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HOUSEHOLD DEMAND FOR HEALTH CARE IN EL SALVADOR

VOLUME I:

HOUSEHOLD SURVEY: METHODOLOGY AND FINDINGS

Resources for Child Health Project

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FOREWORD

The Resources for Child Health (REACH) Project was initiated by the U.S. Agency for International Development (A.I.D) to provide technical assistance to developing countries in the areas of immunization and health care financing (HCF). The overall goal of A.I.D. assistance in the health sector is to improve health status in developing countries through support of cost-effective interventions directed at the most needy populations -- poor mothers and children. A.I.D. health assistance is seen primarily as an investment in building developing countries' capacity to achieve and sustain improvements in health status. These gains are reflected by reductions in infant, child, and maternal mortality and morbidity.

Sustaining improvements in health status requires, in addition to direct program support, assistance for strengthening the national capacity to generate and manage resources more effectively. The provision of such support is the basis for A.I.D. involvement in health care financing, and its implementation, carried out by the Health Care Financing Group of John Snow, Inc., is a central focus of the REACH Project. The goal of this assistance is to increase the effective level of resources available for health in developing countries. To achieve this goal A.I.D. implements where appropriate, activities to increase the level and focus the direction of government commitment to health, mobilize increased revenues from users of health services and other non-governmental sources, and improve the efficiency with which available resources are utilized in both the public and the private sectors.

The difficult economic conditions faced by the Latin American economies during the decade of the 1980s conflicts with the increasing commitment to improve the population's access to social services. Many countries have recognized the need to review health care financing policies and to target public expenditures more effectively. To facilitate these changes, an extensive policy dialogue among financing organizations, donors, and host countries is taking place. Fundamental to this process is knowledge about the way existing services are used and perceived. This study of the demand for health services in El Salvador was designed to support an informed policy dialogue in that country. It provides documented information about health seeking behavior among Salvadoran population, and it reveals a significant contrast among patterns of utilization for inpatient as compared to outpatient care. Volume I of this two-part report presents the methodology used in the household survey to collect the data and a descriptive analysis of patterns of utilization. Volume II presents the econometric analysis that attempts to explain such health seeking behavior.

The REACH Project invites comments on all of our publications and welcomes the opportunity to continue our collaboration with interested colleagues through the widest possible dissemination and discussion of REACH materials.

Gerald Rosenthal, Ph.D.
Associate Director for Health
Care Financing
The REACH Project

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Many people helped make possible this study. Preliminary ideas were put forward in 1986 by Ms. Sue Gibson and Linda Lou Kelly from USAID/San Salvador. At the time, an exploratory visit that allowed me to prepare the basis for the research was supported by the centrally funded HCF/LAC Project. The study was promoted by Mr. Kevin Armstrong, Population Officer at USAID/San Salvador. Ms. Matilde Pinto de la Piedra, Economist at the REACH Project had technical and managerial responsibility for the implementation of the study.

The Salvadoran Demographic Association (ADS), which is the only institution that has a national sample of areas in El Salvador, prepared, under the responsibility of Lic. Sidney Castro, the cartography and list of dwellings at the segment level. Population and Marketing Research (IPM) drew up an inventory of existing health institutions in the country. The Salvadoran company Daniel Carr and Associates was responsible for the data collection. Mr. Alvaro Lopez, consultant for the REACH Project, was in charge of the design of the diskette recording activities, the creation of integrated archives, the documentation of the data base, and the preparation of the archives for analysis.

In the critical revision of the household questionnaire, useful and informative comments were made by Dr. Gerald Rosenthal, Associate Director of the REACH Project for Health Care Financing; Economist Matilde Pinto de la Piedra; Economist Ricardo Bitran, consultant for the REACH Project; Dr. Hugo Moran, Chief of the Planning Office of the Ministry of Health and Dr. Leila de Salazar and Ms. Regina de Molina, officers at said Office; Dr. Chang Peña, Director of the Programming and Control Section of the Salvadoran Social Security Institute (ISSS); Dr. Reynaldo Grueso, Chief of Party of the AID-funded Health Systems Support Project in El Salvador and by Federico Rockuts, adviser in the same project.

Particularly useful in the design of this study were recent studies on the demand for health care services carried out in the Dominican Republic by the HCF/LAC Project and in Zaire by the REACH Project.

