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THE UTILIZATION OF HEALTH CARE SERVICES IN TWO COSTA RICAN COMMUNITIES

By

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A DISSERTATION

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DOCTOR OF PHILOSOPHY

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ABSTRACT

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The relative impacts of two health care delivery approaches are examined using interview data from two Costa Rican rural communities. Responses to a comprehensive and to a clinic-based health care programs are analyzed by focusing on the preventive and curative health care utilization behavior of 239 randomly sampled households. Following a conceptual framework of the health care system as an intervening variable to the use of services, utilization behavior is examined as a dependent variable relative to the system of care, and as an independent variable viewed in relation to health status.

The following hypotheses are explored:

1. Selected socio-demographic variables are predisposing factors to households' use of health care services. Specifically, large, highincome households which are geographically nearer the health center, whose children attend school and are members of health-related associations, tend to use more preventive and curative health care services.

2. The use of preventive health care services among households served by the comprehensive health care program will be greater relative to those served by the clinic-based model.

3. Greater use of preventive health care practices will lead to better health status.

Income has no differential impact on households' use of preventive care. However, income affects curative care particularly of low income

households who tend to use more of it. Distance, membership and school attendance are positively related to preventive health care utilization but not to the use of curative care. On the other hand, size of household is directly related to the use of both preventive and curative care measures.

The clinic-based model serves more high users among high income households. On the other hand, the proportion of high level users among low income households under the comprehensive program far exceeds high users with high income under the same program. Nevertheless, the clinic-based program is patronized by proportionally more high users irrespective of distance, household size, membership status and school attendance.

Contrary to the hypothesis, high utilization does not generally correspond with high health status. The exception to this are households under the clinic-based program with high income and whose children may or may not be in school; majority of whom are high users with high health status. It is therefore suggested that households cannot bypass utilization and still have better than average chances of attaining high health status, unless other factors contributory to health status are in their favor.

In general, the study confirms in part and rejects in part the theoretical framework and aspects of the literature reviewed. Its policy implications for a health care delivery system that would have relevance for Costa Rica in particular and similar Third World countries in general are indicated as are its implications for future related researches. Dedicated to my parents,

Dr. AGATON P. and CALENICA PAL who paved the way

so that the generation of my children ANTON and KARINA PAL-MONTANO may hopefully have a little more to add into.

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Chapter I

THE RESEARCH PROBLEM

Background to the Study

The emphasis often made on the lack of material and manpower resources to meet basic health care needs in many underdeveloped countries has generally overshadowed attention to an equally important yet paradoxical phenomenon: the widespread under-utilization of these resources by the very persons and communities who are anticipated to benefit most from their use (Djukanovic and Mach, 1975). The reasons advanced for this behavior have varied, ranging from those which underscore socio-cultural characteristics in the population, to those focused on problems of information and access, and to still others which seek answers in the health care delivery organization itself.

Attempts to explain under-utilization of health care services in underdeveloped countries from a provider focus have not been very common, however. The health care systems in many of these countries have been closely patterned after the health care models that have been developed in response to the health care needs of the Western industrialized world. It has been generally assumed that the same set-up would be just as relevant in less developed countries.

Developments over the last decade, however, have prompted some rethinking of this premise. These has been increasing awareness of the basic differences between underdeveloped and industrialized countries

in levels of available capital and manpower resources. Differences in composition and location of the population and in disease patterns have similarly come into focus. These differences accordingly dictate the need for approaches to health care that differ markedly for these countries (Gish, 1976). Health care schemes designed in consideration of local health needs and resources have consequently evolved as alternatives to the mainly curative and capital intensive orientation to care in underdeveloped countries.

Statement of the Problem

This study focuses on one such alternative health care model in Costa Rica. Specifically, it examines the impact of a comprehensive health care program on the health care utilization behavior and health status of rural Costa Rican families.

The "comprehensive" nature of the program, a label used by those involved in it, stems from the fact that relative to the health care delivery program in an adjacent community, it offers a broad spectrum of services - preventive, curative and where called for, specialist care - which are available locally in five primary health care units as well as at a hospital complex some 12 to 13 miles away in another community. Health care at both service points are free, that is, rendered at no direct cost to patients.

The responses of households in the immediate community to the comprehensive program's preventive and curative health care services are analyzed relative to those of families in the adjacent community. The latter is served by a different health care model which had been established several years earlier. The analysis follows a conceptual framework which attempts to build on previous related works pertaining access

to, and utilization of health care services, in particular those of Andersen's (1968) and Aday and Andersen's (1980). The analytic framework conceives of the health care delivery system as an intervening or in Andersen's (1968) terminology, enabling factor in the use of both preventive and curative health care measures.

The comprehensive health care program and the program serving the adjoining community are administered by two different public (government) health care provider agencies. The Social Security System is in-charge of the comprehensive health care program while the program in the next community is under the Ministry of Health. Accordingly, the different historical origins of the two agencies, a topic which is discussed in a succeeding section, may have also influenced their respective development (Low, 1982a). An egalitarian ideology has accordingly tended to be associated with the Social Security System. The comprehensive health care program's innovative efforts at providing free care irrespective of the recipients' Social Security eligibility status may thus be viewed against this background. In this context, health care is regarded as a right that should be appropriately accessible to everyone needing it.

The Ministry of Health's clinic in the adjoining community also provides free care. However, this is rendered in conjunction with a payment mechanism that is based on the patient's ability to pay. In effect, while services cannot be denied those needing them because of their inability to pay for the same services, persons or families who have been determined as capable of shouldering a portion if not the full amount of charges are expected to share the financial budern accordingly.

The study also explores, other than the system itself, factors which might be related to families' health care utilization behavior: these are

socio-demographic, geographic or personal. The effect of specific utilization behavior on health status are noted, by the use of indicators. In sum, given the range as well as structure of services that people can avail of under each program, and given the variety of health care needs in the community, the hypotheses advanced are that: people respond more positively to a comprehensive model of care than to a more conventional model, and that the increased utilization of health care services within the context of the former leads to improvement in health status.

Setting of the Study

In the succeeding section, at attempt is made to place the study in context. A general socio-demographic description of Costa Rica and an overview of its health care delivery resources are therefore presented. Following these is a descriptive comparison of the two health care delivery models whose utilization by a random sample of rural Costa Rican families the present study is concerned about.

<u>Costa Rica: Some Socio-Demographic Characteristics</u>. Costa Rica comprises one of five countries in Central America. Separated by a 186-mile boundary with Nicaragua to the northwest and a boundary with Panama to the southeast which stretches 225 miles long, Costa Rica occupies a land area of 19,883 square miles. The country's surface distance across the land varies from its widest point of 174 miles to 75 miles at its narrowest tip. Towards the west, Costa Rica's irregular Pacific coastline extends 635 miles. Eastwards towards the Carribbean sea, the coastline stretches up to a length of 133 miles (Carpenter, 1971; Lundberg, 1976).

Costa Rica stands out among its Central American neighbors in a number of socio-demographic characteristics. For one, it has the lowest birth

rate and the longest life expectancy rate in Central America. Its population in 1977, when data for the present study were gathered, was 2.1 million (Kane and Meyers, 1978). A population planning program, remarkably successful in a country that is predominantly Catholic, has curbed the nation's birth rate from 37 in the 1960s to 29 towards the second half of the 1970s (Waisanen and Durlak, 1966; Kane and Meyers, 1978). The country's life expectancy at birth of 68 years, besides being higher than those of Nicaragua, Honduras, Guatemala and El Salvador, is six years more than the average for Latin America.

Moreover, Costa Rica is considered to be relatively better-off in other related aspects. The country's Gross National Product (GNP) per capita in 1977, was one and a half times greater than Nicaragua's (US\$1,240 vs. US\$830), the country with the second highest GNP per capita among the five Central American states. Evaluated in terms of a Physical Quality of Life Index (PQLI) which rates how successfully a country has provided "specific social qualities to its population", Costa Rica similarly tops Nicaragua, Honduras, Guatemala and El Salvador, leaving behind by 21 points the second ranked PQLI scorer among the five Central American countries (Morris, 1979, p. 96).

Costa Rica particularly differs from its Central American neighbors in its possession of a nearly universal literacy rate. School attendance is compulsory up to the sixth grade, and practically everyone enters the first grade. However, it is important to point out that majority never go through the fourth grade. Only 21% of those entering the first grade successfully complete the sixth grade (Denton, 1971). Based on observations in a rural Costa Rican community, Grant (1975) explains:

Almost half of the school children attend sporadically or not at all during the last several years of school... More commonly, children

of poorer households are kept home increasingly as they grow older; the girls help with the household chores, particularly the care of younger siblings, and the boys help with agricultural work" (pp. 154-155).

Despite the generally high drop-out rate, 90 to 95% of the population who are 10 years old and older can read and write.

In racial and ethnic composition, the country's population is homogeneous. Ninety-seven percent are white. Blacks comprise 2%, and the remaining 1% are Indians, Orientals, etc. Except for blacks who also speak an English dialect, Spanish is the language that is used by practically everyone.

Except for some of Italian and a few of German ancestry, majority of Costa Rica's white population are descended from waves of Spanish immigrant families. A colony of Spain for over three centuries (1502-1850), 50 families from the Iberian peninsula were accordingly already settled in the area as early as 1573.

Included among the white population are Spanish-Indian mestizos (i.e., of mixed parentage). Whites and mestizos were however treated as two separate racial categories in the country's population census of 1927 (Stephenson, 1965). Estimates on the present proportion of Costa Rica's mestizo population vary from the high 40s to slightly over 50%, up nearly fourfolds from the 14% figure in 1927. The country's mestizo population never approached the high proportion comparable to those in Nicaragua or Guatemala or in such Latin American countries as Mexico or Peru.

Unlike the Spanish colonists in Mexico or Peru, those in Costa Rica were not as successful with the slavery system. The indigeneous Indian population in what early Spanish <u>conquistadores</u> had labelled <u>costa rica</u> (rich coast), was small, "scattered (and) lacked unity..." (Biesanz and Biesanz, 1945, p. 5). The presence of the colonizers drove them further

into the hinterlands. Those left behind were assigned to specific <u>pueblas</u> (villages), apportioned among the settlers and forced to work as fieldhands. The native population, however, did not generally adapt to their enforced circumstances. They "died out rapidly... by 1741 there were only one-third as many as at the time of the discovery" (Biesanz and Biesanz, p. 6).

Blacks in Costa Rica are generally descendants of Jamaicans brought to the country in the 1880s. The opening of tropical jungles in what are now the railroads from Limon to San Jose to Puntarenas on the Pacific side heavily depended on these immigrant laborers. Linked with the construction of the railroads were the banana plantations which similarly relied on black labor.

Still presently concentrated in the province of Limon, blacks at one time were legally restricted from settling elsewhere outside the province. Evidence of their assimilation, however, have been noted by observers over the years. Intermarriages into the larger population, according to Stephenson (1965), may partly explain the decline of the black population from 4 to 2% between 1927 and 1950. Relatedly, Denton (1971) also notes that "although it is still difficult for a Negro to get a job in the central plateau... in the long run this group will be assimilated" (p. 12).

The relative absence throughout most of its history of a group that is physically distinguishable from the larger population has accordingly led to the absence in Costa Rica of "definite classes based largely on color prejudice" (Biesanz and Biesanz, 1945, p. 6). It should be mentioned, however, that until 1973 when all racial immigration restrictions were lifted, the country at various times had enacted laws banning the

entrance of specific ethnic categories (i.e., Arabs, Turks, Syrians, Armenians, Gypsies and European Jews) and encouraging settlers from North and Central America (Creedman, 1977). On the whole, however, observers note that racial, linguistic and regional factors have not importantly affected the country's integration. Moreover, while class distinctions do exist, they are not as rigid nor as pronounced by Central or Latin American standards (Creedman, 1977; Denton, 1971; Goldrich, 1966).

Costa Rica's colonial experience may be considered unique among countries formerly ruled by the Spanish crown. This came about through related developments. Costa Rica as a colony was neglected and relatively isolated from the central colonial administration in Guatemala. Lack of manual labor power generally left its fertile soil and mineral resources uncultivated and untapped. Throughout most of its colonial history, the country thus acquired the reputation of being poor.

The country's physical isolation also left it in intellectual isolation. Books were not only generally unavailable, but "forbidden except for a few printed in Spain" (Biesanz and Biesanz, 1945, p. 7). The revolutions which rocked other colonies, eventually leading to their sovereignty, did not generally touch Costa Rica. "Isolated..., living in poverty, tranquility and ignorance... On more than one occasion before 1821... they, in fact declared their solidarity with Spain" (Biesanz and Biesanz, p. 8). Political independence from the mother country in 1850 came to it "without effort or bloodshed" (Biesanz and Biesanz, p. 9). "Independence was not won by Costa Rica; it was dropped into her lap" (Jones, n.d., as quoted in Biesanz and Biesanz, p. 9). This experience may have freed Costa Ricans from the "ambivalence" that dominated populations often have in their attitude toward former colonial masters.

Unlike the soldiers sent by Spain to inhabit and "protect" most other colonies, Costa Rica's early Spanish settlers comprised entire families. The absence of sufficient native labor to work the fields as earlier cited, meant that the colonists-families had to literally cultivate their own farms. This discouraged the growth of the very large landed estates that were and are still to be found in other Central and Latin American countries. This development also led to the emergence over time of "a class of yeomen farmers... which had vital consequences for the development of Costa Rica's democratic tradition" (Creedman, 1977, p. x).

Land-ownership in Costa Rica is widely distributed. In a 1963 survey, 76% out of a total of 64,721 <u>fincas</u> (farms) were cultivated by the farm owners themselves. More recent studies note a decline in the ownership distribution of agricultural lands (Gray, 1982; Lundberg, 1976). Nevertheless, the situation generally "is not so acute" as in those of neighboring Central or some Latin American countries (Denton, 1971, p. 15).

However, while land is widely held, "the average person has very little" (Lundberg, 1976, p. 222). Denton (1971) describes Costa Rica as "characterized by a large number of very small landowners who contribute little or nothing to the national economy..." (p. 15). Farming plots considered too small to be economically viable (i.e., farms under 17 acres according to the Costa Rican Institute of Land and Colonization, n.d.), rural households produce just about enough food commodities for their immediate needs. This subsistence livelihood is supplemented, where available, with seasonal work on larger farms (Denton, 1971). Employment on large farms and ranches usually bring in a daily wage of less than US\$2 (Gray, 1982).

Large- and medium-sized agricultural operations of from 50 to 1,000 and over 1,000 acres, respectively, principally grow cash crops such as

coffee, bananas and sugar for export. The few really large estates in the thousands of acres are ranches raising cattle, also for export. While bringing in needed foreign exchange, this international market orientation has had negative side effects. A Hunger Project fact-finding mission to Costa Rica reports:

Because bank loans have been directed largely to agricultural producers raising commodities for export, the small farmer producing food crops have been neglected... During 1981... the government found it necessary to spend over \$37 million to import rice, corn, beans and cattle feed, all of which could have been produced locally" (Gray, 1982, p. 5).

This bleak development has not gone on unheeded, however. The February 8, 1982 election of Costa Rica's new President, Luis Alberto Monge, came in the wake of a presidential campaign emphasizing a broad program of agricultural reform. In a newspaper interview, Monge expounds on his "Back to the Land" program as "a global vision of the country's potential... (it) includes education, health, energy and... animal husbandry and agricultural development" (<u>A Shift in the Wind</u>, May 1982, p. 8). A major component of the program would be to change the lending policies of the National Banking System "in favor of the samll and medium scale farmer" (p. 8).

The impact of land on various aspects of Costa Rican life cannot be over-emphasized. Despite the trend towards increasing urbanization, Costa Rica retains a basically agrarian economy. Its principal exports are derived from the agricultural sector. Nearly half of its total labor force is devoted to the growing of crops for international and domestic consumption. Land-ownership remains the "very basis of economic position and indirectly, political power" (Denton, 1971, p. 18).

Access to land (i.e., either owned, rented, borrowed or share-cropped), could mean sheer physical survival for a family. Grant (1975) advances

the following conclusion from his study of diet and nutrition among rural Costa Ricans:

The dietary intake of individual Costa Rican children is determined, basically, by access to land by the child's household... The basic variable of land in turn affects domestic income and expenditure, patterns of child care, and the health environment of children" (p. 2).

In a region that has been intermittently raked by repression and revolution, Costa Rica has maintained a relatively stable democratic presidential form of government. Executive, legislative and judicial branches are separate, in both theory and practice. Unusually rare in the region, Denton (1977) also notes that relative to its size, the country's elaborate system of checks and balances, can have its detrimental effect on the institution of change. He observes: "Each of the branches of the government is quite capable of checking the others if they attempt to innovate or change very much in their environment" (p. 43).

Costa Rica's president is popularly elected to a four-year term. Unless one had served as a President of the Republic prior to 1966, re-election to the same office is constitutionally prohibited. Members of Costa Rica's unicameral legislative assembly are elected to similar four-year terms by the country's seven provinces through a system of proportional representation. A legislator (<u>diputado</u>) can seek re-election to the same office only after an intervening period of four years. Justices of the Supreme Court, on the other hand, are appointed by the legislative assembly. Serving staggered eight-year terms, the 17 justices' re-appointment are usually automatic unless the legislative assembly through a two-thirds vote of its entire membership elects otherwise.

It has been noted that "if the judiciary of the eighteen Hispanic nations could be arranged on a continuum according to independence,

authority, prestige, and other indicators of an effective judiciary, Costa Rica would rank very high on the scale" (Stephenson, 1965, p. 93). Compared to the chief executives of the same countries, however, the Costa Rican president does not wield as much power. Ten appointive ministers, one of whom for health, share executive power with the president through a Council of Government (<u>Consejo de Gobierno</u>). Moreover, while possessing final authority on many matters, the president does not have widespread decree authority.

On the other hand, the Republic's legislative assembly exercises greater policy-making power than do corresponding legislative bodies of most Central and Latin American countries (Stephenson, 1965). Both the executive and legislative branches can initiate legislation; but the powers to enact, amend or repeal laws rest solely with the legislature.

One prominent aspect of Costa Rica's governmental machinery is the existence of semi-independent agencies, otherwise known as autonomous institutions. They are the country's "main problem-solving apparatus" (Denton, 1971, p. 42). Organizationally under the executive office, they are empowered by the legislative assembly to "assume specific developmental or technical tasks" (Denton, p. 42). Their boards of directors are appointed by the president for periods ranging from four to six years. Appointments of managerial and similar governing officers have also to be confirmed by the executive office. Once confirmed, the president cannot remove appointees from their position.

Some 28 autonomous agencies pursue programs that are national in scope. These agencies were created to initiate change or development in a "'nonpolitical' manner" (Denton, p. 42). Their legal existence is commonly backed by "a constitutional guarantee of independence in matters of government and administration" (Stephenson, 1965, p. 88). Accordingly,

their policies and the implementation of the same are the sole responsibility of their corresponding boards and the managing officers and employees respectively. In financial matters, the agencies exhibit varying degrees of independence from the executive office and the legislative assembly. Most have income sources that are independent of either office. In some cases. a given percentage of the government's annual budget is guaranteed towards their operating expenses.

The Social Security System (<u>Caja de Seguro Social</u>) is one example of an autonomous agency whose functions are national in scope. Its current funding, administered by the Costa Rican Social Insurance Fund as mandated in a 1973 legislation, is shared by the employer, the government and the insured person. An insured person who is an employee contributes 4% of his or her earnings; the self-employed puts in a 9% share. On the other hand, an employer's share amounts to 6.75% of payroll while the government tops it up with .25% of total covered earnings (Social Security Administration, 1980). The Social Security System's appointive seven-member board is composed of two national office holders who represent the State, two representing employers, one medical doctor, one labor union member and one representing professional groups (e.g., lawyers, economists, etc.).

The administration of Costa Rican towns also constitutionally fall under a type of autonomous institution (Stephenson, 1965). Costa Rica, as earlier noted, has seven provinces, each of which has an elective governor (Figure 1). Provinces are made up of <u>cantons</u>, which are in turn subdivided into <u>distritos</u> (districts). Rural districts may be broken fown further into <u>caserios</u> or settlements. There are altogether 80 cantons and 400 districts in Costa Rica. Every province has a principal or central canton which also embraces the provincial capital city



Figure 1. Costa Rica and Provinces

(Creedman, 1977).

The smallest unit of government operates at the cantonal level. This is composed of a municipal council (junta) and an executive officer (jefe <u>politico</u>). Functioning as a municipal corporation, the cantonal government administers local concerns such as road construction and maintenance, water and sanitation services, collection of local revenues and related other local interests.

Municipal council members are elective officials. The head or executive officer of the council is however a presidential appointee who has veto power over ordinances adapted by the council. Any other party with questions over the same ordinances can appeal them to the courts.

Except for municipal councils of central cantons, council membership in all other cantons vary in size. Central cantons, on the other hand, are required to have a minimum of five regular and five alternate members. Alternates participate in council deliberations and assume all other responsibilities of regular members in the latter's absence. Additionally, each district sends in a titular representative and an alternate. While neither can vote, they can have their views heard before the council.

