the healer waited patiently.

The Outcomes

Treatment outcomes were classified by Finkler (1985) on the basis of patient information: i.e. on whether patients perceived their symptoms and related behavioral limitations improved following treatment. This information was collected via patient interview at the temple on the day of treatment and during two subsequent home visits. At the temple, Finkler recorded (as healer's assistant) the healer-patient interaction and prescriptions for 1,212 treatments. Of that group, 410 (every fifth person entering the temple to see a healer) were interviewed by her two assistants using an 82-item socio-economic interview schedule including questions on the patient's health history and kinds of health care sought for each illness. In addition, the Cornell Medical Index (CMI) was administered orally in

Spanish to each patient. The CMI, a 195-item questionnaire requiring "yes" or "no" answers, measures self-perceived health status and also indicates emotional disturbance. Of those 410 patients, 125 "non-regulars" were chosen for follow-up on the basis of geographic location (i.e. whoever lived within a 25-mile radius of the temple). Those not found at home after two attempts were dropped from the sample, leaving a final sample of N = 108. From among the "regulars," who receive from the temple a different kind and quantity of attention than do "non-regulars," a separate sample of 31 was similarly studied.

The first home visit occurred 7 to 13 days later and typically lasted 2 1/2 to 3 hours; it entailed directed and open-ended discussion plus readministration of the CMI. This provided information regarding symptoms, to what the person attributed the symptoms, what steps had been taken for the symptoms and with what results, life conditions, events, and so forth. The second home visit was conducted 30 to 45 days later; information was gained as to changes in symptom condition and treatment sought since the prior visit.

Of the 31 "regulars" studied, the heavy majority benefitted from temple involvement; those who did not were psychotic or suffering senile dementia. Those who benefitted did so as long as they maintained their temple involvement. The 108 "non-regulars" were classified as follows in terms of treatment outcomes: 25.9% success (28), 35.3% failure (38), 19.4% inconclusive (21), and 19.4% other (21). The "inconclusive" group represents

patients who recovered from their symptoms but had also sought medical treatment for those symptoms since the temple visit. The "other" group is a miscellaneous group, most patients of which had not administered the temple prescription.

III. BIOMEDICINE AND MEXICO'S FORMAL HEALTH CARE SECTOR

The Providers

Most formal sector providers are biomedical in orientation: e.g. physicians, nurses, and technicians. Homeopaths account for the small remainder of this group. Formal sector providers work in the private sector (e.g. in private practice, or for a private hospital), in the public sector (i.e. for central government health agencies), or in both. The government agencies provide health care to a major portion of the population under employment-related coverage or as a form of public assistance. There is no shortage of medical students; far more are graduated each year than are able to find jobs as physicians. This is not to say that Mexico has a surplus of physicians; rather, large urban areas attract more physicians than can find employment or sufficient clientele, while rural areas have difficulty attracting physicians (Enriquez Sam 1989). The strong trends toward specialization and advanced technology found in more developed countries are duplicated in Mexico.

Biomedicine: An Imported Cultural Product

The Spaniards brought their own doctors to Mexico as early as 1519 (Anzures 1983). During subsequent centuries European medicine (i.e. biomedicine) as it evolved was imported in toto: its knowledge, instrumentation, treatment practices, pharmacopoeia; its organization and institutions (e.g. hospitals, clinics); its education and training of personnel; its professional associations, journals, and standards; even the highly favorable social and economic status accorded its physicians. Biomedical treatment (assuming availability) is now the first choice of health care for most Mexicans seeking treatment outside the home. When it proves ineffective, only then are people likely to consider alternative types of care (Finkler 1990). Its practice is not totally detached from the cultural setting, as evidenced in the not uncommon physician practice of prescribing herbal remedies.

Biomedicine embodies the Cartesian notion that mind is separate from body; it does not deal with spirits or with the spiritual. The body is viewed in mechanical terms: the malfunctioning part (or system) must be identified and fixed, usually by surgical repair, chemical antidote, or change of diet. It contrasts with the more multi-faceted approaches employed in the informal sector addressing emotional, social, environmental, and spiritual aspects as well as those physiological in nature.

IV. PHYSICIAN TREATMENT: EFFECTIVENESS

The Setting

The general outpatient clinic of a government-run general hospital in Mexico City is the setting for Finkler's (1990) research on physician treatment outcomes. "Salud" Hospital is one of those run by SSA, the government agency offering health care to persons without employment-related health coverage. The population of Mexico City, estimated at 20 million, is burgeoning with the influx of migrants from all over rural Mexico and (averaging 1983 and 1984 figures) an annual population growth rate of 2.38% (INEGI 1989). Migrants leave their rural areas with the expectation of making a better income in the city, this despite rising education requirements for modern sector jobs and the falling education levels of the migrants themselves (Cole and Sanders 1985). The increase in quantity of housing, infrastructure, and other public services has not been rapid enough to accommodate the rapidly growing population. The economy's expanding informal economic sector, with its minimal requirements for human and physical capital, accommodates perhaps the bulk of the migrants.

Poverty, squalid living conditions, overcrowding, malnutrition, generally contaminated drinking water, and tremendous air pollution contribute to ongoing health problems. Air pollution comes mainly from industrial sources and from the exhaust of the massive number of cars, buses, trucks and other means of transport run on leaded gasoline and

generally without the benefit of pollution control devices. The lead poisoning is associated with respiratory and digestive problems as well as inflammation of the eyes (PRODUSSEP 1988). The four principal types of transmissible diseases found in the Federal District, which encompasses Mexico City, are identical with those of Hidalgo and the nation as a whole: acute respiratory infections, enteritis and other diarrheas, other intestinal parasites, and amoebiasis (INEGI 1989).

Finkler reports that 15% of her general outpatient sample at Salud Hospital are citizens covered by IMSS or ISSSTE (the two largest government health agencies for employed workers) but who are disgruntled with their services. The vast majority of the patients studied had already sought the care of one or more private physicians but had not been relieved of their symptoms. They generally were suffering episodes of non-life threatening, non-acute health problems (Finkler 1990) and in this way resemble the temple "non-regulars."

Finkler interviewed 267 patients at Salud's clinic before they were seen by a physician. A home interview was attempted with each one 30 to 60 days after the patient's final appointment with the doctor. Persons not found at home after two visits were dropped from the sample. The remaining 44 men and 161 women (N = 205) were interviewed according to a 52-item schedule covering such topics as current state of health, how they perceived the treatment they had received at the hospital, and what they had done to manage their illness since they had been to the hospital.

During the three- to eight-hour interviews, patients were specifically asked whether their health problem had been alleviated fully, partially, or not at all. On the basis of their responses they were classified into one of three groups: 1) "full recovery," meaning all of their symptoms had been eliminated; 2) "partial recovery," i.e. some but not all of their symptoms remained and the patients still considered themselves ill; and 3) "none," referring to the number of symptoms alleviated.

The Treatment

New patients go through a "pre-consultation" phase, usually lasting less than a minute, during which a physician asks what the presenting health complaint is (Finkler 1990). The physician then refers the patient to a specialty (e.g. neurology, gynecology, internal medicine). Internal medicine is the usual choice for persons presenting diffuse or multisystemic complaints or pains in the abdominal area, back, or chest. Women are directed to get pap smears. Patients are then weighed and measured and have blood pressure taken by a nurse. Subsequently they are attended by a physician; this encounter lasts on average 21.5 minutes. Routine laboratory analyses (blood, urine, stool) are ordered for a majority (73% in Finkler's sample) of patients. Other tests (e.g. x-rays, ultrasound, electrocardiogram) may also be ordered. On average, patients see the physician twice; the second meeting averages 8 minutes. The physician may or may not inform the patient of the diagnosis or offer an explanation for the latter's condition. The patient receives a prescription requiring an average of 3.3 medications.

The Outcomes

Treatment outcomes were classified on the basis of patient perceptions as reported during the home interview (Finkler 1990). Of the 205 patients, 35 considered themselves fully recovered (17.1%), 118 partially recovered (57.1%), and 52 not recovered at all (25.4%).

V. COMPARISON OF TEMPLE AND PHYSICIAN TREATMENTS

The purpose here is to compare temple and physician treatment in terms of cost for each patient cured. The desired "product" of treatment is a well patient. The criterion by which to determine well from unwell will be that which Finkler used, i.e. patients' subjective reports. Patients still unwell after treatment can be considered "byproducts."

Average costs will be estimated for temple and physician treatment respectively. The percentage of successes achieved by each treatment type will be determined. The inverse of the fraction of successful outcomes will be used to compute average costs of a successful treatment (average cost multiplied by inverse of said fraction). In this way, the two types of health care can be compared for their cost-effectiveness.[2]

[2]In consideration of Mexico's substantial inflation in recent years, all costs will be converted to August 1989 pesos. Inflation rate information is taken from the series of reports published by the Banco Nacional de Mexico (June 1985 through July 1989), with inflation rates for June through August 1989 projected on the basis of monthly inflation rates of the previous five months. See Appendices A and B for conversion ratios.

Spiritualist Temple Treatment Costs

Costs related to temple treatment will be estimated on the basis of Finkler's information about temple treatment inputs and practices, volume of patients, and treatment outcomes. Labor costs will be in terms of the minimum wage reported in government documents. Market prices collected in Mexico City in August 1989 will be used for materials and capital costs.

Labor. Labor related to treatment is required on three days of the week. Treatment services occur on Tuesdays and Fridays. In addition, Wednesdays entail a particular ritual and consultation with spirit protectors for which attendance of the curers is mandatory (voluntary for other regulars, except the temple head). The Wednesday sessions may thus be considered work time in terms of ongoing administrative and on-the-job training needs; these sessions will be estimated to last three hours. Each healer typically works two hours per treatment day. On average, healers treat 83.2 patients per treatment day (Finkler 1980). They spend, on average, 7.1 minutes per "non-regular" patient and 23 minutes per "regular." Each healer is assisted by a temple functionary (a regular), among whose tasks it is to write down the prescription for the patient. A temple functionary oversees the waiting room, seating people and directing them to a specific healer when one becomes available. The temple head is present to oversee, coordinate, and maintain the desired tempo for all activities.

Human capital costs for curers, assistants, waiting room overseer, and temple head are virtually identical as well as negligible. Temple personnel

are all "regulars"; they originally came ill to a Spiritualist temple in pursuit of healing. All have gone through "development" wherein they learned temple beliefs and were generally socialized into temple life. The duration of the "development" period for anyone encouraged to become a healer may range from several months to several years. It is determined (in fact, ended) by the time at which the person's spirit protector identifies itself by name in public, i.e. during a temple function. With the exception of learning how to enter a trance, members in formation do not experience any notable increase in health-related knowledge or skills through "development" per se. Time spent learning Spiritualist history, beliefs, and participating in the religious services, therefore, can be considered religious formation more than human capital development.[3]

Time spent as a healer's assistant during "development," in contrast, provides the prospective healer a forum for learning treatment behaviors and herbal and other remedies (Finkler 1989b). This occurs through observation of the actual healers at work. Each new healer will have served considerable time as assistant to the temple's various healers during healing services. Through this role the aspiring healer becomes exposed to a wide collection of patient complaints as well as to the treatment habits of various healers. In her own stint as temple assistant Finkler found that, after having assisted healers with approximately 500 patients, she was able to

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[3]The "development" period may in some way contribute to the potential healer's treatment abilities beyond meeting the "certification" requirements of the post; to the extent that it does, time in "development" can be considered capital formation.

anticipate what each healer would prescribe for any given health complaint. For the purpose of assigning treatment costs, this training period does not represent any additional cost beyond that reflected in labor hours of assistants.

To calculate hours of labor required per week, labor hours will first be counted for each treatment day. On average, 83.2 patients are seen on a single treatment day. This implies approximately 74 "non-regulars" (88.9%) and 9 "regulars" (11.1%), requiring 525 minutes and 207 minutes respectively for a total of 732 minutes or about 12 treatment hours per day. Each healer works 2 hours per treatment day, which implies 6 healers working per treatment day. This requires the presence of 6 assistants for 2 hours apiece per work day, plus the presence of the waiting room functionary and temple head (assume 5 hours per treatment day for each). Thus, weekly labor hours are as follows:

42 hours for healers (i.e. 24 hours on healing days, 18 hours on Wednesdays)
24 hours for assistants
10 hours for waiting room functionary
13 hours for temple head (i.e. 10 hours on healing days, 3 on Wednesdays)

Implicit labor costs of temple treatment are wages foregone; these will be assumed equal to the minimum wage applicable for unskilled and peasant labor. The hourly minimum wage (W) will be applied to labor hours of healers, assistants, and the waiting room functionary.[4] The temple

[4]Because of the relatively low level of education of these individuals, it is probably appropriate to attribute no more than that to their labor time. An alternative case could be made for a wage of zero where labor is in surplus. Hence use of the prevailing minimum

head is apparently substantially above average in resourcefulness and could probably command a wage higher than that of the others. For this reason, her wage will be considered three times their wage. No temple functionaries (including healers) other than the temple head are paid an explicit sum; the latter stands to gain financially should the voluntary contributions of patients permit.

Average labor costs per patient will be calculated on the basis of labor time spent per "non-regular" patient, to reflect costs associated with the sample of patients (all of whom were "non-regulars") for which the temple treatment success rate was determined. The 74 "non-regulars" accounted for 71.7% of the time spent by healers and their assistants; the labor time of the temple head and waiting room functionary will be taken to be distributed equally among all patients for purposes of assigning costs. The average labor cost per treatment day will be determined by loading all labor costs onto the two treatment days of the week and then dividing by two.

Labor cost per patient (i.e. "non-regular"):

$$[(42 + 24)W \times .717] / 74 / 2 + [10W + 13(3W)] / 83.2 / 2 = .614W$$

The minimum wage applicable (for both sexes) in the State of Hidalgo for unskilled and peasant labor will be used to represent the wage (W) for temple personnel. As of January 1989 the daily minimum wage

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wage is more likely to overstate rather than understate temple labor costs. This is further supported by the fact that some healers may be housewives who would not be otherwise employed.

was 7,205 pesos (INEGI 1989:64). This converts to 7,963 August 1989 pesos. Assuming an eight-hour work day, the minimum wage (W) for the State of Hidalgo can be expressed as 995 August 1989 pesos (approximately 2,500 pesos to the U.S. dollar) per hour.

Labor cost per patient in pesos:
.614 x 995 = 611 pesos.

Materials and capital. Spiritualist temple treatment involves the use of temple materials and capital, plus those numerous items which patients must acquire to fill their prescriptions subsequent to leaving the temple. Specifically, temple materials are: paper upon which to write prescriptions; "aromatic waters" (a mixture of water, ammonia, cheap toilet water, and rubbing alcohol); and branches and flowers utilized by a few healers. The candles and flowers present in the temple waiting room are left over from the Sunday religious ritual and do not figure into treatment expenses. Temple capital refers to the temple building and utilities. Prescriptions contain ingredients for baths, teas, purgatives, salves, and massages as well as medicines to be taken orally or by injection.

Actual market prices were collected in August 1989 from a variety of small stores, markets, and supermarkets in Mexico City for temple and prescription items. In addition, prices for commercial pharmaceutical products were obtained from price lists of various pharmaceutical companies for items sold by them or obtained from a particularly helpful Mexico City pharmacist. The majority of herb prices were obtained at the Sonora

Market, the major supplier of medicinal herbs for the region. Regular prices were used rather than sale prices; where there was a choice among products, an item toward the lower end of the price spectrum was chosen. This reflects the rationale that the item should be readily available at the noted price, and that the buyer is likely to be of low income and choose a lower-priced item from among close substitutes.

Materials (M) used on a treatment day are: the paper equivalent to that of 1/2 100-page spiral notebook, the "aromatic waters," and the branches and flowers for the few curers who utilize them. A day's supply of "aromatic waters" requires an estimated one large bottle of cheap toilet water, 1/2 bottle of ammonia, and 1/2 bottle of rubbing alcohol (Finkler 1989b). Capital (K) requirements are the building and utilities. The building has no running water or heat but does have electricity. The sole electrical appliance is a single-bulb light which is only infrequently used during healing services (there is usually sufficient light entering through the broken window).

The daily materials costs are as follows:

Paper	600 pesos
Cheap toilet water	20,425 pesos
Ammonia	1,240 pesos
Rubbing alcohol	2,010 pesos
	24,275 pesos

The cost of branches and flowers are negligible. Implicit capital costs for the temple building (i.e. rents foregone) can be considered zero.[5] Cost of electricity is negligible. Thus, the total cost of materials and capital per treatment day is 24,275 pesos. That figure is divided by the average number of patients treated per day:

Average cost of M + K per patient:
24,275 / 83.2 = 292 pesos.

Prescriptions. Prescription items typically include flowers, herbs, oils, food items, laxatives (especially Phillips' Milk of Magnesia), antibiotics, antihistamines, antidiarrheals, alcohol, spices, and lotions. A list of 22 randomly selected prescriptions listed by Finkler (1985) calls for 85 different substances. Market prices were gathered in Mexico City during August 1989 for these prescription items and the price of each prescription was averaged:

Average cost of prescription = 15,165 pesos.

See Appendix C for the list of prescriptions, items contained in each, and their market prices.

Average total cost per treatment. The average total cost of treating one Spiritualist temple patient is obtained by summing the average costs of labor, materials and capital, and prescriptions.

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[5]Temple health care activities require no more space than is also necessary for the worship services; in addition, depreciation of the building related to healing that is above and beyond depreciation related to worship services is likely negligible. However, were Spiritualist temple treatment to be widely promoted as a health care alternative, positive capital costs would be anticipated.

Labor	611 pesos
Materials and capital	292 pesos
Prescriptions	15,165 pesos
Average total cost =	16,068 pesos

This figure does not reflect a distinction among treatments in terms of their outcomes.

Success rate of temple healers. The outcomes identified by Finkler as "inconclusive" and "other" will be re-identified to reflect only two outcomes: treatment success or treatment failure. This will allow for the calculation of a treatment success rate for the total temple patient sample. Finkler's "success" and "failure" groups (28 and 38 patients respectively) of course retain their classifications. However, the groups labelled "inconclusive" and "other" require redefinition.

The "inconclusives" are those patients who improved following both temple and medical treatment for the initial symptom set. One possible assumption is that these patients perceived no improvement after temple treatment and therefore sought physician care. However, this would also imply that physician care subsequent to temple treatment resulted in a 100% success rate. Such an outcome is highly unlikely, particularly in light of Finkler's (1990) data on physician outcomes reflecting a success rate of less than half that figure. An alternative approach, which will be employed in this study, is to attribute 1/3 of the treatment success of this group to temple treatment, 1/3 to physician treatment, and 1/3 to the combined treatments. Given the popular habit among people in that region to

"doctor-shop," it is altogether plausible that patients might seek a physician's care without first determining the outcome of temple treatment. Further, the portion of successes attributed to combined treatment will be credited equally to temple and physician interventions. Note that this has the overall effect of dividing the 21 "inconclusive" patients in half, with 10.5 patients counted as "successes" in terms of temple treatment and the other 10.5 counted as "failures."

As for the 21 patients in the "other" group, these will be considered part of the "failure" group. For the majority of these patients it was unclear as to whether their condition had improved or not. In addition, most of this "other" group did not administer the temple prescription. Whether due to lack of means, credence, motivation, interest, or other factors, it will be assumed that members of this group did not benefit from the temple experience.

With these changes made, the sample population of "non-regulars" (N = 108) falls into two groups: 69.5 failures (64.4%), and 38.5 successes (35.6%). In other words, 35.6% of the patients represent the desired "product." The remaining 64.4% of the patients represent the "byproduct" of total treatment inputs at the temple.

Average costs of successful temple treatment. Average costs for labor, materials and capital, and prescriptions and their total can now be calculated per successful treatment. The average total cost for any given treatment of a "non-regular" patient is multiplied by 2.81 (i.e. divide by

35.6%) to reflect the fact that only 35.6% of "non-regular" patients are "success" cases (see Table 2.1).

Average costs per treatment success:
(611 + 292 + 15,165) x 2.81 = 45,151 pesos

Table 2.1

SPIRITUALIST TEMPLE TREATMENT COSTS
(in August 1989 pesos)

Input	Per Patient	Per Treatment Success
Labor	611	1,717
Materials	292	820
Capital	0	0
SUBTOTAL:	903	2,537
Prescriptions	15,165	42,614
TOTAL:	16,068	45,151

Physician Treatment Costs

Costs for physician treatment will be determined in part from the official government report (de la Madrid 1987) on its health sector budget appropriations for 1987. A single combined cost for labor, materials, and capital will be derived from that source. Actual market prices will be used to represent the cost of items required in physician prescriptions.

Labor, materials, and capital costs. The government health sector budget for 1987 contains a line item for general outpatient services, i.e. the kind received by patients in Finkler's sample from Salud Hospital. The report of the President (de la Madrid 1987) also gives the number of outpatient visits that had occurred from January through August of that year. This information permits the calculation of average total cost to government providers per outpatient visit.

Peculiarly, the line item in the national health care budget for general outpatient care reflects no allocation to SSA, the government health care agency which runs Salud Hospital (see Appendix D). What is available, however, is the budget amount allocated to IMSS and ISSSTE for general outpatient care as well as the number of general outpatient visits handled by each from January through August. Those figures will be usedto calculate the average cost of a general outpatient visit at a modern government-operated hospital such as Salud. Salud Hospital's general outpatient costs will be represented by the average of those of IMSS and ISSSTE.

The total 1987 budget for IMSS was 2,627,120 million pesos, plus an additional 423,250 million pesos not assignable to programs. The amount budgeted for general outpatient services was 373,733 million pesos, or 14.2% of the total agency budget. That percentage of "nonassignables" (60,101 million pesos) will be attributed to general outpatient costs, for a sum of 432,834 million pesos. The number of general outpatient visits at IMSS

during the period of January through August of 1987 was 36,551,000; the number of visits projected for all of 1987 (i.e. multiply by 1.5) is 54,826,500. Thus the average cost per general outpatient visit comes to 7,895 pesos. These pesos will be assumed January 1987 pesos, the month for which the annual health budget begins.