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LIST OF ACRONYMS

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AMSS	Area Metropolitana de San Salvadoro (San Salvador Metropolitan Area)
ANTEL	Empresa de Telecomunicaciones de El Salvador (Salvadoran Telecommunications Company)
APSISA	Proyecto de Apoyo al Sistema de Salud (Support to the Health System USAID Project)
CDC	Centers for Disease Control
CEL	Compañía Electrica de El Salvador (Salvadoran Electricity Company)
FA	Fuerzas Armadas (Army Force)
FESAL	Encuesta de Fecundidad y Salud (Fertility and Health Survey)
HCF/LAC	Health Care Financing in Latin American Countries and the Caribbean Project
ISSS	Instituto Salvadoreño del Seguro Social (Salvadoran Institute of Social Security)
MHCO	Membership Health Care Organization
MIPLAN	Ministerio de Planificación (Ministry of Planning)
MOH	Ministry of Health
PHI	Private Health Insurance
REACH	Resources for Child Health Project
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

This first volume of the Demand Study for Health Services in El Salvador presents the main methodological aspects of the sample survey carried out between January and February 1989 and the basic descriptive results, with emphasis on the patterns of utilization of health services. The second volume of the study identifies and explains, through an econometric analysis of the demand for services, the factors which determine the utilization levels presented in this first volume.

The population included in this study was the civilian, non-institutional population residing in areas of the country that did not present serious risks to the participants in the research. In February 1989, the population studied totalled 4,210,000 inhabitants, equal to 80-90% of the total population of the country. The three major strata into which the country was divided were: the Metropolitan Area of San Salvador (AMSS), with 1,045,000 inhabitants, Other Urban centers in the country (Other Urban), with 1,536,000 inhabitants and the Rural Area, with 1,629,000 inhabitants.

Methodology

The study sample is probabilistic and of unequal clusters, with equal selection probabilities in each stratum, comprising 221 segments, with an average of 10 dwellings in the AMSS and an average of 20 in the other two strata; the final sample size was 2,885 dwellings and 13,896 persons.

The sample guaranteed estimations of excellent precision for phenomena with a frequency equal to or higher than 5%, for any stratum; for phenomena with a frequency equal to or higher than 10% in two subdivisions by stratum; for phenomena with a frequency equal to or higher than 20% in 3 or 4 subdivisions by stratum, and for phenomena with an frequency equal to or higher than 30% in at least 5 subdivisions by stratum. All the results of the survey were restored to the study population and weighted by the reciprocal of the final probability of selection of each person studied.

The data were collected by means of household interviews using a family questionnaire with questions and answers specifically tailored to each member of the household. The information gathered covered demographic and socio-economic aspects, the self-perception of illness and incapacity, out-patient consultations for any reason, and hospitalization.

The Population Studied

The demographic structure of El Salvador is that of a young population with a large proportion of inhabitants under the age of 15 (41.4%) and a much smaller number age 45 and older (17%). Illiteracy continues to be a serious problem in the country and 31% of the population age 6 and above is unable to read or write.

Forty-seven per cent of the population had a household monthly per capita income of c 101 (colones), i.e. $US 20, and only 15% had an income above c 400.

The Salvadoran Social Security Institute (ISSS) is the most important of the membership health care organizations (MHCO) and covers 7.3% of the population studied. Some governmental institutions, such as those responsible for electrical energy, telecommunications, public education, and the Armed Forces, protect 2.7% of Salvadorans. Private insurance facilities, in their habitual role as financing mechanisms, cover 1.3% of the total population.

In the two-week period prior to the interview, approximately 53% of the surveyed population perceived some sign or symptom of illness. The rate was higher among women, the very old and the very young, rural dwellers and among uneducated people. Respiratory diseases (34% of the total), intestinal problems (12%), and disorders of the nervous system (11%) were the main problems perceived by the population. Nine per cent of those who were sick perceived some degree of incapacity, i.e. limitation in performing their usual activities.

General Out-patient Care

Eleven per cent of the Salvadoran population consulted someone for health or illness reasons during the two-week period prior to the interview. The consultation rates were higher in the AMSS (14.4%), intermediate in Other Urban (11%) and lower in the Rural area (8%), and were positively correlated with the level of education and per capita income, with the consultation rate increasing with the level of education and income.

During the two-week recall period, the probability of an out-patient consultation by those who perceived some kind of illness was 18%, in contrast to the 1.5% by those who felt no symptom of sickness. On the other hand, only 6.5% of those who visited someone had no prior perception of sickness, but 19.4% of those who consulted did so for preventive reasons, which means that the remaining 12.9% perceived some minor health problem which did not require a curative consultation.

Of those who felt ill and did not go to a consultation, 27% said that their sickness was too minor to require attention. Of the remaining 73% who said that they needed attention, 46% treated themselves, 7% did not seek attention for economic reasons and 20% adduced a wide range of other reasons.