Over-all, today's Costa Rica, while undoubtedly shaped by contemporary challenges, also emerges as a legacy of both its past and more recent history. The country's commitment to a representative and democratic form of government particularly came as an aftermath of the revolution of 1948. From the 1950s on to the 1970s, the ideology generally dominating the political scene has been that of the <u>Partido Liberacion</u> <u>Nacional</u> (PLN). One of PLN's founders, Jose Figueres Ferrer, an avowed social democrat, is also generally recognized as the undisputed hero of the 1948 revolution. The PLN has basically subscribed to the belief

that "in the case of underdeveloped countries, the government must be the principal solver of problems for the society as a whole" (Denton, 1971, p. 32). The PLN has simultaneously demonstrated a "remarkable concern for civil liberties..." (Denton, p. 34).

Many programs or concerns embodied in legislations passed by a PLNsupported assembly or administration, were however antedated by events which occurred before 1948. The continuing commitment to health and related social selfare programs are illustrative of these. A forerunner to the establishment of the Social Security System, for example, was included in 1943 as one of several amendments to the Constitution of 1871. Besides social security, other "social guarantees" provided by the 1943 amendments included "a minimum wage, an eight-hour day, the right to organize unions and strike, the right of employers to the lockout, collective bargaining, equal wages for the same work between men and women, a special labor court... " (Creedman, 1976, p. 186).

<u>Health Care Delivery Systems</u>. Public health care in Costa Rica began as charity services organized and administered by the Catholic church as early as 1781. Government initiatives in public health concerns evolved later. These were preceded by two significant developments, namely: a growing republicanism following Costa Rica's declaration of independence from Spain in 1821, and the successful experience with coffee as a commercial enterprise between 1830 through 1890 (Low, 1982a). Low sums up the processes unfolded by the latter development thus:

The rapid growth of coffee production concentrated land, once held by a number of small landowners, in the hands of a few families who had the financial backing for the processing and transport of coffee (Seligson, 1980). From this new class emerged the "Generation of 1889," which perpetuated a noblesse oblige tradition through legislative means, establishing universal education and instigating national social reform through public health services. The development of an elite with both economic means and political power

transferred the traditional religious and upper-class concerns of charity, personal security, and welfare ideology to their representatives in the National Legislative Assembly (Stone, 1974, Bell, 1971). This control was maintained until 1935, when the political power of elite descendants was diluted by economic diversification, immigration, and population growth" (pp. 31-32).

The creation of the Social Security System more directly resulted from a "voting compromise" among socialist forces and "vestiges of the elite". Undoubtedly, however, its introduction into the national scene was partly paved by the "tradition of legislative concern with security and welfare" (Low, p. 32).

The Social Security System and the Ministry of Health comprise two major health care provider agencies in Costa Rica. Persons covered by the Social Security program for sickness and maternity care can receive services and related medical benefits in any Social Security System hospital up to a maximum duration of 52 weeks per covered illness. Additionally, the Social Security System can arrange for an insured person's use of services in other health care facilities. These medical entitlements include general and specialist care, hospitalization, medicines, dental, auditory, and limited optometry services, as well as maternity care and appliances at reduced cost. On the other hand, persons without Social Security coverage, may avail of similar services in facilities managed by the Ministry of Health, if not in privately owned facilities.

Besides the medical entitlements cited earlier, Social Security coverage also provides the insured worker with cash benefits for both sickness and maternity care categories (Social Security Administration, 1980). Notwithstanding observations of problems in having employers comply with their legal obligation under Social Security, available estimates show that over half of the country's population are under somekind of Social Security insurance coverage (Caja de Seguro Social, 1971). The scope of the Social Security Program's role as a provider agency may be inferred from the fact that its health services budget has been generally triple the allocation of the Ministry of Health (Jacobstein, 1972). Low (1982b) also notes taht the Social Security System's reserves "are so large that it has become the major internal lender to the national government" (p. 3).

The Ministry of Health provides medical assistance to persons with no Social Security System health care insurance coverage or not insured by the Instituto Nacional de Seguros, an autonomous government agency which sells insurance. Patients at any of the Ministry's 15 hospitals and assorted clinics throughout the country are assessed on the basis of their ability to pay. At Hospital San Juan de Dios, for example, Low reports that out of the total patient intake in a single month (January 1973) "11 percent... paid the full cost of treatment, 53 percent paid a part, and 35 percent paid nothing" (p. 19). A patient's assignment into a particular payment schedule is determined using land and property ownership papers as well as pertinent records of income and related possessions (Low, 1982b).

The ideological differences associated with the origins of the two health care systems have influenced various aspects of their development. Accordingly, the historically egalitarian emphasis identified with the Social Security System and the charity orientations initially accompanying public health services may have correspondingly affected "basic structural and interactional differences in patient and staff behavior..." (Low, 1982a, p. 31). Also contributing to these differences are various aspects of the two agencies' organizational structure and

contrasting payment mechanisms. Low offers the following observation from studying 457 cases of physician-patient interactions in two San Jose clinics respectively administered by the Social Security System and the Ministry of Health: "In the Social Security clinics the consultation is characterized by a difficult and demanding patient and an interpretative and amiable physician. The public health clinic consultation is of a bureaucratic, authoritarian physician and a submissive, shy patient" (p. 42).

In addition to the state-supported health care systems, there are privately owned and administered hospitals and clinics which operate on a fee-for-service system of payment. Most of these are found in the urban areas. It is not uncommon to find medical doctors employed by either the Social Security System or the Ministry of Health maintain private practices during their off hours from public duty. Similarly, patients assume alternating identities as cross-referrals occur between the public and private medical sectors.

A fairly typical route taken by patients studied by Low in San Jose was to avail first of state-run facilities. From here, they may be "later advised to return to the physician's private practice for personal advice and treatment" (pp. 7-8).

The difference in physician-patient interaction in the public and private health care settings lies in the private patient's having greater control over the direction of the encounter. Thus, patients wanting to maintain a similar degree of involvement in the larger staterun medical care institutions often endeavor to do so by first undergoing consultation in a private clinic. Fees charged by private medical facilities are generally higher. Nevertheless, low-income families also use their services especially after referral by their attending doctor

at a state-run facility. In general, however, private hospitals and clinics in San Jose serve the medical health care needs of the "American missionary and wealthy Catholic population" (Low, 1982b, p. 7).

An assortment of lay and folk healing practitioners comprise yet another dimension to the Costa Rican health care spectrum. Their ensuing impact or role in the health care utilization behavior of particular segments of the population offers an interesting point of inquiry in the face of a government plan to fully implement socialized health care in the mid-1980s.

The health care provisions afforded the Costa Rican population by the government have been generally unparalled in Central America. The State owns and operates 86% of all hospitals. The country's public expenditure on health per capita of 12 cents to every U.S. dollar is the highest in the region (World Bank, 1980). Nevertheless, as Table 1 would show, Costa Rica shares more similarities with other Third World countries than it does with industrialized countries like the United States or Japan, in other equally important socio-demographic and health care components.

Costa Rica's public expenditure on health per capita, for example, while earlier noted as better than most in Central America, is very much way below those of the United States' or Japan's (Table 1). As Table 1 indicates, the similarities that Costa Rica has with selected Third World countries, and those with highly industrialized countries like Japan or the U.S., are also reflected in its infant mortality rate, the ratio of available physician to population and in selected mortality incidences from infectious and parasitic diseases.

Despite birth and life expectancy rates that are respectively the lowest and the highest in the region, the country's population, like

Country 19	ban op; (%)å	Crude Birth Rate ^b 1977	Infant Death Rate ^b 1975	Infectious & Pau Deaths per 100,(Entiritis & Diarrhael	rasitic 000 pop.c Other	Public Expenditure on Health per capita (US\$) ^b	Population per Physician ^b
United States	74	15	16	.9(1976)*	2.1	259	610
Japan	72	15	01	2.1 (1976)*	2.3	171	860
Panama ^d	50	31	36	25.6 (1975)*	17.6	19	1,350
Nicaragua	49	45	46			11	1,540
Costa Rica	41	28	38	14.2 (1977)*	9.3	12	1,550
El Salvador	39	39	58			7	3,460
Gu at emala	34	41	75			Q	2,500
Philippines	32	35	72	9.6 (1974)*	26.7	m	3,150
Malaysia	27	29	35			13	5,600
Thailand	13	32	27			5	8,460
() [*] Year f aKane, Tho Bureau, Inc. Was	or wh mas T hingt	ich data . and Pa on, D.C.	are avai ul F. Meyo March 19	lable. ers. <u>1977 World P</u> (978; ^D World Bank	opulation . Health S	Data Sheet of the Pop ector Policy Paper. W	ulation Reference ashington, D.C.,

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TABLE 1

those of many Third World countries, is young. The 1977 dependency ratio was 92 persons under 15 and over 65 years, for every 100 in the economically active ages of 15 to 65 years (Kane and Meyers, 1978).

Costa Rican urbanization, like the process in numerous Third World cities, has generally grown out of rural poverty. The increasing urban poor in Costa Rica according to Denton (1971) are "attracted to the cities not by industrial jobs but generally by the more advanced social infrastructure to be found in these areas..." (p. 10).

The distribution of Costa Rica's health resources, moreover, is not unlike its neighbors' or of many others in the Third World. Particularly, the mismatch between the need and the kind as well as location of health resources, a phenomenon observed by King (1966) in Africa, Navarro (1974) in Latin America and by Djukanovic et al. (1975) and the World Bank (1980) elsewhere in other underdeveloped countries, is equally descriptive of Costa Rica.

Urban Costa Rica, with 40% of the country's 2.1 million population, disproportinately draws some 80% of its medical doctors. Understandably, this means the urban clustering as well of related health and medical care facilities. In particular, the country's oldest and largest medical care facility, namely, the 1,024-bed Hospital San Juan de Dios cited earlier, is in the urban center of San Jose. Situated right next to it is a hospital of about equal size, the country's only chronic-care psychiatric facility, also under the Ministry of Health. Similarly located in San Jose are the two main hospitals of the Social Security System. These health care units, the Hospital Doctor Rafael Angel Calderon Guardia and Hospital Mexico, have a combined bed capacity of 1,218 (Low, 1982a). Low, commenting on the services provided by these urban-based health care institutions, asserts that "each hospital's

desire to have its own facilities to enhance prestige has led to the duplication of specialized units that are underutilized and costly to maintain" (p. 28).

The problematic situation presented by the disparity between the kind and location of available care, and the population needing them, has not been entirely ignored, however. There is increasing awareness both among government health planners and concerned citizens of the need to re-direct the country's health resources away from their traditionally urban bias (Sanchez-Ruphuy, 1977; de Mezerville, 1978). The viability of a health care system that is guided by a philosophy of "health within a national reality" has been particularly proposed as worth examining (Prado-Diaz, Sanchez-Ruphuy and Robles-Areas, 1975, p. 9).

The concept of health within a national reality calls for a restructuring of health care priorities according to the health needs of the general population with resources that the nation can provide. The approach accordingly assumes more urgency in the face of a national intent to implement fully within the next few years, a public mandate of socialized health care for all citizens. The anticipated implementation of socialized health care in Costa Rica basically means that everyone, not mainly insured persons and their immediate families as has been generally the case, will be entitled to free medical and related health care benefits at major hospitals. Given this goal of universal health care, and mindful of the health needs of the general population, the country's pre-occupation with curative and specialist medicine has been judged inappropriate and far from cost-effective.

The solution as some local health planners contend, is not to be found in the creation of more hospital beds to accommodate anticipated increases in those needing them. Rather, the answer lies in a massive attention to

preventive care, commencing at the level of the very communities, both rural and urban, that would benefit from such care (Caja Costarricense de Seguro Social, n.d.). As the same health planners view it, "if we keep the old model, we will not only be absolutely incompetent to fulfill the health needs of the country, but worse than that, we will be bankrupt in one decade" (Prado-Diaz et al., 1975, p. 1).

In lieu of "a medicine centralized in hospitals or urban centers", the proposed alternative therefore has been "an integrated effort in health prevention, social, economical (sic) and psychological development of communities and the rural areas..." (Prado-Diaz et al., p. 2). Specifically, the model attempts to integrate the following emphases:

A preventive approach... to identify and promote health-sustaining and disability prevention factors instead of focusing only on the delivery of services exclusively directed toward health recovery, after the onset of illness or disability.

A community approach which focuses initially on the rural areas, in order to counteract the existing centralization of services in and around the more heavily populated cities.

A cooperative approach... to coordinate the services of different types of health professionals in the health field, as well as community resources, in order to better serve the complex needs of the people in the communities (de Mezerville, 1978, p. 3).

<u>A Program of Comprehensive versus Clinic-based Health Care Delivery</u>. The Comprehensive and the Clinic-based Health Care Delivery Programs whose utilization this study is concerned about are respectively situated in the rural districts of San Antonio and Quebrada Honda. The two are adjacent districts belonging to the canton of Nicoya in the province of Guanacaste (Figures 1 and 2).

One of 11 cantons in Guanacaste, Nicoya has generally been the most populous. The national census of 1973 placed its population at 37,185. Liberia, the province's central canton, had a population of 21,781 for the same period. The province of Guanacaste itself, with a count of


Figure 2. Districts of San Antonio and Quebrada Honda and their Corresponding Health Centers.

178,691 for the same year, ranked fifth in population among Costa Rica's seven provinces.

Long regarded as a frontier territory relative to the rest of the country, Guanacaste is located towards the Nicaraguan border to the north. The province was once part of Nicaragua. In 1824, the people of Guanacaste, prompted by constant civil wars in Nicaragua, voted in a <u>cabildo</u> <u>abierto</u> to join Costa Rica. A cabildo abierto is akin to an open town meeting in which issues are discussed and decided upon. The people's decision was not however accepted by Nicaragua until 1858. Guanacaste presently contributes to the nation's economy by producing the country's third most important export, namely, cattle. The province also grows some coffee as well a variety of fruits, grains and cotton (Creedman, 1977).

The implementation in one of Guanacaste's rural districts of a comprehensive health care delivery model has been in response to the need for affordable but viable or effective alternatives to providing health care services particularly in relatively remote areas of the country. The <u>Programa de Salud Integral y Comunitaria</u> as the health care project in San Antonio is generally known, has therefore been intended as a pilot demonstration of the health care concept earlier explained. Namely, one embodying into its structure and organization the tri-partite emphases on prevention, community and cooperative approaches.

Beginning its operations in 1975, the rural "Community Comprehensive Health Care Program" is sponsored by the Costa Rican Social Security System. Mainly, the program provides for five health centers which are centrally located relative to the population settlements (<u>caserios</u>) throughout the district. The centers function as primary health care units and constitute the community's first point of access to the formal health care structure. Each center is staffed by a nurse, under the

supervision of the comprehensive health program coordinator who is a medical doctor. Also lending supportive services to the centers are some 20 senior medical students from the University of Costa Rica who come two days a month.

In the belief that people should actively participate in their own personal and community's development, citizen involvement in the Comprehensive Program has been widely encouraged from its inception. Particularly, the decision on program structure and emphases was preceded by a community diagnostic survey which was participated by a volunteer staff of local residents who had been trained as surveyors. The resulting survey information became the bases in formulating the following direction and program priorities:

1. Sectioning the entire community into five central areas, taking into consideration each section's combined population and proximity.

2. Health education.

3. Environmental improvement specifically relating to the construction of latrines, trash disposal, water supply and housing.

4. Immunizations against contagious diseases.

5. Pre-natal care and family planning.

6. Nutrition.

7. Home visits.

8. Child growth and development.

9. Mental health.

In the day-to-day program implementation, citizen involvement has been facilitated particularly through membership in various groups and committees (e.g., association of mothers, school association, committees on youth, education, socials, etc.). Among the groups' important activities have been to undertake "motivational campaigns" on topics directly relevant

to their respective concerns. Done both on a one-to-one basis through regularly scheduled home visits as well as by means of group meetings. these encounters have aimed to impart information and develop people's awareness of what they can accomplish as a community and what they can expect to have in terms of health assistance from the centers. The home visits moreover sought to update health center personnel of problems confronting a given family or its members. Consequently, home visits also led to a variety of referrals to the health centers. Cases needing specialist attention or those needing treatment beyond the center's capacity to undertake, are however referred by the centers to the Hospital de la Anexion. The hospital, situated in the canton capital city of Nicoya which is some 12 to 13 miles from San Antonio. is the home base of the Comprehensive Health Program. The hospital is one of 18 similar health care facilities which are owned and operated by the Costa Rican Social Security System.

The implementation of the rural Community Comprehensive Health Program in San Antonio made entitlement to medical services at the Hospital de la Anexion available to everyone needing them irrespective of their Social Security eligibility status. However, the practice does not involve other hospitals of the Social Security System, nor does it extend to residents of neighboring districts in Nicoya.

Among the communities in Nicoya canton which have been excluded from the comprehensive health program is the rural distict of Quebrada Honda. Situated right next to San Antonio, Quebrada Honda has about the same geographic proximity as San Antonio to the cantonal capital city of Nicoya. It is similarly accessible from the latter through the same general means of public bus transport.

The health care program in Quebrada Honda offers specific points of contrast with the program implemented in San Antonio. Particularly, instead of several health centers distributed throughout the district as in San Antonio, Quebrada Honda, with one third the population of San Antonio and nearly half smaller in geographic area, is served by a single health center (Figure 2). Health Center services in Quebrada Honda are mainly directed toward maternal and child health. In contrast, San Antonio's program, as earlier noted, embraces other primary prevention emphases in addition to providing such maternal and child health care services as pre- and post-natal care, immunization, etc.

Moreover, while citizen or community involvement has been actively encouraged as vital to the dynamics of the health care program in San Antonio, the same process has not been widely encouraged nor has its importance been accorded as much visibility in Quebrada Honda. Quebrada Honda's health care scheme which is under the Ministry of Health and staffed by a nurse, attempts to reach outlaying populations within the district through periodic visits by a mobile unit. Cases which cannot be adequately handled at the health center in Quebrada Honda may only be referred to the nearby Hospital de la Anexion if the person is under Social Security coverage. Otherwise, referrals are made to the Ministry of Health hospital in Liberia, a city in another canton in the province of Guanacaste or in yet another Ministry hospital in adjoining Puntarenas province.

Chapter II

APPROACHES TO THE STUDY OF HEALTH CARE

Alternative Perspectives on Health Care Behavior

Analytical attempts to understand health care can be broadly classified as reflecting one of two perspectives. Namely, the perspective which assigns emphasis to the cultural dimensions or in Klienman's (1978) view, "medical systems as cultural systems" (p. 85). The other perspective conceives of health or medical care in social system context, usually advancing a theory of social causation (Elling, 1978; Janzen, 1978).

Underlying the cultural system perspective on health care is the assumption that culture as a "system of symbolic meanings that shapes both social reality and experience, mediates between the 'external' (social, political, economic, historical, epidemiological and technological factors) and 'internal' (psychophysiological, behavioral and communicative processes) parameters of medical systems, and thereby is a major determinant of their content, effects, and the changes they undergo" (Klienman, 1978, p. 86).

On the other hand, Janzen (1978), examining several field studies of African, Asian and Central American medical systems, demonstrates the utility of the social system analytic framework by showing "how these systems' constituent elements - illness perceptions, diagnosis categories, therapies - are structured by social relationships, roles and statuses" (p. 121).

Notwithstanding their underlying theoretical perspectives, however, health care studies may be further delineated on the basis of their scope, that is, whether analysis is primarily focused on a micro- or macro-system framework. Micro- and macro-analysis are nevertheless ideally viewed as complementing each other (Janzen, 1978; Parker, 1978). Thus, even where the main interest is centered on a micro-structure, e.g., a specific community or clinical practice, or the point at which community-provider or patient-provider interface occurs, a broader understanding of social phenomenon or behavior at that level is accordingly better attained by pertinent consideration as well of the general overall structure.

In particular, Janzen (1978) notes that the ability to address structural changes in the medical system, a process that "can only be documented over time in micro-analysis", is made possible "by adding to the list of variables included in a medical system the political exercise of corporate authority and power" (pp. 121 and 129, respectively). Central to this thesis is the assumption that the corporate structure, besides being an important factor "in the allocation of resources for the medical system..., is present in the very definition of priorities in society's response to nutritional, climatic, disease, and demographic crises or challenges" (p. 129).

The present study leans towards a social system perspective on health care. Specifically, it is concerned with the health care delivery systemor provider-patient interface in a given community setting. The significance to Sociology of a micro-oriented study such as the present one is discussed in the succeeding section.

Contributions of the Study

The alleviation of pain and suffering is everywhere present in society. The various structural mechanisms which different societies have evolved to deal with this most crucial of human needs "not only reflect, but reinforce, the major values of that society" (Stacey and Homans, 1978, p. 282).

Health care systems are appropriately viewed as societal subsystems that develop and function within specific frameworks (Pearce, 1980). Being generally open subsystems, the accomplishment of their stated goals, may at once be facilitated and constrained by particular elements of the larger social structure.

Changes occurring in the larger system may be reflected in the health care system. Along this line, Elling (1978) offers the perspective of viewing "medical systems as changing social systems" (p. 107). In this regard, it can be argued that observable relationships examined in microanalysis have implications beyond the immediate and local confines in which they occur. In particular, they may foreshadow if they are not in fact already the consequences, of pertinent interrelated aspects of the macro-structure. The importance to Sociology of micro-oriented studies such as the present one can be similarly considered from this perspective.

Another contribution to Sociology of the present study is in its possible extension of reference theory as an explanatory variable to health care utilization behavior. Costa Rica is a society which continues to assign importance to many traditional values. Some of these values suggest room for the possibility that other factors, besides the organization of care itself, may yet contribute to the use or non-use of services. That is, after all other possible extraneous variables for which

data are available have been controlled. Thus, <u>personalismo</u> or maintaining an effective working relationship with the right persons (and families), and a sense of <u>delicadeza</u> or orienting behavior in terms of what certain significant others would say or think or feel, have been known to either inhibit or facilitate particular decisions or actions (Booth, 1978; Stephenson, 1965).