The ISSSTE annual budget for 1987 totalled 733,400 million pesos plus 285,000 million pesos not assignable to programs. The portion allotted to general outpatient services was 79,051, or 10.8% That percentage of "nonassignables" (30,780 million pesos) added to general outpatient costs brings a total of 109,831 million pesos. From January through August, ISSSTE had a total of 8,129,000 general outpatient visits; the projected number for the entire year is 12,193,500. Thus, the average cost for a general outpatient visit at an ISSSTE facility is 9,007 January 1987 pesos.

The average of IMSS and ISSSTE figures for average cost per general outpatient visit is 8,451 January pesos. This amount can be converted to August 1989 pesos by using information on the Producer Price Index (Banamex 1985-1989) and estimating the monthly change in PPI for June, July, and August by using the average monthly change of the previous five months. By this manner, the increase in PPI from January 1987 to August 1989 is calculated at 3.6760.

Average cost per outpatient visit:
8,451 pesos x 3.6760 = 31,066 August 1989 pesos.

Prescriptions. The source of information as to content of physician prescriptions is Kaja Finkler (1989a), who provided a list of the most-used pharmaceuticals (295) and herbs (10) in those prescriptions. Each prescription contains, on average, 3.3 items (1990). An average cost per prescription can be obtained by finding the average price of a prescription item and multiplying by 3.3.

Prices were collected in August 1989 for 133 of the pharmaceuticals and 3 of the herbs listed, or 44.6% of the total 305 items. The bulk of prices came from a collection of 39 recent price lists from 38 different pharmaceutical companies. The Mexico City pharmacist who supplied the lists was also kind enough to secure prices for numerous drugs not on the price lists. Prices used here are suggested retail prices (precios publicos), which approximate what retail customers actually pay; where a ceiling price set by the government was listed (precio pacto), that price was recorded instead. Because the price sources varied by date, i.e. from July 1987 to August 1989, each price was adjusted to reflect August 1989 pesos. The three herb prices were obtained from the Sonora Market in Mexico City. The average price for a physician prescription item was found to be 6,658 August 1989 pesos (see Appendix E).

Average cost per prescription:
6,658 pesos x 3.3 = 21,971 pesos.

Average total cost per treatment. The sum of the average costs of prescription and of labor, materials, and capital is the average cost of one general outpatient treatment.

Labor, materials, and capital:	31,066 pesos
Prescriptions:	21,971 pesos
Total cost per treatment:	53,037 pesos

This figure refers to treatment cost without consideration of treatment outcome.

Success rate of physicians. Finkler defined three outcome categories for the 205 physician patients in the sample: full recovery (35), partial recovery (118), and none (52). These categories will be redefined to reflect just two outcomes: treatment success and treatment failure. Patients fully recovered are treatment successes, and those not recovered at all are treatment failures. The sizeable group of partially recovered patients will be weighted equally (.5) toward the success and failure groups. This says in effect that, on average, the partially improved patients achieved a half-cure. By this manner the sample of 205 can be said to comprise 94 treatment successes (45.9%) and 111 treatment failures (54.1%). In production terms, 45.9% of the patients represent the desired product (a successfully treated patient) and 54.1% of the patients represent production byproducts.

Average costs of successful physician treatment. Given the treatment success rate of 45.9%, the average cost per successful treatment can be determined by multiplying the average cost per patient by 2.18 (the

inverse of .459). Costs per patient and costs per successful treatment are reported in Table 2.2.

Average cost per treatment success:
(31,066 + 21,971) x 2.18 = 115,621 pesos

Table 2.2

PHYSICIAN TREATMENT COSTS
(in August 1989 pesos)

Input	Per Patient	Per Treatment Success
Labor, materials, and capital	31,066	67,724
Prescriptions	21,791	47,897
TOTAL:	53,037	115,621

Cost-Effectiveness Comparison

The above results offer a basis for comparing physician and Spiritualist treatment on the basis of their cost-effectiveness. Overall average costs per treatment success show that treatment by a physician (115,621 pesos) exceeds in cost that of a healer (45,151 pesos) by a multiple of 2.56. The cost differences become more striking between physicians and healers

when prescription costs are examined separately from those of labor, materials, and capital (see Table 2.3).

The costs of temple and physician prescriptions are fairly comparable relative to all other costs involved. Per successfully treated patient, the physician prescription costs on average 1.12 times the cost of a prescription issued by a Spiritualist healer. In marked contrast, the average aggregated labor, materials, and capital costs for a successful treatment by a physician (67,724 pesos) exceed those costs for a temple healer (2,537 pesos) by a factor of 26.69.

Table 2.3

PHYSICIAN-TO-SPIRITUALIST TREATMENT AVERAGE COST RATIOS

Inputs	Per patient	Per treatment success
Labor, materials, and capital	34.40	26.69
Prescriptions	1.44	1.12
Total inputs	3.30	2.56

This study on cost-effectiveness related to Spiritualist and physician treatment is not meant as definitive. Rather, it is indicative of the factors

which must be considered in a more rigorous cost-effectiveness analysis. Ideally, costs for such an analysis would be collected concurrently with, and at the site of, the research on treatment outcomes. In this project, however, costs of temple treatment inputs in this project were figured on market prices in Mexico City years later. Costs of physician treatment inputs were calculated on the basis of information that was available: budget allocations for government agencies providing general outpatient services rather than actual expenditures by Salud Hospital. In addition, the success rates used for physician treatment are particularly imprecise due to the necessarily imprecise meaning of "partially improved," the classification for the majority of patients in that sample.

Despite these reservations and a potential host of others, this study provides some clear impressions regarding comparative costs for two quite disparate health care approaches. First it must be noted that the bulk (94.4%) of temple treatment costs are prescription-related while a tiny portion (5.6%) covers labor, materials, and capital costs. This differs considerably from the composition of physician treatment costs, which are more balanced between those for prescriptions (41.4%) and those for labor, materials, and capital (58.6%). The figures on average costs per treatment success show physician prescription's more costly than temple prescriptions by 12% and overall costs higher by 156%. While notable, neither of these differences seems glaring enough to intimate any gross misallocation of economic resources in the health care sector.

In contrast, the discrepancies between physician and healer costs for labor, materials, and capital are striking: they differ by a factor of 26.69 in the production of a well patient. It is important to note that the figures for physician treatment costs are likely to understate the sizeable human capital costs associated with biomedical care; considerable education and training is required for such personnel as physicians, nurses, and laboratory technicians and pathologists. A cost differential of even 26.69 is of a general magnitude that raises questions regarding the efficiency of the current allocation of resources between formal and informal sectors for curative health services.

CHAPTER 3

WHY DO SPIRITUALIST TEMPLE HEALERS HAVE ANY SUCCESS AT ALL?

As noted in the previous chapter, Spiritualist temple healers enjoy a treatment success rate of 35.6% while that of Mexico City physicians is 45.9%. While it may be gratifying to health care planners to know that the success rate of physicians providing outpatient services at a modern government hospital exceeds that of Spiritualist temple healers, nevertheless a simple 2 x 2 Chi square test reveals that these rates are in fact not significantly different ($p>.05$). At least one-fourth (i.e. the "first-comers") of the temple "non-regulars" had been treated unsuccessfully by physicians for the presenting symptoms; the extent to which relative success rates would have been different had a similar portion of the physician patients gone first to temple healers and only then to physicians after not being cured is matter for speculation. It is beyond the scope of this study to explain why physician treatment is as effective (or ineffective) as the above figures may indicate. Rather, the focus is on the informal economic sector's ability to provide health care services leading to improved health status for its clientele. What shall be attempted here is an explanation of why the Spiritualist temple healers enjoy any treatment success at all. This necessitates a closer look at the temple patients themselves and the nature of their health complaints.

I. DISTINGUISHING CHARACTERISTICS OF TEMPLE PATIENTS

Finkler (1985) compared temple patients (N = 1,212) with a sample of 156 physician patients interviewed at the office of a local ("Juarez") physician and found the two groups similar in occupation, land tenure, exclusion from national health insurance coverage, etiological beliefs, family structure, ages of adults, and religious affiliation (90% Catholic). Both groups were comprised of mostly indigent peasants, day laborers, housewives, and self-employed individuals who were either landless or held small parcels. Only 16.1% of the temple patients and 6.5% of the physician patients were covered by national health insurance. Ninety percent of each group had no schooling beyond the 6th grade; the majority of each group had 3 years or less. However, the number of years in school was significantly higher ($p<.001$) for the physician patient group. Regular church attendance was significantly higher ($p<.01$) for that same group. Significantly more ($p<.001$) temple patient households had at least one household member who had migrated outside the home town or village in search of wage labor.[1]

The temple patients presented a somewhat different set of health complaints for treatment than did the physician patients. Physicians saw almost all obstetrics cases and illnesses perceived as "grave," i.e. any recognized as life-threatening, involving bleeding or severe pain, or

[1]Probabililites were determined from Chi square tests (Finkler 1985).

requiring confinement to bed, and cases of diarrhea, vomiting, or pain that are accompanied by fever. Temple healers were presented with more skin conditions. Of complaints presented by temple patients, 10.2% were personal problems and 63% of those were related to interpersonal conflicts. Patients did not seek help from the physician for personal problems.

The two patient groups also differed in their responses on the Cornell Medical Index. A patient's overall score on the C.M.I. is a composite of scores obtained on the following 18 subscales: eyes and ears; respiratory; cardiovascular; digestive; musculoskeletal; skin; nervous; genitourinary; fatigability; frequency of illness; miscellaneous diseases; habits; inadequacy; depression; anxiety; sensitivity; anger; and tension. This composite is also expressed in terms of a physical subscore and an emotional subscore. Men in the temple group did not score significantly differently from men in the physician group on either subscore. However, women temple patients scored significantly higher ($p<.001$) on the emotional subscore (particularly on the scales for anger, inadequacy, depression, sensitivity, tension, and anxiety), reflecting greater emotional disturbance. Physical subscores were similar for temple and physician patient groups and reflect similar physical symptoms.

Finkler points out that the process of self-selection can explain why women temple patients score higher on emotional disturbance than women in the physician patient group. Women seeking help for personal problems and for cultural illness syndromes do not seek help from a physician for

them. An example of a cultural syndrome is aire, which is typically ascribed to discontented spirits or to intrinsically harmful air or wind. Symptoms of aire may include (but are not limited to) musculoskeletal pain, respiratory problems, numbness in the extremities, paralysis, diarrhea, inflammation of internal organs, congestion, and fever, and do not correspond to any specific disorder within the biomedical framework (Finkler 1985; Lozoya 1988). The cultural syndromes are typically recognized by patients as having a strong component of anger and interpersonal conflict, as are illnesses suspected due to witchcraft. Anthropologist Michael Kearney (1979) estimates that in 90% of all cases presented to Spiritualist healers, symptoms are attributed to witchcraft. He emphasizes the marginal economic and social situations of temple patients and views their physical complaints as somatic expressions of paranoia, anxiety, and depression.

II. HEALTH COMPLAINTS OF TEMPLE "SUCCESS" CASES

The specific symptomatology presented by Finkler's original "success" group (N = 28) can be found in Appendix F. (Those for patients originally labelled "inconclusive," half of which were redefined as "successes," are not readily available.) These presenting complaints contain a preponderance of gastrointestinal symptoms (lack of appetite, nausea, vomiting, stomach pain, constipation, diarrhea, worms), muskuloskeletal complaints (pain and numbness in the extremities, paralysis), headaches, sleep disturbances

(including insomnia), loss of appetite, weight loss, "nerves," and lethargy. The remaining complaints consist of a variety of genitourinary, cardiopulmonary, dermatological and miscellaneous symptomatology.

The health complaints presented by these temple "success" patients are notably similar to the symptomatology manifested in Latin American cultural syndromes such as nervios and susto. Symptoms involved in nervios include "headaches, trembling, heart palpitations, stomach and appetite disturbances, trouble with concentration, sleep problems, and worrying" (Angel and Guarnaccia 1989:1230). Symptoms for susto include general malaise, loss of appetite, coldness in the extremities, sleepiness, sleep disturbances, pallor, sadness, exertion in walking, fainting spells, slight fevers, diarrheas, vomiting, pain associated with gastritis or gastric ulcer (dolores en "el corazón"), and headaches (CIESS 1988:88).

Such symptomatology bears a striking resemblance to that described in the psychiatric literature for somatization disorder (Briquet's Syndrome). It is a syndrome characterized by a potpourri of symptoms:

> multiple, unexplained medical complaints, often of a dramatic, vague, or complicated nature[;] patients may present with mixed somatic symptomatology characteristic of depression, anxiety, hyperventilation, hypochondriasis, musculoskeletal pains, menstrual and sexual disturbances, and hysterical conversion reactions (Ludwig 1986:299).

Given the symptomatology presented by the "success" group, the treatment successes achieved by Spiritualist temple healers can be understood in terms of relief of somatized emotional conditions. This is not to negate the possibility that the teas, baths, massages, and other treatment elements

prescribed by the temple healer may benefit a patient's physiological condition due to the physical properties of those elements.

To summarize, treatment success on the part of Spiritualist temple healers seems to occur when the presenting health complaints represent somatized emotional disturbances not responsive to physician treatment. This tentative identification of what healers successfully treat still does not answer how such treatment leads to the relief of symptoms. An examination of the nature of somatization provides a basis for understanding why a patient's condition may improve in response to temple treatment.

The Nature of Somatization

Somatized conditions have been explained in the psychiatric literature as manifestations of depression and the accompanying anxiety (Cameron 1987; Katon et al 1982; Kellner 1986). Depression here refers to the major depressive disorder which involves three basic components. The first is a persistent dysphoric mood; i.e. the person may feel depressed, sad, "blue," hopeless, anxious, angry, irritable. The second is a collection of vegetative symptoms involving neuroendocrine and autonomic nervous system dysfunction. Characteristic symptoms include "anorexia, weight loss, insomnia or hypersomnia, psychomotor agitation or retardation, decreased energy and libido, decreased ability to think and concentrate, dry mouth, constipation, headaches and backaches," and chronic pain (Katon et al 1982:129). The third component is a characteristic cognitive schema.

Depressed persons believe they are inadequate, undesirable and worthless due to some self-perceived psychological, moral, and/or physical defect. They tend to reproach themselves for these shortcomings, believe their condition is hopeless, and may consider suicide. The persistence of these conditions for at least two weeks constitutes a major depressive disorder (American Psychiatric Association: 1980). Somatization in this context refers to "the selective perception and focus on the somatic manifestations of depression with denial or minimization of the affective and cognitive" components (Katon et al 1982:127).

Katon and colleagues (1982) discuss somatization as the normal expression of depression in non-Western cultures and in the West prior to this century. Cross-cultural studies have found that depression in non-Western cultures is expressed in the familiar vegetative symptoms, but that the affective and cognitive (i.e. the negative self-image) components are either mild or missing altogether. As societies become more Westernized, however, the affective if not the cognitive components begin to appear. The concept of somatization requires the "psychological mindedness" that is a twentieth century cultural development of the West and is predicated upon the cognitive awareness and labeling of interior feelings. It implies that vegetative, affective, and cognitive components are present in depression everywhere but that the patient is either unaware, or only minimally aware, of the affective and cognitive elements.

The widespread tendency for depression to be somatized is not surprising given that, in the majority of the world's cultures today, the perception and naming of emotions is not only not valued but may even be stigmatized. Also not surprising is the correlation, in the United States, of somatization with "lower socioeconomic class, traditionally oriented ethnic groups that discourage and disparage undisguised expression of emotions, blue-collar workers, rural living and lower educational levels" (Katon et al 1982:131). In Mexico, where the impact of Western culture has been unevenly felt and scarcely integrated, it is not unusual for the vegetative symptoms of depression to be accompanied by an awareness of anger. Anger is associated with interpersonal conflict and viewed as an illness cause (as in aire or susto) external to the patient, i.e. caused by external provocation and therefore blamed on the provocateur. It is thus socially acceptable in Mexico to identify one's anger and oneself as an angry person (Finkler 1985). More importantly, with the externalization of anger the tendency to somatize remains. This pattern of symptoms and accompanying attitudes toward expression of affect is far from unique to Mexico or to Latin America. In Taiwan, for example, depressed patients have been found to exhibit quite similar symptomatology and attitudes (Kleinman 1980).

How Somatized Conditions May Improve through Treatment

Improvement of somatized conditions means relief of the vegetative symptoms. But vegetative symptoms of what? In the biomedical perspective, vegetative abnormalities signify the presence of disease. In the

context of somatization, these symptoms signify not disease but depression. These two different views recall the distinction in the anthropological literature between disease and illness (Kleinman 1980). "Disease" refers to a biological or biochemical malfunction. It is a concept based on Western epistemology and defined by the Western medical profession (Finkler 1985). It is defined as "an interruption, cessation or disorder of body functions, systems or organs" (Stedman's Medical Dictionary 1982). "Illness," in contrast, refers to the psychosocial response to a perceived disease. It

> involves a process of attention, perception, affective response, cognition, and valuation directed at the disease and its manifestations (i.e., symptoms, role impairment, etc.) (Kleinman 1980:72).

While treating a disease might logically call for a mechanical intervention or chemical antidote (Foss and Rothenberg 1987), treating an illness would logically entail provoking a change in the psychosocial response. This is precisely what the Spiritualist healers can be understood to accomplish in their treatment "successes." How it happens can be understood in terms of the interactions among cognitive, affective, and vegetative elements involved in depression.

How people perceive a situation shapes their affective responses to it; hence cognitive change promotes affective change (Ellis 1962; Mahoney and Arnkoff 1978). Emotional changes, especially those related to anxiety, are known to effect changes in the limbic-hypothalamic system of the brain. This system regulates the neuroendocrine and immune systems and the autonomic nervous system (Achterberg 1985; Ornstein and Sobel 1987).

The importance of these interactions to the vegetative symptoms becomes obvious in light of the physiology of depression:

> depression is a psychobiologic disorder with multi-level impairment in brain neurotransmitters, hormonal systems, the automatic nervous system, circadian rhythms and rapid-eye-movement (REM) sleep (Katon et al 1982:129).

Hence relief of vegetative symptoms in temple "success" patients can be explained in terms of changes induced by temple treatment in patients' perceptions and attendant emotions.

Certain cognitive changes (i.e. in thoughts, attitudes, beliefs) are invited by Spiritualist treatment and are likely to reduce anxiety. One such change is in patients' understanding of why they are ill upon being presented by the healer with an explanation for their illness. Providing an explanation to patients for their condition has been found in numerous studies to decrease patient anxiety and promote recovery (Kellner 1986). A second such change is in the patients' attitudes toward others upon exposure to the Spiritualist healers' forthright rejection of witchcraft. A popular belief among patients is that illnesses not curable by physicians are due to witchcraft. This implies the belief that one's neighbors or family members have intentionally initiated activities designed to harm one's health. Spiritualist healers, in contrast, ascribe illness to the machinations of impersonal unhappy spirits which must be put to rest. To the extent that they accept the healer's perspective, patients shift responsibility for the illness away from the suspected neighbors or relatives and onto impersonal spirits (Finkler 1985). This serves to reduce suspicion, fear, animosity, and

the concomitant anxiety, and to promote social harmony. It is worth noting that such cognitive changes make no allusions to negative self-assessments on the part of patients; rather, they are consistent with cultural requirements and conceptualize the conflict as exterior to the patient.

Perhaps the most important cognitive element is related to placebo effect, which involves patient belief in the efficacy of temple treatment. Placebos may be substances such as sugar pills, or they may be procedures including surgery. Their effectiveness is due not to the properties intrinsic to the placebos but rather to the attitudes and beliefs of the patients regarding their effectiveness (Wolf 1959). Hence any or all elements of temple treatment, e.g. "cleansings," purported interventions with spirits, and prescription items, can be construed as placebos. A review of placebo studies reports a remarkably constant average rate (35.2%, with a standard error of only + or - 2.2%) of individuals who gain symptomatic relief from placebos administered for a wide range of health problems (Beecher 1955). Notably, the success rate (35.6%) for Spiritualist temple treatment falls with uncanny precision into that range.

Implications of Temple Treatment Success

First of all, somatization of psychological problems is not a rare condition. While its incidence worldwide is not known, it has been estimated to account for as much as 50% of patient visits to physicians in the United States (Stoeckle et al 1964) and of patient visits to physicians and indigenous healers in Taiwan (Kleinman 1980). Robert Bannerman and

colleagues from the World Health Organization report that "psychosomatic disturbance is today one of the commonest human afflictions (1983:11). According to WHO estimates over a decade ago, 100 million persons worldwide could benefit from treatment for depression (Sartorius 1979). That figure applied to today's expanded world population of five billion implies that at least one person in every fifty is depressed. Hence patients with somatized conditions are likely to account for a considerable portion of demand for health care services across the globe.

Secondly, physicians treating symptoms of somatized depression as if they are symptoms of a suspected disease cannot be expected to meet with much success. Where such treatment does not improve the patient's condition, it is particularly expensive (infinite marginal costs). When physicians are successful in treating such problems, as by placebo effect, this treatment is far more costly than that which can be provided by informal sector practitioners. In the Mexican example, the physician treatment will cost approximately 12% more for the prescription and 27 times more for all other inputs than will the Spiritualist temple treatment.

Hence, the ability of informal sector health care to successfully treat certain kinds of health complaints is important for two reasons. First is the extent of its applicability, and second is its costs relative to those of formal sector care. It implies that more effective and less costly means of treating a sizeable portion of patient demand are readily available in the economy's informal sector than are currently provided by the formal sector.

CHAPTER 4

THE HEALTH CARE SECTORS

The example of Spiritualist temple treatment demonstrates how the informal health care sector provides relatively cheap and effective treatment for certain kinds of widely experienced health complaints. In this chapter, Mexico's formal and informal sector health care enterprises will be examined in terms of their economic characteristics. These characteristics will readily show why informal sector providers produce more cheaply than do those in the formal sector.