The main reason stated for seeking out-patient care was sickness (74%). Consultations for accidents and dental problems accounted for 6.6%. The remaining 19% comprised consultations for preventive care.

The medical doctor is the most important provider of out-patient care in El Salvador, accounting for 83.4% of the total out-patient consultations. The other providers are pharmacists (6.4%), nursing staff (4.9%), dentists (1.5%), and other personnel (3.8%).

Out-patient Medical Care

The survey showed that in El Salvador the average number of medical consultations per inhabitant per year was 2.54, indicative of the overall effort of the health system to provide this kind of care. Unfortunately, only one-half (49% coverage) of the population benefits from this care, which means that the concentration of medical attention on an annual basis was 5.2 consultations per person receiving care.

The structure of out-patient medical attention by health subsector shows a predominance of the private subsector, which accounted for 45% of the total number of visits. The Ministry of Health provided 40% of the out-patient medical consultations, the Social Security Institute 13%, and other governmental health bodies 2.3%. Whereas in the AMSS, the private subsector provided 54% of the out-patient medical care and the Ministry of Health only 25%, in the Rural area the Ministry of Health was responsible for 53%.

The establishments of the Ministry of Health and of the private subsector showed the highest indicators of accessibility. Sixty-seven per cent of the consultations in the former and 65% in the latter were provided in places which were easily accessible, i.e. in the same residential sector, or in another sector of the same area or municipality, or in another area of the same city. The highest rates of adequate accessibility were in the Other Urban stratum.

Direct payments were made in 80% of the consultations carried out in the establishments of the Ministry of Health, 73% in the private establishments, 64% in ISSS establishments and 14% in other governmental institutions. The very high proportion of consultations with some form of payment in the Ministry of Health should be compared to the actual cost of the consultation (c 2.93), which is the minimum charge usually required for the health service.

In the private subsector, on the other hand, the average payment per consultation was c 23 and varied between c 25 in the profit-making establishments (85% of the consultations) and c 10 in the non-profit bodies. In the ISSS the average cost was c 2.34.

Medicines were prescribed in 90% of the medical visits and the proportion was similar in the various subsectors. The protective effect of the MHCO can be seen by the fact that approximately 95% of the medicines prescribed were obtained in the place of health care, in most cases without any cost. In the Ministry of Health, 86% of those who went to a consultation and obtained a prescription obtained their medicines in the place of attention, and an intermediate proportion had to pay for them. In the private subsector, on the other hand, a larger percentage of those who sought consultations had to obtain their medicines in a place other than that of the consultation (16%), and an even higher proportion (45%) had to pay for them.

The average amount paid for medicines, by medical consultation in the place of attention was c 40 for the country as a whole and varied from c 61 in the profit-making private subsector to c 6.5 in the Ministry of Health.

Outside the place of consultation the average amount paid was c 40 for persons receiving consultations in the establishments of the Ministry of Health, approximately c 70 for those who went to private establishments and c 21 for those who received consultations in the ISSS.

Thirty-seven per cent of the consultations in the Ministry of Health were carried out in places which could be reached in less than 30 minutes; the figure was 51% for the private establishments and 33% for the ISSS. Within the places of consultation, waiting time was less satisfactory since only 8.5% of the medical consultations in the Ministry of Health, 18% of those in the ISSS and 37% of those in private establishments had a waiting time of less than 30 minutes.

In-Patient Care

Five per cent of the Salvadoran population was hospitalized at least once during the previous year. Hospital coverage was higher for women, persons over the age of 15, inhabitants of the AMSS and beneficiaries of some MHCO.

The provision of inpatient care presents a sectoral composition exactly opposed to the one observed in outpatient care. The Ministry of Health provided 75.5% of the hospitalizations at highly subsidized prices, while the private sector took care of 9.4% of the hospitalizations. This pattern was observed in every income group.

An examination of the relationship between the proportion of hospitalizations by subsector and the household monthly per capita income shows a marked inverse relationship: as the per capita income increases, the proportion of hospitalizations in the establishments of the Ministry of Health decreases and that in the private subsector increases. The group in the highest 15% level of income per capita, obtained 68% of its inpatient care from Ministry of Health facilities.

Of the ISSS affiliates hospitalized, 26% were in hospitals of the Ministry of Health, probably because of restrictions in the risks covered by the ISSS, although 12% were hospitalized in the private subsector, perhaps to seek more satisfactory service.

Illness was the principal reason for hospitalization in 50% of those hospitalized; the second reason was normal childbirth (26%); accidents accounted for 15% and other preventive reasons for 9%. Curative reasons (illnesses and accidents) together accounted for two-thirds of the hospitalizations. The high proportion of this kind of hospitalization was reflected in all strata.