From the more applied perspective of social policy and planning, the contributions of this study have to be viewed against the fact that health, as an integral part of development, is now generally recognized by governments and by national and international agencies alike. The World Health Organization (WHO) aptly describes the interdependent nature of health with other aspects of development thus:

If the poor state of health slows down economic development, it can also be said that insufficient economic development perpetuates a bad state of health among... populations... It is indisputable that good health can be a boon to economic development, and economic and social development cannot be separated (p. 1)

The U.S. Foreign Assistance Act of 1973, for instance, mandates the Agency for International Development (AID) to make health and population one of the three main foci in the allocation of its resources (Niehoff, 1977).

The attainment and maintainance of good health, while accordingly related to the utilization of appropriate health care measures, has been shown to be interchangeably linked with a variety of socio-economic and structural factors. For many, these variables may pose limiting influences, significantly constraining their use or access to appropriate health resources.

To minimize if not negate these differential social forces particularly in underdeveloped countries, attention has increasingly focused on organizational strategies of providing care which starts with "where the people care" (Rifkin, 1977, p. 127). In effect, this calls for rural-oriented policies and programs which maximize community use of appropriate services. This is to be accomplished by first taking into consideration not just the health needs of individuals and families, but also the factors that have constrained the meeting of those needs.

The implementation of what is considered an innovative approach to community health in a rural Costa Rican district is one of the pragmatic responses to these riceroot (grassroots) oriented policies. The phenomenon has social policy relevance because society can study and realize attempts to initiate orderly changes through the re-allocation of pertinent resources among otherwise less-than-equally rewarded sections of the population. The success or outcome of this endeavor has instructive value for policy and planning. In particular, the findings can add to the knowledge base on the implementation and outcomes of comprehensive community health strategies in particular and health development approaches in Third World countries in general.

The effect of the health care delivery system on utilization, that is, independent of the characteristics of the target population, is a subject about which there is little available information particularly for underdeveloped countries. This study aims to help narrow the knowledge gap in this regard. Specifically, it investigates the effect of the health care delivery system as an intervening variable between client or community characteristics and utilization, and of health status as an ultimate utilization outcome.

Review of Literature and Theory

The utilization of health care services has been studied from various perspectives in different settings. The present literature review will concentrate on studies considered pertinent to the provision and use of health care services in underdeveloped countries or among underserved populations in developed countries.

Factors Facilitating Utilization. Much of the early studies on the utilization of health care services in less developed countries were done by anthropologists (Paul, 1955; Foster, 1958; Lynch, 1969). These studies generally represented efforts to understand the acceptance or non-acceptance of particular aspects of modern medicine by examining in-depth the indigeneous conception of health and illness. The findings reached by these studies may be summarized as follows: native conceptions of health and illness become impediments to the acceptance of modern cures when the latter are perceived to violate basic beliefs, or are thought of as irreconcilable with such beliefs. Moreover, particular aspects of modern medicine are regarded as alternatives to some indigenous ways of dealing with health and illness only after the latter have been perceived as no longer effective or when the efficiency of the modern cures has been demonstrated.

The increased acceptance of the efficacy of modern medicine, however, has not necessarily relegated into general disuse folk or popular healing practices. What evolved, on the contrary, have been dual or otherwise pluralistic health care systems. The situation is equally observable among Third World rural and urban communities as well as in medically underserved sectors of populations in highly developed countries (Durham and Hough, 1979; Janzen, 1978; Low, 1982b; Pearce, 1980). This has

persisted despite legal measures in most countries to curb the growth of other healing networks in favor of Western biomedical practices.

In Costa Rica, for example, beliefs and practices on health and healing conform under three categories, namely: professional, popular and folk medicines. The first, defined in terms of Western biomedicine, is the officially sanctioned medical paradigm. Popular medicine, on the other hand, combines officially sanctioned medical practices (e.g., home remedies) with beliefs and practices which have traditional or indigenous origins (e.g., hot and cold notions of disease causation and cure, etc.). Meanwhile, folk curing practices are mainly of Hispanic derivative (e.g., supplication of saints, divination, etc.) interpersed with indigenous (e.g., use of native plants) and Oriental (e.g., spiritualism using Hindu or Buddhist vocabulary) influences (Low, 1982b).

The distinction between professional, popular and folk medicines has been examined by Low in her study of the urban patient in San Jose, Costa Rica. She reports that from the patient's perspective, professional medicine is that which is "practiced in hospitals and clinics" (p. 5). Occupying key roles here are medical doctors trained in Costa Rica, Mexico, the United States and Europe. In contrast, the practice of popular medicine is seen as commencing in the home and "extends to health seeking behaviors which derive from family and community efforts at self-care and home treatment" (p. 5). Involved here, besides family and kin, are an assortment of health-related workers, e.g., aides, laboratory technicians, pharmacists, retired nurses, who "also may use their medical skills outside of the hospitals and clinics by advertising their ability to give injections or suggest appropriate medical remedies" (p. 19). The practice of folk medicine, on the other hand, is associated

with "a variety of specialists located in the community who also represent a range of indigenous and foreign healing expertise" (p. 5). Operating within this network, according to Low, are <u>curanderas</u> (curers), homeopaths, chiropractors, midwives and reflexologists.

Durham and Hough's (1979) comparative study of health resource utilization in Ciudad Juarez, Mexico and El Paso, Texas, provide a parallel three-category distinction of users' health care sources. Those generally employing "Western practitioners" such as medical doctors and pharmacists, are viewed apart from "mixers" with their combined preference for western medicine and auxillary sources such as curanderas and herbalists, etc. Users reporting "no care" that is, relative to those availed of under the previous two categories, in fact appeared to have sought help within the confines of kin and friendship networks.

In a four- or five-step health-seeking behavior process of the urban patient in Costa Rica, Low (1982b) hypothesizes from interview and observation data that the services of a curer is availed of in step 4, at the same time that a specialty clinic is also resorted to. The number of stages in the health-seeking process accordingly varies with the patient's perceived complexity of the illness. Thus, a four-step pattern of home-pharmacy-clinic-alternate clinic tends to be followed for headaches and stomach aches. For other symptoms such as <u>nervios</u>, a fivestep process, the fifth culminating in a hospital, generally applies.

Factors contributing to the prevailing use of multi-sectoral if not simultaneous health care strategies in Costa Rica are generally the same as those found elsewhere. Thus, popular and folk healing practices are resorted to because they are familiar, conveniently available and relatively inexpensive. The presence or absence of about similar reasons

have also surfaced as explanations for the utilization or non-utilization of professional health care services.

More prominently, economic and related indicators of "class" have tended to differentiate users from non-users particularly in communities marked by growing disparities in income, education and access to information among the population (Pal and Polson, 1973). The situation is not totally unrelated to the increasing dominance in many Third World countries of a private-based fee-for-service structure of care, where the cost of care has to be paid for directly by consumers in the absence of third party systems of payment. Or, if the latter were available, they were accessible only by a select sector. Under the circumstances, families have been found to tolerate poor health conditions because they could not pay for the cost of care (Lopez and Hollnsteiner, 1976; Illich, 1976).

The presence of a health care co-payment system or some type of health insurance coverage has often narrowed utilization differences largely caused by differences in financial access (Eastman, Renner, Urquhart and Carruthers, 1976). Among urban patients in San Jose, Costa Rica, a family's membership and therefore, entitlements to Social Security health and medical benefits, are among the primary considerations on whether or not to use a clinic's services, that is, after having generally gone through the health-seeking route of home and pharmacy (Low, 1982b). Similarly, in a health care access study involving Mexican-Americans, Anglos and blacks in West Dallas, Texas, Gurnack (1979) finds that Mexican-Americans, who of the three groups were least likely to have health insurance coverage, were also least likely to have seen a physician during a preceding period. However, the three groups had

similar perceptions of health.

Among rural households in Laguna province, Philippines, Rimando (1978) also notes that the possession of health insurance coverage by low income households significantly affected their utilization of private health care sources. In the absence of some type of coverage, such private facilities are often beyond their reach.

It is important to point out, however, that at about the same time when the concept of health care insurance appeared to be gaining some foothold in the Philippines (towards the late 1960s and early 1970s), observations were also made of complaints concerning the practice of price discrimination. Accordingly, some providers tended to discriminate against those with health insurance by charging them higher than the fees normally attached to various types of services. Elsewhere, the removal of financial restrictions has similarly brought about an unintended consequence. Thus, the introduction of a sliding fee scale in a Texas-Mexico border community, resulted in a slight over-utilization among the residents (Treviño, Bruhn and Bunce, 1979).

The relationship between class factors and utilization is underscored in the following description of an Indian community which distinctly comprises four upper and four lower castes:

Some respects in which socio-economic status helps determine access to... scientific forms of medicine are through (1) enabling members of the four upper castes to afford the services of a doctor whenever they are inclined to employ one; (2) facilitating greater formal education among the four castes, which in turn has the secularizing effect of making individuals more aware of and favorably disposed toward scientific approach to disease; and (3) providing greater opportunity for spatial and occupational mobility to the upper castes, the effect of which is to put them in easier material and psychological contacts with clinics and doctors (Gould, 1957, p. 517).

Socio-economic barriers to professional health care utilization such as those experienced in the mid-1950s by communities like the foregoing,

have been just as visible in the late 1970s among Third World and other underserved populations (Banerji, 1977, 1978; Benyoussef and Christian, 1977; Bicknell and Walsh, 1977). The unchanged relationship, asserts an emerging view, has been confounded by related problems of misdirected priorities and organization (Djukanovic et al., 1975; Navarro, 1974; Newell, 1976). Accordingly, the growth of sophisticated technology and specialist medicine have come about generally at the expense of broader investments in basic health care services. The health care needs of majority of the population particularly in underdeveloped areas call for more preventive remedies.

The problem of access is particularly made more pronounced in the rural sector by distance and difficulty of transport. The situation King (1966) notes in Kenya is not far different from many in other underdeveloped countries. He observes that 40% of the outpatients at a health clinic live within five miles from it, 30% live between five and 10 miles, and another 30% have homes more than 10 miles away. His finding suggests that "only those close to a medical unit can derive full benefit from its services" (p. 2:6). A recent World Bank (1980) health sector policy paper asserts the same conclusion, advancing on the basis of its review that an outpatient health facility's sphere of influence in many underdeveloped countries is largely limited by the distance patients are prepared to walk.

Distance as a factor in utilization has similarly confronted communities in some parts of the United States. In two separate surveys of rural and urban residents in southern and northern New Mexico, distance and travel time pose the most serious barriers to obtaining medical care. This was experienced by 57% of rural residents in the south and 41% in

the north. Among urban residents, distance and travel were considered problems by only 28% and 14% of southern and northern residents, respectively. Curiously, New Mexico is 20% above the national average in physician-patient ratio. Not uncommonly, the concentration of hospitals and related health care resources in the urban sector has developed at the expense of the rural population (Eastman et al., 1976).

Nevertheless, observations have also been made of persons who prefer to attend another health center or an urban facility even when there is a health center right in their own communities. This "bypassing" phenomenon may be also related to certain perceived locational characteristics of the health facility. As Donabedian (1972) observes in examining patients' preferences of health care sources, "places are not neutral, but have social and psychological meaning. Some places are unfamiliar, threatening..." (p. 431).

The under-utilization of a local health unit by the community has also been explained by Djukanovic et al. (1975) in terms of the client's lack of confidence in the facility. They assert that this could result from a number of factors, such as the perception of inadequate service quality, failure to meet the community's expectations, staff arrogance, or discrimination". These factors are in turn related to such provider characteristics as "job satisfaction, exhausting workloads or unrealistic staffing, and appropriate use of staff time" (pp. 18-19).

The reduction of social distance between health care provider agencies and the public has been also known to contribute to greater utilization among the latter. The effectiveness of China's "barefoot doctors" and Tanzania's village paraprofessionals are often cited as well-known examples of this principle (Benyoussef and Christian, 1977; Lisowski, 1976). The same factor appears to have worked as well among Mexican-

Americans in a Texas community. Here, the employment of paraprofessionals whom clients perceived as similar to them in many ways (e.g., in language, socio-economic orientation, and related other experiences as members of an ethnic minority) minimized class-bound value differences and paved greater utilization by Mexican-Americans of a community mental health center's services. The authors regard this finding to be doubly significant because Mexican-Americans as a group are generally known to underutilize mental health services. Moreover, the respondents live in a Texas-Mexico border community and are known to have some familiarity with alternative sources of therapy (Treviño et al., 1979).

In another study involving another group of Mexican-Americans, Treviño (1979) however finds that the utilization of mental health services by Mexican-Americans is not so much influenced by the proportion of Hispanics on the staff as it is by the number of Mexican-Americans in the organization who are in policy and program planning positions. Based on this finding, he hypothesizes that "administrative staff influences Mexican-American utilization while the treatment staff and supportive staff impacts their continuation in treatment and other compliance behavior variables" (p. 29).

In maximizing their acceptability, community participation also paves greater utilization of services by the community. This was the consensus reached by Asian community leaders and health care professionals following a study of rural health care projects in various Southeast Asian countries (Rifkin, 1977). What are yet to be resolved, however, are how community participation is in fact manifested, at what level, and the role of health care professionals vis-a-vis the community or its representatives at various segments of the health care delivery process.

The demographic structure of the population may also influence utilization. Studies made in some industrialized countries show that certain age groups tend to use more services than do other age categories in the population. Moreover, differences in age dictate differences in disease patterns and hence, demand for particular categories of care (Omran, 1974). Data from underdeveloped countries on utilization by age group appear negligible, however. On the other hand, confidence on the validity of such comparison, if these were available, may have to be cautioned by the consideration that these are of populations in communities where services are generally fragmented, limited, if not inaccessible to the majority.

<u>Utilization and Health Status</u>. It is generally agreed that the underlying goal of health intervention programs is the provision of maximum benefits in terms of improved health for the community. How this outcome is to be measured has not always been commonly agreed upon, however. The problem stems in part in how health is defined. The World Health Organization, for one, conceives of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1948, p. 100). However, measures of health which adequately reflect a country's or some person's triple state of physical, mental and social well-being, have been generally lacking (Berg, 1973).

On the other hand, the generally used alternative measures have tended to view health status in relation to some inputs that have been intorduced into a system or community. Thus, depending on the system's orientation or the nature of the inputs, health has been defined from a biomedical, psychological or socio-psychological framework. Consequently, health

status assessments have been also undertaken using corresponding biomedical, psychological or social indicators, if not some combinations of these.

Implicit in the perspective of defining health in relation to selected system inputs is the assumption that health or ultimate measures of it, are in effect descriptive of the system's functioning (Levy, n.d.). Approached thus, the health status of a community may be regarded as dependent upon the effectiveness of the system of producing and distributing care.

Health status embraces both the level and the distribution of care. That is, when the concept is defined in relation to a health care system whose intended output is ultimately "to improve the level of and equality of distribution of the health status of a given population in a defined area" (de Niguel, 1975, p. 15). The indicators most pertinent in this regard would be those which represent attempts to interrelate physiological and psychological dimensions of health with the social dimensions, and thereby move from individual to societal focus.

In a micro-sociological context, health status is regarded as "a kind of social label which can be attached to an individual and which defines to some extent how he(she) is expected to behave and how others should behave towards him(her)" (Twaddle, 1974, p.). The sociological perspective of defining health (and illness) is further clarified by Kosa and Robertson (1975) as follows:

It regards the problems of health as parts of a dynamic interaction process, views illness in its relativity, and assumes that the extent and meaning of any illness can be understood only in relation to other healthy and sick people (p. 53).

In this context, the more frequently used and more general "negative indicators" of health status such as morbidity and mortality, cease to

be mainly biomedical measures as attention also focuses on the prevalence of their occurrence in a defined area. Disease-specific mortality rate is considered a sensitive indicator of a community's socio-economic condition. Given categories of diseases have been shown to be associated with the lifestyle of a population, in turn a consequence of specific socio-economic conditions obtaining in the population. The same explanation may be advanced for the use of age-specific mortality. Mortality of children under five years is considered to be particularly indicative of prevailing physical and social conditions of the environment (Omran, 1974).

Some have argued that health status is considered to be more a function of the utilization of health care services rather than the mere availability of the same services (Andersen, 1968; de Miguel, 1975). In addition, the effect of utilization on health status may be further mediated by the kinds of services that are provided and availed of. For the less developed countries, in particular, this would seem to suggest that the provision of a health care model which goes beyond curative care to a broader range of health-related concerns pertinent to the community may encourage greater utilization and correspondingly, lead to improved level and distribution of health status in that community.

<u>Health Care Delivery System and Utilization</u>. Health care has been defined as "all those personal and community services, including medical care, directed toward the protection and promotion of the health of the community" (Popov, 1971, p. 11). One way to classify types or levels of health care has been in terms of their primary objective.

Schweitzer (1974) distinguishes between promoting health and preventing illness. Health promotion involves "planning and action at the community and the personal level in such areas as community health services and

environmental health" (p. 34). This may therefore include environmental sanitation and safe water supply as well as attention to adequate nutrition, housing, child spacing and health education. Conversely, preventing illness which is regarded as disease specific, has been viewed in either primary, secondary or tertiary context.

Primary prevention is accordingly associated with "averting the occurrence of disease" while secondary prevention implies "halting or slowing the progress of a disease" (Schweitzer, p. 34). Regular checkups and immunizations typify primary prevention measures. Secondary prevention calls for curative-oriented treatment strategies. On the other hand, tertiary prevention refers to the process of restoring a person to his or her optimum level of activity or to a "normal or nearly normal function... after the progress of an illness has been stopped" (Schweitzer, p. 34). In this sense, tertiary prevention has been also equated with the rehabilitation process (Pal-Montaño, Tate and Frey, 1979; Suchman, 1965).

The term "delivery system" refers more specifically to "those arrangements for the potential rendering of care to consumers" (Aday and Andersen, 1980, p. 79). In effect, the delivery system "structures the provision of... health care goods and services in society" (Andersen and Newman, 1980, p. 59). Two main components of a health care delivery system are resources and organization. Resources include both the volume and distribution of labor and capital allocated to health care. Meanwhile, organization describes the manner in which health personnel and facilities are coordinated and controlled in the process of providing health care services.

An external validation of a health care delivery system's accessibility to the target population, according to Aday and Andersen (1980), may be

reflected in people's actual utilization of that system. In particular, Aday and Andersen note two recurrent themes in the literature on accessibility. These are the equation of access either with characteristics of the population such as family income, family composition, attitudes toward medical care, etc., or its equation with delivery system characteristics including the distribution and organization of personnel and facilities.

Donabedian (1972) in particular, while admitting to some arbitrariness in the conceptualization, views accessibility in terms of resource characteristics which make the resources more or less readily usable. As such, accessibility is "something additional to the mere presence or 'availability' of the resource at any given place at any given time..." comprising "those characteristics of the resource that facilitate or obstruct use by potential clients" (p. 419). Donabedian distinguishes between what to him are two highly interactive components of accessibility, namely: socio-organizational and geographic.

Socio-organizational accessibility may include the kind or category of care available, formal or informal admission policies, payment mechanism, health care practitioner's sex, etc. These attributes of resources are accordingly distinct from the socio-demographic or psychological characteristics of clients which may likewise hinder or facilitate the recognition of need and eventual utilization of care. On the other hand, the main focus in the concept of socio-organizational accessibility is not so much "the propensity to seek care" as it is the "lack of fit" between source and potential client even when these are brought together. Meanwhile, geographic accessibility is associated with the resulting "friction of space" when various components of time and distance (e.g., travel time and cost, linear and travel distances, etc.) are considered

in the process of obtaining care.

From their review of the literature on the concept, Aday and Andersen (1980) have conceptualized access to health care services as a function of an interrelated five-variable process. The five components of their framework as Figure 3 shows, consist of health policy, health delivery system, target population, consumer satisfaction and utilization.



Figure 3. Framework for the Study of Access. Aday and Andersen, 1980.

What Aday and Andersen term "entry", a subcomponent of the health care delivery system (B) in Figure 3, is synonymous with Andersen and Newman's (1980) concept of access or the "means through which the patient gains entry to the medical care system and continues the treatment process" (p. 59). Andersen and Newman assert that:

Accessibility is assumed to increase as the proportion of medical care expenditures paid for by the government, voluntary health insurance, or other third-party payers increases; as waiting time for medical care decreases; and as the range of conditions accepted for treatment increases (p. 60).

From Figure 3, it may then be inferred that access constitutes a subcomponent of the health care delivery system. In effect, access is herein viewed in the same context that Donabedian (1972) as earlier noted also conceives of it, that is, as a socio-organizational attribute. Complementing entry or access is "structure" which is defined by Andersen et al. as "the characteristics of the system that determine what happens to the patient following entry to the system" (p. 60). Of relevance here may be the structure of physician- or health care personnel-patient interaction particularly on initial entry into the system, processes of referral, characteristics of care. etc. Clearly, structure influences access, and is in turn affected by the resources available to it.