Formal and informal health care sectors also differ markedly in the conceptual bases underpinning their services. These conceptual differences in fact reflect different paradigms (Kuhn 1970). Most formal sector practitioners in Mexico work within the biomedical paradigm (model). This model will be described and then contrasted with the conceptual underpinnings of homeopathy (the formal sector residual) and of informal sector care. Ironically, adherence by physicians to the biomedical model may help to explain why their services are so ineffective for cases of somatized depression, and for which informal sector enterprises are better suited.

The "popular sector" is external to the assortment of health care enterprises. It refers to household or self-care by ill persons (often in consultation with neighbors, relatives, or friends) instead of, or prior to, their seeking the services of a health care enterprise (Pedersen and Baruffati

1989). The "popular medicine" movement currently underway in Mexico pertains to this category and will be described.

I. MEXICO'S HEALTH CARE ENTERPRISES

The Formal Sector

Formal sector health care enterprises include hospitals, outpatient clinics, dispensaries, and self-employed practitioners. This latter group refers to biomedically trained physicians plus a relatively small number of homeopaths. Hospitals may be publicly or privately owned; the same is true of outpatient clinics, which may or may not be located within a hospital. According to the author's personal observation, dispensaries seem linked to parish churches or other religious organizations. With the exception of the homeopaths, all of these enterprises are biomedical in orientation.

Barriers to entry for hospitals, clinics, and dispensaries include substantial start-up costs and licensing requirements. Schooling required of physicians includes elementary and secondary education, followed by 6 years of medical school plus an additional 2 to 4 years for any specialty training (Enriquez Sam 1989). Homeopathic students attend one of two schools of homeopathy (only Mexico and India have any), one of which is government-sponsored and part of the Instituto Politécnico Nacional. The homeopathy curriculum is identical to that offered by medical schools except that the homeopathic pharmacopoeia and related principles are taught in

lieu of biomedical pharmacology. Even though homeopaths are physicians, they are effectively excluded from work in government health care institutions by biomedically trained administrative personnel who make the appointments (Finkler 1990).

The health care labor force is either self-employed (physicians and homeopaths) or employed by the various government or privately-owned health care agencies. Health care jobs (for physicians, nurses, nurse assistants, diagnostic and treatment assistants, midwives, laboratory technicians) entail specific formal education requirements and typically represent full-time occupations. The enterprises provide health care to a relatively large number of clientele on a daily basis. Labor is specialized and paired with a relatively large amount of capital equipment and supplies, much of which is imported. Items standard for biomedical hospitals everywhere (e.g. stethoscopes, blood pressure cuffs, x-ray equipment, heart monitors, clinical laboratories, et al) are also standard in Mexican hospitals. The fact that routine lab tests were ordered for 73% of Finkler's (1990) physician patient sample attests to the relatively capital-intensive diagnostic and treatment techniques characteristic of formal sector care.

There are no statistics available on church-sponsored dispensaries which attempt to provide basic health care to the very poor who are not covered by health insurance and are without access to free government clinics. One such enterprise is the Dispensario de la Providencia in Mexico

City, established about 40 years ago after nuns found that the children to whom they were teaching catechism were too ill-fed and sickly to effectively learn (Deloge 1989). Currently, the dispensary accommodates approximately 11,000 patient visits annually and keeps active files on the approximately 13,000 families who have used the clinic within the past two years. The average family income of its clientele is about 9,000 pesos per day, which approximates the minimum wage. Patients pay only for medications received, charged at or below the current wholesale price. On a typical day, 6 physicians are on duty from among the 15 physicians who donate their services on a part-time basis; the few physicians who are poor themselves are reimbursed for their traveling expenses. The dispensary's pharmacy gives an orderly and well-stocked appearance. Some of its stock is purchased by the dispensary at wholesale prices. The rest is comprised of drug company samples donated by physicians and the unused portions of medications taken by individuals counted among the dispensary's network of supporters. Several large plastic trash bags filled with such donations were noted to arrive on consecutive Monday mornings. It was the pharmacist from this dispensary who was so helpful to the author.

The Informal Sector

Spiritualist temples are probably the fastest growing type of informal sector enterprise in Mexico. To enter the market, the aspiring temple founder (who upon founding the temple becomes temple head) need only attract and maintain a following. The temple head is self-employed and

may be assisted by other healers and functionaries. The smallest "temple" may involve only the temple head operating out of a room in her home. Near the other end of the size spectrum, the second-largest temple in Mexico City (Templo de la Fe) draws from its own pool of approximately 500 healers (Ortiz 1989). In addition to the temples, there are individual Spiritualist healers who offer private treatment for a fee; they are not associated with any temple, as Spiritualist temples forbid the collection of any fees for healing.

The healers (excepting the temple head) and other functionaries of Spiritualist temples can be considered employed and paid "in kind." Their active participation in temple activities serves as implicit health care and, along with explicit treatments received, occasions in them improved behavioral functioning if not symptom relief. Temple personnel have no formal education requirements to fulfill and may have completed only a few years of elementary education. As noted in the previous chapter, however, they must complete a sometimes lengthy period of "development." As their work at the temple constitutes only part-time employment, they may be engaged in other work. The simple indigenous inputs and relatively labor-intensive diagnostic and treatment techniques used in temple production are as described in Chapter 2.

Scale of production, i.e. number of persons treated per time period, varies by size of temple. Two healing days per week (Tuesdays and Fridays) is standard; the length of the sessions devoted to healing may vary

from several hours to as many as twelve, as in the case of Templo de la Fe. In the smallest case, only one healer performs at a given time. At Mexico's largest Spiritualist temple, Templo del Medio Día, the author observed as many as 28 healers working at one time and spending an estimated 7 to 10 minutes on average with each patient. Parenthetically, this operation entailed the additional labor of one assistant per healer, at least a dozen waiting room functionaries, two men dispensing "holy" water from a large vat into cups and bottles for patients, and uniformed washroom attendants who (for a donation) dispensed three squares of toilet paper per patron.

Traditional healers represent the remainder of the informal health care enterprises in Mexico. They have been classified according to the major categories of curanderos, midwives, herbalists, and bonesetters. These major categories are meant to cover subspecialties such as massager, spiritualist, diviner, witch, exorcist, quack, and sorcerer (Lozoya et al 1988). The term "spiritualist" in this case is not likely to refer to Spiritualist temple healers but rather to the role of medium; the government health agency specializing in the study of traditional medicine (IMSS' Unidad de Investigación en Medicina Tradicional y Herbolaria) is said to completely ignore Spiritualist temples (Ortiz 1989). A specific healer may be competent to function in more than one of these roles. Individuals may become identified with one or more of the above roles after demonstrating some talent for healing to family, friends, or neighbors. They work independently in their healer role, usually part-time and in addition to some other occupation; hence their

client loads tend to be quite modest. Their knowledge and skill are accumulated through experience and through informal (and sometimes extensive) tutelage of more experienced practitioners; they may have little, if any, formal education. Traditional healers use indigenous materials such as simple food and household items, animal parts and products, and herbs. An illustration is the following list of materials employed by a healer in treating a case of aire: hot herbs, an egg exposed to cigarette smoke, clay whistle-dolls, a chicken, mole, tamales, cigarettes, alcohol, and a napkin (Ingham 1970). Diagnosis and treatment techniques are relatively labor-intensive.

In sum, formal and informal sector health care contrast sharply in material inputs and physical and human capital requirements. These differences contribute to the relatively low cost of health care production by the informal sector, at least as demonstrated in the Spiritualist temple example. Within the informal sector, Spiritualist temple treatment per patient may be less costly (by virtue of temple organization) than that of traditional healers working solo. A more meaningful comparison would be in terms of cost per successful treatment; this, however, would require information on treatment outcomes enjoyed by traditional healers which is currently non-existent.

II. PARADIGMATIC DIFFERENCES BETWEEN MEXICO'S FORMAL AND INFORMAL SECTORS

A paradigm is "the conceptual framework that determines in what manner we approach the world in general and a specific area of interest in particular" (Foss and Rothenberg 1987:4). It is able to attract an ongoing group of practitioners because it affords its adherents greater success in solving what are perceived as acute problems, and it leaves room for a wide range of problems still to be solved (Kuhn 1970). A paradigm identifies for its members the legitimate area of study, kinds of questions to ask, kinds of data to collect, methods by which to collect it, and the nature of what will serve as answers.

Most of Mexico's formal sector health care is biomedical in orientation. The historical development of biomedicine has been intertwined with the development of modern science and technology. The biomedical model, or paradigm, is situated within the broader scientific paradigm. It shares the world view and attendant philosophical and methodological commitments of the natural sciences (Foss and Rothenberg 1987). A description of the biomedical paradigm will provide a basis for comparing the fundamental conceptual differences distinguishing it from homeopathy and from informal sector care. It will also shed light on why biomedical practitioners are particularly effective in treating certain general categories of health problems, and relatively ineffective in treating certain others--

including those symptomatic of social or emotional conflicts (Kleinman 1980).

The Biomedical Model

The philosophical and methodological underpinnings of biomedicine can be traced to the Cartesian-Newtonian world view guiding the natural sciences (Foss and Rothenberg 1987). Specifically, the world is considered reducible to its basic physical components; ideas are separate from this physical world and cannot materially impact upon it. The physical elements can be measured and studied for their modes of interaction. This is a reductionistic, mechanistic view which assumes that there will be no ontologically new entities. Prediction of future events is considered possible since events are understood to result from specific causes; i.e. specific conditions determine the outcome (causality; determinism). This applies whether the events be physical, biological, or psychological. Given the mind-body dualism, with mind considered unable to have any material impact upon "external [i.e. physical] reality," the observer is believed able to observe without affecting that which is being observed. Hence objective description is considered possible—description free of personal, cultural, or historical influences. Methodological criteria for observation in the natural sciences are that observation be "interpersonal, a-cultural, a-temporal, impersonal, of universal scope, self-corrective, and convergent" (Rosenberg 1974:89).

The biomedical model informs all biomedical research and practice. Its basic components have been identified as follows: 1) an assumption regarding pathogenicity; 2) three premises which serve to define disease, patient, and treatment, and 3) two laws which explain how disease, patient, and treatment interrelate (Foss and Rothenberg 1987). To begin, pathology is assumed due to either too much of a critical substance (e.g. cholesterol, insulin, ultraviolet light), too little of one (e.g. vitamins, insulin, growth hormones), or the presence of an intrinsically damaging substance (e.g. bacteria, viruses, radiation, toxic chemicals).

Disease is viewed as a process caused by the deficiency or excess of a critical substance or the presence of an intrinsically harmful one, a process which results in "deviations from the norm of measurable biological (somatic) parameters" (Foss and Rothenberg 1987:33). The patient is the biological organism, i.e. the body, "such that, in Descartes's phrase, 'were there no mind in it at all, it...would not cease to have the same functions'" (p.33). Treatment is intervention by physical means (e.g. chemical, electrical, or surgical) that will counteract the surplus, deficit, or pathogenic agent. According to the first law, "diseases reflect the outcome of an interaction among measurable physiologic variables. Prevalence, cause, and outcome of disease are a function of the physicochemical laws governing the human organism" (p.36). The second law states that a "[c]hange in the state of one physiological variable mutually activates an appropriate change in another" (p.36).

The nature of disease, patient, and treatment is thus strictly physical in the biomedical model. This stems in part from the reliance upon diagnostic techniques for "objective" measurements (Foss and Rothenberg 1987). Available tools influence what shall be gathered as diagnostic data. Tools such as the electrocardiogram, electroencephalogram, X-rays, laboratory tests for chemical contents of bodily fluids, blood pressure cuffs, and thermometers produce pictures or numerical measures. This renders diagnostic information precise and standardized. Variables which cannot be so rendered gradually seem less important. Interest in the patient's subjective reports on factors such as feelings, attitudes, habits, significant personal relationships, and work conections wanes until those factors are excluded from the data-gathering altogether. Mind and society are conceived as separate from the physical patient; hence thoughts (or feelings or attitudes), whether those of the patient or of anyone else (including the physician), are understood to have no effect on the bodily condition.

Biomedicine's engineering approach has led to phenomenal advances in the repair and reconstruction of body parts via surgery. Its study of microorganisms has led to effective treatment for a collection of contagious and nutritional diseases widely prevalent during the second half of the nineteenth century and the early decades of the twentieth century. Yet biomedicine's "germ theory" has been unable to explain why some people exposed to a germ develop the disease while others do not (Engel 1977). Nor has it been able to explain why some people suffer illnesses with no

known specific microbial causes. It has been ineffective in treating the twentieth century disease burden of "chronic" diseases in the West (e.g. arthritis, allergy, cancer, diabetes, autoimmune diseases, the common cold, mental problems), none of which have a known microbial cause (Capra 1982; Inglis 1981; Engel 1977).

Given biomedicine's philosophical foundations, its explanatory range is limited to physical components of the biological individual. What lies outside the explanatory range of biomedicine are the extrasomatic factors: e.g. mental, behavioral, social, historical, cultural, demographic, evolutionary, ecological, and spiritual. Nevertheless, the role of extrasomatic factors in the incidence of disease has become increasingly obvious to certain segments of the biomedical community (Foss and Rothenberg 1987). Holistic medicine, for example, views the patient as person rather than simply as body; it considers "physical, nutritional, environmental, emotional, spiritual, and lifestyle" factors that promote health, prevent illness, and encourage the natural healing process (Teegarden 1985:14). Psychosomatic medicine concerns itself with the relationships among biological, psychological, and social aspects of health and disease; it supports a holistic approach and encourages physician-psychiatrist consultation (Lipowski 1977). Advocates of behavioral medicine, including researchers in the recent field of psychoneuroimmunology, "attempt to locate the specific neurochemical mechanisms by which subjective states--specifically those associated with emotional stress--leads to disease" (Holden 1980:489). Treatment would thus

involve chemicals to counteract the neurochemical reactions or behavioral therapy (e.g. biofeedback, conditioning) aimed at inhibiting the reactions.

Such groups have not had a major impact upon the practice of biomedicine. This can be explained by their failure to offer scientifically acceptable evidence for their positions (Foss and Rothenberg 1987; Griffin 1988). These groups provide empirical evidence demonstrating the effectiveness of their more broadly based clinical interventions; however, they do not address the natural science and methodological foundations upon which the physicalist approach rests. They handle the extrasomatic variables as risk or situational factors rather than as direct causal factors of disease. Risk factors are considered in the realm of prevention, while the somatic factors remain the target of curative treatment. These distinctions between risk and cause, and between prevention and cure, serve to define extrasomatic factors as outside the fields of expertise and responsibility of the practicing physician (Foss and Rothenberg 1987).

The Homeopathic Model

Homeopathy, initiated in Germany in 1810, is a system of treatment which aims to re-establish a balance among the physical, mental, and emotional aspects of the patient by reinforcing the body's own natural defenses (Vithoulkas 1983). Introduced to Mexico in 1850, homeopathy enjoys a large following there even among biomedical physicians. Patients there tend not to differentiate homeopathic from biomedical treatment

beyond noting that physicians rely upon various medications while homeopaths use slower-acting capsules (Finkler 1990).

The conceptual basis of homeopathy is revealed in its three fundamental assumptions and four basic laws (Vithoulkas 1983). The first assumption is that the patient's symptom complex is not the disease per se but is instead the body's reaction to a stress, be it specific (e.g. a bacteria) or non-specific (e.g. an environmental, climactic, mental, or emotional disturbance). Secondly, it is assumed that this reaction is the organism's best possible reaction to that stress in its attempt to re-establish its equilibrium. The third assumption is that the physician's task is to strengthen, not inhibit, that reaction. Following from these assumptions is the Law of Similars: a substance which will, when administered to a healthy person, bring about the symptom complex (regardless of its cause) presented by the patient can be used to effect a cure from those same symptoms. This is accomplished by the enhancement by that substance of the patient's natural defensive reactions. The Law of Direction of Cure holds that return to health occurs in predictable steps. The Law of Single Remedy requires that the unique remedy be found; the substance that will most closely reproduce the patient's symptomatology will be the only one to which the patient is exquisitively sensitive. The Law of Minimum Dose requires that the identified substance be administered in a dosage small enough to boost the person's defensive reactions (initially aggravating the symptoms) but without greatly magnifying those symptoms.

The homeopath relies upon a thorough personal interview to identify the mental, emotional, and physical symptoms which serve as the patient's particular cluster of defensive reactions to the stressor. Identifying the unique substance for treating the patient may be quite time-consuming, although thousands of pairings of patient symptoms and characteristics with specific treatments have been catalogued (Kaptchuk and Croucher 1987). Preparation of the dosage involves the substance being soaked in alcohol, with the resultant solution undergoing successive dilutions (each time in parts of 10 or 100) in water until the solution may have literally not a single molecule remaining of the original substance (Gerber 1988). The resultant solution is used to coat an inert tablet (e.g. a milk sugar pill) to be consumed by the patient.

Homeopathy contrasts with biomedicine in its focus on symptom cluster rather than on disease, relevant symptoms being mental, emotional, and physical in nature. Homeopathic treatment is a matter of boosting the natural defensive capabilities of the patient to the current stressor(s). The effectiveness of homeopathy and the adequacy of its concepts have been contested by scientists and biomedical practitioners since its inception and continues today (see Maddox et al 1988). Yet a resurgence of homeopathy in the West has been reported beginning in the 1970's; for example, an estimated 6,000 biomedical physicians in France use homeopathic remedies and there now exist over 100 journals of homeopathy worldwide (Vithoulkas 1983). To the extent that homeopathic remedies may be effective, their

success is currently suspected to be based on subtle energy effects rather than on any which are chemical (mechanical) in nature (Gerber 1988).

Informal Sector: Conceptual Frameworks

There is no conceptual framework common to all informal sector health care enterprises, yet there are certain common conceptual features among them which are not part of the biomedical world view (Foster 1983). First of all, there is the concept of a spirit world of deities and other discarnate personalities which are believed capable of influencing health and illness. Secondly is the concept that one's own mental forces (e.g. feelings, attitudes, intentions, desires) are capable of rendering somebody else ill. Common among traditional healers and peasants, but not incorporated in Spiritualism, is the view of illness as a result of a loss of equilibrium between "hot" and "cold."

The hot-cold framework is widespread among Latin American peasants and is reminiscent of Greek humoral medicine (Goldwater 1983). The terms "hot" and "cold" do not necessarily mean physical qualities of temperature or even spiciness of food but may refer to the "effect attributed to qualities or properties inherent in the substances themselves" (Goldwater 1983:37). According to the hot-cold system, the body must maintain a balance between hot and cold; an imbalance results in illness.

> To illustrate, when a person feels unwell, he thinks back to an experience the preceding night, the day before, or even a month or a year earlier, when an event transpired that is believed to cause the symptoms that are distressing him. Did he awaken with a sore throat? He remembers that on going to bed the night before he carelessly stepped on the tile floor in

> his bare feet. This, he knows, can cause cold to enter the feet, compressing the normal heat of his body into the upper chest, throat, and head. Thus, he suffers from "risen heat" (Foster and Anderson 1978:69-70).

Remedies are aimed to reduce the excessive quality or to increase the deficient quality. Alterations in the body's levels of hot and cold are accomplished, whether deliberately as in an illness remedy or inadvertently through carelessness, either through consumption of food and drink or by exposure to the elements (e.g. water, air, wind, actual environmental temperature changes). Specific foods and beverages are classified according to hot or cold; strong emotions such as anger, fear, and grief are considered hot.

Even though an illness may be defined in hot-cold terms, its origin may be perceived to lie in the psychological, social, or spiritual realms (Goldwater 1983; Foster and Anderson 1978). For example, chipileza in infants is attributed to excessive heat in the nursing mother's milk as well as to jealousy of the unborn child toward its young sibling. Bilis is considered a "hot" illness involving an overflow of bile from the gall bladder into the bloodstream and caused by intense anger. Mal de ojo (evil eye) is another "hot" illness; it is believed due to lust or envy, both of which are "hot" emotions. "Little headway has been made in deciphering the metaphorical meanings of hot and cold" (Ingram 1970:76). Aire is considered hot in light of its association with the devil or other hostile spirits. Hence social, mental, and spiritual forces are understood able to

impact upon one's physical well-being. From this follows the perspective that treatment may require physical, social, or spiritual interventions.

The Spiritualist world view entails a hierarchy of spirits (Ortiz 1989) which range from helpful to harmful in regard to one's health. Topping the hierarchy is Padre Jehova in the company of the Messianic Trinity, Moses, Jesus, and Elias. María Santísima represents the level below and functions as intermediary between the above-mentioned spirits and the people. The third level is made up of the espíritus de luz protectores which act in the capacity of curers, teachers, and counsellors; the temple healers' "spirit protectors" are of this group. In the fourth level are spirits who are susceptible to the light, but are imperfect and disoriented. Evil spirits comprise the lowest level. The healing of illnesses attributed to lesser (fourth level) spirits is believed possible through the Spiritualist healer's intervention with the spirit world on behalf of the patient. The syncretic character of Spiritualism (Anzures 1983) is reflected in its elements borrowed from traditional medicine, Judeo-Christianity, European spiritualism, and modern medicine. According to this framework, preservation of one's health requires that harmonious relationships be maintained not only with family and neighbors but also with spirits.

In summary, informal sector practitioners espouse a world view which includes not only physical but also social, emotional, and spirit world influences bearing directly upon the human health condition. They hold that conditions due to imbalances (e.g. hot-cold) and/or to disharmony with

persons or spirits must be corrected. Thus these practitioners are likely to offer both credence and treatment for patients presenting health complaints which physicians are more prone to consider imagined.