The average number of days of hospitalization was 6.0, according to statements by the population surveyed. The hospitalization period was clearly related to the reason for hospitalization and was much higher in the case of purely curative hospitalizations (7-8 days).

The location of hospital establishments was further away from the place of residence of those hospitalized than that of the establishments providing out-patient care because of the smaller quantity of the former. Of the different subsectors, the ISSS has a higher proportion of easily accessible hospital care. Forty-three per cent of hospitalizations in establishments of this Institute were effected in the same residential sector, or in another sector in the same area or municipality.

In 41% of the hospitalizations recorded in this survey, the persons hospitalized made some direct payment. This proportion was lower than that noted for out-patient medical care (66%), was much higher in the private sector (84%), intermediate in the Ministry of Health (41%) and very low in the MHCO, for obvious reasons. The average amount paid directly for hospitalization was c 563. In the private establishments the average was c 2,330 and c 146 in the Ministry of Health.

With regard to the travel time to the place of hospitalization, 11% of the hospitalizations required travel of less than 15 minutes and 27% of less than 30 minutes. The private subsector had the highest proportion of patients hospitalized less than 30 minutes from their place of residence (44%).

The waiting time for a hospital bed, on the other hand, was less than initially anticipated, since 79.6% of hospitalizations were, according to the persons covered by the survey, effected in less than three hours after being ordered by a doctor. This figure, the validity of which would seem to be open to question, does coincide with the proportion of patients who were admitted on an emergency basis (80.5%), a figure which is unusually high in terms of the normal admission practice for this kind of service which is often restricted to only much more serious cases.

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1. INTRODUCTION

In response to a request from USAID/El Salvador, the "Resources for Child Health" (REACH) project carried out a study on the demand for health services in the Republic of El Salvador. The information was collected by means of a probabilistic household survey conducted at the national level which was designed to examine the behavior of the population in light of its health needs and the determinants of such behavior.[1] This document presents the main aspects of the methodology used and a descriptive analysis of the survey's results, with emphasis on the health service utilization patterns (i.e. behavior) which currently characterize the population in El Salvador.

A second volume presents an econometric analysis of demand, the purpose of which is to identify the factors affecting the decisions of patients seeking health services and to explain how such factors determine the service utilization levels set forth in this volume. It is hoped the study will provide useful information for the orientation of health policy and the planning of activities in this sector.

The fundamental objective of such a household survey is to provide answers to such questions as the following: what are the characteristics of the services sought by the population, the coverage of the different subgroups, the preferences of the consumers regarding the supply of public and private services and the potential capacity of the population to buy various kinds of health services? What is the effect of price and quality, the kind of personnel and the physical resources perceived by the population on the demand for services? In addition, how do changes in the composition and size of the supply of services in the public or private sectors, or changes in the charges of the services offered, the location of the services, and travel and waiting times affect demand.

From the economic point of view, the demand for health services is the quantity of services of a certain quality level which a person wishes to buy, taking account of his perception of the need for care, the price and quality of the services, and travel and waiting times etc., which are considered determinants or conditioning factors of his decision. An integrated analysis

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[1]A critical review of the questionnaire was carried out by: Dr. Gerald Rosenthal, Associate Director for Health Care Financing at the REACH Project; Ms. Matilde Pinto de la Piedra, Economist at the REACH Project; Mr. Kevin Armstrong, Population Officer at USAID/El Salvador; Dr. Hugo Moran, Chief of the Planning Office of the Ministry of Health, and the Executive Officers of the same Office, Dr. Leila de Salazar and Lic. Regina de Molina; Dr. Chang Peña, Chief of the Programming and Control Section of the Salvadoran Social Security Institute (ISSS); Dr. Reynaldo Grueso, Chief of Party of the Health Systems Support Project (APSISA) sponsored by USAID/El Salvador and Federico Rockuts, research adviser at the same project; Dr. Gerald Rosenthal, Associate Director for Health Care Financing at the REACH Project; Ms. Matilde Pinto de la Piedra, Economist at the REACH Project; and the Economist Ricardo Bitran, Consultant for the REACH Project, are responsible for the econometric analysis of the data.

of demand should systematically take into account the relative importance of factors which may effect it, some of which depend on the individual, while others are determined by the environment or are related to the supply of services.[2]

The objectives of this survey were as follows:

(1) To establish the utilization patterns of health services according to the demographic and socio-economic characteristics of the consumers of health care and their prior perception of illness, type of service required, the direct payment of the services, and travel and waiting times.