However, to facilitate access and consequently, optimize utilization, a health care delivery system's (B) resources and organization cannot be viewed apart from the population or target community (C) it aims to impact. Andersen's (1968) behavioral model of families' use of health services, from which the characteristics of population at risk (C) in Figure 3 appears to have been derived, views health care utilization as a function of a three-stage sequential process consisting of "predisposing", "enabling" and "need" variables. The model is more fully

illustrated in Figure 4.



Figure 4. A Behavioral Model of Families' Use of Health Services. Andersen, 1968.

The predisposing subcomponent (Figure 3.C) or component in the case of Figure 4 (A), describes the "propensity of individuals to use services" (Aday and Andersen, 1980, p. 79). These properties, which exist even before the onset of illness episodes, may include age, sex, race, religion and values regarding health and illness. On the other hand, the enabling subcomponent (Figures 3.C and 4.B) refers to the "means individuals have available to them for the use of services" (Aday and Andersen, p. 79). The enabling subcomponent may therefore include individual or family resources such as income and health insurance coverage as well as the health service resources of the community.

Given the presence of predisposing and enabling conditions, Aday and Andersen however maintain that an individual or a family must necessarily perceive illness (or its prevention) and translate such perception in terms of the need for care, before services use becomes behaviorally manifested (Figures 3.C and 4.C). Even so, the actual use of services

(D) as Figure 4 suggests, remains closely interwoven with specific characteristics of the system of care (B), if not the health policy (A) guiding such system. For example, health policy may be so designed to affect the characteristics of the health care delivery system and the target community in a manner that facilitates the latter's utilization of health care services. Particularly, the predisposing and enabling subcomponents that are associated with the community or the population at risk (C), consist of both mutable and immutable characteristics. That is, some predisposing (e.g., values on health and illness) and enabling variables "can be or have been amenable to policy", while some others are nonmanipulable or cannot be changed by public policy (Aday and Andersen, p. 80).

In sum, the interactive relationship between the five components comprising the framework in Figure 3 underscores the various factors that would need to be considered in any attempt to understand and operationalize the concept of access to health care services. At the same time the components, taken singly as well as in interaction, can be viewed as suggestive of specific frameworks or as delineating alternative starting points from which to develop an empirical focus on the concept. Thus, access may be examined as a resource or delivery system attribute, or from the standpoint of the intended client population. Either way, the extent to which access later becomes behaviorally manifested in the utilization of health care services is possibly better explained by also taking into account the dynamics of the other component, if not of all the other components in the larger framework. So that even as one delimits one's empirical focus on selected components of the framework in Figure 3, the integrated nature of the components as a whole provide some clue in terms of the kinds of questions that may need to be

asked or the direction to pursue in posing them.

Theoretical Framework

<u>The Delivery System as an Intervening Variable to Utilization</u>. The conceptual framework used in this study attempts to build on Andersen's behavioral model of families' use of health services (Figure 4) and Aday and Andersen's framework for the study of access to medical care (Figure 3), both of which have been discussed in the preceding section. As shown in Figure 5, the present model conceives of the health care delivery system as an intervening or to borrow Andersen's term, enabling factor in individuals' or families' use of either preventive or curative services.



Figure 5. A Conceptual Framework of the Health Care Delivery System as an Intervening Variable to Utilization, and of Health Status as a Utilization Outcome.

The present framework retains Andersen's concept of predisposing components, here broadly encompassing the characteristics of the popula-

tion (Figure 5.A). These characteristics may be economic or "class" related variables, otherwise subsumed under the social structure subcomponent in Andersen's model. Additionally, they may include demographic and cultural factors, respectively corresponding the family composition and health beliefs subcomponents in Andersen's framework.

Also integrated into the present framework is Aday and Andersen's component on characteristics of the health care delivery system (Figure 3.B). However, the concept of need, a component in itself in Andersen's model and subsumed under the characteristics of the population at risk component in Figure 3, is left out from the present model. The concept of need in health care could be viewed as problematic. For example, who is the best judge of the need for a specific care or treatment? How is need for care to be distinguised from demand for care? Without necessarily indulging into problematic discussion, it may be argued for the present model that the actual use of health care services might somehow constitute an indirent expression of need/demand for those services.

It may be noted that the model used in this study differs from the previous two by incorporating into it health status as an ultimate outcome. As may already be apparent from Figure 5, the present model provides an analysis of utilization in two ways: as a dependent variable when examined relative to the health care delivery system (C as a dependent variable of B) and as an independent variable when analyzed relative to health status (C as the causal or independent variable of D).

On the basis of the foregoing analytic framework, this study examines the impact of a comprehensive health care program on the health care utilization behavior and health status of rural Costa Rican families. Their responses to the program's preventive and curative health care

services are analyzed relative to those of families in an adjoining community which is served by a different health care model.

Additionally, the study explores, other than the system itself, factors which might be related to families' health care utilization behavior. The effect of specific utilization behavior on health status are noted, by the use of indicators. In sum, the hypotheses advanced are that: people respond more positively to a comprehensive model of care than to a more conventional model, and that the increased utilization of health care services within the context of the former leads to improvement in health status.

Chapter III

METHODOLOGY

Overview of the Original Study

<u>Objectives</u>. The study from which data for the present one have been derived was conducted by the Center for Teaching and Research of the Costa Rican Social Security System in San Jose. Funding for the original study was provided by the University Center for International Rehabilitation (UCIR, at the time known as the Institute for Rehabilitation and Special Education Network) at Michigan State University in East Lansing, Michigan.

The original study was undertaken with the following objectives:

1. To evaluate the rural community health care project in San Antonio.

2. To identify disabling conditions in San Antonio.

3. To determine possible socio-economic and psychological impacts of specific disabilities.

<u>Sampling Methods</u>. A total of 250 households, 200 from the district of San Antonio and 50 from the "control" district of Quebrada Honda, comprised the respondents of the study. These household respondents were drawn using a combination of stratified and systematic random sampling procedures.

Initially, a sampling frame for each district was developed. This was accomplished by listing and noting on a map the number of dwellings or households in each district. While the sampling frame for San Antonio

included all households in the district, the same could not be said for Quebrada Honda. Due to monetary and related resource constraints, the sampling frame for Quebrada Honda accounted for only 75% of all households in the area. However, the participating households' location on the map were about evenly distributed throughout the district and may therefore adequately represent it (Figure 8).

The next step involved the division of households in each district into the following successive strata and sub-strata:

- 1. Family composition
 - a. Preschool (below 7 years) and school age (7 to 15 years) children as well as adults (over 15 years old)
 - b. Preschool age and adults only
 - c. School age children and adults only
 - d. Adults only
- 2. Membership in association
 - a. Member
 - b. Non-member

3. Distance from health center as measured by the time it takes a person to reach the center while using the most common means of transportation.

- a. Less than half an hour
- b. One-half to one hour
- c. More than one hour
- 4. Sectors
 - a. San Antonio
 - b. San Lazaro
 - c. Moracia
 - d. Pozo de Agua

- e. Corralillo
- f. Quebrada Honda
- 5. Sub-sectors
 - a. A total of 20 sub-sectors for San Antonio's five sectors (a through e above)
 - b. A total of 11 sub-sectors for Quebrada Honda

The stratification procedure is graphically summarized in Figure 6.



^aNumber of categories under a stratum.

^bThe district of Quebrada Honda comprises one sector.

The division of the districts into sectors and sub-sectors (Figure 6) took into consideration the geographic proximity of the sub-sectors and their total population when combined into a single sector. For San Antonio particularly, its five sectors corresponded with the five central areas into which the five health centers have been distributed (Figures

2 and 7).



Figure 7. District of San Antonio and its Five Sectors.

The systematic random samples from the two districts were drawn from the sub-sectors. For San Antonio, the process was initiated by randomly picking one household from the first 10 households on a consecutive listing of households starting from the first through the last sub-sector. Beginning with the first random choice, every sixth household on the list was thereafter picked.

A similar consecutive listing of households starting with the first through the last sub-sectors was done in Quebrada Honda. In six subsectors, one household was randomly drawn from the first five on the list; from then on every fifth household was included. Meanwhile, in five other sub-sectors, the first random choice was taken from the first four households on the list. Thereafter, every fourth household was picked. The resulting sampling distributions for the districts are shown in Table 2.

TABLE 2

District	Number of Households	Sample Size
San Antonio	1176 (100%)	200 (17%)
Quebrada Honda	222 (75%) ^a	50 (22%) ^b

NUMBER OF HOUSEHOLDS IN SAMPLING FRAMES AND SAMPLE SIZES, SAN ANTONIO AND QUEBRADA HONDA, COSTA RICA, 1977

^aThe total number of households in Quebrada Honda was 296.

^bIf the total number of households in Quebrada Honda is used as the base, then the sample size will be 17%, the same as in San Antonio.

San Antonio's five sectors as indicated in Figures 6 and 7, subdivide into 20 sub-sectors. Meanwhile, Quebrada Honda with a sampling frame consisting of 222 dwellings was not further subdivided into sectors. On the other hand, the community was regarded as one sector in itself with 11 sub-sectors (Figure 8)



Figure 8. District of Quebrada Honda and its 11 Sub-sectors.

<u>Data-gathering Procedures</u>. Data were gathered following a 48-page interview schedule in Spanish. Trained for the interviewing task were eight medical students from the University of Costa Rica in San Jose,
five nurses and eight staff members of what used to be the Institute of Rehabilitation and Special Education Network's Latin American regional office in San Jose.

Questions asked were organized according to the following topical sections:

1. Family Composition, including information on the sexes and dates of birth of children and other persons in the household.

2. General Information about the Home, under which are elicited information on housing condition, nutrition, environmental sanitation, hygiene habits, family planning, communication and information and other perceived necessities.

3. Family Health, encompassing information on illness and hospitalization incidence, actual state of health, medical assistance, functional limitations, prenatal care and birth as well as child growth and development.

4. Mortality, including information on incidence and causes.

5. Sociological Aspects, containing items on income and employment as well as migration.

6. Incapacities and Rehabilitation, under which are included information on types of disabilities, rehabilitation received, if any, and perceived community and personal attitudes toward the disabled.

Data were generated for both household units as well as for each of the 1,546 individuals comprising the 250 households. Interview items relating to family health, mortality, as well as incapacities and rehabilitation were directed at individual respondents. Unless the person was a young child, or was absent at the time of the interview visit, a responsible adult, preferrably the mother, was asked the questions for the individual. Otherwise, items calling for individual person responses were directly addressed to the individuals concerned.

On the other hand, questions under such topics as family composition, information on the home and sociological aspects elicited a mixture of information on individual members and the household or family in general. Questions on income, for example, looked at the earnings of each working member as well as total combined incomes for the entire household. A similar pattern applies particularly for interview items on employment and migration.

<u>Organization of Data</u>. The coding of data for both household and individual responses were organized according to 17 topical categories. Specifically, data were coded from the standpoint of specific topics and the corresponding households and/or persons responding, rather than in terms of households and/or persons and their responses to given topics. Thus, instead of a unified card file which would have been possible with the latter format, the coding system used resulted in 17 card designs, with each design representing a uniquely different data file.

Problems of Secondary Data Analysis

The decision to undertake the present study was made after an examination of both the Spanish and the English versions of the interview schedule, and following consultations with persons familiar with the survey data. In particular, further information on the original study and approval to use some of its data were sought from the present Director of OCIR (Oficina del Convenio Internacional de Rehabilitacion) in San Jose, Costa Rica, and the present Director of UCIR at MSU.

The interview schedule, while not reflecting all of the items one had hoped to see in a health care utilization study, nevertheless contained

many questions generally considered pertinent to such an analysis. The latter was somehow to be expected since one purpose of the original study was to evaluate the comprehensive health care project in San Antonio. The similarities in objectives between the evaluation study and the present health care utilization study made pursuit of the latter highly viable.

However, two problems were apparent at the outset. Firstly, the districts of San Antonio and Quebrada Honda turned out to have important socio-economic differences. The information surfaced following UCIR's preliminary analyses of selected background data on the two districts. The differences can be examined in Table 3.

TABLE 3

SOME SOCIO-ECONOMIC CHARACTERISTICS OF THE SAMPLE POPULATIONS, SAN ANTONIO AND QUEBRADA HONDA, COSTA RICA, 1977^a

	·····
Sample Hous San Antonio	eholds Quebrada Honda
6	6
Less than ¢600	¢600 - ¢999
4	5
45%	14%
7%	20%
	Sample Hous San Antonio 6 Less than ¢600 4 45% 7%

^aAdapted from the IRSEN-CR preliminary analysis of the San Antonio Project, University Center for International Rehabilitation, Michigan State University, East Lansing, Michigan, 1977.

^bIn Costa Rican colon (ϕ) , the country's monetary unit. Seven colones $(\phi7.00)$ approximately equaled US\$1.00 when data where gathered.

Table 3 shows that except for mean household size which is the same for Quebrada Honda and San Antonio, the samples reflect variations in income, possession of certain kitchen appliances and conditions of dwelling. Notably, 45% of the households from San Antonio live in houses using predominantly earth (or dirt) flooring. In contrast, this living situation characterizes only 14% of the respondents from Quebrada Honda. Moreover, while 20% of the households in Quebrada Honda use a refrigerator, only 7% of San Antonio households indicate having the appliance. The data further suggest that proportionately more households in Quebrada Honda have the necessary purchasing power to obtain larger quantities of perishable food items.

To resolve the problem of having to control for pertinent socioeconomic characteristics and facilitate a valid comparison of the districts, it was decided that instead of conducting a general acrossthe-board analysis of the two sample populations on the major variables, each variable would have to be examined across specific household categories from the corresponding communities.

The second problem anticipated right from the start involved the data files. Considering the main analytic thrust of the study, the data files were not accessible without further programming operations.

The unit of analysis for this stduy is basically the household. As inferred from the interview schedule, pertinent literature and interviews with selected Costa Ricans, a household may be defined as a group of persons who live in the same house or dwelling and who share a common pool of food budget resources. Moreover, these persons are usually related by consanguinity or affinity. On the other hand, the available data for the most part are about individuals. Consequently, it was

necessary to aggregate individual person responses into corresponding
households.

Variables employed in the study involve the use of indices or other indicator variables. Such is particularly the case for health care utilization and health status variables. Indicators of health care utilization and of health status, as well as such variable as family per capita income, involve the use of data from more than one card design. Since each of the 17 card designs as already noted comprises a uniquely different and separate data file, data manipulations to extract the needed information had to be preceded by specific programming operations.

The interview items which are relevant to the present study are shown in Appendix A.

Hypotheses

The review of literature and theory and the theoretical framework discussed in Chapter I have led to the formulation of the following hypotheses. These hypotheses are aimed as tentative explanations for the health care utilization behavior of households or families under the comprehensive health care program in San Antonio and the clinic-based model in Quebrada Honda.

1. <u>Socio-demographic characteristics and utilization</u>. Specific socio-demographic variables such as a family's age composition, distance from health resources, travel and communication exposure, income, occupation and related "class" factors are predisposing factors to the use of health care services. Consequently, these variables will differentiate households or families who are "high" users from those who are "low" users of preventive and curative care services. In particular, families with younger children and homes nearer the health center, who are high

high in income, occupation, education, travel and communication exposure and related "class" factors will use more preventive and curative health care services.

3. <u>Utilization and health care delivery system</u>. The utilization of health care services will be greater in a community served by a comprehensive health care system than in one where such a system is not present. That is, if the availability of a comprehensive health care system is in fact positively associated with utilization of preventive and curative care services, one would anticipate greater incidence of utilization behavior in San Antonio than in Quebrada Honda after controlling for the socio-demographic variables previously indicated.

The underlying assumption for the present hypothesis follows the main objective for which the comprehensive program in San Antonio was designed in the first place. That is, to improve community health status by providing relatively greater incentives as well as the necessary information and resources towards the community's optimal use of available services. Accordingly, the various features of the comprehensive program have been set up with this goal in mind.

The comprehensive program components it may be recalled from Chapter I, offer specific points of contrast to the already existing clinic-based model in Quebrada Honda. They include a centrally located health center, joint participation by community leaders and health center personnel in community-wide health promotion and information campaigns, and the substantive reduction of financial barriers to care with the extension of Social Security health and medical benefits to everyone in the community irrespective of their Social Security eligibility status.

3. <u>Utilization and health status</u>. Greater use of preventive and curative health care services will lead to better health status. Partic-

ularly, if utilization of preventive practices is in fact positively associated with improved health status, one would expect fewer incidence of reported (and/or physician diagnosed) illness and functional limitation among users.

Operationalization of Variables

The major variables in this study are socio-demographic characteristics, health care delivery system, utilization of health care services and health status. Each of these variables is operationalized as follows:

<u>Socio-demographic Characteristics</u>. These are factors present in a family or its members before the onset of an illness which tend to affect the latter's decision to utilize specific health care services. Twenty-six different items were initially identified as socio-demographic variables. These include family age composition, distance of household from health resources, occupation, education and related indicators of "class" such as house type, lighting system, possession of specific home appliances and food intake. The corresponding data categories for each of these variables are detailed in Appendix A.

At some point in the study, it was considered unnecessarily duplicative to include all 26 variables in the final analysis. The decision on the variables to retain and to eliminate considered the following:

1. Frequency distribution of respondents in each community relative to selected variables. Particularly, dichotomous variables with high frequencies of respondents along the positive dimension were excluded. For example, if practically every household or family owns a radio, radio ownership cannot logically be considered a sensitive measure of socio-economic or "class" status. 2. <u>Results of cross-tabulations among selected variables</u>. Some variables appeared to be indicative of respondents' position on still other variables. For instance, income showed some association with such variables as occupation, house tenancy and television ownership. Consequently, these other variables were eliminated.

3. <u>Variables generally advanced by the literature as explanatory</u> <u>factors for health care utilization behavior</u>. Variables such as family age composition, distance from health resources and income have been commonly cited as predisposing factors to utilization. To determine if the same relationship would be supported by present data, it was decided to retain these variables irrespective of their performance on the previous two criteria.

It was originally planned to operationalize the family age composition and income variables in terms of household dependency burden and per capita income of the household. Household dependency burden is derived by adding the number of members aged 14 years old and under with those from the same household who are 65 years old or older, and dividing the sum by the number of household members who are 15 to 64 years old. On the other hand, household per capita income is arrived at by dividing the total family income by the number of household members.

However, the lack of information on ages of nearly 40% of the individuals making up the two samples made accurate and valid computations of household dependency burden impossible. As a compromised replacement, the variable on number of household members was decided upon.

<u>Health Care Delivery System</u>. This refers either to the comprehensive health care delivery system in San Antonio or the conventional clinicbased health care model in Quebrada Honda, both of which are described

in an earlier section. In effect, the districts of San Antonio and Quebrada Honda are the measures or indicators of two categories of the health care delivery system variable.

<u>Utilization of Health Care Services</u>. This is conceptualized to embrace both the use of preventive and of curative health care practices.

Included as indicators of preventive health care utilization behavior are a family's observance or use of environmental sanitation and safe water supply, prenatal care, trained health personnel attending birth delivery and immunizations. These indicators are contributory to health status; therefore, these are treated as additive. Families are therefore assigned a score ranging from 1 to 3 according to the direction of their responses to the foregoing variables. Consequently, the preventive health care utilization score for a given family is the sum of its various scores on the main indicators.

The variables used as indicators of preventive health care utilization call for responses from both household units as well as from individual members. In the latter instances, points earned by individual family members are aggregated into household or family scores. For example, individual immunization scores traceable to specific households are added and the sum divided by the total number of immunized household members. Dividing the sum of individual scores by the number of individuals or members responsible for those scores was done to control for the number of household members. The same procedure is employed in the measures on use of curative services and of health status. Othersize, households with, say, four members, each of whom may have had three immunizations, would cumulatively score higher than households with three members, each of whom may have had also three immunizations.

The rating procedure used is detailed in Appendix B.

On the basis of their over-all scores, families are categorized into "high" and "low" level users of preventive health care practices. High level users are households with a composite score of 13 points or higher on the various indicators of preventive health care use; low level users, scores of seven to 12 points on the same measure. The additive scoring device explained earlier and further detailed in Appendix B, considers not merely the use of services <u>per se</u> but also takes into account the kind or quality of services availed of.

Depending on the direction of its responses, a family could score from one to three points on any five environmental sanitation and prenatal care practices, and from zero to two points on the remaining five immunization measures. From Appendix B, it may however be inferred that a household could still be categorized as a high level user by scoring 12 points without necessarily responding to all 10 items. This is possible in either of the two circumstances: by rating high on all immunization measures plus some of the other indicators, or by scoring highly on all of the environmental sanitation and prenatal care indicators. Neither case, however, is true among families in the study.

Eleven of the 250 household respondents in the stduy do not meet the criterion of applicable cases. Applicable cases refer to households with responses to all the relevant items on preventive care. There were 239 applicable cases from the two districts. The high level users comprise 40%; the rest are classified as low level users of preventive care.

A family's utilization of curative health care practices is behaviorally manifested in its general response to the perception of illness.

In this study, respondents were asked if anyone in the family felt sick during the last two weeks. If so, they were asked the assistance sought or the remedies administered given the perceived nature of an illness. The person or personnel whose services were availed of, where help was sought and given the illnesses reported, the adequacy of the treatment received in the opinion of a medical practitioner are similarly used as indicators of curative health care utilization.

The additive scoring procedure used to determine families' utilization of preventive health care practices, is similarly employed to assess their utilization of curative health care services. Variables calling for responses from or about individual household members are again traced to corresponding households. Mainly, individual family members' scores under each variable are summed. The resulting figure is divided by the total number of family members who reported having sought help for illnesses, accidents or lesions over the same time period. This is done in order to control for the size of household. The rating procedure is presented in Appendix D.