III. THE POPULAR HEALTH CARE SECTOR

Alternatives to consulting a doctor of medicine or homeopathy are to consult an informal sector healer, to self-medicate, or to do nothing. "Popular sector" health care represents the latter two options. Data accumulated from surveys in a number of Asian, African, and Latin American countries reflect that people manage the vast majority (70-80%) of their illness episodes without engaging the official medical system (Pedersen and Baruffati 1989). A somewhat lower percentage is suggested in the case of Mexico. Data on type of health care solicited by patients reflects that an estimated 40.8% of all illness episodes are managed within the "popular sector"; only 3.7% are treated within the informal sector, and 53.2% are treated by the formal sector (Sistema Nacional de Encuestas de Salud:1988). These figures (see Table 4.1), differentiated for type of illness (acute, chronic, or result of accident or violence), are based on a stratified sampling of 54,000 households and expanded to represent the total population. Figures refer to the number of persons who reported having suffered an acute illness during the two week period preceding the interview, a chronic illness during the preceding month, or injury due to a serious accident or violence within the past 12 months. Figures for the informal sector consist of the

Table 4.1

PATIENT CHOICES AMONG HEALTH SECTORS FOR THE CARE OF ILLNESS EPISODES ACCORDING TO TYPE OF ILLNESS: 1984
(In thousands)

TREATMENT OPTION	TYPE OF ILLNESS			PERCENTAGE OF TOTAL
	Acute	Chronic	Accidents and Violence	
Formal Sector	4,885.8 (37.9%)	4,971.8 (81.6%)	872.4 (75.4%)	10,730.0 (53.2%)
Informal Sector	478.2 (3.7%)	171.1 (2.9%)	84.0 (7.3%)	733.3 (3.7%)
Popular Sector:				
Home Remedies	5,561.1 (43.1%)	393.6 (6.5%)	107.6 (9.3%)	6,062.3 (30.1%)
Do Nothing	1,602.6 (12.4%)	473.1 (7.8%)	85.3 (7.4%)	2,161.0 (10.7%)
Don't Know	369.9 (2.9%)	75.4 (1.2%)	7.3 (0.6%)	452.6 (2.2%)
Unspecified	7.4 (0.0%)	2.7 (0.0%)	.5 (0.0%)	10.6 (0.0%)
TOTAL:	12,904.9 (100.0%)	6,090.7 (100.0%)	1,157.0 (100.0%)	20,152.6 (100.0%)

Adapted from Encuesta Nacional de Salud, published by Sistema Nacional de Encuestas de Salud (1988).

summation of figures reported for treatment by curanderas, herbalists, bonesetters, encargadas de comunidad, and "other." If Spiritualist temple treatment were counted at all, it would fall among "other." It is not known to what extent temple treatment, if included, might be grossly underreported given the widespread lack of social approbation regarding its use. Figures pertaining to chronic illnesses refer to the most recent type of treatment sought. The chronic illnesses are specified as follows: diabetes, hypertension, bronchitis, cardiovascular disease, arthritis, malnutrition, tuberculosis, epilepsy, blindness, deafness, mental retardation, and "other."

These figures reflect that the majority (55.5%) of illness episodes managed via "popular sector" care are acute in nature; only 14.2% of chronic illnesses and 16.7% of illnesses due to accidents and violence are so managed. Of the estimated 733,300 illness episodes managed through informal sector care, a majority (65.2%) are of the acute variety. In contrast, the preponderance (81.6%) of chronic illnesses are referred to formal sector practitioners for treatment. Ironically, biomedical treatment to date can regulate the symptoms of diabetes, hypertension, cardiovascular disease, arthritis, and epilepsy but is unable to cure those conditions. Lack of a known cure is apparently what renders them "chronic."

The fact that the "popular sector" manages an estimated 40.8% of all illness episodes demonstrates that the province of health care is far from limited to health care enterprises. Self-diagnosis is the rule in communities in which the hot-cold equilibrium model predominates; e.g. persons identify

when and how cold entered the body to produce fever, and then seek to identify an appropriate antidote (Foster 1983). If in the past such an antidote was identified through consultation with a traditional healer, that remedy is likely to be repeated. People self-medicate on the basis of previous experience, experiences of family and neighbors, the advice of pharmacy employees, or according to the now ubiquitous advertisements for pharmaceuticals and other over-the-counter commercial preparations. A remedy associated with one person's cure is perceived as plausible for another person experiencing the same symptoms (Finkler 1985). People "borrow" from both biomedical and traditional practices, using herbal remedies with or without brand medicines (which are ascribed hot-cold qualities), and without experiencing any "contradictions in their cosmovision" (Pedersen and Baruffati 1989:492).

> Various studies report an explosive increase in self-medication and the consumption of pharmaceutical products such as antibiotics or other prescribed medicines, often in combination with herbs and other popular products with medicinal attributes (1989:491).

The adequacy of "popular sector" knowledge, and the outcomes and side-effects of health care practices borne of it, are subjects worthy of both speculation and concern.

A "popular medicine movement" has been underway in Mexico since the early 1980's. It is a grassroots effort to enhance the self-care abilities of persons in respect to health, especially those persons less able financially to avail themselves of formal sector care. While the number of participants is

not known, an indicator of the breadth of this movement is the participation of approximately 465 persons, representing local groups in a loose "federation" from 24 states of Mexico, in their October 1986 assembly (PRODUSSEP 1988).

The movement's markedly eclectic approach to health care was readily evident during the author's visit to the local Asociación Mexicana de Promotores de Salud Popular in Mexico City for a Saturday morning workshop. The group's meeting site was a small classroom sporting instructional posters related to iridology, auriculotherapy (ear acupuncture), and human digestive anatomy and physiology. A set of shelves along one wall held a multitude of containers of herbs and other "natural" remedies, including an extensive collection of bottles containing tinctures for microdosis (which are prepared in a manner similar to homeopathic remedies). Other items on display were a large poster of the Crucifixion, a crucifix, and five certificates to prescribe. The morning's program began with a song and was devoted to the subject of nutrition. The first presentations were on the anatomy and physiology of the digestive system. These were followed by an explanation of the need for more unrefined wheat in the Mexican diet (the typical diet of beans, corn and milk leads to a high level of mucus production in the intestinal walls, encouraging parasites to thrive). The importance of wheat was also situated in the context of Mexican history, Jesus, and the Gospel of St. John. The morning program ended with a light lunch featuring menu items made with whole

wheat. The 30 persons in attendance were to return to their respective local groups and teach others what they had learned. All participated on a voluntary unpaid basis.

Attitudes of formal sector health care professionals toward the popular medicine movement are not unanimously negative. For example, an estimated two dozen physicians in the Federal District are active (and unpaid) participants (Enriquez Sam 1989). One participant of the above-mentioned session, a nurse on the faculty at the National Autonomous University of Mexico, described the government's stance toward the movement in terms of the activities of its largest health care agency (IMSS). According to this informant, IMSS has responded differentially according to region: it has either directly undermined the movement, indirectly undermined it, or indirectly supported it in areas so lacking in medical resources that the situation is recognized as desperate.

The distinctions between formal and informal health care remedies become blurred when, for example, physicians employ herbal remedies or when informal sector practitioners use antibiotics and other commercial preparations. They become still more blurred in the case of "popular sector" care and that provided by the "neo-traditionalist" healers (Pedersen and Baruffati 1989) such as Spiritualists who freely borrow from among biomedical and traditional remedies. Households choose from what is available and affordable according to what they believe may work; they seek "good medicine" without regard to paradigmatic distinctions (Foster 1977;

Finkler 1985). Mexicans are said to follow a sequence of choice among types of health care which is identical to that followed in the United States: "(1) home remedy, (2) medical doctor, and (3) indigenous curer (or faith healer in the United States) only after the first two choices fail to produce results" (Foster 1977:529). Curiously, the national government's health care agencies do not distinguish among approaches according to what works and what does not for a given ailment; rather, they remain almost uniformly biomedical in practice. The implications of this choice will be examined in a subsequent chapter.

CHAPTER 5

NATIONAL HEALTH CARE EXPENDITURES, RESOURCES, AND PUBLIC SECTOR COVERAGE

The significance of the informal sector's ability to provide health care relatively cheaply can be assessed in light of the overall health care sector of Mexico's economy. The structure and magnitude of total national health care expenditures will be examined. Next, the population segments covered by the various government health care agencies will be delineated. This will reveal that the majority of government expenditures on health care are for services to persons holding formal sector jobs and their dependents.

I. TOTAL ANNUAL HEALTH SECTOR EXPENDITURES

To assess the magnitude of Mexico's total health care expenditures for a given year requires the summation of expenditures for the following segments of the health care sector: the public (formal) sector, the private formal sector, and the informal sector. Because these figures will represent total income to health care providers, an additional amount must then be added to reflect patient expenditures on treatment substances whether prescribed by physician, healer, or self. Information on total public sector health expenditures are available in government documents. There is, however, no aggregate information available on health care expenditures in either the private formal sector or the informal sector, or for total

expenditures by patients on prescriptions. An attempt will be made to estimate those expenditures from the limited information at hand.

The Public Sector

The major portion of national health care expenditures is attributable to the public sector. According to a 1989 report from Instituto Nacional de Estadística Geografía e Informática (INEGI), government health care spending in 1984 was distributed among the following public agencies: Secretaria de Salud, Instituto Mexicano del Seguro Social (IMSS), Instituto de Seguridad y Servicios de los Trabajadores del Estado (ISSSTE), Secretaria de la Defensa Nacional, Secretaria de Marina, Petroleos Mexicanos (PEMEX), Departamento del Distrito Federal, and Sistema Nacional para el Desarrollo Integral de la Familia (DIF). INEGI reports the 1984 expenditures for each of those agencies except for Secretaria de la Defensa Nacional (for which the 1985 figure is given), and the health care resources of each agency (see Table 5.1). Assuming that Defensa's expenditures on health care increased by the same factor (3.72) as did Marina's from the previous year, a figure can be attained for 1984 for Defensa (11,818 current pesos). This permits the calculation of 1984 expenditures for all agencies: 1,062,121 current pesos, which represents a nominal increase of 61.2% over 1983 or a decrease in real terms of 2.0%. Resources are counted in terms of medical units (hospitals and outpatient clinics), number of beds, and the number of physicians and auxiliary medical personnel (nurses, nurses aides, midwives, "other" diagnostic and treatment personnel) staffing them.

Table 5.1

PUBLIC SECTOR HEALTH CARE EXPENDITURES AND RESOURCES: 1984

Agency	Expenditures (In millions of pesos)	Health Care Resources			
		M.D.S	Auxiliaries (e.g. nurses)	Medical Units	Beds
Secretaria de Salud*	103,000	19,207	49,886	3,656	18,196
IMSS**	638,079	31,973	133,830	4,598	31,301
ISSSTE	273,777	10,488	29,502	1,126	7,281
Defensa	11,818	1,055	5,956	203	1,939
Marina	621	507	1,723	140	495
PEMEX	12,213	2,253	5,849	n.d.	1,463
Distrito Federal	6,023	1,426	5,443	266	1,867
DIF	16,590	-----	-----	----	-----
TOTALS:	1,062,121	66,909	232,189	9,989	62,542

Total Public Sector Expenditures: 13,235,015 million pesos
Percentage allocated to health care: 8.03%

Gross Domestic Product: 29,438,858 million pesos
Percentage representing public health sector expenditures: 3.61%

*Includes SSA.
**Includes IMSS-COPLAMAR.
Adapted from Cuaderno No. 6 de Información e Informática, published by Instituto Nacional de Estadistica Geografía y Informática (1989).

Curative and preventive programs account for only a portion of the budget for public sector health agencies. The INEGI report does not reflect the breakdown of public aggregate expenditures on health care according to program. However, that type of information is provided for 1987 in that year's government health care budget for the civilian population (de la Madrid 1987) and can be found in Table 5.2. The 1987 budget figures for each agency include costs (totaling 708,939 million pesos) not assignable to programs. The total civilian public health care budget totals 4,583,408 million pesos. A sum of 116,442 million pesos, or 2.54% of the total, is allocated to preventive services. Preventive services include programs of vaccination, infectious disease control, oral rehydration, disease detection, pre-natal care, infant nutrition, oral hygiene, mental health, family planning, and work safety. Curative services account for a much larger portion of the budget: 1,588,305 million pesos, or 34.65% of the total. The sizeable remainder (62.81%) of that total is allocated among a variety of items: e.g. housing loans, workers' compensation, sick pay, old-age and disability pensions, research, development of infrastructure, planning, and administration.

To the extent that the shares of the 1987 government health budget going to curative (34.65%) and preventive (2.54%) services can be considered indicative of the shares of the 1984 public sector health care expenditures for those services, the government's 1984 expenditures on curative and preventive services can be figured as 37.19% of the total 1,062,121 million

Table 5.2

PUBLIC SECTOR CIVILIAN HEALTH CARE BUDGET: 1987
(in millions of current pesos)

Agency	Budget	Type of Program	
		Curative	Preventive
Secretaria de Salud*	346,213	150,307	50,065
SSA	50,543	25,902	1,020
IMSS**	3,050,370	1,146,103	34,319
IMSS-COPLAMAR	61,742	19,841	15,696
ISSSTE	1,018,400	243,822	14,412
DIF	56,140	2,330	930
TOTALS:	4,583,408 (100.00%)	1,588,305 (34.65%)	116,442 (2.54%)

*By 1987, D.F. is covered by Secretaria de Salud.
**By 1987, PEMEX health coverage is subsumed by IMSS.
Adapted from Quinto Informe de Gobierno 1987: Salud y Seguridad Social, by Miguel de la Madrid (1989).

pesos, or 395,003 million 1984 pesos. This figure more accurately reflects the expenditures associated with the health sector resources enumerated in Table 5.1.

The Private Formal Sector

While there are limited data at hand for the number of health care resources in the private sector, there is none regarding payments to those resources. Data from INEGI (1989) related to private sector health care institutions in 1984 are for institutional providers labelled "particulares" and "other;" these two categories will be understood here to encompass the formal private sector institutions (see Table 5.3). "Other" includes university, state, and municipal institutions, first-aid stations, and "patronatos de asistencia social." Resources are assumed related to curative and preventive programs. Private sector resources not included in these figures are the physicians in private practice who do not also work in a public or private medical unit. The government publication El Programa Nacional de Salud 1984-1988 estimates their number at 40,000.

A basis for estimating aggregate expenditures related to the private sector resources is furnished by information comparing private to public sector expenditures. According to El Programa Nacional de Salud 1984-1988, national accounts show the gross value of medical services of the private sector to be similar to those of SSA and IMSS-COPLAMAR. Expenditures in 1983 for SSA (under Secretaria de Salud) totaled 10,776 million 1977 pesos

Table 5.3

PRIVATE FORMAL SECTOR HEALTH CARE INSTITUTIONAL RESOURCES: 1984

Type of Institution	Institutional Health Care Resources: 1984			
	M.D.s	Auxiliaries (nurses, aides, etc.)	Medical Units	Beds
Particulares	5,833	19,024	557	12,284
Other	3,156	8,659	104	4,335
TOTALS:	8,989	27,683	661	16,619

Adapted from Cuaderno No. 6 de Información Estadística: Sector Salud y Seguridad Social, published by Instituto Nacional de Estadística Geografía e Informática, 1989.

and for IMSS-COPLAMAR (under IMSS) totaled 1,427 million 1977 pesos (Ochoa n.d.). Their sum (12,203 million 1977 pesos) will be taken as representative of the private formal sector for 1983. Adjusted for inflation (World Tables 1988-89), the figure for private formal sector expenditures is 83,412 million 1983 pesos or 12.7% of the total (658,722 million 1983 pesos) public sector health expenditures for that year (INEGI 1989). Assuming SSA and IMSS-COPLAMAR accounted for the same portion (12.7%) of public health agency expenditures in 1984, private formal sector expenditures for that year can be estimated at 134,889 million 1984 pesos.

Private formal sector 1984 expenditures:
1,062,121 million pesos x .127 =
134,889 million 1984 pesos.

The combined figures for public and private formal sector expenditures on curative and preventive services in 1984 represent a total expenditure of 529,892 million 1984 pesos, of which 74.5% is spent on public sector services and 25.5% on private sector services.

The Informal Sector

A substantial amount of informal sector resources is believed to be comprised of Spiritualist temples and their personnel, although their actual numbers are unknown (Ortiz 1989). Additional resources in the sector are the traditional healers. The only figure available on their number is for 1984 and comes from an IMSS-COPLAMAR study; 13,034 traditional healers were identified in the rural areas served by that agency (Lozoya et al 1988).

There is, of course, no data regarding aggregate expenditures on this sector. Nevertheless, it is possible to estimate these expenditures.

Aggregate annual informal sector expenditures can be estimated by multiplying the total number of informal sector patient visits in a year by the average total explicit cost per visit. The first step is to determine a figure for patient visits to informal sector enterprises. Sistema Nacional de Encuestas de Salud (1988) provides information based on sample data as to relative demand for formal and informal sector health care services (see Table 4.1 on page 80). Patients are said to seek informal sector care for 3.7% of all illness episodes and formal sector care for 53.2% of those episodes. Those relative proportions will be taken as representative for patient visits to informal and formal sector enterprises. The total number of patient visits in 1984 can be estimated from INEGI (1989) data on outpatient visits and inpatient stays to formal sector enterprises; 3.7% of total patient visits will represent the number of visits to informal sector enterprises.

The total number of outpatient visits in 1984 to formal sector institutions reported by INEGI (1989) is 117,996,994. INEGI also provides figures by agency for inpatient stays in 1984 (the IMSS figure is for 1985 but can be adjusted upward to reflect the real change of -3.00% in that agency's expenditures from 1984 to 1985). The number of inpatients for all agencies in 1984 is 2,890,606, bringing the number of institution patient visits to 120,887,600. As the total number of physicians working in institutions that year was 75,898 (INEGI 1989), this amounts to an average of 1,593

outpatient visits per institutional physician. Allowing for that number of visits for each of the 40,000 physicians in private practice, the number of formal sector visits in 1984 rises by 63,720,000 to 184,607,600 (see Table 5.4).

Table 5.4

FORMAL SECTOR PATIENT VISITS IN 1984

Type of Provider	Number of Visits
Public institutions	
Outpatient	112,121,732
Inpatient	1,888,977
Private institutions	
Outpatient	5,875,262
Inpatient	1,001,629
Non-institution physicians	
Outpatient	63,720,000
TOTAL NUMBER OF PATIENT VISITS:	184,607,600

Since an estimated 53.2% of all illness episodes are treated within the formal sector, the number of formal sector patient visits will be taken to represent 53.2% of all patient visits, or 347,006,760 visits in all. Of that larger figure, 3.7% (12,839,250) will represent total patient visits to informal sector enterprises.

The next step is to determine, in (July, i.e. midyear) 1984 pesos, the average total explicit cost (i.e. expenditure) per informal sector patient visit. The only available information on informal sector costs applies to Spiritualist healers and is found in Chapter 2. Descriptions by anthropologists of traditional healers in Mexico (Fabrega and Silver 1973; Holland and Tharp 1964; Ingham 1970) suggest that physical and human capital requirements of traditional healers, as well as kinds of materials they utilize, are similar to those of the Spiritualist temple healers. Hence the average total cost per patient visit to a Spiritualist temple will be taken to represent the average total cost of a patient visit to any informal sector enterprise. Average cost per patient visit (16,068 August 1989 pesos, including 15,165 for prescription) as expressed in the earlier chapter includes implicit labor costs and so must be reduced by the amount of the implicit costs (378 August 1989 pesos) of labor time of healers and functionaries other than the temple head. Average explicit cost per patient visit, regardless of treatment outcome, comes to 15,690 August 1989 pesos. Deflated to 1984 (midyear i.e. July) pesos (see Appendix A), the figure per patient visit is 1,005 1984 pesos: 972 for prescription, and 33 for labor, materials, and capital. Total informal sector expenditures are for 12,839,250 patient visits at 1,005 1984 pesos each, or 12,903 million 1984 pesos. Of that figure, 12,480 million 1984 pesos per patient visit is the prescription expenditure.

Prescriptions

Expenditures by patients on prescriptions represent the portion of spending on health care not included in the above-mentioned payments to health care enterprises. These expenditures are incurred by patients treated by formal or informal sector practitioners as well as those treated within the "popular sector". The aggregate prescription bill can be estimated by assigning an average cost per prescription to each formal and informal sector patient, and to each "popular sector" patient resorting to home remedies. The average costs for physician and Spiritualist temple prescriptions (as determined in Chapter 2) will be assigned to each formal and informal sector patient visit respectively. The prescription bill for the "popular sector" is for household remedies. Often these consist of herbal medicines taken in the form of teas and massages; when brand medicines are used, they are typically used not alone but in combination with herbal remedies (Pedersen and Baruffati 1989). An average of the temple and physician prescription average costs will be assigned to each "popular sector" patient using home remedies be they pharmaceutical, herbal, or other.

The average cost per physician prescription was found to be 21,971 August 1989 pesos, which deflates to 1,408 (July) 1984 pesos. That amount for each formal sector patient visit (estimated at 184,607,600) in 1984 implies a formal sector prescription bill of 259,928 million 1984 pesos. The average cost per Spiritualist temple prescription is 15,165 August 1989 pesos, or 972 1984 pesos. The prescription bill for informal sector patients (estimated at

12,839,250) in 1984 thus comes to 12,480 million 1984 pesos. "Popular sector" patients using home remedies account for 30.1% (i.e. 104,449,020) of the total number (347,006,740) of illness episodes estimated for 1984 (see Table 4.1 on page 80). The average prescription cost for these patients will be considered as the average (i.e. 1,190 1984 pesos) of physician and Spiritualist temple average prescription costs; their aggregate expenditures thus come to 124,294 million 1984 pesos. The total prescription bill for 1984 can be obtained by summing the prescription expenditures of formal and informal sector patients and of "popular sector" patients using home remedies.

Total prescription expenditures:

259,928	Formal sector
12,480	Informal sector
124,294	"Popular sector"
396,702	million 1984 pesos

Total Expenditures on Health Care

With the above information it is possible to determine the total expenditure on health care in Mexico for 1984 and the portion it represents of that year's GDP (see Table 5.5). Total estimated expenditures on health care in 1984 are 1,594,135 million current pesos; this represents 5.42% of the GDP. Payments for curative and preventive services combined represent 33.27% of that total; 99.02% of those payments goes to formal sector providers and .08% goes to informal sector providers. Payments to public sector providers account for 66.63% of total health care expenditures in that year.