(2) To establish the relative importance of the above factors in the decision to seek a specific type of health service.

The content of the survey, which aimed to achieve the above objectives and a number of the previously defined objectives, can be summarized as follows (see also the household questionnaire in Appendix 2):

- Demographic composition of the household;

- Education;

- Access to Membership Health Care Organizations (MHCO);

- Perception of acute and chronic health care problems in the previous two weeks;

- Incapacity due to health problems;

- Consultations (with any person) for reasons of health or illness during the last two weeks: number of consultations, reasons, place of attention and person consulted. For consultations with a physician or persons other than a dentist or odontologist, place of attention and subsector of the establishment; direct payment, amount paid or reasons for non-payment; prescription, receipt and payment of medicines, amount paid and reasons for non-payment, cost and means of transportation to the place of attention; waiting time at the place of attention.

- Last consultation with a physician by persons who had not consulted one during the previous two weeks; time since the last consultation and, for those who had consulted a physician within the last two months, all the variables noted above for the consultation.

- Visit to a dentist or odontologist by persons who had not had a consultation during the previous two weeks; time since the last consultation;

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[2]See Russell et.al. (1986), Gomez (1988) and Bitran (1989)

- Hospitalization: perception of problems requiring hospitalization, recommendation of hospitalization, and hospitalizations since January 1, 1988; hospitalizations in 1987; time since the last hospitalization for persons who had not been hospitalized since January 1987. For hospitalizations in 1987, 1988 and 1989, information on the date, reason, surgery, night stays, place of attention, subsector of the establishment; direct payment, amount paid and reasons for non-payment; time and cost of transportation to the place of hospitalization; waiting time since the hospitalization order;

- Occupational characteristics and income of the population age 10 and above.

- Production of agricultural products in the household, for consumption or sale.

- Rearing of animals in the household for consumption or sale.

- Characteristics of the dwelling.

In the description of the results of the survey, health has been expressed in terms of the perception of illness and incapacity by the persons covered by the survey during the two-week period prior to the interview.

Behavior has been described in terms of the solutions sought to the health needs, i.e. general out-patient care over a period of two weeks; in terms of out-patient care by a physician over a period of two weeks and one year; in the detailed characteristics of this care on the basis of the data for two weeks; and, finally, in the case of hospital care, over the last two years.

The various reference periods were fixed taking into account the extent to which the persons covered by the survey could remember the various events and their expected frequency, with a view to recording, with an acceptable level of accuracy, and a sufficient number of cases to achieve the levels of in-depth precision required by the prescribed analyses.

The behavior indicators were classified systematically by subsector and residential stratum for all the population studied and with different levels of detail of demographic and socio-economic variables.

All the absolute figures presented in this report are estimations for the entire population and have been obtained by weighting the sample values by the reciprocal of the each person's probability of selection and adjusted in the case of non-response. For example, the selection probability of persons in segment No. 204, in the rural stratum, is 1/236, the reciprocal of this probability is 1.159 (No. of dwellings selected over number of dwellings covered by this segment's survey) and the final restitution factor is 236 x 1.159 = 274. This means that each person in the sample segment No. 204 represents 274 persons of the population with similar characteristics. Since the final factor varied from segment to segment, the prior weighting of the sample values of each segment by their respective final factor avoided the

bias of the estimations and at the same time provided an approximate estimation of the values of the total. The absolute and relative estimations (whether weighted or not) are subject to sampling errors or random variations, and are thus an approximate estimation of the real situation. In general, it has been estimated that absolute figures below 5.000 and the relative figures based on these have very little statistical significance and lack precision.

Chapter 2 presents a summary of the survey methodology, with details of the study population, the design of the probabalistic sample and the household questionnaire, as well as the collection and processing of data. Chapter 3 provides a synthesis of the demographic characteristics and self-perception of illness of those covered by the survey. Chapter 4 includes information on general out-patient care, while Chapter 5 provides information on out-patient care by physicians. Chapter 6 contains data on hospital care. The three appendices comprise the questionnaire used in the household survey, additional technical details on the probabilistic sample, and the tables of the results.

2. METHODOLOGY

Four subjects are covered in this part of the document: the population to which the resulting implications and generalizations of the research can be applied; the principal elements of the design and selection of the probabilistic sample; the main characteristics of the household questionnaire; and the logistics and instruments of the data collection and data processing. Appendices 1 and 2 are important supplements to the main document: the first includes a transcription of the household questionnaire and the second refers to additional technical details of the sample.