Families are categorized into "high" and "low" level users based on their utilization scores. High level users consist of households which score seven or more points on the curative care use indicators. Conversely, low level users score from five to six on the same measure.

Users of curative health care services comprise nine percent of all sample households from both San Antonio and Quebrada Honda. The small number of cases (N=23) may be related to either or all of the following possibilities:

Firstly, the initial questions asked in the original study in connection with households' use of curative care services were specifically

directed at experiences of illness, accidents and/or lesions which occurred during the two-week period immediately preceding the interview. Additionally, the schedule also asked whether or not some help outside of those rendered by household members was sought for these incidents (Appendix C). Consequently, only those households with members who reported having sought outside help for the same incidents came to be evaluated for curative care services. The two-week time span specified may have succeeded in its intent to maximize the accuracy of respondents' recall. At the same time, however, it also placed definite limitations on the amount of help-seeking information that might well have been generated from specific households.

Secondly, it is just as likely that whatever illnesses, accidents or lesions may have been encountered during the two-week period prior to the interview, only 23 households considered them serious enough to warrant attention from an outside source. The perception of pain and illness have been commonly cited to be generally never independent of the perceiver's socio-cultural context. Moreover, the perceived intensity of an illness has been observed to correspond with the kind or variety of assistance sought. Young's (1981) recent study among Tarascan Indian villagers in west-central Mexico, for example, supports what other previous studies (del Rosario, 1959; Benyoussef and Christian, 1977) in other rural Third World communities have found: that the services of a physician or those of other formally trained health practitioners are more commonly availed of in those cases which are perceived as life-threatening, or after all other available indigenous, local or home remedies have failed. It would seem that this observation may be descriptive of the households in this study.

<u>Health Status</u>. The health status of respondents in this study are assessed using the following indicators: illness incidence during the last two weeks and given these, experiences of functional limitations by the ailing person, if any. Additionally used as indicators are perceived symptoms of illness by each member during the same two week period and based on these accounts, a medical doctor's opinion on the state of health of the reporting individual which are categorized into sick, may be sick or healthy.

The additive scoring procedure used to quantify indicators of health care utilization is similarly used as a quantifying device for indicators of health status. These variables are all assumed to be contributory to health status and are therefore considered additive. The scoring device used is outlined in Appendix D.

Individual respondents whose health statuses are assessed come from nearly half (N=115) or 46% of the combined sample households from both districts. Data on health status of individual respondents are aggregated into specific household scores. These scores become the bases for categorizing health status into "high" and "low" levels.

A household's health status score is inversely related with its health status. Thus a score of 12 or more denotes low health status. On the other hand, a household score of five to 11 is indicative of high health status.

Method of Analysis

The measure the magnitude and significance of the relationship which are hypothesized as associated in this study, the following analytical steps are undertaken: 1. Determine the relationship between each of the predisposing variables and utilization, using a one-sample chi-square test.

2. Determine the relationship between type of health care delivery system and utilization by controlling for each of the predisposing socio-demographic variables. This three variable cross-tabulation used a two-sample chi-square test.

3. Determine the relationship between utilization and health status by controlling for the type of health care delivery system and each of the predisposing variable. A chi-square test for two or more independent samples was similarly used in this four-variable cross-tabulation.

Chapter IV

FINDINGS

Overview of the Chapter

This chapter examines data pertinent to the three sets of hypotheses discussed in the preceding chapter. The first set of hypotheses focus on the general relationship between five socio-demographic variables and the use of preventive as well as curative heatlh care services. These sociodemographic variables are household per capita income, distance of household from the health center, size of household, school attendance status of children in the household, and membership in local associations related to health promotion and/or community development. It is hypothesized that each of these socio-demographic variables is a predisposing factor to the use of health care services. Thus, they would differentiate households or families who are "high" users from those who are "low" users of the same services.

The second set of hypotheses examines the relative impact of the health care delivery systems on households' use of preventive and of curative health care services. The general hypothesis advanced is that the use of both preventive and curative health care services will be greater in a community that is served by a comprehensive health care model than in one where such a health care delivery strategy has not been employed.

The third and last set of hypotheses examines the relationship between the use of health care services and health status. Specifically, the

general hypothesis maintains that greater use of preventive and of curative health care practices will lead to better health status.

In sum, the three sets of hypotheses explore successively the relationships between these variables: socio-demographic characteristics and use of preventive and curative health care services, utilization and health care delivery system, and utilization and health status.

Chi-square tests on most of the hypothesized relationships, however, did not find significant associations at the .05 level. Moreover, on some of the hypothesized relationships involving curative care, chi-square tests were not pursued when the number of cases were so few that expected cell frequencies would be less than five. Accordingly, the expected number of cases for each cell in the contingency table, assuming random distribution, has to be equal to or greater than five to satisfy one of the criteria for the chi-square test of a large n (Mendenhall, Ott and Larson, 1974).

The small number of curative care users as earlier explained, is not a result of non-response but rather an outcome of the kinds of questions asked. Curative care users therefore comprise a self-selected category. Nevertheless, the smallness of the category prompted the decision to drop them from most of the discussion particularly involving the last two hypotheses. Altogether, the discussion of findings which generally draws attention to percentage (rather than statistical) differences, would have to be viewed with this limitation in mind.

It is important to point out, however, that the relatively small proportion of curative care users is a finding that is not unique to this study. Among a random sample of 1,000 urban residents of San Pedro Sula in Honduras, 31% (311) report having been ill during the preceding two-

week period. Of these, only 35% (109) conforms to the present study's definition of curative users in that they sought outside sources of cure. The majority (65% of 311) who report not seeking outside help either made use of home remedies (51% or 103) or did nothing (Teller, 1972). Among Costa Ricans in San Jose, Low (1982) finds patterns of curative care utilization similar to those noted in Teller's Honduran sample. The under-utilization of curative care sources outside family and kin networks has been similarly noted among Mexicans in Juarez. Durham and Hough (1979), in a comparative study employing a multi-stage cluster sample of residents in Ciudad Juarez, Chihuahua, Mexico and Anglos, Mexican-Americans and Mexicans residing in El Paso, Texas, observe that "Mexicans in Juarez report the highest mean number of physical illness symptoms but are more likely to forego seeking care than any other group" (p. 3).

Socio-Demographic Characteristics and Utilization of Health Care Services

Data pertinent to the hypothesis on income as a predisposing factor to preventive health care utilization are shown in Table 4. If income were in fact directly related to families' utilization of either preventive or curative health care practices, one would accordingly expect distinctive variations in the observance of these practices among households with contrasting income levels. Particularly, income has been shown to positively influence the utilization of health care services in general, that is, the higher one's income the higher the utilization, and vice versa.

From Table 4, one notes that low user households comprise the majority in both high and low income categories. Could the relative ineffectiveness that household per capita income has on preventive health care utilization be related to the nature of preventive health care itself? That is, that preventive health care as operationalized in this study is such that it is

generally "affordable"? This explanation is soon ruled out, however, when closer inspection of the data shows that majority of the cases are low level users.

TABLE 4

USE OF PREVENTIVE HEALTH CARE PRACTICES BY HOUSEHOLD PER CAPITA INCOME

Utilization Levela	Household Per Capi Less than ¢1500	ta Income ^b ¢1500 and above
Low User	57%	64%
High User	43	36
Total Base N X ² = 1.37 N.S.	100% 141	100% 98

^aA household's preventive health care utilization level is directly categorized as "high" or "low" depending on its preventive health care utilization score. The latter is the composite sum of a given household's score on the various indicators of preventive health care utilization.

^bIn Costa Rican colon (¢), the country's monetary unit. Seven colones ((7.00) approximately equaled US\$1.00 when data for this study were gathered.

Another likely answer may be that both household per capita income and utilization of preventive care are related to a third variable. The underlying variable could be the size or number of young dependents per household. The cue is suggested particularly by the distribution of high level users in Table 4. The data indicate that the effect of income on high utilization is seven points higher for families with low household per capita income. The suggestive analytic path would be: Since household per capita income is derived from family cash income divided by household or family size, high user households with low household per capita income may have more young dependents, that is, members aged 14 years old or younger. On factor influencing the frequency of visits to public health units, according to Rimando (1978) in a study among Philippine rural households, is the presence of children aged one to six years old. Also, it will be recalled from Appendix B that five out of 10 preventive health care use items which could translate into high household scores if all were answered positively, imply the presence of dependent children. However, the incomplete data on ages of all household members as explained earlier in Chapter II, do not presently make it possible to ascertain the effect of a household's young dependency burden on use of preventive health care practices.

TABLE 5

Utilization Level ^a	Household Per C Less than ¢1500	apita Income ^b ¢1500 and above
Low User	29%	67%
High User Total	71 100%	33 100%
Base N	14	9

USE OF CURATIVE HEALTH CARE SERVICES BY HOUSEHOLD PER CAPITA INCOME

^aA household's curative health care utilization level is directly categorized as "high" or "low" depending on its curative health care utilization score. The latter is the composite sum of a given household's scores on the various indicators of curative health care use. Curative care users comprise households with members who report experiencing illness, accidents and/or lesions two weeks immediately preceding the interview.

An inverse relationship between per capita income of household and the utilization of curative care services is suggested by the data in Table 5. Particularly, seven out of 10 families with low household per capita income, are high users of curative care services. Conversely, fewer use of such services characterizes about the same proportion of high income households.

The distribution of the data in the preceding table obviously contradicts the direct relationship hypothesized between income and the use of curative services. On second thought, however, the inverse association between the two variables may be in line with some observations earlier noted in this section. In particular, reference has been made on people's perception of the intensity of an illness and the kind or variety of assistance sought for the same. Attention has also been called to the fact that in many rural areas, a trained health practitioner's services are mainly availed of in cases that are perceived as serious or beyond the capacity of available local sources.

Given this background and the possibility that health (or illness) comprises only one among many competing demands on a rural family's resources, it is very likely that low-income households in this study do in fact delay their seeking of care much longer than the more economically better-off families. If so, it is probable that when outside assistance becomes seriously considered, the disturbing condition may have already deteriorated to such a point that no less than a nurse's or a doctor's services are perceived necessary. From Appendix C, one notes that families' seeking curative care assistance from formally trained health practitioners are assigned higher scores than those getting their help elsewhere.

Other probable explanations for the inverse relationship indicated in Table 5 are also worth noting. It has been speculated in the preceding

discussion on preventive health care utilization that the presence of more dependent children among low-income households may be associated with their slightly higher use of preventive health care practices. In the process of pre-natal visits, the immunizations of children, etc., these families may have gradually developed a positive sense of familiarity with the health center personnel and their services. The generally positive experience in assistance with preventive health care may have easily influenced their attitude and consequent actions towards other aspects of health care as well.

Moreover, the higher income groups may have more knowledge and can afford medicines. Hence, they may be better able to treat themselves more effectively at home than the low-income groups. Additionally, they may also know more about other sources of care and may indicate preference for them. The fact that other private health care services are accessible to them, and prestige is perceived as associated with their utilization, accordingly explain the unpopularity of public health care facilities among high income rural Philippine households in Rimando's (1978) study.

Given the observation that rural people's willingness to travel certain distances has often influenced their actual seeking of care, this study has hypothesized an inverse relationship between distance and the use of both preventive and curative care services.

Table 6 presents data indicating that the households in the study are about evenly distributed in terms of distance from the health center. Forty-nine percent estimate reaching the health center in less than half an hour. To the remaining 51%, the health center is physically accessible in half an hour or more.

TABLE 6

Utilization Level	Distance from 1/2 hour or more	Health Center Less than 1/2 hour
Low User High User	63% 37	57% 43
Total Base N X ² = .90 N.S.	100% 121	100% 118

USE OF PREVENTIVE HEALTH CARE PRACTICES BY DISTANCE FROM THE HEALTH CENTER

For households which are located some 30 minutes or more away from the health center, distance appears to have adversely affected their observance of preventive health care practices. As the data along the first column in Table 6 indicate, slightly over 60% of families in this category are low users of preventive health care practices.

With families living nearer the health center, low users similarly constitute the majority. However, the data also show that for high level users, the effect of distance on utilization of preventive care is six points higher for those situated less than 30 minutes away from it.

In sum, the distribution while not statistically significant, is in the direction of the hypothesized inverse relationship between distance and the use of preventive health care practices. As a predisposing factor to the practice of preventive care particularly among rural communities in underdeveloped countries, the concept of distance gains greater clarity when noted that people's mobility is highly restricted by conditions that

more often relate with their socio-economic marginality.

To get somewhere, quite often people literally travel on foot. In areas which are accessible by motorized vehicles, residents may be able to count on some form of public bus transport. However, not only must bus passengers go through generally dusty and poorly paved roads, they may have little control, if at all, over the timing of their departure or arrival. Not uncommonly, public passenger buses may not run by the clock but leave for their destinations only when filled to capacity, which could mean waiting for up to several hours. Or, even where public buses follow a fairly regular schedule, as Grant (1975) observes in a study of a rural community in Costa Rica, the fares may be considered so expensive that most people make use of them only when necessary.

Seen in this context, decisions to avail of primary preventive practices such as immunizations or a lecture-demonstration on the construction and proper maintenance of a private privy, cease to appear simple and straightforward tasks. Quite likely, these decisions have to be weighed against travel cost considerations in both time and monetary terms. Decisions resulting heavily in favor of the latter two possibly explain the relatively low preventive health care utilization level found in Table 6 particularly among families living further away from the health center.

Twenty-three (23) households report having availed of curative health care services; most of them made maximum use of those services. The high users, as Table 7 shows, are about evenly distributed across households situated less than half an hour and those half an hour or longer from the health center.

TABLE 7

Utilization Level	Distance from 1/2 hour or more	Health Center Less than 1/2 hour
Low User	45%	42%
High User	55	58
Total Base N	100% 11	100% 12

USE OF CURATIVE HEALTH CARE SERVICES BY DISTANCE FROM THE HEALTH CENTER

The above distribution is obviously contrary to the inverse relationship hypothesized between distance and the use of curative health care services. However, considering the distinctions usually made involving situations which call for preventive remedies and those requiring immediate curative measures (cf. p. 80), the data may well indicate that after a decision to seek curative care has been reached, the perceived need or urgency for such care precludes consideration of distance as an important factor in the decision. This very perception of need may have prompted the decision in the first place.

This study has hypothesized a direct relationship between household size and the utilization of both preventive and curative health care services. From Table 8, one notes that the families in the study are about eveny distributed in membership size. Forty-nine percent comprise households having up to five persons. The remaining 51% of households have six or more members. The data in Table 8 suggest some support in the direction of the hypothesized relationship. Particularly, the effect of household size on utilization level among high level users, is 10 points higher for larger households. In sum, the utilization level of preventive health care practices tends to increase with the size of the household.

TABLE 8

Utilization Level	Size of House 1-5 persons (ehold 5 or more
Low User	65%	55%
High User	35	45
Total Base N X ² = 2.17 N.S.	100% 116	100% 123

USE OF PREVENTIVE HEALTH CARE PRACTICES BY SIZE OF HOUSEHOLD

The hypothesized direct relationship between household size and the use of curative health care services appears to receive some support from the data in Table 9. This is particularly apparent for larger households, 67% of whom constitute high level users. On the other hand, 55% of the smaller households having up to five members are low users of curative health care services.

Over-all, the effect of household size on the utilization of curative health care services, conforms to the pattern noted in the preceding table (Table 8) pertaining families' use of preventive health care measures. Mainly, the utilization of curative services tends to increase with the size of the household.

TABLE 9

USE OF CURATIVE HEALTH CARE SERVICES BY SIZE OF HOUSEHOLD

Utilization Level	Size of Ho 1-5 persons	usehold 6 or more
Low User	55%	33%
High User	45	67
Total	100%	100%
Base N	11	12

A direct relationship between membership and the utilization levels of households in both preventive and curative care services has been hypothesized in the study. The underlying assumption is that groups concerned with health promotion, community development or both are usually designed to encourage, among others, improved information and motivation among members in matters pertinent to their groups' concerns.

Thirty-five percent or 83 out of the 239 sample households report having membership affiliations with groups involved in health promotion and/or community development. This membership affiliation appears to have discernable positive effect on their use of preventive health care practices. Majority (67%) of the association member households, as indicated in Table 10, are high users of preventive health care practices. Among low level users, there are more non-member than

TABLE 10

USE OF PREVENTIVE HEALTH CARE PRACTICES BY MEMBERSHIP IN ASSOCIATION

Utilization Level	Membership S Non-member	Status Member
Low User High User	55% 45	33% 67
Total Base N X ² = 1.67 N.S.	100% 156	100% 83

Contrary to the hypothesis, the data in Table 11 suggest an inverse relationship between membership in association and households' use of curative health care services. Particularly, far more non-member than member households are high level users of curative care services. This finding clearly indicates that while membership does contribute to families' predisposition to use preventive care, their decision to seek curative care services is generally independent of such membership consideration. The underlying explanation appears to be in line with that earlier cited for the direct relationship between distance from the health center and curative care utilization. In that as in the present case, the perceived need or urgency prompting decisions on curative care utilization, has precluded consideration of other factors in the decision. That is, factors other than the family's assessment of the intensity of an ailment and its capacity (or incapacity) to deal with it using home remedies.

TABLE 11

USE OF CURATIVE HEALTH CARE SERVICES BY MEMBERSHIP IN ASSOCIATION

Utilization Level	Membership St Non-member	tatus Member
Low User	36%	56%
High User	64	44
Total	100%	100%
Base N	14	9

Some 206 out of 250 households report having elementary and high school aged (7 - 15 years old) children. An overwhelming majority (62%) of the households with younger members who ought to be in school (i.e., attendance in the elementary grades as earlier noted is considered compulsory by the State), also indicate that these members were not currently enrolled at the time of the interview. These children had either temporarily dropped out of school, had left school for good or had completed the primary grades. This observation generally conforms with an earlier cited finding by Grant (1975) in another Costa Rican rural community. He notes that almost half of the school aged children in Concepcion district in the canton of San Ramon, Alajuela province, are either out of school or are in it sporadically in the latter grades. The hypothesis is that the school attendance status of elementary and high school aged children in the household would be directly related with that household's use of preventive health care practices. The underlying assumption is that the younger members' exposure to the school environment would contribute in making them channels of progressive influences on the household unit particularly where environmental health and other related concerns are involved.

TABLE 12

Utilization Level	School Attendance Sta Not in school	atus of Children In school
Low User High User	57% 43	49% 51
Total Base N X ² = 1.13 N.S.	100% 127	100% 79

USE OF PREVENTIVE HEALTH CARE PRACTICES BY SCHOOL ATTENDANCE STATUS OF CHILDREN

The data in Table 12 provide conditional support for the foregoing hypothesis. In particular, among households with non-matriculating children, majority (57%) are low users of preventive care. On the other hand, while there is a slight eight percent difference in favor of school attendance among high user households, households with currently enrolled members are nevertheless about evenly divided across both high and low user categories (51% and 49%, respectively). From Table 13 one notes that current school attendance by younger household members is decidedly unrelated to the household's use of curative health care services. The data show that majority of the households are high users of curative care. However, these high users are evenly spread across households having members who are and are not currently in school.

TABLE 13

Utilization Level	School Attendance Sta Not in school	tus of Children In school
Low User	44%	43%
High User	56	57
Total Base N	100% 16	100% 7

USE OF CURATIVE HEALTH CARE SERVICES BY SCHOOL ATTENDANCE STATUS OF CHILDREN

The absence of sufficient difference between those with and those without children in school attendance and the utilization behavior of corresponding households in both preventive and curative care raises a number of speculations. Among which may be the possibility that topics on environmental health and related matters may not have been sufficiently dealt with in classroom activities. Contributing to this limitation may be the fact that the time spent in school is relatively short, lasting three and a half hours daily, five times a week. Or, where classroom instruction has otherwise improved or added to a child's information and awareness of health matters, the child may have relatively little influence, if at all, in changing the behavior or outlook of older members. This may be the case particularly in a culture or home environment where parents or other adults have traditionally been the undisputed sources of authority. On the other hand, it is just as probable that the household in general, having become fully cognizant of the value of various preventive and curative practices, may have encountered difficulties in behaviorally actualizing them.

Health Care Delivery System and Utilization of Health Care Services

Tables 14 through 18 present data pertinent to the second hypothesis. Specifically, comparisons on the relative impacts of the two health care delivery approaches on families' utilization behavior are examined while simultaneously controlling for the different socio-demographic variables earlier enumerated.

Following the rationale earlier discussed for the second set of hypotheses one would expect that among the same category of households, those under the comprehensive program would have more high users of preventive health care practices relative to those served by the clinicbased model.

This hypothesis is not supported particularly by the data on high income households. Table 14 shows that majority of the high income households who are high users of preventive care practices patronize the clinic-based model in Quebrada Honda.

The contrastingly small proportion of high users among high income families under the comprehensive program may be related to the uncertainty oftentimes accompanying decisions involving anything new or unfamiliar. It will be recalled that the comprehensive health care model in San Antonio, besides being new in the community, also represents a generally unfamiliar and innovative concept on health care entitlement. This, and the likelihood that better-off families have relatively easier access to other sources of care, may explain the tendency among high income families under the comprehensive program to shun using its preventive care services. Moreover, the use particularly of the private health care sector in Costa Rica tends to be identified with well-to-do families (Low, 1982b). In Costa Rica as in the Philippines (cf. p. 20), it is probable that such usage also carries a status-conferring value.