Table 5.5

ESTIMATED EXPENDITURES ON HEALTH CARE IN MEXICO: 1984
(in millions of 1984 pesos)

Sector	Curative and Preventive Services	Prescriptions	Total Expenditures
Formal:			
Public*	395,003		1,062,121
Private**	134,889		134,189
Combined***		259,928	259,928
			1,456,938
Informal***:	423	12,480	12,903
Popular***:		124,294	124,294
TOTALS:	530,315	396,702	1,594,135

*The proportion of the 1987 government health care budget (de la Madrid 1989) appropriated for curative and preventive services is used here for 1984. See Table 5.1 for total 1984 expenditures.

**Figures are estimated on the basis of 1983 expenditures of SSA and IMSS-COPLAMAR, agencies whose services are reported (in El Programa Nacional de Salud 1984-1988) to be similar in gross value to those of the private sector.

***Figures are based on average costs per physician and Spiritualist temple treatment (the latter reduced by the amount of implicit labor costs) and prescriptions (see Tables 2.1 and 2.2), and the estimated number of patient visits (see Table 5.4) to each sector.

II. PUBLIC SECTOR HEALTH CARE: ELIGIBILITY AND COVERAGE

The bulk of government expenditures on health care are for services provided to persons covered by employment-related health insurance ("seguridad social"). IMSS provides health services for workers in private industry and their dependents. ISSSTE covers federal and state employees. Secretaria de la Defensa Nacional, Secretaria de Marina, and PEMEX provide health services to their employees. Together these agencies account for 920,734 million pesos (excluding the IMSS-COPLAMAR budget estimated at 15,774 million pesos), or 86.7% of public sector expenditures on health care.

The remainder of the government health services is provided on the basis of public assistance ("solidaridad social") and accounts for the other 13.3% of the budget. The public agencies providing preventive and curative services on this basis in 1984 were IMSS-COPLAMAR and Secretaria de Salud. IMSS-COPLAMAR was founded in 1977 to extend health care to the peasants in marginal rural areas of the country (Lozoya et al 1988). Secretaria de Salud provides preventive and curative services throughout the Mexican states, at Hospital General de Mexico, and via SSA. SSA operates 11 hospitals, 10 of which are specialized (one each for psychiatry, infant care, cardiology, respiratory diseases, nutrition, neurology and neurosurgery, pediatrics, cancer, gerontology, and perinatal care), plus centros de integración juvenil (de la Madrid 1989). By 1987, services provided by D. F. in 1984 for the federal district had been brought under Secretaria de Salud.

IMSS-COPLAMAR, in the budget as recently as 1987, is no longer in existence.

The question of what portion of the population is covered by the various government health services is apparently a sensitive one; it remained unanswered by the numerous supervisory and other personnel of government health agencies in Mexico City to whom it was posed by the author. Nevertheless, the number of persons eligible for services under seguridad social is provided by INEGI (1989) for the year 1985:

31,528,583	IMSS
6,447,861	ISSSTE
1,041,594	PEMEX
169,777	Secretaria de Marina
310,451	Secretaria de la Defensa Nacional
39,498,266	

This represents 50.7% of the total population of 77,938,000 (INEGI 1989) for that year. No information is available regarding the number of people covered under solidaridad social.

What emerges from the above data for 1984 is that 86.7% of the government expenditures on health care goes to cover one-half of the population: namely, those persons employed in formal sector jobs and their dependents. Consistent with this impression are figures for 1987, which reflect that 84.4% of public monies budgeted for curative and preventive services were allocated to IMSS and ISSSTE programs (see Table 5.2 on page 90). This means that what remains (less than one-sixth) of the total public health care expenditures is spread among the one-half of the country's population that is without formal sector employment.

CHAPTER 6

DEVELOPMENT IMPLICATIONS OF INFORMAL SECTOR HEALTH CARE

The modern history of curative health care in less developed countries such as Mexico is one of traditional healers being gradually replaced by biomedical practitioners. An implicit assumption of health care planners has been that biomedicine is markedly superior to informal sector care and renders the latter obsolete. For this assumption to hold, biomedicine would have to perform, at minimum, all functions of informal sector care and do so with greater effectiveness or efficiency or both. Yet the material in previous chapters shows that this is not the case. The data in Chapter 2 reflects a case where the treatment success rate of physicians providing outpatient care is not significantly higher than that of Spiritualist temple healers treating a similar patient population. Furthermore, in cases where the temple healers succeed in improving health, they do so at (apart from prescription) approximately one twenty-seventh of the cost. Chapter 3 offers an explanation for how informal sector care accomplishes this by eliciting change in the patient's psychosocial response to depression-related illness by situating the illness in a social or spiritual context and endowing it with meaning; it is a function that biomedicine does not offer but that is effective

for the widely occurring health complaints representing somatized depression.[1]

The assumption of biomedicine's superiority over informal sector health care, and the corollary of the latter's being rendered obsolete by the former, has led to the establishment and maintenance of an overwhelmingly dominant health care system in Mexico which faces limited competition from alternative care enterprises. Major institutional forces reinforcing this situation come from the government, the biomedical establishment itself, and the Catholic Church. The result is an expensive system which, in its current design, addresses the health care needs primarily of the formal economic sector's labor force.

The discussion below will address the extent to which biomedicine is a replacement good for health care available from the informal sector. Next the influences of government, biomedicine, and the Church will be examined for their contributions to the social, economic, and political dominance of biomedical care in Mexico. Thirdly, some developmental implications of this trend will be explored.

I. SPECIFIC AND NON-SPECIFIC DEMAND FOR HEALTH CARE

Consumer demand for health care occurs when consumers go beyond household care and seek diagnostic and treatment services from an outside enterprise. The Mexican consumer chooses not only from among available

[1]Some portion of the physician treatment successes is also likely to represent a placebo response.

biomedical enterprises but also from a plethora of informal sector enterprises. The existence of the latter reflects a perduring demand for their services despite the availability of biomedical care. The economist might be tempted to explain consumer choice of one sector's services over those of the other sector on the basis of relative prices, broadly conceived. Price-related variables might include "economic and social costs, prestige factors, distance, convenience, time, traditional beliefs, the personality or fame of specific curers and the like" (Foster 1983:24). By this approach, demand for informal sector health care where formal sector care is available might be explained simply on the basis of relative price. However, the relatively low costs associated with the production of informal sector health services do not necessarily imply lower out-of-pocket expenses facing consumers. In fact, the prices consumers pay directly for informal sector care may approximate those they pay for formal sector care. This holds true for persons covered by national health insurance or those uninsured yet otherwise eligible (as everybody is) for, and with access to, services at government facilities supported by public assistance. For example, the somewhat lower outlay for a temple prescription may be offset by the expected "donation" to the temple which, albeit modest, may exceed the token fee (where applicable) charged by the government health care agency. A second temptation might be to explain the choice of informal over formal sector care in terms of less than total information: i.e. consumers may be

blinded by ignorance and superstition to perceive informal sector care as a better product for the money than it really is.

A fundamental problem with the relative prices approach in explaining demand for informal sector services where formal sector services are available is that it assumes substitutability of products which, in this case, are not clearly substitutes. Anthropologists report that consumers are quite pragmatic; they consider the empirical evidence available to them as to which approach is more effective in removing symptoms and restoring behavioral functioning (Foster 1977; Finkler 1985). Some consumers also tend to seek informal sector care only after they find that popular and formal sector care fails to cure (Foster 1977). Finkler (1985) explains that it is not unusual for persons to conclude that a health problem not responsive to the treatment of one or more physicians is due to witchcraft and thereby requires intervention of another sort. These points indicate that, at least some of the time, consumers choose informal over formal sector health care because they perceive each sector's products (services) as fundamentally different. The question of differential demand goes beyond relative prices; it entails whether, when, and which consumers recognize each sector's services as functionally different or as substitutes. To the extent that informal sector health care provides a functionally different product (service), the assumption that biomedicine can replace it and render it obsolete is invalid.

The distinction between specific and non-specific consumer demand (Hemmer and Mannel 1989) for each sector's output provides a fairly simple way in which to examine the question of biomedicine's capacity to replace informal sector care. Specific demand refers to "exclusive demand for goods of one particular sector, where replacements from the other sector are not considered acceptable" (Hemmer and Mannel 1989:1546). This implies that consumers with specific demand perceive a sector's services as unique to that sector. The consumer's perceptions may be influenced by factors such as the perceived nature of the health problem, a personal commitment to a particular world view or group, or even one's health insurance coverage.

Specific demand for formal sector care can be expected from persons who reject informal sector care out of hand as quackery on the basis of a "modern" world view. Others may consider only formal sector care if alternative approaches are in violation of their religious beliefs. Catholics, for example, are forbidden by the Church to engage in Spiritualist practices (Finkler 1985; Kelly 1961). Persons with strong loyalty to traditional ways or serious involvement in a healing cult (e.g. Spiritualist temple "regulars") may account for specific demand for informal sector care. Individuals who discriminate among treatment options according to the perceived nature of the current health complaint will also account for specific demand. Finkler (1985) reports, for example, that patients seek physician care for all illnesses they perceive as grave but not for personal problems or for cultural illness syndromes. Specific demand for biomedical care may lead to specific

demand for informal sector care, as in cases where biomedical treatment failure is interpreted as a diagnostic indicator for witchcraft. The kinds of health complaints considered up to this point have been of the nature of those seen presented in Spiritualist temples and in general outpatient clinics. Patients with grave illnesses for which specialized care or surgical intervention is deemed required are referred by physicians to higher (more specialized) levels of formal sector care.

Non-specific demand, on the other hand, "refers to [demand for] formal as well as informal products and directs itself to the sector with the lower price" (Hemmer and Mannel 1989:1546). In this case, price is more relevant than product heterogeneity and products of each sector are perceived as plausible substitutes. For some kinds of health complaints, consumers may perceive formal and informal sector care as interchangeable. This is not surprising given the overlap of remedies (both herbal and pharmaceutical) prescribed by practitioners of either sector. It is conceivable that non-specific demand might be less for individuals with IMSS or ISSSTE health insurance coverage. Persons so covered may less readily consider informal sector services when biomedical services are readily available to them for a token; in addition, the nature of their employment may promote a world view favoring formal sector care.

The limit to the formal sector's ability to replace informal sector care is delineated by consumers' specific demand for the latter. Specific demand reflects consumer perception of functional differences between each sector's

products. The earlier examination (Chapter 3) of Spiritualist temple treatment success cases indicates that such treatment does in fact provide a function that biomedicine does not. Specifically, temple healers address the meaning of illness in terms of spiritual and social forces; in doing so, they promote cognitive and affective changes in patient responses to their conditions and thereby foster symptom removal and restoration of behavioral functioning. This function is seen to promote health particularly in patients presenting health problems indicative of somatized depression (see Chapter 3). Non-specific demand represents the extent to which biomedicine is able to replace informal sector care; here consumers choose between perceived sectoral substitutes on the basis of price. It is important to note that where enterprises of either sector can offer perceived substitutes between which consumers choose on the basis of relative price, the cost will be considerably higher whenever formal is chosen over informal sector care (see Chapter 2).

Examination of specific and non-specific demand reveals that formal sector care does not replace (much less render obsolete) informal sector care to the extent that it fails to provide treatment functions offered by informal sector enterprises. In addition, where both sectors provide similar functions, the cost for formal sector services greatly exceeds those of the informal sector. These points do not, of course, imply that informal sector care is superior or preferable overall. Specific demand for formal sector care is critical: it reflects the extent to which formal sector products or services are

perceived as unique. A more reasonable conclusion is that consumer health care needs will be best served when both formal and informal sector care are available and affordable.

II. INSTITUTIONAL FACTORS PROMOTING FORMAL OVER INFORMAL SECTOR HEALTH CARE

In Mexico, both supply and demand (and hence price) for each sector's health services are subject to strong institutional influences. Formal sector enterprises enjoy far superior economic, political, and social status relative to informal sector enterprises. They receive government subsidies for their services and for the training of their practitioners while informal sector enterprises do not. Physicians are sometimes referred patients by Spiritualist healers but are "not likely" to recommend a patient to a Spiritualist healer (Finkler 1985). The Catholic Church sponsors its own biomedically-oriented dispensaries but condemns Spiritualists as witches and forbids Catholics to participate in their healing services. Together these forces serve to achieve and maintain an official health care system almost totally biomedical in its orientation and organization. They affect the health care market by stimulating both supply and demand for formal sector services, providing direct and indirect government subsidies, and discouraging both supply and demand of informal sector services. They also serve to hinder rather than promote health for the population: by directing consumers away from a relatively inexpensive and readily available

resource that is apparently effective in treating some health problems for which biomedicine is not. An examination of some basic perspectives of government, biomedicine, and Church will help explain the bias of these institutions in favor of formal sector care.

The Government

The nature and design of the national health care system in Mexico reflects government efforts toward developing and modernizing the economy. As noted in the previous chapter, all government expenditures on curative and preventive services are for formal sector services. An estimated 87% of the government's annual health care expenditures is aimed to benefit the half of the population made up of formal economic sector workers and their dependents. The sharp skew in health care coverage suggests a commitment on the part of government to provide Mexico's developing industrial sector with a healthy work force. This skew is consistent with the government's relatively low level of investment toward developing the rest of the economy. Yet the favored status the Mexican government accords formal sector health care enterprises and their practitioners can hardly be explained on the basis of that sector's economic efficiency. Nor can it be explained on the basis of notably better treatment success rates for a wide variety of common health complaints. However, it is possible to explain the formal sector's favored status in terms of paradigmatic differences between sectors which are differentially associated with modernization. The biomedical model guiding almost all of formal

sector care is associated with modern science; informal sector care, in contrast, is associated with "ignorance, superstition, and quackery" (Leslie 1983:315).

The ideals of modernization are implicit in the development goals of less developed countries (Myrdal 1968). These ideals include rational planning for development, increased productivity, improvement in levels of living of the masses, social and economic equalization, and more "modern" attitudes and institutions. Rationality implies that "opinions about policies should be logically valid inferences rooted as deeply as possible in knowledge of the relevant facts....[and] should form a logically coherent system" (Myrdal 1968:57). It also implies that reasoning which lacks logic or is founded upon superstition must be eliminated. Yet what facts are to be considered logically relevant depends upon the conceptual framework employed. Modernization includes the assumption "that the nation is now entering the 'scientific era'" (Myrdal 1968:57). It requires "modern" attitudes founded upon the natural sciences world view or paradigm, i.e. "the conceptual framework that determines in what manner we approach the world in general and a specific area of interest in particular" (Foss and Rothenberg 1987:4).

The natural sciences approach the world from a Cartesian-Newtonian world view having two basic elements: 1) that the world is reducible to its basic physical components, and 2) that ideas do not materially impact upon this physical world (Foss and Rothenberg 1987). Mind is considered

separate from the body and unable to have any material impact upon the "external reality," i.e. the physical world. The observer is thereby assumed able to render a description of that reality free of personal, cultural, or historical influences. The implications of a scientific world view for the care of bodily health is that the subject for study is physical and excludes aspects which are social, psychological, or spiritual in nature.

The establishment of a biomedical health care system by a modernizing government comes as no surprise. Biomedicine derives its world view and methodological principles from the natural sciences (Foss and Rothenberg 1987). The Mexican government, like the post-colonial governments of other LDCs, has operated on the assumption that biomedicine is universally applicable by virtue of its scientific character. The biomedical model (paradigm) is scientific to the extent that it contains a "shared set of assumptions and rules of conduct based on the scientific method and constitut[ing] a blueprint for research" (Engel 1977:130). Yet medical anthropologists point out that biomedicine is a cultural product which evolved within its own historical, sociocultural, and ecological contexts (Kleinman 1980). It is one ethnomedicine among many, a medical system which operates within "a matrix of values, traditions, beliefs, and patterns of ecological adaptation" (Landy 1977:131).

The role of traditional medicine in Mexico has diminished with the ascendancy of biomedicine. Attention given it by the official health care system tends to be limited to medicinal herbs and plants employed by

indigenous healers. Health care professionals in LDCs including Mexico consider herbal remedies

> "merely part of the folklore of underprivileged groups in those countries. [They maintain that] once industrialisation and high technology bulldoze their way into the most remote rural areas and provide them with the benefits of the 'modern world,' herbal medicine will become a thing of the past" (Lozoya 1983:7).

The challenge initiated by the World Health Organization in the 1970's to LDCs to examine the resources and practices of its indigenous healers, given the enormous economic difficulties in providing biomedical coverage for the total population, was accepted by the Mexican government. The timing of the WHO challenge had coincided with rising nationalistic ambitions and sentiments in Mexico fueled by the big oil discoveries. The perceived potential of traditional medicine as a source of nationalist pride was exemplified by the experience of China, which was receiving considerable international recognition at the time for its traditional medical system. The Mexican government created a series of national institutes geared toward the study of medicinal plants used by traditional healers, the first being the Medical Institute for the Study of Traditional Plants (IMEPLAM) founded in 1975. A subsequent series of institutes (e.g. National Institute of Anthropology, Program of Ethnomedicine, Museum of Traditional Medicine) were created to study traditional medicine from the vantage point of culture.

The research that followed, however narrowly circumscribed, has hardly affected the treatment practices of national health care system

personnel. The focus of each organization's study was on medicinal plants. The anthropologists noted the plants used, the ethnobiologists collected them, the taxonomists named them, and the phytochemists identified their active ingredients. The fruits of the research conducted separately by these various disciplines were published extensively in national and international journals and magazines. However, these findings were not linked to, and did not address, actual clinical practice of physicians (Lozoya 1987).

Xavier Lozoya, currently director of the Unidad de Investigación en Medicina Tradicional y Desarrollo de Medicamentos under IMSS, reports that traditional medicine is largely viewed by the official medical system as primitive, dying out, and irrelevant (1987). The IMSS-COPLAMAR project of counting traditional healers supports the impression that their numbers are dwindling (Lozoya et al 1988). Lozoya's own agency continues to focus on medicinal plants. It pays no attention whatsoever to the Spiritualist healers, whose numbers are swelling even as the supply of traditional healers is waning (Ortiz 1989).

The government's legitimation and subsidization of only formal sector health care, its lip-service to traditional medicine and not even that to Spiritualist healers, has had notable impact upon the structure of the health care sector. The supply of physicians has swelled to far beyond the number that can be absorbed by the system; surplus medical school graduates obtain jobs in related fields such as selling pharmaceuticals or working in medical labs, or in totally unrelated fields (Riding 1984; Enriquez Sam 1989). Formal

sector practitioners enjoy superior income, status, and influence relative to informal sector practitioners. The supply of traditional healers has declined due to loss of credibility where physicians are available.

The Biomedical Establishment

Planners and personnel of the national health care system come from the ranks of the biomedical profession. "So dominant has the modern medical profession become in the health care systems of most societies (developing and developed) that studies of health care often equate modern medicine with the entire system (Kleinman 1980:56). Its members are in positions to shape policy regarding to what extent, if any, traditional or other healers will be a part of the official system. The role of the biomedical establishment in the design of the national health care system is

> enhanced by its nearly perfect adaptation to bureaucratic organization. Furthermore, its technological fecundity and heroic interventions for acute illness are known to peasants in remote villages as well as to city dwellers, and encourage a contemporary faith in medical progress (Leslie 1983:314).

Its members view health and remediation of health problems from the perspective of the biomedical model. They tend to "regard their own notions as rational and to consider those of patients, the lay public, and other professional and folk practitioners as irrational and 'unscientific'" (Kleinman 1980:57). Nevertheless, the biomedical model is founded upon the natural sciences paradigm and, as such, is not scientifically "objective" but is instead "both culture-specific and value-laden" (Kleinman et al 1978:255).

Biomedicine in actual clinical practice tends to be no more "objective" than its theoretical model. An illustration of this point is provided in a study of 141 physicians in the United States aimed at identifying physicians' reasons for choosing among prescription drugs (Schwartz et al 1989). The physicians were chosen in a randomized controlled trial from among physicians known to be moderate to high prescribers of cerebral or peripheral vasodilators (propoxyphene or cephalexin). Of the 110 responses elicited, the most common reasons given for prescribing those drugs were patient demand (46%), intentional use as a placebo (24%), and experience from their own clinical practice "that these were actually therapies of choice in the conditions presented (26%), despite evidence from the research literature that this was not the case" (p.577). Finkler reports that Mexican patients who go from physician to physician "find it puzzling that each doctor prescribes a different medicine for what they experience as the same symptoms" (1985:65). A substantial portion of the treatment successes by physicians can, like those of the healers, be assumed to reflect a placebo effect.

Within the formal sector are continuing trends toward professionalization and specialization. These trends encourage the attitude among formal sector health care personnel that the best medical care "is one where everything known to medicine is applied to every individual, by the highest trained medical scientist, in the most specialised institution" (Mahler 1975:830). From their biomedical perspective, they perceive informal sector

healers dealing with spirits or addressing interpersonal relationships or social conditions as utterly misguided, and healers relying primarily upon herbal remedies as practicing unduly primitive medicine. The differential association of each sector's conceptual framework with modern science fosters the large gap in social status between formal and informal sector practitioners. Maintenance of these attitudes and the differential status they support is clearly to the economic advantage of formal sector practitioners and enterprises in preserving their collective market share, which (as calculated from Table 5.5 figures on page 99) came to a rather overwhelming 99.1% in 1984.

The Catholic Church

Present day support by the Church in Mexico of formal sector medicine in preference to that of the informal sector is not simply a vote for modernity. The evolution of the Church's perspective on health care has been uniquely intertwined with the historical development of the natural sciences and biomedical model. A cursory look at their history suggests that the Church's position toward the health care approaches of these two sectors represents a territorial rather than modernizing interest.