Although this chapter has been written with a minimum of technical terms so as to make it accessible to the large majority of readers who are not specialized in sample surveys, a reading of its contents - and in particular section 2.2 which refers to the design of the sample - is not indispensable to an understanding of most of the results presented in the following chapters.

2.1 POPULATION STUDIED

The population studied was the civilian, non-institutional population residing in rural areas of the country. Due to the conflict currently affecting the country, this group was chosen because the research did not present serious risks to them. This population, according to estimates adjusted on the basis of the survey itself, comprised at the time of data collection (January-February 1989) 4,210,000 inhabitants, equivalent to 80-90% of the total population of the country. The three major strata into which the country was divided for the selection of the sample and the interpretation of the results, covered the following population: the Metropolitan Area of San Salvador (AMSS), 1,045,240 inhabitants; other urban centers of the country (Other Urban), 1,535,588; and the Rural Area, with 1,628,813 inhabitants. The population excluded from the study was from the rural stratum.

There are many serious obstacles to any exact estimate of the current population of the country and to the design of population samples. The lack of a recent national population census is compounded by difficulties resulting from the armed conflict. The displacement of large numbers of people towards certain areas of the country, urban centers, as well as out of the country, and the absence of efficient registration mechanisms, as well as the burning of the materials of the last census, are a few of the obstacles. The population estimates by stratum originally used for the sample calculation in this research also inevitably give rise to doubts, although in our opinion they are the most accurate. For the AMSS and the Other Urban strata, we believe that the estimates of the number of dwellings (1988) compiled by the Ministry of Planning (MIPLAN), an institution which has been updating the cartography and list of dwellings in the urban centers of the country are acceptable. However, for the rural area, we preferred estimates by experts from the Center for Disease Control (CDC), Atlanta, USA, for the calculation

of the sample for the Survey on Maternal and Child Health and Family Planning carried out in 1988.[1] (Table 2.A).

TABLE 2.A

ESTIMATES OF ACCESSIBLE HOUSING AND POPULATION BY STRATUM

Stratum	Dwellings estimated initially for 1988	Estimated Dwell. 31 Jan. 1989 (by survey technicians) (a) No.	%	Average no. pers. by dwell. (ADS count)	Estim. popul. before survey	Restored population based on survey
MASS	214,008 (MIPLAN)	223,000	26.8	4.51	1,006,000	1,045,240
Other Urban	274,975 (MIPLAN)	283,000	34.0	4.67	1,322,000	1,535,588
Rural	319,000 (CDC)	326,000	39.2	5.22	1,702,000	1,628,813
Total	807,983	832,000	100.0		4,030,000	4,209,641

(a) Based on the average of the annual percentage change occurring between 1980 and 1988 in each of the strata.

2.2 SAMPLE DESIGN

The sample at the level of urban and rural sectors is adapted from that selected by the National Fertility and Health Survey (FESAL,85) carried out by the Salvadoran Demographic Association (ADS) and the Institute of Resource Development of Westinghouse, which was adjusted and supplemented by the FESAL 85 survey also carried out by the ADS and the CDC of Atlanta.[2] Within the sectors, the sample of segments and households was specifically designed and selected for this study on the Demand for Health Services.

2.2.1 Type of Sample

The sample as a whole is probabilistic, stratified and of unequal clusters. It is probabilistic, with equal probabilities within each stratum

[1] See Monteith et.al. (1988)

[2] See Monteith et.al. (1988) and ADS (1987)

and very similar between strata, due to the distribution of the sample in a manner approximately proportional to the distribution of the entire population.

It is stratified into the three main classifications of the study population: the Metropolitan Area of San Salvador (AMSS), the Other Urban stratum and the Rural Area. This stratification, as well as identifying the geographical groups of the population for whom it is feasible to infer most of the results of the study, separates different populations not only by demographic and socio-economic characteristics but by their perception of health problems and their behavior towards the available health services.

It is of unequal clusters, composed of cantons (rural sectors) in the rural area, with an average size of 250 dwellings, and by urban sectors established for the study on the basis of blocks of 250-300 dwellings. In turn, within the 175 sectors selected for the sample, adjacent segments or groups of dwellings of an average size of 10 in the AMSS and 20 in the Other Urban strata and the Rural Area, were specifically established for the study. The last sampling areas were 221 segments selected probabilistically, 92 in the AMSS (2 per sector), 60 in the Other Urban stratum and 69 in the Rural zone.