TABLE 14

USE OF PREVENTIVE HEALTH CARE SERVICES BY HEALTH CARE SYSTEM AMONG TWO INCOME LEVELS (% High Users only)

Income Level	Health Care D Clinic-Based	elivery System Comprehensive
Low Income	42% (24)	44% (117)
High Income	56% (25)	29% (73)

N = 239

^aRefers to household per capita income. Low income denotes an annual income of less than (1500); high income, (1500) and over. US\$1.00 equals seven Costa Rican colones ((7.00)) when present data were gathered.

Among low income households, on the other hand, neither the comprehensive nor the clinic-based model has had a differential impact on families' use of preventive health care services. The proportion of high (and correspondingly low) user households are nearly equally distributed across both health care delivery programs. Moreover, it can be inferred that majority of the households under both programs are low users of preventive health care practices.

Nevertheless, a closer examination of the data in Table 14 would also show that high level users among low income households under the comprehensive program far exceeds those with high income (44% and 29% respectively). The greater utilization among low income households may have been facilitated by the socialized character of the comprehensive health care program. With financial barrier towards access to care relatively reduced under the comprehensive program, it is probable that the decision to seek the help of a trained health professional ceased to be prohibitive for many low income households.

Two somewhat conflicting observations on distance and the utilization of health care services are pointed out by the literature reviewed earlier in Chapter I. Namely, distance is shown as inversely related to the use of services particularly among rural households in underdeveloped countries. At the same time, distance appears to have generally no effect on utilization as rural families chose to avail of services in health centers farther away from home despite the presence of a similar facility nearby.

From the reasons that Djukanovic et al. (1975) cite in explaning what to them is a "bypassing" phenomenon, the situation may also be inferred as a case where a health center's socio-organizational accessibility, to borrow Donabedian's (1972) terminology, functions as a countervailing influence against the probable adverse effect of geographic distance on utilization.

A parallel development has been hypothesized in this study particularly involving families under the comprehensive model. It may be recalled from earlier discussions that the comprehensive program has accordingly been designed to reduce or eliminate existing impediments to the use of recommended health care practices, among which may be geographic, and in general maximize access to care. If this has in fact occurred, relatively greater utilization could be expected for households under the comprehensive rather than the clinic-based model, irrespective of their similarities in physical distance from the health center.

TABLE 15

USE OF PREVENTIVE HEALTH CARE PRACTICES BY HEALTH CARE SYSTEM AND DISTANCE FROM THE HEALTH CENTER (% High Users only)

Distance from Health Center	Health Care Delivery System Clinic-Based Comprehensive	
1/2 hour or more away	45% (33)	34% (88)
Less than 1/2 hour	56% (16)	41% (102)

N = 239

Table 15 fails to provide support for the hypothesis. In general, the data show that among households which are situated in both near and far distances from the health center, the clinic-based model in Quebrada Honda has more high users.

The greater proportion of high user households under the clinic-based program may be related to the program's use of a mobile health clinic.

The clinic, staffed by the same personnel who also run the health center in the community, reportedly conducts periodic visits to outlaying areas particularly in connection with its immunization campaigns. It literally brings right into the doorsteps of target households, the health center's facilities and services. Particularly for families living far from the health center, the presence of a mobile health clinic in Quebrada Honda has clearly contributed in minimizing the probable adverse effect of distnace on preventive health care utilization.

The direct association between household size and the use of preventive health care services has been noted in an earlier section. Under the present hypothesis, however, it has been advanced that irrespective of the household size those served by the comprehensive health care delivery program would tend to manifest higher utilization of preventive health care services than those served by the clinic-based model.

TABLE 16

USE OF PREVENTIVE HEALTH CARE PRACTICES BY HEALTH CARE SYSTEM AND SIZE OF HOUSEHOLD (% High Users only)

Size of Household	Health Care De Clinic-Based	livery System Comprehensive	
Small (5 or fewer members)	44% (25)	33% (91)	
Large (6 or more members)	54% (24)	42% (99)	

95

N = 239

However, the data in Table 16 do not support the hypothesis. Irrespective of household size, proportionally more high users come from the clinic-based rather than the comprehensive delivery model. This is particularly apparent among larger households in Quebrada Honda, 54% of whom are high users. In general, however, regardless of the health care delivery program, high users tend to come from larger households.

As may already be apparent from the previous section, majority of the households in the study report not being members of any group or association which are concerned with health promotion and/or community development. However, following the assumption earlier explained underlying the second set of hypotheses, it has been hypothesized that irrespective of their membership status, those under the comprehensive health care delivery program would tend to be high level users relative to households served by the clinic-based model.

TABLE 17

	······································	
Membership Status	Health Care Clinic-Based	Delivery System Comprehensive
Non-member	38% (26)	37% (130)
Member	61% (23)	40% (60)

USE OF PREVENTIVE HEALTH CARE PRACTICES BY HEALTH CARE SYSTEM AND MEMBERSHIP STATUS (% High Users only)

N = 239
Table 17 presents data which are contrary to the present hypothesis. Among member households, there are more high users under the clinic-based model than there are under the comprehensive health care program. The higher user rate among member households in Quebrada Honda suggests other influences. These factors may be related to the clinic-based program's use of a mobile clinic and its being an older, more established program.

Among non-member households, the health care system has no differential impact on families' use of preventive health care practices. The proportion of high (and correspondingly low) users are nearly the same for families served by the comprehensive and the clinic-based programs.

In a related earlier hypothesis, the utilization of preventive care has been observed as generally unrelated to whether or not households have younger members who were currently in school. The present hypothesis nevertheless, would lead us to expect that given households under the two programs with school aged children who may or may not in fact be attending school, those under the comprehensive program would tend to have more high users relative to those served by the clinic-based model.

TABLE 18

USE OF PREVENTIVE HEALTH CARE SERVICES BY HEALTH CARE SYSTEM AND SCHOOL STATUS OF CHILDREN (% High Users only)

School Status of Children	Health Care Delivery System Clinic-Based Comprehensive		
Not in School	65% (17)	39% (110)	
In School	57% (23)	48% (56)	

The data in Table 18 do not support the hypothesis. Irrespective of the school status of younger members, the clinic-based relative to the comprehensive program, is characterized by proportionally more high users. Nevertheless, one also notes that among families served by the comprehensive program, there are more high users among those with currently enrolled children than there are among households whose younger members are not in school.

At this point, an overriding observation may already be apparent from the data. Namely, the comprehensive health care delivery program has not extensively generated the kind of utilization behavior it has been envisioned to promote.

If the comprehensive health care delivery model has not contributed to greater utilization, or has only facilitated as much utilization as the older clinic-based program, the probable explanations could in part be situational and partly related to certain aspects of the comprehensive program itself.

The community setting of the clinic-based model, that is, the district of Quebrada Honda, from all available outward information, appears to be much better-off socio-economically than the district of San Antonio (Table 3). It will be recalled that this study undertook steps to control for the various possible contaminating influences of specific sociodemographic variables.

In the face of present findings, however, one may have to recognize that other than their probable predisposing influences on individual or family behavior, certain socio-demographic characteristics may also facilitate some form of collective influence on entire communities. Thus, a person may not be particularly conservative, or may not fully

comprehend the rationale behind one way of thinking over another, but valuing acceptance from what one perceives as a community with those defining characteristics, may guide one's behavior according to those perceived standards (Sherif, 1957).

Similarly, the relatively higher socio-economic situation that appears to be descriptive of proportionally more families in Quebrada Honda, may have predisposed them to particular health-related behavior. Knowingly or unknowingly, the same characteristics may have also made them reference figures in this regard for other families in the community.

It is not unlikely for the foregoing process of influence to have occurred in Quebrada Honda. Being rural, much of people's interactions are still characterized by primary relationships. As in the rural <u>municipios</u> and <u>barrios</u> of the Philippines or Mexico, people in the community, particularly the adult members, may not only know each other by name but generally address one another as members of given families. The basic social organization of Costa Rica has the family as "the primary social arrangement and agent of social control, followed by the neighborhood..." and on through an inevitable assortment of secondary institutions (Low, 1982, p. 97).

As an "extension" as it were, of one's family, the person is socialized in the belief that the individual member is behaviorally accountable to one's family group and vice versa. Thus, an older member, already convinced in the value of utilizing particular health care measures, would likely see to it that others in the household avail of such measures where appropriate and possible. Or, knowing that a good neighbor's family practices particular preventive care measures, also decides to have one's family do the same. Moreover, the importance given to such traditional

value as <u>personalismo</u>, that is, maintaining effective personal working relationships with persons (and families) "who matter" and concern over "what others may say, see or think" are perhaps better magnified in the rural setting. For some, these considerations might comprise sufficient reasons underlying specific decisions.

The clinic-based model in Quebrada Honda moreover appears to be a relatively well-entrenched older program. Households within its service vicinity may have come to view and accept it as part of the locale as well as familiar, background. In contrast, the areas embraced by the comprehensive program health centers in San Antonio are the result of deliberate geographic subdivisions, done mainly for purposes of implementing the new health care delivery scheme. While these divisions considered the physical proximity of households and over-all population size, it is not know if other factors (i.e., social ties between communities, opinions of households regarding the geographic subdivisions, etc.) received as much consideration.

An outstanding feature of the clinic-based program which is not found in the comprehensive model, is the former's use of a mobile clinic. Considering the direct effect of distance on utilization noted in the preceding section, the mobile clinic made resources readily available to potential users. Households' generally positive response to the presence in their midst of a mobile clinic may have, in turn, come about out of a value for the use of preventive health care itself, if not initially out of a sense of <u>delicadeza</u>, that is, the tendency to orient behavior in terms of the socially expected and appropriate, given the circumstances. To refuse an offer of preventive health care assistance right in one's own doorsteps, as it were, could have only been thought of as rudely inappropriate.

Another probable explanation may be related to the timing of the study from whose data the present one is based. As explained in an earlier chapter, the comprehensive program has been aimed at encouraging specific health-related behavior among its target households. On both providers and target populations, the program necessarily entails appropriate investments in time, effort and related resources. Moreover, where desired program outcomes also represent substantive changes in behavior, they may well dictate significant shifts in outlook or mental orientation. Experiences with integrated family planning and maternal and child health programs particularly in developing countries would seem to suggest that substantive outcomes along this direction are not easily attained even when financial barriers may have been minimized or eliminated with some form of government or private subsidy.

A parallel development may be just as probable among households under the comprehensive health program. Consequently, the data from which the present study is based, gathered two years from the implementation of the comprehensive program in San Antonio, may have indicated that the innovation has not yet rooted in the community.

Utilization of Health Care Services and Health Status

Proportionately more households under the clinic-based program in Quebrada Honda report having members who were either ill, had experienced some functional limitations or perceived illness-related symptoms during the two-week span prior to the interview. Table 19 shows 74% or 37 out of 50 sample households from Quebrada Honda, compared to 39% or 78 households out of the 200 from San Antonio.

Reported Some Illnesses?	Health Care D Clinic-Based	Health Care Delivery System Clinic-Based Comprehensive		
Yes	74%	39%		
No	26	61		
Total	100%	100%		
Base N	50	200		

HOUSEHOLDS AND INCIDENCE OF ILLNE	SS DURING TWO PRECEDING WEEKS
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Nevertheless, both programs as indicated in Table 20 have nearly the same high proportion of households with high health status. Relative to those with low health status, high health status as presently used means fewer incidence of illness and experiences of functional limitations (in the two-week period preceding the interview) among members in any given family as well as a generally favorable assessment of their state of health by a medical doctor.

TABLE 19

TABL	Е	20
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Health Status ^a	Health Care Delivery System Clinic-Based Comprehensive		
Low	41%	40%	
High	59	60	
Total Base N	100% 37	100% 78	

HEALTH STATUS BY HEALTH CARE DELIVERY SYSTEM

^aIndividual respondents' score on various health status indicators are aggregated into specific household scores. These scores are the bases for categorizing health status into "high" and "low" levels.

To what extent are households' health status associated with their utilization of health care services? This question is explored in the present section.

Unlike the previous sections which separately examined the use of preventive and of curative care as independent variables, the small number of cases pertinent to the present set of hypotheses to begin with, which generally resulted in even smaller frequencies after effecting the necessary controls, later prompted the decision to integrate preventive and curative health care under the broader heading of use of health care services. In sum, the 115 households indicated in Table 20 with corresponding health status assessments include six which are mainly curative care users and 17 which are users of both preventive and curative care services. The remaining 92 households are mainly users of preventive health care measures. If the use of health care services directly relates with health status as hypothesized in this study, households with high utilization of health care services would have correspondingly high health status after controlling for the type of health care delivery program and the specific socio-demographic variable. Conversely, households with low utilization would have low health status.

On the contrary, Tables 21 through 25 do not generally support the hypothesis.

TABLE 21

HEALTH STATUS BY USE OF HEALTH CARE SERVICES, INCOME LEVEL AND HEALTH CARE DELIVERY SYSTEM (% High Health Status only)

Utilization Lev	Low	Income Level ^a Low Income High Income			
	Health Ca	re System	Health Can	re System	
	Clinic-Based	Comprehensive	Clinic-Based (Comprehensive	
High User	56%	62%	56%	56%	
	(9)	(21)	(9)	(9)	
Low User	77%	59%	33%	62%	
	(13)	(22)	(6)	(26)	

N = 115

^aRefers to household per capita income. Low income denotes an annual income of less than ¢1500; high income, ¢1500 and over. US1.00 equals seven Costa Rican colones (¢7.00) when present data were gathered.

The data on households with high health status in Table 21 show that high health status is not necessarily confined among high users. Except for low user households with high income under the clinic-based program, the distribution of the data generally indicates that families with low utilization of health care services are as likely as high user households to have high health status. The observation appears to be descriptive of the majority of low income households irrespective of the health care delivery system, as well as among families with high income under the comprehensive program.

TABLE 22

HEALTH STATUS BY USE OF HEALTH CARE SERVICES, DISTANCE FROM HEALTH CENTER AND HEALTH CARE DELIVERY SYSTEM (% High Health Status only)

Utilization Leve	1/2 hour	Distance from Health Center 1/2 hour or more Less than 1/2 hour			
	Health Ca	are System	Health Care System		
	Clinic-Based	Comprehensive	Clinic-Based Comprehensive		
High User	78%	62%	33%	59%	
	(9)	(13)	(9)	(17)	
Low User	69%	67%	33%	57%	
	(16)	(18)	(3)	(30)	

N = 115

Similarly, Table 22 indicates that utilization level has no differential impact on health status. The observation is readily apparent particularly among households which are situated further away from the health center. The data show that besides being equally associated with both the clinicbased and the comprehensive programs, a fairly high proportion of households with high health status can be found across both high and low level users of health care services. Among households living nearer the health center, a similar pattern is observable. Here, however, majority of those under the comprehensive program have high health status irrespective of their utilization level. In contrast, an equal proportion of high and low user households with high health status comprise the minority under the clinic-based program.

TABLE 23

HEALTH STATUS BY USE OF HEALTH CARE SERVICES, SIZE OF HOUSEHOLD AND HEALTH CARE DELIVERY SYSTEM (% High Health Status only)

Utilization Level C [.]	1 to 5	Size of Household l to 5 persons 6 or more			
	Health Car Clinic-Based	re System Comprehensive	Health Card Clinic-Based (e System Comprehensive	
High User	37%	71%	70%	57%	
	(8)	(7)	(10)	(23)	
Low User	56%	58%	70%	61%	
	(9)	(12)	(10)	(36)	

N = 115

The data in Table 23 follow the pattern found in the preceding tables. In general, the distribution shows that irrespective of the size of household and the health care delivery system, low users are as likely as high users to have high health status. That high health status is not confined to high users is perhaps underscored in the above table by the data on small households served by the clinic-based program. Among this category of households, low users with high health status are a majority (56%), exceeding by as much as 19 points high user households with high health status (37%) under the same program.

TABLE 24

HEALTH STATUS BY USE OF HEALTH CARE SERVICES, MEMBERSHIP STATUS AND HEALTH CARE DELIVERY SYSTEM (% High Health Status only)

Utilization Level	Non-Mem	Membership Status Non-Member Member		
	Health Care System linic-Based Comprehensive		Health Care System Clinic-Based Comprehensive	
High User	56%	58%	56%	64%
	(9)	(19)	(9)	(11)
Low User	64%	53%	63%	75%
	(11)	(32)	(8)	(16)

N = 115

Similarly, the data in Table 24 do not support the hypothesis. Mainly, the distribution suggests that high health status appears to be equally descriptive of majority of both high and low user households. Moreover, with the exception of non-member households under the comprehensive program of which 53% are low users with high health status, high health status is notably indicated in all other cases (i.e., non-member and member households in both programs) for over 60% of low level users.

Table 25, like the preceding four tables, does not support the hypothesis. Mainly, the distribution indicates that low user households are as likely as those who are high users to have high health status. The direction is apparent irrespective of the health care delivery system and the school attendance status of younger household members. In particular, high health status tends to be associated with an overwhelming majority of low user households in both the clinic-based and the comprehensive programs whose children are attending school (75% and 78%, respectively).

TABLE 25

HEALTH STATUS BY USE OF HEALTH CARE SERVICES, SCHOOL ATTENDANCE STATUS OF CHILDREN AND HEALTH CARE DELIVERY SYSTEM (% High Health Status only)

Utilization Leve	Not in	School Atte		endance Status	
	el	Not in School		In School	
	Health Ca	Health Care System		Health Care System	
	Clinic-Based	inic-Based Comprehensive		Clinic-Based Comprehensive	
High User	56%	62%	56%	56%	
	(9)	(21)	(9)	(9)	
Low User	60%	59%	75%	78%	
	(5)	(34)	(12)	(9)	

$$N = 108$$

In sum, the observation which is readily evident from the data is that households' use of health care services does not appear to have a direct differential impact on health status. Except in the four instances involving low users with low health status under the comprehensive program, the data show that health status is neither directly indicated for households under a specific socio-demographic category nor a given health care delivery program. These findings initially strike one as contrary to what the earlier review of the literature would have led one to expect. Mainly, while it is generally recognized that health status is a function of a multiplicity of interrelated factors (e.g., life-style, quality of the environment, resources, etc.), it has also been generally assumed that the use of health care services would be one of those contributing variables, particularly for rural or inner city urban residents. Just as well-documented especially regarding families in underdeveloped countries, has been the direct association between health status and such socio-demographic variables as income, household size, distance from health resources, etc. (World Bank, 1980).

Nevertheless, in considering the possible explanations for the present findings, one notes that irrespective of their health care utilization level, majority of the responding households have high health status. As used in this study, the concept of utilization basically narrows down in the final analysis, to what a person and his or her family perceive. In both districts of San Antonio and Quebrada Honda, the various preventive and curative health care measures have no doubt been conveyed, as they generally are elsewhere, as important and necessary to one's health and well-being. However, would the target families also perceive them as such to warrant their manifestation in the use of the same services?

In arriving at a decision on the use (or non-use) of certain health care measures, perceptions on the state of one's health or those of other household members may have contributed to the final choice. If the ultimate aim of adhering to specific health care practices is to maintain if not improve health status, an inevitable question when faced with the decision to use or not use certain services, would have to be whether or

not one needs them, given one's perceived state of health.

Thus, instead of health status as a utilization outcome as this study has hypothesized, the reverse may have been the case. More specifically, utilization decisions on given health care measures may vary with how households and individuals evaluate their need for the same based on their assessments of their health status.

This explanation, while likely descriptive of processes underlying the present findings, provides only a partial answer to the relationship between utilization and health status. For reasons already cited earlier in this section, households with corresponding data on health status comprise only 46% of the sample households. Hence, observations pertinent to their behavior may not be representative of the households in the study.

CHAPTER V

SUMMARY AND IMPLICATIONS

Summary

The relative impacts of two health care delivery approaches are examined in this study using interview data from two Costa Rican rural communities. Responses to the comprehensive health care delivery program in San Antonio and the clinic-based model in the adjacent community of Quebrada Honda have been analyzed by focusing on the preventive and the curative health care utilization behavior of a random sample of 239 households. Following a conceptual framework of the health care delivery system as an intervening variable to the use of services, utilization behavior has been examined both as a dependent variable relative to the system of care, and as an independent variable viewed in relation to health status.

Indicators of preventive and of curative health care services as well as health status indicators have been quantified based on an additive scoring procedure. Household scores under each variable have been subsequently categorized into "high" and "low" levels.

Where feasible, chi-square tests were made on the tabular data. In most cases, however, chi-square tests were no longer pursued when the relevant data showed average cell frequencies of less than five. The findings discussed, therefore, generally pertain to percentage rather

than statistical differences.

The three hypotheses examined in this study and the findings relative to them are as follows:

<u>Hypothesis 1</u>. Specific socio-demographic variables such as per capita income of household, distance from the health center, household size, school attendance status of younger household members and membership in health-related associations, are predisposing factors to households' use of health care services. Particularly, large, high-income households which are geographically nearer the health center, whose children attend school, and are members of health-related associations, tend to use more preventive and curative health care services.

Data pertinent to the first hypothesis may be more fully examined in Tables 4 through 13. Contrary to the hypothesis, income is shown to have no differential impact on households' use of preventive care. However, income affects curative care particularly of low income households who tend to use more of the same.