Religious scholasticism of the Church in the period after the dissolution of the Roman empire led to the end of the practice of medicine as developed by the Greeks (Coe 1978). Under the influence of the Church, illness was construed as a punishment for sin. The faithful were encouraged to seek solace in the healing powers of the ecclesiastics and

royalty; seeking secular medical help was considered to reflect a lack of religious faith. The Church prohibited experimentation, including dissection of the human body. The well-developed herbal and surgical skills of the pagan Greeks were rejected in favor of pilgrimages, processions, shrines, and relics of saints for healing purposes. The Church approved of those methods, controlled them, and amassed considerable income from them. Members of the clergy could practice medicine but were not allowed to shed blood. Surgery was relegated to craftsmen (the barber-surgeons) who also cut hair. Hospitals came under Church control, and most of them were placed under the care of religious orders. The Church condemned all practices hinting of paganism, particularly anything involving magic or the supernatural outside of its own practices (Coe 1978; Achterberg 1985).

The Renaissance was a period of gradual but sweeping social changes, including the widespread and growing challenge to the authority of the Church. Medical knowledge advanced as observation and recording became the mode of new learning. Dissection was re-approved by the Church. Active experimentation, not simply passive observation, was introduced during this beginning period of modern science. Rene Descartes established the view of mind and body as distinct entities. He conceived of the universe as a huge machine working according to discoverable mechanical laws. He also viewed the bodies of people, animals, and plants as machines. Isaac Newton developed a mathematical explanation of how

the universe operates as a huge machine according to precise laws, with specific causes leading to specific and predictable effects.

The new intellectual methods of discovery supplanted religious scholasticism as the path to knowledge and led to the view that health problems are malfunctions of the body-machine. The Church's concession to allow the direct study of the human body was paired with a "tacit interdiction" to the scientific study of mental, behavioral, or spiritual matters--subjects which were to remain within the domain of the Church (Engel 1977). The Cartesian conceptual split of mind from body provided the turning point:

> The notion of a real distinction between the mental and physical, particularly the mechanistic conception of the human body, made possible the development of the natural sciences as well as scientific medicine, not hampered any longer by the risk of colliding with religion or Church (Ten Have 1987:235).

This ecclesiastical accommodation to modern science provides the basis for the Church's acceptance of biomedicine's authority in treating bodily ills.

Not surprisingly, the Church's response to traditional medicine in Mexico has been less accommodating. In the world view of traditional healers, matter is not perceived separate and distinct from mind and spirit; rather, life is defined as

> the union of body, senses, mind and soul, and ...positive health as the blending of physical, mental, social, moral and spiritual welfare. The moral and spiritual aspects of life are here stressed...(Bannerman 1982:9).

The Spanish conquistadors and missionaries reacted negatively to indigenous health care practices mainly on religious grounds. They viewed the

"psycho-religious" or magical aspects of healing, including the use of certain plants (e.g. peyote) in divination, as superstitious, idolatrous, heretical to Christianity, and the work of witches and sorcerers. Indigenous healers were tried and punished for their alleged offenses during the period of the Inquisition, which in Mexico was conducted from 1571 to 1812. Also troublesome to the Europeans was the use by indigenous healers of seemingly effective herbal remedies without any knowledge of either the cause of the illness or the mechanism by which the substance cured (Anzures 1983).

The current position of the Church toward traditional medicine in Mexico goes unmentioned in the medical anthropology and health care literatures. This glaring omission may reflect an internal focus of the Church in recent decades upon its own liturgical and sacramental functions. Or, stated somewhat less gently,

> the Catholic Church has kept aloof from the everyday life of the people to a considerable extent since the Mexican Revolution, so much so that in the fall of 1969, a 'pastoral action' meeting was convened in Mexico City to acquaint the Catholic Church with the social realities of Mexican life (Goodman et al 1974:248).

Nevertheless, there seems no reason to assume indifference on the part of the Church to traditional healing practices which smack of heresy, especially in light of the Church's less than accommodating stance toward Spiritualism.

Spiritualism in Mexico is a separate religious sect founded in 1861 by a heretical Catholic priest. It represents "a fusion of elements from spiritism, Catholicism, and Protestantism" and various other sources (Kelly

1961:204). The sect has been strongly anti-Catholic and anticlerical since its inception during the Liberal Reform period of 1855-1862, when liberal forces in Mexico were successful in limiting the considerable power and wealth of the Church (Finkler 1985:17-18;31). Its teachings reflect numerous theological and cosmological differences (heresies) from those of the Catholic Church. Yet the standard reason that adherents give for their conversion to Spiritualism is

> that church services, unlike Spiritualist services, lack order; people in church are permitted to talk and look over their shoulders; and, what is worse, people in church always talk about others, always criticize their appearance, their clothes, how they walk, and move—in short their overall stance and presentation of self (Finkler 1985:32).

Finkler suggests that the option for Spiritualism is a reaction to the growing differentiation among the population according to social class.

The habit of Catholic clergy of labelling Spiritualist healers as witches seems to go above and beyond rejection of Spiritualism as a heretical sect. Spiritualist healers claim to engage in direct communication with "spirits of light" while in a trance state for the benefit of their patients. Yet the concept of petitioning the spirit world for favors is not in conflict with Catholicism. The Catholic Church encourages its members to communicate directly via prayer to any member of the divine Trinity, or to any of the saints (including Mary the mother of Jesus) as potential intercessors, with petitions such as those for improved health. It also continues the pre-modern practices of pilgrimages, processions, shrines, and relics of saints for healing. The national shrine in Mexico City featuring Our Lady of

Guadalupe, for example, is the daily sight of streams of peasants, some carrying sickly children and many on their knees, approaching the basilica and its altar with their private petitions. Conceivably the Church may be piqued by Spiritualists' claims to immediate and direct response from "spirits of light" in contrast to the less tangible and less predictable heavenly responses to Catholic intercession. Perhaps more to the point is that the Church's condemnations serve to limit the successful encroachment by Spiritualism (many of whose adherents and patrons consider themselves Catholic) upon its own near-monopoly sphere of religious influence. The effect of this attitude is to greatly raise the personal "costs" associated with Spiritualist temple treatment for the Catholic portion (96%) of the Mexican population and thereby render less attractive the option of patronizing Spiritualist healers or of becoming one of their number.

III. ECONOMIC DEVELOPMENT IMPLICATIONS

The importance of health for economic development is in how it affects the quality of the labor force: improved health raises the quality of human capital and thereby contributes to increased labor productivity (Hicks and Streeten 1979; Schultz 1980). This is in addition to its intrinsic contribution to quality of life. Thus health is both a producer good and a consumer good. Investment aimed at acquiring and maintaining health brings benefits in the form of increased "healthy time"; this translates into either more work hours or better quality work from a more alert, accurate,

and energetic worker, or both. Uneven access to the benefits of investment in health, which occurs in the form of preventive and curative measures, promotes inequality of current income and potential future income. Uneven exposure to conditions deleterious to good health (e.g. inadequate housing and nutrition, exposure to pollutants, unsanitary conditions) also promote, as well as reflect, that kind of income inequality.

The central government's investment in health care has been mostly curative, and it is based on biomedicine. This mode of health care, in which the patient is viewed as a machine suffering a malfunction which can be fixed by chemical or mechanical intervention, is entirely in harmony with the country's impetus toward industrialization. Its transplantation to Mexico, originally by the European colonials, implies the importation of not only a collection of treatment techniques but also the conceptual and institutional frameworks within which those had been developed. It reflects

> the implicit assumption that the "know-how" exists, as it were, as a stock of techniques--like a stock of raw materials--which can be drawn upon at will, and applied to any situation, in order to produce the desired, and therefore foreseeable, end (Frankel 1953:19).

The Western industrialized countries had undergone several centuries during which modern science and biomedicine had developed together, during which their populations became acculturated in a Cartesian-Newtonian view of the universe. Westerners and biomedically trained practitioners everywhere tend to assume that biomedicine, like science, is universally applicable. Yet patients across cultures, and even within the same culture,

not only differentially identify a given health problem according to various conceptual frameworks but respond differentially to a given treatment intervention (Kleinman 1980; Finkler 1985). Hence biomedical treatment can be expected to lose some of its effectiveness when applied in a different cultural setting. It can also be expected to manifest some of the same limitations it had in its original cultural setting.

The establishment of the biomedically oriented national health care system in Mexico has effectively dampened the demand for traditional health care which, in turn, has led to a dwindling number of traditional healers. It has also elicited an alternative health care approach in the form of Spiritualist temple treatment. The effectiveness of such treatment has been examined above. The ways in which government, biomedical establishment, and Church discourage the use of informal sector health care and fortify the position of biomedicine have also been discussed. These conditions can be seen to hold certain additional implications for Mexico's economic development.

One implication for development of informal sector care being displaced by that of the formal sector is the loss of traditional healers and their knowledge. "Wherever the matter has been investigated the same situation recurs: many [traditional] healers a generation ago; few, and less well-prepared healers today (Velimorovic 1983:229). A far more costly system of biomedicine has been established to replace them. Modern science has begun to recognize and research some of the traditional herbal

remedies for their therapeutic effects (Lozoya 1983). Herbal baths, liniments, and poultices are now recognized as effecting health on the principle of percutaneous absorption; they work through the skin without requiring any buildup of the drug in the bloodstream. Certain medicinal herbs (e.g. camomile) have been found in scientific studies to alter hormone balance and ameliorate such problems as diabetes mellitus and inflammation.[2] Lozoya notes the irony in the current trend of LDCs to rely upon modern pharmaceuticals, looking upon their traditional herbal remedies as relics of their primitive pasts, at a time when modern science has begun to recognize the therapeutic value of those remedies.

A second implication for development is the effects on the quality of the labor force as affected by health. Informal sector enterprises are able to provide relatively low-cost health care for a wide variety of health problems, some of which are not responsive to biomedical intervention. The extent to which functioning may be impaired, and then restored by informal sector treatment, for persons with somatized depression is suggested by the variety of symptoms presented (see Appendiz F). Consumers recognize informal sector health care as a substitute for formal sector care to some extent (non-specific demand), beyond which they view it as offering a unique function. Government, biomedical establishment, and Church promote formal over

[2]This is not to deny problems of toxicity and harmful side-effects of some ingredients and concoctions prescribed by healers (Akerele 1986), problems which are often associated with modern pharmaceutical products.

informal sector health care but allow for no replacement of the unique function provided by the latter.

In light of the modernization ideals associated with economic development, the official sector hostility toward informal sector healers may appear to be small reason for lament. The reason lies in the nature of their treatment. The healers do not always limit themselves to prescribing herbal remedies of "known" (scientifically validated) effectiveness. They may purportedly engage the spirit world for diagnostic and treatment purposes and address interpersonal relationships and social conditions as well. These latter approaches violate the perspective of biomedical science that health problems are physical in nature and require physical means of remediation. Would-be modernizers might worry that increased patronage of healers utilizing such treatment approaches would encourage "unscientific" attitudes and thereby thwart modernization.[3] Religious healing sects are currently flourishing alongside the biomedical systems in highly industrialized and modernized countries such as the United States and Japan. Like the Mexican Spiritualists, their healers tend to succeed primarily with patients presenting psychosomatic problems (Glik 1989; Sasaki 1976). Resort to health care outside the biomedical framework in Mexico and elsewhere seems to indicate users' recognition of that framework's limitations rather than an important stumbling block to modernization.

[3]Belief in the involvement of the spirit world in affecting health is hardly foreign to Mexican Catholics, who make up the overwhelming majority of the population.

Nevertheless, it is possible to look beyond religious beliefs linked to health and still detect some strongly anti-development features of informal sector care. The Spiritualists, for example, portray poverty as God's chosen way of keeping the people dependent and faithful. Spiritualist healers dissuade their patients from entering into activities (e.g. joining a labor union) promoting social or economic change (Finkler 1985). Such an orientation can be expected to inhibit expectations of a better lot in this life, and to inhibit efforts to improve that lot as well. An exception to this staunch support of the status quo is the healers' regular admonishments to male patients to cut down or cease their consumption of alcohol (which would lessen the drain on household finances, not to mention the frequency of physical abuse toward the wives). A downward influence upon men's drinking would thereby imply not only potential enhancement of their personal health status but quite possibly a positive effect on the health of women as well--as from a decrease in physical assaults and from any depression associated with their treatment by the men.

As formal replaces informal sector care, it brings about what a former director of WHO calls

> a gross restriction in the information available and decisions to be made by people outside the health professions, and an unnecessary but inevitable dependency of the population upon the holders of these mysteries (Mahler 1975:829).

Furthermore, to the extent that informal sector patients tend to be of low income, displacement of informal by formal sector health care represents a transfer of healing or curative "power" to people more socioeconomically

distant from them. This tends to further concentrate social, economic, and political status in the hands of the highly trained few.

Further skewness in the distribution of income is effected by differential access to formal sector services. Those who can afford formal sector care will likely get more of it. The government's health insurance system liberally covers the formal economic sector workers and their dependents. For approximately every seven pesos it spends on "seguridad social" for this half of the population, it spends a single peso on "solidaridad social" for those without formal economic sector jobs and who are already at an income disadvantage. In this way the national health care system provides "in-kind" income to all, but it systematically favors those of already higher income levels. Persons with greater access to formal sector care can be expected to gain in improved health, leading to present and future enhancements in labor productivity and income.

In summary, the trend of formal replacing informal sector health care has occurred not on the basis of careful study of relative treatment effectiveness or relative costs but because of institutional forces favoring biomedical care. The addition of biomedical care has contributed to improved health of the Mexican population by means not found in informal sector care. At the same time the informal sector is able to offer low-cost treatment for health problems not responsive to formal sector care; for some health problems it offers health care which substitutes for formal sector care and does so at a fraction of the latter's cost. However, informal sector care

becomes a mixed blessing when treatment is paired with admonitions against behaviors fostering social or economic change, thereby inhibiting attitudinal changes necessary for modernization.

CHAPTER 7

CONCLUSION

The preceding examination of the national health care system in Mexico suggests the following: that the system does not adequately address the kinds of health complaints for which the informal sector provides low-cost care, and that the system is markedly unequal in the distribution of its benefits to the population. Total annual health care expenditures were found to constitute an estimated 5.4% of GDP, with government accounting for two-thirds of those expenditures (see Chapter 5). The government allotted an estimated 34.7% of its health care budget to curative services and 2.5% to preventive services, all of which were provided in the formal health care sector and virtually all of which were biomedically oriented. An estimated 91.4% of all health care expenditures, and 99.0% of all expenditures on curative and preventive care, were for formal sector services. Yet the comparison in Chapter 2 suggests that a type of informal sector treatment (Spiritualist temple healing) not only can ameliorate certain kinds of health complaints but also can do so at far lower cost than can formal sector (physician) treatment. Furthermore, an estimated 86.7% of government health care expenditures are allocated for the health coverage of only one-half of the population, namely the half comprised of formal economic sector workers and their dependents--the half which is more likely better able to afford the services of private physicians.

The present study brings the policy-maker to the brink of a dilemma. A cost-effectiveness comparison provides an economic basis for choosing one type of health care intervention over another. Sound economic evaluation of health care alternatives requires that all competing alternatives be specified (Department of Clinical Epidemiology and Biostatistics 1984). As discussed in previous chapters, informal sector health care appears to constitute a cost-effective alternative to formal sector care in Mexico for certain kinds of health complaints. It thus represents a complementary resource rather than one which can supplant, or be supplanted by, formal sector care. Yet the comparison of physician and Spiritualist temple treatment in Chapter 2 illustrating the low costs associated with the latter opens the door to the ironic specter of a policy recommendation that the government promote if not subsidize the building of new Spiritualist temples and the training of additional temple healers. On one hand, a readily available and more cost-effective alternative to biomedical care cannot be ignored by the rational planner. On the other hand, the fact that in Mexico the alternative is situated within the framework of Spiritualism implies certain negative externalities which likewise cannot be ignored. Spiritualists discourage behaviors aimed at changing the social and economic status quo; it portrays the condition of poverty as God's way of keeping the people faithful. The present study thus reveals a limitation inherent in the cost-effectiveness approach to decision-making: it is not able to address the sometimes conflicting goals of modernization.

In this chapter the cost-effectiveness of informal sector health care relative to that of the formal sector, and the range of its applicability, will be recalled. Subsequently, a problem-solving approach will be considered for choosing among health care interventions. With a focus on empirical results of alternative treatment interventions, this approach represents a departure from decision-making guided by institutional allegiance to a particular (i.e. biomedical) conceptual framework and the organizational structure in which it is imbedded. It emphasizes identification of the miminum inputs actually required for a desired outcome. This alternative approach to decision-making does not resolve the above-mentioned dilemma. It does, however, encourage closer examination of existing health care interventions for the aspects which seem to promote desired treatment outcomes, and for the ways in which those aspects might be adjusted and utilized in a manner consistent with development goals. Lastly will be an example of how such an approach might bear upon Mexico's investment decisions in health care.

I. APPLICABILITY OF INFORMAL SECTOR HEALTH CARE IN REVIEW

The comparison of physician and Spiritualist temple treatment in Chapter 2 highlighted the potential of informal sector health care enterprises for improving health in the case of widely occurring health complaints. Treatment outcome data were drawn from the anthropological literature on

two research projects involving comparable patient populations (Finkler 1980; 1985; 1990). Treatment outcomes were redefined for the present study such that treatment resulted in either "success" or "failure." In this manner, Spiritualist temple healers were deemed to have achieved a treatment success rate of 35.6%, which is not significantly different ($p>.05$) than the 45.9% success rate determined for the physicians. Estimated average costs for prescriptions alone were 12% higher for physician patients than for temple patients. Estimated average combined costs of labor, materials, and capital for physician treatment exceeded by 2,569% those for temple treatment.

The degree of relative cost-inefficiency of physician care suggested by the figures seems sufficient to question the desirability of continuing to develop a national health care system based almost totally on biomedical care. It would be misleading, however, to suggest informal sector care as a cost-effective alternative to biomedicine overall. The distinction of specific vs. non-specific demand for health care used in the previous chapter highlights the fact that consumers may prefer informal sector care for particular kinds of health complaints if they perceive formal and informal sector care as differentiated products. In the case of the successfully treated Spiritualist temple patients in the study, their symptom clusters strongly resembled those typifying certain cultural illness syndromes, which in turn strongly resembled what is known in the psychiatric literature as somatization disorder (i.e. somatized depression). On the other hand,

consumers may at times perceive formal and informal sector care as close substitutes and choose between them on the basis of price. The perceived substitutability is not surprising given the overlapping of herbal and pharmaceutical items prescribed by both healers and physicians. However, what is noteworthy about informal sector health care is that it addresses social, emotional, and spiritual aspects of the patient, aspects relevant in treating symptoms of somatized depression. It thereby offers what biomedicine does not: credence to patients claiming illness not identifiable with disease, as well as interventions which may induce related psychosocial changes and, in turn, relief of symptoms. Not insignificantly, it does so with a minimum of capital.

The applicability of informal sector care to health complaints is probably considerable. First, one need only imagine the incidence of the so-called "mundane" illnesses, i.e. "the everyday experience of aches and pains (headaches, colds, sore throats, constipation, back aches, etc.)" (Olesen et al 1990). The health problems that traditional healers in rural Mexico report treating most frequently are digestive disorders (including infections, parasitosis, nutritional and functional problems), followed by cultural syndromes and respiratory problems (Lozoya et al 1988:64-65). Furthermore, one can guess at the incidence of health complaints reflecting somatized emotional difficulties in a given patient population.

> Most standard medical textbooks attribute anywhere from 50 to 80 percent of all disease to psychosomatic or stress-related origins. Even the most conservative sources classify the following illnesses as psychosomatic: peptic ulcer, mucous colitis, ulcerative colitis, bronchial asthma, atopic dermatitis,

> urticaria and angioneurotic edema, hay fever, arthritis, Raynaud's disease, hypertension, hyperthyroidism, amenorrhea, enuresis, paroxysmal tachycardia, migraine headache, impotence, general sexual dysfunctions, sleep-onset insomnia, alcoholism, and the whole range of neurotic and psychotic disorders (Pelletier 1977:7).

As noted above, the reported symptomatology of successfully treated Spiritualist temple patients seems to reflect emotional conflicts not amenable to biomedical treatment aimed at disease. Hence that type of treatment addresses a widely occurring kind of health complaint which can be expected to impair behavioral functioning but which is not addressed by the official health care system.

II. A PROBLEM-SOLVING APPROACH TO HEALTH CARE INVESTMENT

The presentation of informal sector health care as a viable economic resource implies certain assumptions that may be deeply unsettling for those responsible for fostering economic development and modernization. First is that at least some of the nation's health care can be safely entrusted to minimally educated persons who utilize only simple indigenous materials in their diagnostic and treatment efforts. Second is that health care can be conducted according to a conceptual framework other than that of the biomedical model. Both assumptions threaten the professional dominance and world view of biomedical practitioners. Yet to reject either of these assumptions out of hand is, at the very least, precipitous. A fairly simple but nevertheless pivotal question dealing with both assumptions makes this

obvious: what knowledge and skills and paraphernalia are necessary to improve health? This question calls for empirical data on health problems, interventions known to alleviate them, and the labor, capital, and material inputs those interventions entail.

By now it should be clear that improvement of health through investment in health care is not a simple matter of increasing the quantity of existing kinds of resources of the formal, or the informal, or even both health care sectors. Any attempt to provide the half of the Mexican population not covered by IMSS and ISSSTE with comparable biomedical coverage would prove terribly expensive in absolute costs. It would also ignore known health care alternatives which are far less costly and provide a function not included in biomedicine. Expanding informal sector health care resources would be relatively inexpensive but, like biomedicine, it would provide curative treatment effective for a certain range of health problems but not beyond. In addition, alternatives such as Spiritualist temple treatment are likely to entail significant negative externalities due to their being situated within conceptual frameworks marked by features anathema to development. In order for the official health care system to address health complaints representing somatized depression, it would seem that the task of policy-makers is to identify one or more types of treatment which address that type of health problem, are relatively labor-intensive, and do not conflict with economic development goals. An approach more

comprehensive than multiplying existing kinds of health care resources is required.