2.2.2 Sample size and expected accuracy

The sample surveyed was composed of 2,885 dwellings (of a total of 3,267 selected) with 13,896 persons. The distribution by stratum of the sample was as follows: AMSS 3,200 persons, Other Urban 5,084 and Rural Area 5,612. The size of the sample initially selected (approximately 17,700 persons) was established accounting for: a) the requirements of the research, which included estimates of acceptable accuracy at the stratum level; b) the anticipated frequency of the most important dependent variables, i.e. out-patient consultations and hospital care; c) the anticipated rate of non-response, (15-20%); and d) the resources available for carrying out the work.

The sample surveyed (13,896 persons) guarantees estimates of excellent accuracy for the most important subjects covered by the study. Thus, for the Metropolitan Area of San Salvador (AMSS), which is the smallest sized stratum (N=1,045,000) and the smallest sample (n=3,200), the expected accuracy (Relative Standard Error) of phenomena of different frequency (proportion), estimated in population subgroups (n), on the basis of sub-samples (n) of variable size, can be seen in Table 2.B (for additional details see Appendix 2). In general, relative standard errors equal to or less than 0.1 are considered of acceptable accuracy, although it is well-known that each analytical situation may have its own accuracy requirements.

TABLE 2.B

EXPECTED RELATIVE STANDARD ERRORS (ES rel) FOR A UNIVERSE N= 1,045,000, A SAMPLE n=3,200, OR FOR FRACTIONS OF THIS SIZE AND FOR A DESIGN EFFECT OF K=1.87 (see a and b)

Proportions	N=1,045,000 n=3,200	N-522,500 n=1,600	N=348,000 n=1,067	N=261,000 n=800	N=209,000 n=640
P	(1/1)	(1/2)	(1/3)	(1/4)	(1/5)
0.05	0.105	0.149	0.182	0.210	0.235
0.10	0.072	0.102	0.125	0.145	0.162
0.20	0.048	0.068	0.084	0.097	0.108
0.30	0.037	0.052	0.064	0.073	0.082
0.50	0.024	0.034	0.042	0.048	0.054

(a) The design effect k (clustering effect) is the coefficient between the standard error which would be obtained from this cluster sample design and that obtained in a simple random sample of elements (SRS) of the same size . The K factor, incorporated in the sample size formula of a SRS design of elements, makes it possible to easily approximate the size of the sample required for a design of clusters such as that in this survey. The value K=1.87 is the average design effect observed in the FESAL 85 survey, in which the sample coincides at the sector level with that of this study.

(b) The dividing line in the table separates the relative standard errors equal to or less than 0.105 (lower part) from those above this figure.

From the figures given in Table 2.B it can be concluded that a sample of 3,200 persons in the AMSS guarantees results of good accuracy (ESrel 0.1) for:

- Phenomena with a frequency equal to or greater than 0.05 ($P \geq 0.05$) in the stratum as a whole (N= 1,045,000).
- Phenomena with a frequency equal to or higher than 0.10 ($P \geq 0.10$) in two subdivisions of the stratum.
- Phenomena with a frequency equal to or higher than 0.20 ($P > 0.20$) in three or four subdivisions.
- Phenomena with a frequency equal to or higher than 0.30 ($P \geq 0.30$) in five subdivisions of the stratum.

The accuracy of the estimates in this same stratum, using "confidence intervals", can be illustrated as follows: if the proportion of one of the study variables in the total sample of the stratum (n=3,200) is p = 0.05, and there is a relative standard error es rel=0.105, i.e. a standard error es=0.0052 (es= es rel x p = 0.105 x 0.05 = 0.0052) the true P proportion of the variable in question, in the stratum total, will be between 0.04. and 0.06, with 95% accuracy (which corresponds to 2 es). For the other two strata, the Other Urban and the Rural Area, the accuracy of the estimates is even higher because the sample sizes are larger.

On the other hand, measures of central tendency, variability and relation, obtained on the basis of continuous variables (e.g. y, Í, r, etc.) have, by definition, relative standard errors which are several times lower than those observed for proportions, which means that the sample designed makes it possible to estimate and analyze this kind of indicator with a level of accuracy several times greater.

For more details on the sample frame and the selection of the sample, see Appendix 2.

2.2.3 Selected and surveyed sample

The sample of 13,896 persons surveyed, representing 78.2% of the selected sample (Table 2.C), was conducted with an acceptable level of efficiency if accounting for conditions in the country, the levels of coverage usually achieved in other population surveys in this country (6). Similar coverage was reached in the different strata while avoiding serious imbalance in representation at this level. Nevertheless, the rates of coverage varied considerably more according to the socio-economic level of the population, which resulted in differential adjustments in coverage at the segment level (see below, Estimation Methods).