Distance from the health center tends to affect households' use of preventive care practices. Slightly more households which are further away from it are low users. The use of curative care is however unrelated to distance. High users of curative services are evenly divided across households which are situated in both far and near distances from the health center.

In line with the direct relationship hypothesized between size of household and utilization, the data show that larger households tend to be high users of both preventive and curative care services. Similarly confirmed by the data is the positive relationship between membership in health-related association and the use of preventive care practices.

However, no such impact is seen among high users of curative services, majority of whom are non-member households.

The data conditionally supports the positive relationship hypothesized between school attendance and use of preventive care practices. Majority of households whose children do not attend school are low users. Nevertheless, households with children in schoo are about evenly divided across both high and low user categories.

<u>Hypothesis 2</u>. The use of both preventive and curative health care services will be greater in a community that is served by a comprehensive health care model than in one where such a health care delivery strategy has not been employed.

Reduced cell frequencies involving curative care users particularly after controlling for each of the socio-demographic variable in the process of comparisons in utilization behavior, led to the decision to drop the curative user category altogether. Data showing comparisons on the relative impacts of the two health care delivery approaches on households' preventive health care utilization behavior, may be more fully examined in Tables 14 through 18.

Contrary to the hypothesis, the clinic-based health care delivery system has more high users among high income households. On the other hand, while the proportion of high users among low income households are nearly the same for both programs, the comprehensive program nevertheless has far more high users among its low income households relative to high users among high income households under the same program.

The clinic-based model is patronized by proportionally more high users irrespective of their distances from the health center and membership sizes. Moreover, the clinic-based model has more high users among member households. However, the preventive utilization behavior of families without membership affiliation in health-related associations, is unaffected by either programs.

In both households with and without younger members who attend school, the clinic-based relative to the comprehensive program has more high users. High users served by the comprehensive program generally have children in school.

<u>Hypothesis 3</u>. Greater use of preventive and of curative health care practices will lead to better health status.

An examination of the data pertinent to the third hypothesis (Tables 21-25) generally shows that high utilization does not necessarily correspond with high health status. However, low utilization is associated with low health status particularly for households under the comprehensive program.

With few exceptions, a negative relationship between high use and high health status is indicated where type of program is controlled and across households with varying income levels, distances from the health center, membership sizes, organizational membership status and school attendance status of younger members. The exception appears to be households under the clinic-based program with high income and those whose children may or may not be in school. Majority of these are high users having correspondingly high health status.

Meanwhile, far households from both the clinic-based and the comprehensive programs, majority of whom are low users, also have low health status. Low health status is similarly indicated for low user households under the comprehensive program irrespective of income level, membership sizes, organizational membership status and those whose children are not in school. Implications

<u>Theory</u>. This study confirms in part and rejects in part the theoretical framework and aspects of the literature reviewed. It has been shown that the socio-demographic variables which have been hypothesized as predisposing factors to the use of services, have varying impacts on the utilization of preventive and curative health care measures. In particular, the use of preventive care is positively related to the predisposing influences of distance, membership and school attendance. However, these variables are unrelated to the utilization of curative care services.

These contrasting relationships may find clarification in an examination of the distinctive differences between preventive and curative care. As noted in the literature review, preventive care implies "averting the occurrence of disease" while curative care involves "halting or slowing the progress of a disease" (Cf. p. 46). To users, curative care is most often preceded by experiences of some activity-imparing symptoms or perceptions of discomfort (physical or mental) believed detrimental to "normal" functioning. The element of immediacy which tends to be associated with curative care makes it less subject to, if it does not completely overshadows, the mediating effects of distance, membership and school attendance.

In contrast, the initiation of preventive care "presumes... a value for, and interest in, planning for the future" besides some knowledge about disease processes (Rosenstock, 1975, p. 213). The action conforms with Kasl and Cobb's (1966) concept of health behavior (as distiguished from illness behavior) as "the activity undertaken by persons who believe themselves to be healthy, for purposes of preventing or detecting illness in an asymptomatic stage" (p. 246).

In the absence of some felt or disabling symptoms, preventive care, particularly when viewed in relation to other competing needs, could be easily perceived as less urgent, therefore leaving families more leeway in reaching decisions relative to it. Consequently, the behavioral manifestation of preventive care can be more likely facilitated or constrained by the presence or absence of predisposing characteristics associated with the population or target community. In the present study, preventive health behavior has been facilitated by the predisposing variables of nearness to the health center and ties with groups and schools which provide awareness and support for the behavioral realization of preventive practices.

Consistent with the study's framework, size of household is directly related to the use of both preventive and curative health care services. On the other hand, what is at first seen as a deviation from the expected, namely, the finding that income has no differential impact on the use of preventive measures and is inversely related to curative utilization, may be clarified in a further examination of the literature.

Citing data from a nationwide probability sample survey of the U.S. adult population, Rosenstock (1975) concludes that income does not generally pose a barrier to care where the care involve entails minimal or no expense. He notes particularly that the extent and consistency of preventive actions involving diseases with varying clinical severity (e.g., dental disease, tuberculosis and cancer) "are greatly reduced thought still present" (p. 197).

A narrowing gap in consumption of various health services by different socio-economic status groups has been similarly found by Aday and Eichorn (1972) in an extensive review of utilization studies using U.S. data. The

authors assert that while "in the past, the lower-income groups generally had lower hospital admission rates than the high-income... this relationship is being reversed because of the growth of health insurance and financing programs for the poor" (p. 23). Eastman et al. (1976), in a study of New Mexican households, also find socio-economic characteristics to have little influence on their use of health care services. They explain the finding in terms of narrowing economic class differentials or greater availability of services.

A similar observation may be equally applicable to households in this study. Specifically, the socialized health care components of the comprehensive program on the one hand, and in the case of the clinic-based model, its graduated payment schedule combined with the use of mobile clinic services, must have greatly reduced both actual and hidden (e.g., time, travel, etc.) costs, therefore rendering income-differences in preventive utilization practically nil. The same underlying factors, coupled with the possibility of greater illness incidence requiring curative care among low-income households (Cf. p. 78), can be similarly advanced to explain the inverse relationship between income and curative care behavior.

That the health care delivery system is an intervening variable to the use of services, finds support mainly with data on the clinic-based model. Given that utilization is an indicator of access, as Aday and Andersen (1974) maintain, the high user households generally associated with the clinic-based model can be interpreted to mean that its facilities and services are more readily accessible.

The concept of access as Aday and Andersen have noted, may be an attribute of the population or of the delivery system. In the present

case, access appears to be more of a delivery system attribute since data pertinent to the relationship already controlled for the population characteristic or socio-demographic variables. Thus for the clinic-based model, the mobile clinic has emerged as an effective facilitator of access. Its absence in the comprehensive program represents a striking structural contrast, leaving its preventive resources less readily available to potential users.

Nevertheless, access cannot be inseparably viewed from the framework of the interrelationship between delivery system and population characteristics. The point is underscored by Donabedian (1972) who, as earlier noted, associates socio-organizational accessibility (or the lack of it) with the "lack of fit" between source and potential client even when these are brought together (Cf. p. 47). The clinic-based model's use of a mobile clinic may have therefore provided a fitting consonance to certain aspects of the population. Besides minimizing the geographic gap between source and potential users, the bringing of clinic personnel and facilities directly into neighborhoods may have also served to confront households into making relatively immediate decisions on preventive health care measures. As is well known, the decisions made generally favored higher utilization of preventive practices.

In addition to the predisposing socio-demographic variables earlier discussed, the community's positive response to the presence of the mobile clinic may have undoubtedly been also influenced by other population attributes. A high value for preventive care, first-hand or indirect positive experiences with preventive utilization, or the belief that rejecting an offer of assistance (particularly also when rendered by authority figures) already at one's doorsteps would be normatively

inappropriate, are community characteristics tending to contribute to the successful implementation of mobile clinic services. Where primary relationships still basically govern interactions and certain traditional norms continue to retain importance in people's everyday behavior, the latter two attributes are not particularly remote possibilities.

Preventive health behavior set by neighbors and significant others combined with an awareness of specific normative expectations may therefore lead to a kind of "readiness to act" accordingly. The behavioral manifestation of such state of readiness is however conditioned by the availability of appropriate resources and facilities. In making both personnel and facilities more readily accessible to potential users through the use of a mobile clinic, the clinic-based program paved the realization of a "perfect fit" between source and potential users.

Contrary to the theoretical framework, utilization has generally no direct differential impact on health status. The concept of utilization in this study has included such indicators as sanitation and safe water supply in addition to the use of various clinical services. On the other hand, the present finding indicates that health status may be a function of a multiplicity of interrelated factors, and utilization as herein defined may only be one of them. That low utilization may also result in low health status in a way serves to point this out. The finding, particularly descriptive of comprehensive program households irrespective of income, household size and group membership status, may also suggest that households cannot bypass utilization and still have better than average chances of having high health status unless all or most other factors contributory to health status are tipped in their favor.

Among others, income and the amenities in better diet, adequate housing, etc. that in particular a high income can provide, appears to be contributory to health status. An illustrative case in point are the exceptions to the present finding, namely, high income households under the clinic-based model who are high users with correspondingly high health status.

With respect to their implications for theory building in medical sociology, these observations may be viewed as offering only a modest and limited contribution. On the other hand, medical sociology itself as a sub-discipline of Sociology has at this point, little theoretical or methodological unity. Among the several interest areas in medical sociology, the study of utilization behavior for one, has been identified with at least six distinct methodological approaches (McKinlay, 1972). Given methodological approaches in turn, have been characterized by varying perspectives on the subject. Based on McKinlay's category of methodological strategies employed in utilization studies, the present one falls under the organizational or "delivery system" approach.

In order to test the extent of their generalizability as well as further clarify the partial rejection and partial confirmation of the theoretical framework in this study, one would need to replicate the present study. Such a replication study could be undertaken longitudinally in the same two communities (with their corresponding health care delivery systems), or where appropriate, elsewhere in other communities within Costa Rica if not across other societies. Moreover, such study would have basically the same objectives as the present one; nonetheless, it is ideally expected as an improvement over the latter in pertinent aspects of its design.

For example, generally missing from the data base used in the present study are information on other health and healing networks, that is, besides the two health care delivery systems examined. Yet, on the basis of the literature review (Cf. pp. 19, 36-37), it is conceivable that these "informal" sources were present in the communities, and that households may have availed of them for various reasons at one time or another. To improve on this oversight, a replication of the present study would, as one possible approach to the problem, structure questions on utilization such that utilization behavior could not be unilaterally interpreted to mean only the use of formal professional services. One method of attaining this would be to frame questions in terms of symptoms felt or experienced during a specified period, followed by further questions on the various persons and/or personnel, if any, whose help may have been sought in the process.

The confirmation of observations reached in this study be means of one or a series of replication studies contributes towards establishing the extent to which given utilization behavior are generalizable. However, the disconfirmation or uncovering of differences is equally important. In particular, this raises more questions, thereby leading to a reexamination of the pertinent communities or social units in efforts to find substantive explanations for the differences. Here as elsewhere, what continues to be underscored is the pertinent interplay of microand macro-level analyses in order to explain given utilization behavior.

<u>Policy</u>. This study of health care intervention programs has been, in effect, a "natural" field experiment. The importance of the comprehensive health care delivery scheme in San Antonio and the clinic-based model in Quebrada Honda goes beyond their impacts on the immediate communities.

Its broader significance are the policy implications for a health care delivery system that would have nationwide relevance to Costa Rica in particular and possibly to other Third World countries in general. However, given the limitations in controlling many variables in social experiments, implications have to be drawn cautiously.

Assuming that the monetary costs of implementing the two health care delivery programs are about the same, the first question coming to mind would logically be: which one would be more practicable on a wider scale?

Unfortunately, this study does not have a clear-cut answer to the above question. On the other hand, the clinic-based and the comprehensive health care delivery programs have each turned out to have certain features which could be promotive of utilization if not contributory to better health status. Consequently, a straightforward recommendation favoring one program over another cannot be made. On the other hand, the integration into existing programs or in programs yet to be conceived, of desirable features found in the San Antonio and Quebrada Honda health care delivery schemes is worth considering particularly for rural Costa Rican communities similar to the two districts.

Efforts to build on existing programs or plans at further program implementation would however have to be informed by the following considerations:

1. <u>Structure health care delivery program based on key population</u> <u>or community characteristics</u>. The need to maximize the accessibility of health care delivery organizations by their target communities also dictates the need to provide an appropriate fit or complementarity between the two. Efforts to increase awareness or generate acceptance of improved health care methods do not have much value to potential users if these are

generally unattainable. In the absence of some realistic means to manifest new-found expectations into actions, they could just as easily turn into sources of frustration if not cynism and apathy.

Not uncommonly, lack of affordable transport facilities and related problems of sheer physical distance between source and potential users, have surfaced as barriers to utilization particularly for relatively dispersed and remote populations. Among low-income families, the use of appropriate services may be further constrained by the opportunity cost, etc. of obtaining "free" care, if not the anticipated financial burden especially in availing of curative care.

Fortunately, factors such as the above are, to borrow from Aday and Andersen, mutable population characteristics whose likely impact on utilization behavior can be changed or minimized by effective policy and implementation decisions. Particular findings noted in this study may be taken as demonstrative of this. Thus, the probable adverse effect of distance on utilization has been minimized under the clinic-based model with the latter's use of a mobile clinic. Moreover, higher utilization of curative care services by low-income households has been facilitated through the community-wide extension of Social Security health care benefits under the comprehensive health care delivery program.

The need to recognize, appreciate and utilize "the basic wisdom of the villager as the starting point of any developmental activity" may apply as much to health development endeavors as it does to most other aspects of rural development (<u>NFE Exchange</u>, January 1977, p. 1). Alongside the broader consideration of pertinent population characteristics and resources would thus be the involvement of families in decisions affecting their communities. Accordingly, this has often resulted in

such positive benefits as the development of programs which are compatible with families' needs and consequently, programs that the community can generally identify with and more readily support.

2. <u>Pursue health development as an integral component of a multi-</u> <u>sectoral community development endeavor</u>. Specific findings of this study underscore the fact that health-related objectives cannot be effectively pursued apart from other pertinent components of an over-all community development endeavor. The generally higher utilization rate noted among clinic-based program households, for instance, cannot be realistically viewed independent of the socio-economically advantaged community setting of the clinic-based model. The same rationale can be advanced for the high health status found among high-income high users under the clinicbased program.

Experiences with population planning programs in most underdeveloped countries are equally instructive in this regard. In particular, massive attention and investments by both national and international agencies in family planning programs beginning in the late sixties, can be said to have eventually paid off with the emergence towards the mid-70s of the realization that family planning programs cannot really be expected to make significant headways in curbing birth rates unless this is accompanied by significant changes in how people live. At the risk of overstating the obvious, the concept of planning implies a future orientation. One cannot effectively introduce such concept to couples who have been exposed to little else than a subsistence livelihood.

Contrary to the more compartmentalize expertise of development workers and agencies, the needs of rural households and the satisfaction of the same are more generally integrated. Lessons in budgeting, proper nutrition

or the construction of a pit privy, while definitely important, may not make much sense and may be soon forgotten, if in the first place, there is nothing to budget, access to food supply is limited or material resources needed in making a pit privy are in short supply. In sum, success (or failure) in the health sphere is intricately interwoven with prior or simultaneous related successes (or failures) in other development components. The maximum awareness and consideration of these interrelationships may therefore be expected to contribute towrds relatively sound policy and implementation decisions on health care delivery and related aspects of health development.

Marshalling pertinent local resources towards a unified health development endeavor is undoubtedly easier approached relative to one specific community than on several communities. Even so, locally-based development efforts, be this on a single community or on a multitude of communities, are still realistically viewed as component subsystems of a larger macrostructure. Policies designed to affect one in relative disregard of the other may not have as much chances of being effectively implemented as those which do.

Ideally, policies, be they directed towards specific local or national needs, should reinforce and support one another. Policy pronouncements on maximizing the public's access to appropriate health care resources, for instance, become token gestures if other policies also exist to channel more state resources into urban hospitals at the expense of rural health facilities, or into a medical school curriculum that tends to orient graduates into the practice of medicine in more developed sorroundings.

Needless to say, not all of the public's health and related development needs can be realistically meet at the same time, if at all. Nevertheless,

it is important from a policy perspective for countries, if they have not done so already, to assess themselves in terms of their health development goals, present policy and implementation efforts towards those goals, and related future tasks that have yet to be accomplished. In so doing, policy planning is seen in broader perspective, and with respect to already existing policies, the necessary modifications can be made on the basis of how they fit into the over-all health care structure given its imtermediate and long-term objectives.

Fortunately, Costa Rica has taken some initial steps toward this end. In particular, the government has declared socialized health care as a national policy. In effect, this would make free medical and related health care benefits at major hospitals and clinics universally accessible beginning in the mid-80s. At the same time, the country has decided on giving priorities to promotive and preventive health care measures. This decision accordingly meets a common and basic population need besides its anticipated long-term contribution in making socialized health care nationally affordable. The underlying rationale is that the chances of clinics' and hospitals' becoming inundated with clients needing relatively more costly curative care are lessened if sufficient resources are provided to avert illness or generally inhibit their occurrence with adequately available sanitation and related environmental measures.

However, much still remains to be done. Policy issues and related implementation decisions that a country like Costa Rica has yet to resolve may not be unlike those confronting other Third World countries as well. One such issue may involve the country's pluralistic health care structure.

In particular, Costa Rica's officially sanctioned bio-medical health care structure has developed generally independent of the consideration

that other healing sources are also actively in use. Under such a situation, it has been shown that those not utilizing the formal health care systems do in fact avail of other healing networks (Cf. p. 37). Ultimately, the posture that government or the nation's health care planners and policymakers assume toward the latter may determine their fate vis-a-vis the officially sanctioned services.

Where folk and related traditional healing networks are viewed as impediments to the appropriate use of professional services, one might anticipate the continued expansion of the latter oblivious of the existence of other sources. However, it may not necessarily follow that their peripheral position relative to the formal health care spectrum would also relegate them to marginal roles with respect to the population's health. On the other hand, where folk and lay healing sectors are seen as resource potentials which promise possibilities of becoming selectively integrated into the formal health care network, they might develop into facilitators of a community's appropriate use of bio-medical health care measures.

The experiences of some countries in this regard may be instructive. In the Philippines, for example, the government years ago has had to exhibit some flexibility and revise an official stand pertaining "folk midwives" (<u>comadronas</u>, <u>hilot</u> or <u>mananabang</u>), who have neither the formal degree training in midwifery nor the certification to legally deliver" babies. Through a process of selective re-orientation and training particularly in the use of sanitation procedures, folk midwives are then fielded back into their communities and "allowed" to attend to the needs of expectant or newly delivered mothers, as their predecessors have in fact done so for centuries.

Another likely problematic area involves the effective realization of the country's universal health care goal. The policy to extend mass population services hitherto accessible only by a select few is certainly commendable by any standards. Apart from the existence of alternative healing sources and the structure of officially sanctioned services, people's response to free or socialized care may also be affected by the normative expectations that they have come to internalize regarding health and welfare services.

People socialized in pluralistic health care environments, particularly in a societal setting where the formal health care structure tend to approximate a dual system of care, may have inevitably internalized certain assumptions about these systems and those using them. Thus, far from being regarded as a right that anyone needing it is entitled to have, the provision of free care may initially come to be viewed in some sectors as charity, and therefore equated mainly with those so low on the social ladder that they cannot pay for services they need. At the other end of the dual health care spectrum, are assumptions equated with a "free market" or fee-for-service system which basically underscores the belief that health is a privilege to the deserving, e.g., those able to pay for specific services.

On the whole, however, these may not be insurmountable concerns. Efforts to find effective solutions to them would necessarily call for sound data and information base.

<u>Future Related Researches</u>. This study leaves many unanswered questions. The few questions it has answered or half answered suggest the need to ask other related questions. Both for purposes of acquiring knowledge and as a guide to policy, these related questions are seen as further

research possibilities.

Beyond the need to consider population characteristics and resources in planning for effective health care delivery organizations, the need also exists for countries like Costa Rica to realistically confront a manifold health care system. The existence of folk and lay healing measures alongside Western bio-medical practice is apparently too much a part of many communities to be simply written away. Legislative means to resolve the situation, in effect declaring the practice of one system illegal and that of the other legal, have not generally succeeded in practice. Any attempt to explain the phenomenon may have to begin with an understanding of the health care systems themselves. Where further intentions to underplay folk or traditional healing methods in favor of modern medical practice cannot be realistically anticipated, direct attention as well at exploring the interface between them becomes equally important.

Needless to say, traditional and lay healing practices long preceded the existence of modern medicine in Costa Rica as in most other Third World countries. If only because they have apparently prevailed despite most governments' public endorsement of modern medicine, they deserve empirical attention. The factors that have contributed to their continuing presence, the needs they serve, populations patronizing them, and their interface, if any, with modern health care institutions, are pertinent questions needing closer scrutiny.

The interface between private and public or government-supported medical care systems in Third World countries, like Costa Rica, comprises another important area of inquiry. A few among a possible litany of questions that are worthwhile looking into would be the following:

the corresponding impacts of each system on people's access to a variety of health care services, the factors that have fed their co-existence, the alternating role modifications or requirements, if any, that patients and practitioners find themselves as they move from one health care institution to the other, the impact of socialized health care on private practice, if not factors facilitating or constraining the effective implementation of "free" medical care in a "free market" economy.