One such approach is suggested by former WHO director Halfdan Mahler. He proposes that health care systems be designed that "will result in the most meaningful interventions reaching the greatest proportion of persons at risk, as early as possible, at the least cost, and in an acceptable manner" (1975:830). He suggests a problem-solving approach in which health care interventions would be utilized according to their known effectiveness "as measured in objective terms," and that those interventions be "described objectively and in such a manner that the amount of skill and knowledge required for their application can be assessed" (1975:830).

A first step in a problem-solving approach as suggested by Mahler is the identification of the country's main health problems. Morbidity statistics are available (INEGI 1989) and, to the extent that they are accurate, reflect the health problems defined and recognized by the biomedical profession. These statistics do not, however, include the incidence of cultural illness syndromes or of many "mundane" illnesses. Yet both of those illness categories affect the behavioral functioning and hence productivity of persons suffering them.

A second step is the identification of <u>all</u> known interventions that remediate each of those health problems regardless of who practices them: physician, homeopath, healer, or household member. It is important to note that interventions may be preventive as well as curative. Curative

interventions that do not lead to symptom removal are not included. The fact that remedies may vary according to effectiveness, speed of action, and side effects (Culyer and Maynard 1981) introduces certain questions. Is the remedy partial or complete? How fast does each remedy work? What are the side effects of each? Unfortunately, information of this kind regarding effectiveness of health care interventions is surprisingly limited:

> despite the availability of methods of assessment that include controlled clinical trials, quasi-experimental methods, and computer modeling, most medical technologies have not been well assessed for efficacy and safety, unless one is content with pure, uncontrolled clinical opinion (Banta 1982:26).

Needless to say, this shortage of information on effectiveness applies to health care interventions of both formal and informal health care sectors and to those of the "popular sector" as well.

A third step engages the economist as well as the health care professional: what inputs of labor, human and physical capital, and materials are required to effect each intervention? The matter of labor input in terms of quality re-introduces the question posed earlier: what knowledge and skills (and paraphernalia) are necessary to improve health? The answer is likely to vary according to specific health problems and associated treatment interventions. Formal education credentials such as medical and nursing degrees are likely to reflect a considerable excess of formal education relative to that needed for some portion of those interventions. Inputs for diagnostic procedures which precede treatment must also be identified. Biomedical practice is weighted so heavily with

diagnostic procedures that the physician's function may be considered "chiefly diagnostic,...essentially comprising symbolic rather than real intervention (Finkler 1985:159). The sphere of diagnostics raises the same question as to knowledge and skills and paraphernalia required. The point is, of course, to identify the fewest and simplest inputs which will effectively accomplish the intervention (Mahler 1975).

The fourth step involves the economist's unique contribution: from a particular point of view (e.g. that of a patient, private provider, health care agency, the public sector, or society), to accurately assess all relevant costs of a given intervention, and then to compare those costs--either with the benefits accruing from that intervention, or with the costs of an alternative intervention the outcomes of which can be measured in similar units (Culyer and Maynard 1981; Department of Clinical Epidemiology and Biostatistics 1984; Drummond 1987). Cost assessments and comparisons are necessarily dependent upon the information from the previous steps as to effectiveness of each intervention and the simplest set of inputs required. The resultant information, whether in cost-benefit or cost-effectiveness form, enables those making investment decisions to do so on the basis of most efficient allocation of resources.

As suggested above, cost-effectiveness or cost-benefit studies are unable to deal with externalities which are beyond the scope of monetary evaluations. While Spiritualist temple treatment in Mexico may be more cost-effective than physician care for certain kinds of health complaints, the

government's promotion of Spiritualist health care (with or without subsidies) is likely to impede the development of "modern" attitudes, including those bearing upon social and economic change. Policy-makers who are aware of this readily available, relatively cost-effective health care approach are not left with a sole option of re-allocating resources to Spiritualist temple health care. Other interventions need to be sought which incorporate effective aspects of Spiritualist care and do so at low cost.

III. A SAMPLE LOOK AT MEXICO FROM THE PROBLEM-SOLVING APPROACH

The suggested problem-solving approach requires that Mexico's major health problems first be identified. For example, figures for 1985 reflect that the nation's two most frequently occurring contagious diseases are acute respiratory infections and gastrointestinal infections (INEGI 1989:15). Cases of acute respiratory infections numbered 8,502,817, implying a rate of 109 cases per 1,000 population. Gastrointestinal infections include enteritis and "other" diarrheas (2,716,254 cases), "other" intestinal parasites (1,057,563 cases), and amoebiasis (761,065 cases). These cases of gastrointestinal infections totalled 4,534,882, reflecting an incidence rate of 58 per 1,000 population. The leading causes of death in 1983 were intestinal infections and acute respiratory infections (specifically, pneumonia and influenza). Approximately one-half of the 38,282 persons who died of intestinal infections were under one year of age (INEGI 1989:49).

The next task is to identify all interventions known to remediate those health problems. Interventions may be curative or preventive: curative for actual cases of infection, preventive for reducing the incidence of those infections. Curative interventions are those practiced by formal and informal sector health care practitioners and by the "popular sector." They may include the use of antibiotics, various other commercial preparations, and herbal remedies for respiratory and gastrointestinal disturbances, and oral rehydration therapy and adjustment of diet for diarrhea. Information is needed as to the success rate of each type (or combination of elements) of curative intervention.

Preventive interventions are those aimed at correcting conditions associated with contracting those infections. Both respiratory and gastrointestinal infections are associated with certain living conditions: poverty, lack of potable water, malnutrition, polluted air, poor housing, and inadequate sewage disposal systems (PRODUSSEP 1988). Malnutrition weakens resistance to infection and intensifies the negative effects of disease (Eckholm 1977). In the continued presence of these conditions, the benefits of curative services for any given illness episode may not last long. Some of those conditions hazardous to health have been aggravated if not created by the economic development process itself. The rise of an industrial sector is accompanied by production of chemical wastes polluting both water and air. A pace of rural to urban migration more rapid than the growth of the infrastructure leads to congested and makeshift living conditions, including

inadequate water supplies and sewage systems. The motor vehicle traffic in Mexico City alone poses a major health threat due to uncontrolled emissions from cars, buses, and trucks fueled by leaded gasoline. This contributes to respiratory and gastrointestinal problems as well as inflammation of the eyes (PRODUSSEP 1988). The nature of these contributory conditions to respiratory and gastrointestinal disease provides government policy-makers with serious reason to reassess the relative distribution of public health care expenditures on curative vs. preventive services. As reflected in data from Chapter 5, this distribution currently favors curative services by an overwhelming 14 to 1 margin.

The subsequent tasks are to identify the simplest set of inputs required for each intervention, assign accurate costs to them, and compare those costs either with the expected benefits or with those of alternative interventions having outcomes expressible in comparable units. Needless to say, these tasks are likely to be thwarted by the current dearth of quantitative information on effects upon health status of particular curative or preventive measures. This bottleneck of information nevertheless highlights an important area in which more research is needed. The comparison of physician and Spiritualist temple treatment underscores the fact that apparently cost-effective health care need not measure up to the standards set by official health system professionals who, according to Mahler, believe that the best care implies the application of the most advanced knowledge and resources to all patients (1975:830). Mahler adds that

> [t]his type of thinking is clearly as dangerous as it would be for me, who spends so much time flying from Member State to Member State, if I preferred the aircraft in which I was travelling to be flown by a professor of aeronautical engineering rather than an experienced pilot (1975:830).

It seems safe to assume that extending inexpensive and effective health care need not be circumscribed to widening the sphere of expertise of biomedically-trained professionals--any more than to multiplying the quantity of Spiritualist temples and healers. The exploration into why Spiritualist temple healers enjoy any treatment success at all demonstrates that interventions effective in relieving symptoms by reshaping perceptions, whether by placebo or other response, can be provided with simple indigenous material inputs and a minimum of physical and human capital.

The impact of somatized depression upon the nation's health care system cannot be overlooked. Although the prevalence of depression in Mexico is unknown, the stresses associated with cultural and geographic uprooting and rapid social change are expected to increase it (Sartorius 1979). The presentation of somatized depression by patients creates a drain upon the nation's health care system and

> often leads to excessive medication of the wrong kind, prolonged treatment and waiting at the doorstep of over-taxed laboratories. The investment on everybody's part--the patient, his family and the service--is considerable and the effects negligible or even harmful (Sartorius 1979:210).

As discussed earlier, informal sector health care in Mexico offers some improvement for somatized depression, is available, and is quite inexpensive relative to formal sector care. Although magical and/or religious elements

of treatment tend to be associated with Spiritualist or traditional healers, it would seem that the Catholic Church (which exhibits a strong conservative bias of its own) has scarcely begun to exploit the healing potential of its own religion. It would also seem that the formal health care sector holds potential for more effective treatment of patients presenting somatized depression. Physicians tend not to recognize depression "unless the patient perceives an affective state and reports it to the physician" (Katon et al 1982:128). A broader conceptual base should aid physicians in more readily perceiving somatized depression. Prevention of depression might imply changing conditions (social, cultural, economic, political) that foster a sense of inadequacy, worthlessness, and hopelessness in individuals, as well as changing the habitual ways in which people see themselves in the context of those conditions. Heightened awareness in the general population, as through widespread individual and group reflection, of how those conditions affect them holds potential not only for improving health but for planting new seeds of social change as well.

A last point hearkens back to the fact that, although investment in health care in Mexico is concentrated in the formal sector, the bulk of all illness episodes are handled within the "popular sector." This would suggest that investment in health care through universal public education in regard to health would have the broadest impact on both curative and preventive practices. For example, health education might be conducted systematically in schools, the work place, and communities so that "people

learn about their bodies, that they study normal and pathological physiology and practical therapeutics" (Kleinman 1980:385). It is already recognized that informal sector practitioners and their clientele "are pragmatic, and curious about new therapies, readily assimilating into their practice any available techniques that seem to them to work" (Leslie 1983:317). The "popular medicine" movement already underway in Mexico, is an attempt at such education; it draws from biomedical science but does not restrict itself to that conceptual framework. It is currently operating on donated personal time and resources, but if integrated through public education its impact would be expanded considerably. Dissemination of health care information beyond the health care professionals can be expected to threaten the economic and social status of those professionals but also, more importantly, to enable members of the general population to better maintain their own health.

BIBLIOGRAPHY

BIBLIOGRAPHY

Achterberg, Jeanne. Imagery in Healing: Shamanism and Modern Medicine. Boston and London: New Science Library, 1985.

Akerele, Olayiwola. "The Best of Both Worlds: Bringing Traditional Medicine up to Date." Social Science and Medicine, 24, 2 (1987), 177-181.

_____. "The Selection and Use of Traditional Remedies in Primary Health Care." International Traditional Medicine Newsletter, 1, 3 (1986), 1,6-7.

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 3rd edition. Washington, D. C.: American Psychiatric Association, 1980.

Angel, Ronald, and Peter J. Guarnaccia. "Mind, Body, and Culture: Somatization among Hispanics." Social Science and Medicine, 28, 12 (1989), 1229-1238.

Anzures y Bolaños, Maria del Carmen. La Medicina Tradicional en México: Proceso Histórico, Sincretismos y Conflictos. México, D. F.: Universidad Nacional Autónoma de México, 1983.

Banamex (Banco Nacional de México). Review of the Economic Situation of Mexico, LXI (715) to XV (764), June 1985 to July 1989.

Bannerman, Robert H. "Traditional Medicine in Modern Health Care." World Health Forum, 3, 1 (1982), 8-13.

Bannerman, Robert H., John Burton, and Ch'en Wen-Chieh, eds. Traditional Medicine and Health Care Coverage: A Reader for Health Administrators and Practitioners. Geneva: World Health Organization, 1983.

Banta, H. David. "Technology Assessment in Policy Making." In Resources for Health: Technology Assessment for Policy Making. Ed. H. David Banta. New York: Praeger, 1982, 22-43.

Beecher, Henry K. "The Powerful Placebo." Journal of the American Medical Association 159 (1955), 1602-1606.

Cameron, Oliver G. Presentations of Depression: Depressive Symptoms in Medical and Other Psychiatric Disorders. New York: John Wiley & Sons, 1987.

Capra, Fritjof. The Turning Point: Science, Society, and the Rising Culture. New York: Bantam Books, 1982.

CIESS (Centro Interamericano de Estudios de Seguridad Social). Medicina Tradicional y Enfermedad. México, D. F.: CIESS, 1988.

Coe, Rodney M. Sociology of Medicine. New York: McGraw-Hill, 1978.

Cole, William E. and Sanders, Richard D. "Internal Migration and Urban Employment in the Third World." American Economic Review, 75, 3 (1985), 481-494.

Culyer, A. J. and A. K. Maynard. "Cost-Effectiveness of Duodenal Ulcer Treatment." Social Science and Medicine, 15C (1981), 3-11.

Cumper, George. "Social and Organizational Constraints on Health Development." Journal of Tropical Medicine and Hygiene, 85 (1982), 47-55.

Deloge, Benedicta. Past administrator, Dispensario de la Providencia. Personal interview. Mexico, D. F.: August, 1989.

Department of Clinical Epidemiology and Biostatistics. "How to Read Clinical Journals: VII. To Understand an Economic Evaluation (Part B)." Canadian Medical Association Journal, 130 (1984), 1542-1549.

Drummond, Michael F. "Cost Benefit Analysis in Health Care: Future Directions." In Health Economics: Prospects for the Future. Ed. George Teeling Smith. New York: Croom Helm, 1987, 186-199.

Eckholm, Erik P. The Picture of Health. New York: Norton, 1977.

El Programa Nacional de Salud 1984-1988. Quoted in "La Medicina Privada." Panorama de la Salud, Abril-Septiembre (1987):29-44.

Ellis, Albert. Reason and Emotion in Psychotherapy. New York: Lyle Stuart, 1962.

Engel, George L. "The Need for a New Medical Model: A Challenge for Biomedicine." Science, 196, 4286 (1977), 129-136.

Enriquez Sam, Javier, M. D. Personal interview. Mexico, D. F.: September, 1989.

Fabrega, Horacio Jr. and Daniel B. Silver. Illness and Shamanistic Curing in Zinacantan: An Ethnomedical Analysis. Stanford: Stanford University Press, 1973.

Finkler, Kaja. "Non-Medical Treatments and Their Outcomes." Culture, Medicine and Psychiatry, 4, 3 (1980), 271-310.

_____. "Studying Outcomes of Mexican Spiritualist Therapy." In The Anthropology of Medicine: From Culture to Method. Eds. Lola Romanucci-Ross, Daniel E. Moerman, and Laurence R. Tancredi. New York: Praeger, 1983, 81-102.

_____. Spiritualist Healers in Mexico. South Hadley, Mass.: Bergin & Garvey, 1985.

_____. [Untitled.] Mimeograph. Chapel Hill, N. C.: n.p., [1989a].

_____. Personal interview, October 1989b.

_____. Biomedical Practice and Patients' Responses in Mexico. Boulder, Colorado: Westview, [in press] 1990.

Foss, Laurence and Kenneth Rothenberg. The Second Medical Revolution. Boston: New Science Library, 1987.

Foster, George M. "Medical Anthropology and International Health Planning." Social Science and Medicine, 11 (1977), 527-534.

Foster, George M. and Barbara Gallatin Anderson. Medical Anthropology. New York: John Wiley & Sons, 1978.

_____. "An Introduction to Ethnomedicine." In Traditional Medicine and Health Care Coverage: A Reader for Health Administrators and Practitioners. Eds. Robert H. Bannerman, John Burton, and Ch'en Wen-Chieh. Geneva: World Health Organization, 1983, 17-24.

Frankel, S. Herbert. The Economic Impact on Under-Developed Societies. Cambridge, Mass.: Harvard University Press, 1953.

Gerber, Richard. Vibrational Medicine. Santa Fe: Bear, 1988.

Gish, Oscar. "The Political Economy of Primary Care and 'Health by the People': An Historical Exploration." Social Science and Medicine, 13C (1979), 203-211.

Glik, Deborah C. "Symbolic, Ritual and Social Dynamics of Spiritual Healing." Social Science and Medicine, 27, 11 (1988), 1197-1206.

Goldwater, Carmel. "Traditional Medicine in Latin America." In Traditioinal Medicine and Health Care Coverage: A Reader for Health Administrators and Practitioners. Eds. Robert H. Bannerman, John Burton, and Ch'en Wen-Chieh. Geneva: World Health Organization, 1983, 37-49.

Goodman, Felicitas D., Jeannette H. Henney, and Esther Pressel. Trance, Healing, and Hallucination. New York: John Wiley, 1974.

Griffin, David Ray. "Of Minds and Molecules: Postmodern Medicine in a Psychosomatic Universe." Noetic Sciences Review, 9 (1988), 17-18.

Hemmer, Hans R. and C. Mannel. "On the Economic Analysis of the Urban Informal Sector." World Development, 17, 10 (1989), 1543-1552.

Hicks, Norman, and Paul Streeten. "Indicators of Development: The Search for a Basic Needs Yardstick." World Development, 7 (1979), 568-579.

Holden, Constance. "Behavioral Medicine: An Emergent Field." Science, 209 (1980), 479-481.

Holland, William R. and Roland G. Tharp. "Highland Maya Psychotherapy." American Anthropologist, 66 (1964), 41-52.

INEGI (Instituto Nacional de Estadística Geografía e Informática). Cuaderno No. 6 de Información Estadística: Sector Salud y Seguridad Social. Aguascalientes, Ags., México, D. F.: INEGI, 1989.

Ingham, John M. "On Mexican Folk Medicine." American Anthropologist, 72, 1 (1970), 76-87.

Inglis, Brian. The Diseases of Civilization. London: Hodder & Stoughton, 1981.

Kaptchuk, Ted and Michael Croucher. The Healing Arts: Exploring the Medical Ways of the World. New York: Summit Books, 1987.

Katon, Wayne, Arthur Kleinman, and Gary Rosen. "Depression and Somatization: a Review. Part 1." American Journal of Medicine, 72 (1982), 127-135.

Kearney, Michael. "Spiritualist Healing in Mexico." In Culture and Curing: Anthropological Perspectives on Traditional Medical Beliefs and Practices. Eds. Peter Morley and Roy Wallis. Pittsburgh: University of Pittsburgh Press, 1979, 19-39.

Kellner, Robert. Somatization and Hypochondriasis. New York: Praeger, 1986.

Kelly, Isabel. Kroeber Anthropological Society Papers, No. 25, Fall 1961, 191-206.

Kleinman, Arthur. Patients and Healers in the Context of Culture. Berkeley and Los Angeles: University of California Press, 1980.

_____. The Illness Narratives. New York: Basic Books, 1988.

Kleinman, Arthur, Leon Eisenberg, and Byron Good. "Culture, Illness, and Care: Clinical Lessons from Anthropologic and Cross-Cultural Research." Annals of Internal Medicine, 88 (1978), 251-258.

Kuhn, Thomas S. The Structure of Scientific Revolutions, 2nd ed., enl. Chicago: University of Chicago Press, 1970.

Landy, David, ed. Culture, Disease, and Healing: Studies in Medical Anthropology. New York: Macmillan, 1977.

Leslie, Charles. "Policy Options Regulating the Practice of Traditional Medicine." In Traditional Medicine and Health Care Coverage: A Reader for Health Administrators and Practitioners. Eds. Robert H. Bannerman, John Burton, and Ch'en Wen-Chieh. Geneva: World Health Organization, 1983, 314-317.

Lipowski, Z. J. "Psychosomatic Medicine in the Seventies: An Overview." American Journal of Psychiatry, 134, 3 (1977), 233-244.

Lozoya Legorreta, Xavier. "La Medicina Tradicional en México: 'Balance de una Década y Perspectivas.'" In El Futuro de la Medicina Tradicional en la Atención a la Salud de los Países Latinoamericanos. México, D. F.: Centro Interamericano de Estudios de Seguridad Social, 1987, 135-150.

_____. "The Mexican WHO Collaborating Centre for Traditional Medicine: A Decade of Scientific Research in Medicinal Plants." International Traditional Medicine Newsletter, 1, 2 (1985), 3, 8.

_____. "The Future is Learning from the Past." World Health, June (1983), 5-7.

Lozoya Legorreta, Xavier, Georgina Velázquez Diaz, y Angel Flores Alvarado. La Médicina Tradicional en México: Experiencia del Programa IMSS-COPLAMAR 1982-1987. México, D. F.: Instituto Mexicano del Seguro Social, 1988.

Ludwig, Arnold M. Principles of Clinical Psychiatry, 2nd edition, revised and expanded. New York: The Free Press, 1986.

Maddox, John, James Randi and Walter W. Stewart. "'High-Dilution' Experiments a Delusion." Nature, 334 (1988), 287-290.

Madrid, Miguel de la. Quinto Informe de Gobierno 1987: Salud y Seguridad Social. México, D. F., 1989.

Mahler, H. "Health--a Demystification of Medical Technology." The Lancet, November 1 (1975), 829-833.

Mahoney, M. J., and D. B. Arnkoff. "Cognitive and Self-Control Therapies." In Handbook of Psychotherapy and Behavior Change, 2nd edition. Eds. S. L. Garfield and A. E. Bergin. New York: John Wiley & Sons, 1978, 689-722.

Myrdal, Gunnar. Asian Drama: An Inquiry into the Poverty of Nations. New York: Pantheon, 1968.

Ochoa de Mendoza, Margarita. Política de Gasto en el Sector Salud durante la Década 1977-1986. Mimeograph. [México, D. F.:] n.p., n.d.

Olesen, Virginia, Leonard Schatzman, Nellie Droes, Diane Hatton, and Nan Chico. "The Mundane Ailment and the Physical Self: Analysis of the Social Psychology of Health and Illness." Social Science and Medicine, 30, 4 (1990), 449-455.