Health-seeking behavior studies undertaken among random samples of distinct populations (e.g., rural, urban migrants, private patients or patients at a public hospital ward, etc.) also deserve attention. It is commonly held, for example, that the decision to seek a given kind of care represents a culmination of a group process. What stages, if any, are involved in the process? What influences do family and kin, as well as pertinent other networks have, at each stage of the process? From the perspective of clients and their immediate decision-making networks, what factors are considered facilitative or inhibitory to the use of specific services? Besides adding to our knowledge of the process as this operates in selected populations of Third World countries, health-seeking behavior studies could also provide clarification to some of the questions raised in the two previous areas.

Topics related to training for the medical and other health care professions, mainly because they tend to have direct impact on the availability to the public of certain services, also deserve further inquiry. Thus, given a nation's health care needs and priorities, how responsive are the various health-related training curricula to them? Other related topics to examine may pertain to the process of recruitment to specific health care professions, characteristics of aspirants or trainees, their motiva-

tion or reasons for entry into specific curricula and their occupational expectations upon completion of training, etc.

Moreover, there is a need to devote empirical attention on policy formation on health care in developing countries and on policy impact studies. With respect to policy formation, the questions to explore may include the processes involved in the undertaking or how decisions on health care needs and priorities as well as specific health care policies have been arrived at, characteristics of participants at various stages, if any, of the policy decision-making process, their recruitment into the policy decision-making network, impediments if not facilitating factors to the formation of specific policies, etc.

Policy impact studies, on the other hand, while perhaps primarily oriented to the analysis of domestic health care policies, should not however be limited to them. Policy decisions by other countries might also have implications for the internal or domestic health care scene (e.g., possible impact of the U.S. Health Professions Act on physician supply in selected Third World countries, etc.). Analysis along the area may even be possible with the use of existing data sources.

Finally, research possibilities also exist involving a wide variety of health and development concerns for which data may be available (although perhaps not readily accessible). Many such topics may be already well documented in the U.S. (e.g., social class and patterns of mortality and morbidity, medical care patterns provided patients from differing socio-economic classes in the same facility, etc.), and are ones which people in the Third World may have routinely lived with. Not uncommonly, however, what are otherwise glaring social problems are never more believable or made more visible until these are presented as
the findings of an empirically based study. In such a setting, research assumes an enviable opportunity of becoming an instrument with which to critic society. Here, the choice of a research problem, inevitably calls attention to certain aspects of society and indirectly critiques the manner in which those aspects have been stifled, or neglected or made to perpetrate.

At the other end of the continuum, as it were, have been research and planning, as Ugalde (1978) finds in studying health decision-making in Colombia (and Iran), "to justify the formulation of policies more than to convert policies into programs" (p. 3). Research under such circumstances becomes ironically used, as one Philippine sociologist aptly puts it, in much the same manner that a drunk uses a lamp post, for support rather than for illumination. Awareness of this other possibility may hopefully constitute sufficient safeguards against its realization. APPENDICES

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VARIABLES, INTERVIEW ITEMS AND RESPONSE CATEGORIES

Variable	Interview Item	Res	ponse		
	· · · · · · · · · · · · · · · · · · ·	Category Car No	d No. of . Column	Code s No.	No. of Positions
Source(s) of informa- tion on national events	Through what means are you informed of what is going on in the Country?	03 Neighbors and similar person-sources Radio Newspaper Television Nothing/None		2 2 Blan	64 65 65 67 68 - 80
Income	Total family income per month	16 ¢600.00 or less ¢600 to less than ¢1,000 ¢1,000 to less than ¢2,000 ¢2,000 and above Unknown Not applicable (NA)	-	1 3 9 B]an	5]
Occupation	What kind of work do you do? Socio-economic categor	y Wage-earner Agriculture Administrator, manager and similar office worke other non-agricultural wo Self-employed (except prof and technicians) Agriculture	r r rker essionals	m 102 m	16 - 17 20

Variable	Interview Item	Re	sponse			
		Category Ca N	urd No Io. Co	. of lumns	Code No.	No. of Positions
		Non-agriculture Employer Agriculture			4 7	
		Non-agriculture Professionals and Technic Unknown NA	cians		6 8 9 Blank	
Education	For households with elementary and high	In school	4		4	28
	school aged children (i.e., 7-14 years old)	Not in school Finished primary school Left school for sometime Left school definitely Not in school yet NA			5 2 3 Blank	
Housing situation	Tenancy	Own Rent Other	10	т	- 7 3	28
	Predominant materials Exterior walls	Wood Cement Adobe Other		-	− 21074	32

Variable	Interview Item		Respon	se		
		Category	Card No.	No. of Columns	Code No.	No. of Positions
	Floor	Wood Mosaic Earth (Dirt) Other		-	F 0 6 4	33
	Roof	Tile Metal sheet Other		-	- 2 6	34
	Total nuumber of rooms	One room 2 - 6 rooms 7 rooms 8 or more rooms Unknown		-	-0786	37
Possession of home appliances and related facilities	Type of lighting	Electric Petroleum Other		-	- N 3	44
	Combustible used	Electricity Propane gas Petroleum		-	- 0 E	45

Variable	Interview Item		Respon	se		
		Category	Card No.	No. of Columns	Code No.	No. of Positions
		Coal Sticks of wood Other Don't cook			4500	
	Have radio?	Yes No		-	-10	46
	Have television?	Yes No		-	-15	47
	Have stove?	Yes No		-	- 7	48
	Have refrigerator?	Yes No		-	2-	49
	Have washing machine	e? Yes No		-	~-	50
	Have water heater?	Yes No		-	-15	51

Variable	Interview Item		Respons	e		
		Category	Card No.	No. of Columns	Code No.	No. of Positions
	Have telephone?	Yes No		-	-12	54
	Have ice box?	Yes No		-	~~	55
Food intake	Principal foods consumed by house- hold members during the last week	Cereals and products derived from cereals Rice Corn Bread Spaghetti	02	2	01 03 04	15 - 16
		Meat and prepared meat Beef Pork Chicken Salami			01 03 04	
		Eggs			10	
		Fish and seafood Fresh fish Fresh seafood			01 02	

Variable	Interview Item		Respons	Se		
		Category	Card No.	No. of Columns	Code No.	No. of Positions
Health Care Delivery Systems	Location/District	San Antonio Quebrada Honda	10	5	03 04	16 - 17
Utilization of Health Care Services						
Preventive health care practices	Environmental sanitation		03			
	Drinking water	Source Public pipeline Nascent well Other		-	-103	13
		Condition of source Public pipeline Incide the bouce		-	~	14
		utside, exclusive Outside, exclusive Outside, shared us	use e		n 01 –	
		Well or nascent Well located, well Intermediate	protect	ted	~~~	
		Dauly located and Other	pro uec ue	5	-	
		Well protected Intermediate			т сл н	
		Badly protected				

Variable	Interview Item		Respons	e		
		Category	Card No.	No. of Columns	Code No.	No. of Positions
	Toilet	Installation Lavatory Cesspool Other		-	~~~	16
		Condition Lavatory Without filtrations and well covered Intermediate With filtrations and badly covered Cesspool Well closed and well Intermediate Badly closed and bad Other Separated from the h Intermediate Next to the house	covere 11 y cove	r per	- 200 - 200 - 200	11
	Waste disposal	Public service or inci Intermediate Water or field	neratio	c	- 10 3	
	Prenatal care		11			13

Variable	Interview Item		Respons	a		
		Category	Card No.	No. of Columns	Code No.	No. of Positions
	For households with members responding "yes" to question on actual pregnancies	Yes No		-	~~	
	Was/is she under prenatal care?	Yes No Did not finish ar	11 Jy pregn] ancy	2 1 Blank	20
	Who attended the delivery?	Specialized inst Out of a speciali Doctor or obstei Nurse Midwife Other person(s) Did not finish a	itution ized ins trician any preg] titution nancy	2 4 2 3 2 8 Jank	21
	Immunizations		12			
	For households with members who are under 15 years old					
	D.P.T.	Reinforcement Third		-	20	21

Variable	Interview		Respons	U		
		Category	Card No.	No. of Columns	Code No.	No. of Positions
		Second First Unknown vaccina None 15 years old or Unknown	tion older		4 3 2 81ank 9	
	Polio	Reinforcement Third Second First Unknown vaccina	tion	-	ი ი 4 ი ი	22
	Measles	Nõne 15 years old or Unknown No Yes 15 years old or	older older	-	1 Blank 9 1 2 Blank	23
	For all households Tetanus	No Yes		-	- 2	24

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Variable	Interview Item		Respon	se		
		Category	Card No.	No. of Columns	Code No.	No. of Positions
	Tuberculosis	No Yes Nothing		-	1 2 Blank	25
Curative health care practices	Asked of every person in the household		60			
	<pre>Illness incidence during last two weeks?</pre>	Yes		-	- 0	13
	If yes, what illness?	ON		ę	7	14 - 16
	If yes, whose care/advice was sought, if any? Doctor	No Yes		-	- 0	20
	Nurse	No Yes		-	- 0	23
	Druggist	No Yes		-	- 2	26
	Others	No Yes		-	- 0	29

	No. of Position		22	}					25	2						28						
	Code No.			с	4	. 01	v	، ت م	יכ	ĸ	•	4 01	-	ഹ	۵۵)	ო	•	+ ~		ഹ	0 0
se	No. of Columns							ar place	-	•				1	ar place	-						ar place
Respon	Card No.				unit			· simil				1 L U N			Simil			+ ; 4			[:	
	Category			Hospital	sanitarv/mobile	Private practice	Drugstore One's own house	General store or	Unknown	Hospital	Health center,	Sanitary/mobile Private practice	Drugstore	One's own house	General store or Unknown		Hospital	Health center,	Private practice	Drugstore	One's own house	ueneral store or Unknown
Interview Item		If care/advice was sought,	wnere: If consulted doctor.	where?					If consulted nurse, where?							If consulted druggist,	where?					
Variable																						

Variable	Interview Item	Res	oonse		
		Category Carc No.	d No. of Columns	Code No.	No. of Positions
	<pre>If consulted other person(s), where? For this illness, what</pre>	Hospital Health center, sanitary/mobile ur Private practice Drugstore One's own house General store or si Unknown	l it milar place	w 40−∽∞0	١٤
	treatment/medicines were taken or administered?	One Other Other Pastilles (Lozenge Syrups Injections Suppositories Drops Capsules Unguent (Ointment) Aspirins Anti-flu Anti-parasitical Lemon juice Oral serum Antiacid Laxative	s) 5	002 002 100 002 00 00 00 00 00 00 00 00 00 00 00	32 - 33 34 - 35 36 - 37

Variable	Interview Item		Respon	se		
		Category	Card No.	No. of Columns	Code No.	No. of Positions
		Expectorant Alcohol Anti-diarrhe Sulpha drugs Other antibi Anti-allergy Antiseptic (a otics liquor)		22 23 24 23 24 25 25 25 25 25 25 25 25 25 25 25 25 25	
	Asked of every person in household					
	Experiences of accidents or lesions during the last l2 months?	Yes No	10	-	- 0	13
	If yes, how did it occur?			m		14 - 16
	If yes, what was the nature of the lesion?			ю		17 - 19
	If yes, whose care/advice was sought, if any? Doctor	No Yes		-	- 0	23
	Nurse	No Yes		-	- 0	26

Variable	Interview Item		Respons	e		
		Category	Card No.	No. of Columns	Code No.	No. of Positions
	Druggist	Yes No		L	8-	29
	Other	NO NO		-	2-	32
	If consulted doctor, where?	Hospital Health center, sanitary/moni Private practio Drugstore One's own house General store o Unknown	le unit ce er simil	l ar place	∾ 40-500	25
	If consulted nurse, where?	Hospital Health center, sanitary/mobi Private practio Drugstore One's own house General store o Unknown	le clini ce or simil	c c ar place	W 40-500	28

	No. of Positions	34	35 - 36 37 - 38 39 - 40 41	45
	Code No.	ო 4 <i>ი</i> ⊢იაიი		400-
se	No. of Columns	ic 1 lar place	- 000	-
Respons	Card No.	er, obile clini ctice ouse re or simil	rd 09) Card 09) Card 09) esion eared	d it it
	ategory	Hospital Health cent sanitary/m Private pra Drugstore One's own hu General stol	One (See Ca Other (See (Other (See (Effect of 1 has disappo	Did not nee Adequate Inadequate Did not hav
Interview Item	0	If consulted other person(s), where?	For this accident/lesion, what treatment/medicines were taken or administered?	Given information available, medical opinion on adequacy of care or treatment received Fol illness(es)
Variable				

Variable	Interview Item	Re	sponse			
		Category Ca N	rd No. o. Col	of umns	Code No.	No. of Positions
	For accidents/lesions	Did not need it Adequate Inadequate Did not have it		-	400-	46
Health Status	Asked of every person in the household	0	6			
	Illness incidence during during last two weeks?	Yes			0	13
	Respondent Number	ON		2	2	11 - 12
	If yes, experienced functional limitations in daily living activities?	Yes No		-	- 2	68
	If yes, in which apparatus or system?	0 General symptoms Nervous system Respiratory Digestive Genitourinary Circulatory Locomotor Skin and annexes Other	~	-	~ 234らら~80	13

Variable	Interview Item	Resp	oonse		
		Category Carc No.	d No. of Columns	Code No.	No. of Positions
	Given information available on specific symptoms, medical doctor's opinion on health status	08			
	Respondent Number		2		11 - 12
	Nervous system	Sick May be sick Healthy Presumed diagnostic Presumed diagnostic	- mm	- 0 0 * *	13 14 - 16 17 - 19
	Respiratory system	Sick May be sick Healthy Presumed Diagnostic	-	*****	20
	Digestive system	Fresumed Diagnostic Sick May be sick Healthy Presumed Diagnostic	-	¢ ¢	27
	Geni tourinary	Fresumed diagnostic Sick May be sick Healthy	—		34

Appendix A (Continued)

Variable	Interview Item		Response			
		Category	Card No.	No. of Columns	Code No.	No. of Positions
		Presumed Diagn Presumed Diagn	ostic ostic	F	* *	
	Circulatory system	Sick May be sick		-	- 00	-
		Healtny Presumed Diagn Presumed Diagn	ostic ostic		v * *	
	Locomotor system	Sick		-		48
		May be sick Healthy Presumed Diadm	0ctir		* 20 10	
	Skin and annexes	Presumed Diagn	ostic	-	* *	55
		Sick May be sick Healthy Presumed Diagn	ostic		-00*	
	Other	Presumed Dlagn Sick Mav be sick	02110	-	*~	62
		Healthy Presumed Diagn Presumed Diagn	ostic ostic		10 * *	
	Nothing					69 - 80

Interview Item Response Interview Item Response Response Response Mortality incidence during No. Mortality incidence during 13 Mortality incidence during Yes Age in years 2 Cause(s) of death 3
--

 The interview question on kind of work respondent does (Cf. p. 134, occupation variable), accordingly generated some 81 kinds of work activities. These responses were the bases for developing the work categories pertinent to the variable. Notes:

Items with thes (**) mark accordingly contain responses using categories or classifica-tions developed by the World Health Organization (WHO).

APPENDIX B

PROCEDURE FOR QUANTIFYING HOUSEHOLD USE OF PREVENTIVE SERVICES

Main Task

- 1. For variables A, B and C, assign every household in each community a ranging from 1 to 3.
- 2. For variables D and E, give applicable female (i.e., has had pregnancy over last two years) household member(s) a score ranging from 1 to 2.

Add up all individual scores of same female members from each household.

Divide the sum by number of reporting female members in same household.

3. For variable F_{1-5} , assign where applicable, individual scores of 1 to 2.

Add up individual members' scores from each household.

Divide the sum by the number of reporting members from same household.

4. To arrive at a given household's score on use of preventive services, add scores obtained through procedures 1, 2 and 3.

Variables and Score

Cooke

<u>Card No.</u>	<u>Column No.</u>	Variable	<u>Code</u>	(Recode)
03	14	A. Condition of source of drinking water		
		Public pipeline, inside hous Well or nascent, good	e 3	3
		location and well protected	3	3
		Other, well protected	3	3
		Public pipeline, outside,		-
		exclusive use	2	2
		Well or nascent, intermediat	e 2	2
		Other, intermediate	2	2
		Public pipeline, outside, shared use	1	1
		Well or nascent, badly locat	ed	
		and not well protected	1	1
		Other, badly protected	1	1

Card No	Column I		Variable	Original Code	Score (Recode)
	<u></u>	<u></u>			Trecodel
03	17	В.	Condition of toilet installatio	n	
:			Lavatory, without filtrations and well covered Cesspool, well closed	3	3
			and well covered Other, separated from house	3 3	3 3
			Lavatory, intermediate Cesspool, intermediate Other, intermediate	2 2 2	2 2 2
			Lavatory, with filtrations and badly covered Cesspool badly closed	1	1
			and not adequately covered Other, next to house	1 1	1 1
03	19	С.	Waste disposal system		
			Public service or incineratio Intermediate Water or field	n 3 2 1	3 2 1
11	20	D.	Prenatal care		
			Yes, had prenatal care No, did not have such care	2 1	2 1
11	21	E.	Attendance at birth delivery		
			Specialized institution Out of a specialized institut	2 ion	3
			Doctor	4	3
			Midwife	2	2
			Uther person(s)	I	ł
			Did not complete pregnancy	Blank	0
		F.	. Immunizations		
12	21		1. D.P.T. Reinforcement Third Second	6 5 4	2 2 2

Card No.	<u>Column No.</u>	Variable	Original Score <u>Code</u> (Recode	e)
		First	3 2	
		Unknown vaccinatio	n 2 2	
		None	1 1	
		Not applicable - 1	5 years	
		old or older	Blank O	
		Unknown	90	
12	22	2. Polio Reinforcement Third Second First Unknown vaccinatio None Not applicable - 1 old or older Unknown	6 2 5 2 4 2 3 2 1 1 5 years Blank 0 9 0	
12	23	3. Measles Yes	2 2	
		No	1 1	
		Inapplicable - 15 old or older	years Blank O	
12	24	4. Tetanus Ves	2 2	
		No	1 2	
12	25	5. TB		
		Yes	2 2	
		No	1 1	

APPENDIX B (Continued)

Note: A household's preventive health care utilization score directly varies with its utilization level.

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APPENDIX C

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		Main Task		
1. For va	ariables A, B	, C and D, assign scores ranging	from 1 to	3.
2. Add up each	the individ community.	ual scores from corresponding ho	useholds i	n
3. To arr divic hold.	rive at a giv de the sum by	en household's score on use of c the number of reporting members	urative set from each	rvices, house-
		Variables and Score		_
<u>Card No.</u>	<u>Column No.</u>	Variable	Original <u>Code</u>	Score (Recode)
		A. Illness and care sought		
09	20	Doctor Yes No	2 1	3 1
09	23	Nurse Yes No	2 1	3 1
09	26	Druggist or pharmacist Yes No	1 2	2 1
09	29	Other Yes No	2 1	1 1
10	45	B. Medical doctor's opinion on adequacy of care		
		Did not need it Adequate Inadequate Did not avail of care	4 3 2 1	3 3 2 1

PROCEDURE FOR QUANTIFYING HOUSEHOLD USE OF CURATIVE SERVICES

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C. Accident/lesion and care sought

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APPE	NDIX	C (Continued)	
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<u>Card No.</u>	<u>Column No.</u>	Variable	Original <u>Code</u>	Score (Recode)
10	23	Doctor Yes No	2 1	3 1
10	26	Nurse Yes No	2 1	3 1
10	29	Druggist or pharmacist Yes No	1 2	2 1
10	32	Other Yes No	1 2	1 1
10	46	D. Medical doctor's opinion on adequacy of care		
		Did not need it Adequate Inadequate Did not avail of care	4 3 2 1	3 3 2 1

A household's curative health care utilization score directly varies with its utilization level. Note:

APPENDIX D

PROCEDURE FOR QUANTIFYING HOUSEHOLD HEALTH STATUS

Main Task						
1. For variables A, B and C1 $_$ 8, assign individual scores ranging from 1 to 3.						
 Add up all individual scores from corresponding households in each community. 						
3. To arrive at a given household's health status score, divide the sum by the number of reporting members from the same household.						
	Variables and Score					
<u>Card No.</u>	<u>Column No.</u>		<u>Variable</u>	Code	(Recode)	
09	13	Α.	Illness incidence during the last two weeks			
			Yes No	1 2	2 1	
09	63	Β.	Functional limitations resulting from same illness			
			Yes No	1 2	2 1	
		C.	Medical doctor's opinion on health state			
08	13		l. Nervous system Sick May be sick Healthy	1 2 3	3 2 1	
08	20		2. Respiratory system Sick May be sick Healthy	1 2 3	3 2 1	

<u>Card No.</u>	<u>Column No.</u>	Variable	Original Code	Score (Recode)
08	27	3. Digestive system Sick May be sick Healthy	1 2 3	3 2 1
08	34	4. Genitourinary system Sick May be sick Healthy	1 2 3	3 2 1
08	41	5. Circulatory system Sick May be sick Healthy	1 2 3	3 2 1
08	48	6. Locomotor system Sick May be sick Healthy	1 2 3	3 2 1
08	55	7. Skin and annexes Sick May be sick Healthy	1 2 3	3 2 1
08	62	8. Other Sick May be sick Healthy	1 2 3	3 2 1

APPENDIX D (Continued)

Note: A household's health status score is inversely related to its health status.

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LITERATURE CITED

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