Ornstein, Robert and David Sobel. The Healing Brain. New York: Simon and Schuster, 1987.

Ortiz Echaniz, Silvia. Departamento Etnología y Antropoligía Social, México, D. F. Personal interview, August 1989.

Parker, A. "Health Technology and Primary Health Care." Social Science and Medicine, 12 (1978), 29-41.

Pedersen, Duncan and Veronica Baruffati. "Healers, Deities, Saints and Doctors: Elements for the Analysis of Medical Systems." Social Science and Medicine, 29, 4 (1989), 487-496.

Pelletier, Kenneth R. Mind as Healer, Mind as Slayer. New York: Dell, 1977.

PRODUSSEP, A. C. "Nuestras Condiciones de Vida y Trabajo." Panorama de Salud, (September 1988) 1- 9.

Riding, Alan. Distant Neighbors: A Portrait of the Mexicans. New York: Vintage Books, 1984.

Rosenberg, Jay. Linguistic Representation. Boston: Reidel, 1974.

Sartorius, N. "Research on Affective Psychoses within the Framework of the WHO Programme." In Origin, Prevention and Treatment of Affective Disorders. Eds. M. Schou and E. Strömgren. New York: Academic Press, 1979, 207-213.

Sasaki, Yuji. "Nonmedical Healing in Contemporary Japan: A Psychiatric Study." In Culture-Bound Syndromes, Ethnopsychiatry, and Alternate Therapies. Ed. William P. Lebra. Honolulu: University Press of Hawaii, 1976, 241-249.

Schultz, Theodore W. "Nobel Lecture: The Economics of Being Poor." Journal of Political Economy, 88, 4 (1980), 643-648.

Schwartz, Rebecca K., Stephen B. Soumerai, and Jerry Avorn. "Physician Motivations for Nonscientific Drug Prescribing." Social Science and Medicine, 28, 6 (1989), 577-582.

Sethuraman, S. V. "The Urban Informal Sector: Concept, Measurement and Policy." International Labour Review, 114, 1 (1976), 69-81.

Sistema Nacional de Encuestas de Salud. Encuesta Nacional de Salud. México, D. F.: Sistema Nacional de Encuestas de Salud, 1988.

Stedman's Medical Dictionary, 22nd edition, 1972. Quoted in Foss, Laurence & Kenneth Rothenberg. The Second Medical Revolution. Boston: New Science Library, 1987.

Stoeckle, J., I. K. Zola, and G. Davidson. "The Quantity and Significance of Psychological Distress in Medical Patients." Journal of Chronic Disease, 17 (1964), 959-970.

Teegarden, David. "Holistic Health and Medicine in the 1980's." In The New Holistic Health Handbook. Ed. Shepherd Bliss. Lexington, Mass.: Stephen Greene Press, 1985, 14-19.

Ten Have, Henk. "Medicine and the Cartesian Image of Man." Theoretical Medicine, 8, 2 (1987), 235-246.

Velimorovic, Boris. "Region of the Americas." In Traditional Medicine and Health Care Coverage: A Reader for Health Administrators and Practitioners. Eds. Robert H. Bannerman, John Burton, and Ch'en Wen-Chieh. Geneva: World Health Organization, 1983, 222-230.

Vithoulkas, George. "Homeopathy." In Traditional Medicine and Health Care Coverage: A Reader for Health Administrators and Practitioners. Eds. Robert H. Bannerman, John Burton, and Ch'en Wen-Chieh. Geneva: World Health Organization, 1983, 110-115.

Wolf, Stewart. "The Pharmacology of Placebos." Pharmacological Reviews, 11 (1959), 689-704.

WHO/UNICEF (World Health Organization/United Nations International Children's Emergency Fund). Primary Health Care. Report of the International Conference on Primary Health Care; Alma-Ata, USSR, 6-12 September 1978. Geneva: WHO, 1978.

World Tables, 1988-1989 edition. Baltimore and London: Johns Hopkins University Press, 1989.

APPENDICES

APPENDIX A

CONSUMER PRICE INDEX FOR MEXICO*
(Base month: July 1987)

MONTH	INDEX	AUGUST 1989 INDEX/ CURRENT MONTH INDEX
July 1983	.1034	25.6760
July 1984	.1701	15.6079
July 1985	.2305	11.5180
July 1986	.4283	6.1987
July 1987	1.0000	2.6549
August 1987	1.0817	2.4544
September 1987	1.1153	2.3804
October 1987	1.2487	2.1261
November 1987	1.3473	1.9705
December 1987	1.5467	1.7165
January 1988	1.7864	1.4862
February 1988	1.9347	1.3723
March 1988	2.0338	1.3054
April 1988	2.0964	1.2664
May 1988	2.1369	1.2424
June 1988	2.1796	1.2181
July 1988	2.2167	1.1977
August 1988	2.2367	1.1870
September 1988	2.2501	1.1799
October 1988	2.2681	1.1705
November 1988	2.2976	1.1555
December 1988	2.3458	1.1318
January 1989	2.4021	1.1052
February 1989	2.4357	1.0900
March 1989	2.4625	1.0781
April 1989	2.4994	1.0622
May 1989	2.5344	1.0475
June 1989	2.5739**	1.0315
July 1989	2.6141**	1.0156
August 1989	2.6549**	1.0000

*Derived from monthly C.P.I. data from Review of the Economic Situation of Mexico, published by Banamex (1985-1989).

**Estimated on the basis of the average monthly rate of change from January through May 1989.

APPENDIX B

PRODUCER PRICE INDEX FOR MEXICO*
(Base month: January 1987)

MONTH	INDEX
January 1987	1.0000
January 1988	2.8480
January 1989	3.3683
February 1989	3.3952
March 1989	3.4359
April 1989	3.4977
May 1989	3.5257
June 1989	3.5751**
July 1989	3.6252**
August 1989	3.6760**

*Derived from monthly P.P.I. data from Review of the Economic Situation of Mexico, published by Banamex (1987-1989).

**Estimated on the basis of the average monthly rate of change from January through May 1989.

APPENDIX C

PRICES FOR 22 SPIRITUALIST TEMPLE PRESCRIPTIONS *

Collected in Mexico City
August 1989

	PRESCRIPTION	PRICE (in August 1989 pesos)
1.	9 lemons	160
2.	3 packets of sal de uvas	1,000
	TEA: (to be taken 7 mornings)	
	flower of azares	1,500
	flor de tilia	1,500
	flor de junco	2,000
	flor de magnolia	1,000
	MASSAGE:	
	red flowers	1,000
	alcohol [rubbing]	4,020
		12,020
3.	a laxative [e.g. sal de uvas]	1,000
4.	yerba mora	1,000
	3 drops of Tri-Vi-Sol	2,953
		3,953
5.	bottle of Sal Hepatica	
	[discontinued; use sal de uvas]	1,000
	orange juice	2,440
	INJECTIONS:	
	1 ampule of penicillin of 500 mg	
	2 cm of penicillin in a.m.	
	2 cm of penicillin on Friday	
	2 cm of penicillin on Sunday	27,316
	TEA:	
	root of malva	1,000

	root of verbena	1,000
	root of yerba del negro	1,000
		33,756
6.	[very common prescription for susto]	
	TEA:	
	ruda	3,000
	romero	3,000
	2 drops of ether	
	[substitute 2 tabs]	350
	BATH: (twice a day)	
	7 branches of romero [see above]	
	7 branches of ortiga	1,000
	7 branches of ruda [see above]	
	7 branches of arbol de pirul	3,000
	1 cup ammonia	2,480
	MASSAGE:	
	agua safalica	
	agua sedativa	
	espiritus de untar	
	[substitute Nivea cream]	7,290
	rubbing alcohol	4,020
		24,140
7.	[to wash post-operative wound]	
	3 leaves of aranto	750
	1 piece of flor de arnica	350
	9 drops of clarisol	
	3 drops of salt in 7 drops of vinegar	
	sulfatiasol [no longer in use]	
	[substitute albothyl solution]	5,088
	TEA:	
	yerba marota	1,000
	1 piece of sangre de dragon	2,000
	flor de noche buena	5,000
		14,188
8.	Viotalidina	5,087
	TEA: (for mother, 3x/day for 7 days)	
	1 liter water	
	pinch of boldo	750
	cuasia	1,500
	aranto leaves	1,500

3 pieces of artichoke	3,000
contra yerba	1,500
inojo	1,500
3 leaves of manrrubio	250
anis de estrella	1,500
canela	2,225
anis de magnesia anisada	1,500
TEA: (for baby)	
3 flowers of bugambilia	750
oregano chico	2,000
yerbabuena	500
	23,562

9. kitchen oil

TEA:	
oregano chico	2,000
1 leaf of guayaba	750
flor de 7 colores	1,500
3 flowers of plumbago	750
anis de estrella	1,500
Sulfadiasina (antibiotic)	1,201
Enterovioform [discontinued; substitute Kaopectate]	1,588
	9,289

10.

TEA:	
albacar	1,000
azares	3,000
inojo	3,000
ITEM TO CARRY IN POCKET:	
a red flower	1,000
	8,000

11.

COUGH SYRUP:	
arbol de pirul	3,000
3 cloves of garlic	600
1 spoon of honey	4,270
lemon juice	500
	8,370

12.	TEA: (3x/day)	
	water from hipazote	3,000
	mint	1,000
		4,000
13.	MASSAGE:	
	belladona	3,000
	creams made of lettuce, apples, and oranges [substitute Nivea cream]	7,290
	TEA:	
	1 liter of water	
	4 roots of malva	500
	4 roots of endivia	2,500
		13,290
14.	small bottle of Phillips	
	Milk of Magnesia	3,930
	MASSAGE:	
	1/2 liter of rubbing alcohol	4,020
	8 pills of alcanfor	12,200
	ruda	3,000
	neovina cream [Nivea cream]	7,290
	1 bottle of Mefezolidina (anti-rheumatism muscle relaxant; take 3x/day before meals)	5,796
	MASSAGE:	
	90-proof alcohol [tequila]	7,825
	20 heads of garlic	4,000
	DRINK:	
	20 drops of alcohol [see above]	
		48,061
15.	TEA:	
	arbol de pirul	3,000
	ambar	2,000
	almonds	2,955
	romero	3,000
	ether pills (take for 3 days)	2,100
	MASSAGE: (for cerebro) massage lotion prepared from 3 separate lotions [use Nivea cream]	7,290
		20,345

16.	Milk of Magnesia (every 3rd day, for 3-yar old boy)	3,930
17.	7 branches of romero	1,500
	7 red flowers	1,000
	7 jarilla	1,500
	TEA: (1 cup 3x/day)	
	1 bottle of port [substitute vino tinto]	5,196
	anis del chiquito	1,500
	flor de azares	1,500
	flor de tilia	1,500
	flor de manita	1,500
	7 leaves of naranjo	500
		15,696
18.	TEA:	
	flor de azares	1,500
	huizaches	2,500
	flor de manita	1,500
	jarilla	1,500
	1 bottle of vitamin tonic	2,592
	MASSAGE:	
	1 cup of mescal	5,000
	white wine	5,196
	ruda	3,000
	FOR THE HOUSE:	
	a cross of rosemary	3,000
		25,788
19.	no prescription	
20.	a very hot bath every morning	
	TEA:	
	1 avocado pit	500
	1 handful of santa maria	500
	1 handful of arbol macho	3,000
	1 bar of chocolate	1,242
	1 handful of hipazote	1,500
	1 handful of romero	1,500
	unrefined sugar	
	BATH: (4 baths every 3rd day)	
	arbol macho [see above]	
		8,242

21.	10-ml. vial of Neurobion, 2ml. every 3rd day	7,774
	BATH:	
	toronjil	3,000
	albacar	1,000
	ruda	3,000
	rubbing alcohol	4,020
	MASSAGE: (face)	
	3 types of vegetable creams said to be made of oranges, lettuce, and apples [use Nivea cream]	7,290
	EYE WASH:	
	black tea in 1/2 liter of water	1,660
	TEA:	
	flor de tilia	3,000
	flowers of azares	3,000
	toronjil	3,000
		36,744
22.	1 tbsp Passiflorine (a tranquilizer) with 1/2 glass of tea	2,300
	TEA: (1/2 glass 3x/day)	
	azares	3,000
	flor de manita	3,000
	flor de tilia	3,000
	MASSAGE: (cerebro)	
	lotion de caballoro [use Nivea cream] and lemon juice	7,790
		19,090

AVERAGE COST PER PRESCRIPTION: 15,165 August 1989 pesos

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* These are 22 randomly selected prescriptions taken from Spiritualist Healers in Mexico, by Kaja Finkler (1985:91-108).

NOTES ON ASSIGNING COSTS TO PRESCRIPTION ITEMS:

1. Vendors at Sonora Market quote "unit" prices in round numbers: e.g. 1,000, 2,000, 3,000, 5,000 pesos. Customers can ask for a fraction of a "unit;" a lot of tea can be made with the contents of a "unit" bag. For the above

prescriptions, the "unit" price was assigned unless the prescription calls for four or more types of herbs (or roots, branches, etc.) for a tea (use 1/2 of the "unit" price), or if the prescription calls for a stipulated small amount (e.g. a pinch, 3 flowers of, one leaf, one piece) of the ingredient (use 1/4 of the "unit" price).

2. Herbs for which prices were not found (i.e. aranto, anise de magnesia anisada, flor de 7 colores, anise del chiquita, and rosemary) are assigned the most prevalent price for herbs: 3,000 pesos; "red flowers" are assigned the price of 1,000 pesos.

3. Costs were ignored for simple household items used in the prescription in small amounts (i.e. cooking oil, vinegar, unrefined sugar, salt) and for water.

APPENDIX D

COSTS ASSIGNED FOR SALUD HOSPITAL

The majority of patients at Salud Hospital are provided primary care via the outpatient clinic (Finkler: anticipated 1990). The only appropriations listed for general outpatient care are for IMSS, ISSSTE, IMSS-COPLAMAR, and DIF. Similarly, the number of general outpatients accommodated are reported for IMSS, ISSSTE, and IMSS-COPLAMAR but not for SSA.

Salud Hospital, a modern urban hospital of national reputation for providing excellent health care, closely remembles facilities run by IMSS and ISSSTE as opposed to those run by IMSS-COPLAMAR (which serves remote rural areas). SSA's facilities are, however, considered poorer than those operated by IMSS and ISSSTE (Finkler 1990). Nevertheless, it seems safe to make the following assumptions: 1) that treatment methods and kinds of inputs employed at Salud Hospital are comparable to those employed at IMSS and ISSSTE hospitals; and 2) that general outpatient treatment at Salud Hospital is neither more nor less effective than general outpatient treatment at IMSS and ISSSTE facilities. Upon these premises, the average total cost (excluding prescription) of treating one patient in a general outpatient clinic of an IMSS or ISSSTE facility will be considered representative of the average total cost to another major government hospital (Salud) in Mexico City to provide the same type of service.

APPENDIX E

AVERAGE PRICES FOR 136 MEDICATIONS AND HERBS AMONG THOSE MOST PRESCRIBED BY PHYSICIANS*

(expressed in August 1989 pesos)

DRUG NAME**	AVERAGE PRICE
MEDICATIONS:	
Adalat	14,866
Adekon	2,841
Adiro	2,935
Aflamina	14,406
Afrinex	2,163
Albothyl	4,667
Ampicilina	6,167
Anafranil	18,127
Anerex	6,829
Angioverin "100"	3,613
Anistal	9,608
Aralen	3,001
ASA 500	3,983
A. S. Cor	2,124
Ascriptin	2,801
Autrin	5,086
Bedoyecta Tri	3,611
Beplex 50 Comp	7,949
Beserol	3,587
Binotal	5,441
Bipasmin	6,318
Bremagan	13,588
Bricanyl	7,199
Brispen	3,363
Buscapina	4,215
Buscapina Compositum	6,945
Butazolidina	3,108
Canesten	6,770
Cataflan	6,065
Cevalin	6,164
Cholipin B	4,140
Cimetase	8,494
Cimetidina	7,715

Cloranfenicol	4,880
Cloro-Trimeton	737
Complan	11,483
Corpotasin	4,982
Darvon Simple	2,341
Datril	2,179
Debridat	7,823
Diane	16,654
Diazepam	1,032
Diciclomina	1,239
Dimetapp	1,394
Dolo-Tiaminal	4,772
Dulcolan	2,907
Duracef	14,576
Ectaprim	4,844
Effortil	9,745
Eradacil	19,258
Espasmotex	1,969
Espaven Enzimatico	2,459
Euglucon	3,066
Eugynon	6,930
Extracto de Higado	1,573
Facicam	9,485
Febrax	7,919
Fersamal	1,263
Flagenase	5,630
Flanax	11,510
Flumil	3,671
Furomicetil Cloran	8,037
Furosemida	3,837
Garamicina	2,748
Garasone	1,839
Glyvenol	15,629
Gutron	10,380
Hemestal	6,754
Hi-Dex	4,546
Higroton	9,799
Ilosone	9,782
Inerfor	7,188
Insogen Plus	14,071
Italviron	2,703

Kantrex	2,944
Kaomycin	5,218
Kaopectate	3,001
Levadura Preparacione	6,608
Libertrim	9,801
Lincocin	5,928
Mebendazol	1,741
Mecoten	3,291
Mellitron	7,349
Melox	2,875
Melox Plus	1,392
(Phillips) Milk of Magnesia	3,930
Meticorten	4,060
Metrodinazol	2,428
Metrofur	3,179
Minocin	16,150
Motrim	15,605
Mutabon	5,260
Naxen y Naxen 500	24,893
Naxodol	14,511
Neurobion	7,774
Novotiral	5,073
Onoton	5,133
Ossopan	14,602
Pacitran	1,672
Panclasa	4,344
Pankreoflat	6,549
Paraxin	4,615
Penamox	9,290
Penicilina	6,101
Penprocilina	2,296
Pentrexyl	2,475
Pirimir	1,205
Posipen	3,302
Pramisan	3,396
Prodolina	3,353
Protevit	12,115
Qual	3,228
Quiedorm	13,255

Ranisen	16,180
Remisarandion	2,023
Robaxifen	5,794
Robaxisal	4,692
Salmocide	3,592
Synalar	1,690
Tempra	3,203
Tenormin	17,885
Tesalon	4,644
Tiaminal B12	6,624
Tiofeniclin	6,249
Tri-Vi-Sol	2,953
Vagitrol	4,408
Valpine 20	6,598
Venalot Depot	10,620
Ventolin	2,571
Vertisal	5,304
Voltaren	13,584
Wingel	4,122
Wintomylon	12,280
HERBS:	
Arnica	3,000
Boldo, te de	3,000
Tilia, te de	3,000

AVERAGE COST PER PHYSICIAN PRESCRIPTION ITEM: 6,658 AUGUST 1989 PESOS

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*The above 133 pharmaceuticals and herbs are those for which prices were found among those listed by Kaja Finkler as most prescribed by physicians. Most of the quoted prices were gathered from a collection of 39 recent retail price lists from 38 different pharmaceutical companies obtained from a pharmacist in Mexico City. Pharmaceuticals typically come in multiple forms (e.g. tablets, capsules, suspension, injection), dosages, and quantities. The average prices reported above reflect the average retail price among those obtained for the various manifestations of the particular drug. Herb prices were obtained from vendors at the Sonora Market in that city.

**Extracted from untitled mimeograph by Kaja Finkler (1989a).

APPENDIX F

SYMPTOMS PRESENTED BY TEMPLE "SUCCESS"

PATIENTS* (N = 28)

Patient #	Symptoms
1	No appetite; fever; stomach-ache
2	Stomach pains; no appetite; insomnia; anger
3	Stomach pains; hands and feet; headaches; sleepy and lazy
4	No appetite; nausea
5	Stomach pain; feet, hands numb
6	Frightened in sleep; dead grandfather appears to patient; teeth tremble; loss of appetite; cries at night
7	Right arm numb; pain in back and cerebro
8	Stomach pain; cannot breathe; nausea; loss of weight; sleepy; angry
9	Itching inside body; feeling lazy; sleepy; angry; stopped working
10	Wakes up and trembles and talks at night
11	Pain from waist down; legs swollen; lungs hurt; restlessness; sleeplessness; headache; constipation; frequent urination
12	Womb infection; throbbing in stomach; burning sensation in vagina
13	General lethargy; underweight

14	Severe pain in stomach; stomach distention; excretion of worms
15	White spots on skin; itching
16	Pimples inside mouth, lips, throat; fever
17	Pain in chest, heart; nerves; ache in cerebro, waist; pain in feet; feels tired; no appetite
18	Pimples in throat; diarrhea; slight fever
19	Pain in stomach; fever
20	Pain in feet; stomach distended
21	Nerves; pain in stomach and distended; nightmare; insomnia, headaches
22	Constipation
23	Vaginal secretion
24	Diarrhea; vomit; no appetite
25	Pain in kidneys [this symptom remained] and legs; nerves; choking feeling; headaches; nausea
26	Tired; no appetite; could not raise arm; fingers swell
27	Light cough; born with two teeth
28	Paralysis from waist down

*Adapted from Spiritualist Healers in Mexico, by Kaja Finkler (1985:140-144).

VITA

Bonnie Jean Lenihan was born in Chicago, Illinois on November 11, 1947. She attended elementary schools in that city and was graduated from St. Scholastica Academy in June 1965. The following September she entered Loyola University of Chicago, and in June 1969 she received a Bachelor of Science degree in Psychology. In September of that year she began studies at the University of Chicago, School of Social Service Administration, from which she graduated in June 1971 with a Master of Arts degree in Social Work.

From that time until September 1984, she worked in Chicago and St. Louis providing direct treatment, training, supervision, consultation, and administration in the field of social work. The primary locus of her work was the field of mental health. She began graduate studies at Western Illinois University in September 1984 in order to add an economics perspective to her social work experience. In August 1985 she graduated with a Master of Arts degree in Economics. She embarked upon further graduate studies in September 1985, at the University of Tennessee, Knoxville. She received a Doctor of Philosophy degree in Economics in August 1990.