TABLE 2.C
PLANNED, SELECTED AND SURVEYED SAMPLE

Stratum	Dwellings			Persons			
	Planned	Selected	Surveyed	Planned	Selected	Surveyed	
						No.	% of selec.
AMSS	920	959	713	4,149	4,306	3,200	74.3
Oth.Urb.	1,200	1,403	1,093	5,604	6,524	5,084	77.9
Rural	1,380	1,325	1,079	7,204	6,890	5,612	81.5
Total	3,500	3,687	2,885	16,957	17,720	13,896	78.4

2.2.4 Estimation procedures

The approximately equal final probability of the persons and dwellings selected, allows, in principle, the direct utilization of the sample results to produce unbiased estimates. In turn, the absolute estimates for the population sample can be done routinely by means of the application of the basic inflation weight, equivalent to the reciprocal of the above-mentioned probability.

However, the variable rates of response obtained in the different socio-economic groups (due to security reasons, lack of confidence due to the situation in the country, and indifference towards the Government's health programs) led to the decision to introduce a coverage adjustment because of the important expected differentials in the results by socio-economic level. The adjustment, therefore, substantially improves the accuracy of the results for the totality of each residential stratum and the country.

The adjustment factor was calculated at the segment level (because of its socio-economic homogeneity) by means of the ratio between the number of selected (and inhabited) dwellings and the number of dwellings actually surveyed. The validity of the adjustment was based on the hypothesis that, at the segment level, the characteristics of the health service consumption of the dwellings surveyed are, on average, similar to those of the dwellings not surveyed. This hypothesis was confirmed in the studies in which the non-response has not been correlated with the subject under study at the level of the last sample area.[3]

The final inflation weight was thus comprised of the product of the basic weight and the coverage adjustment factor, its size varying from segment to segment. The figures in the second section of this report are the results of this study obtained from the final inflation weights.

The estimate of any kind of mean (y) or proportion (p) based on this sample, which is of unequal clusters, has a ratio estimator "r".[4]

$$r = \frac{y}{x}$$

where

y = the accumulated value of the studied variable (which may be continuous or discrete with multiple values, or binomial with only two values)

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[3] See Gomez (1988)

[4] See Kish (1965), Gomez (1987) and Cochran (1964)

x = the sample size, both being random variables.

Further details on the estimation formulas are contained in Appendix 2.

2.2.5 Sampling errors

The estimates based on the sample approximately reflect the true values of the population studied. The level of accuracy of such estimates is expressed in terms of the sampling error or standard error, which is a measure of the random variation, the difference between the sample and population values caused partially or totally by random phenomenon. Thus, it is important to calculate the sampling error of the most important sample estimates so as to: a) determine the "intervals or limits of confidence" between which lie the real values of the study population, with a specific level of accuracy, confidence, or significance, expressed in probabilistic or percentage form, usually 95% (of certainty or confidence) or 5% (of significance); b) carry out the tests of statistical significance, which estimate the probability that differences observed between sample values, or between the latter and other known population values, are the result of chance or are in fact real.

The approximate calculation of the sampling errors of this study can be made by the Taylor Series method or the "Propagation of Variances" method.[5] (See Appendix 2).

2.3 THE HOUSEHOLD QUESTIONNAIRE

Initially, the content and design of the questionnaire for the household interviews were defined on the basis of the specific objectives of the research which had been agreed on beforehand between health authorities of the country and AID officials in El Salvador. The design took into account the recent experiences of studies on the demand for health services in the Dominican Republic (HCF/LAC) and in Zaire (REACH), the proposals of the technicians of the Ministry of Health in El Salvador, the Salvadoran Social Security Institute and representatives of the private sector, the observations of the consultants of the APSISA project in El Salvador and the guide-lines provided by the coordinators of this study in the REACH project. After several corrections and adjustments had been made to the collection instrument, it was submitted to a fieldwork test on two occasions by some of the future supervisors of the survey, as part of their training program. Before this process was brought to a close, existing problems were identified and their corrections tested.

All household members selected in the sample, irrespective of their family relationship, were to be interviewed and their information recorded in one or more family questionnaires. Each form had the capacity to record data from six respondents. The questions were to be answered by every adult in each

[5] See Kish (1965) and Cochran (1964)

family, by the head of the household and his/her spouse, or by an adult familiar with all members of the household. Persons who replied directly were identified and codified.

Three kinds of information could be recorded in the questionnaire: housing and overall family income; agricultural production of the family group; and information on each member of the household. The first two types were to be provided by the head of the household or by the adult responding to the survey. The questionnaire was designed to be filled out by an interviewer working with an intermediate level of speed and efficiency, in an average size household (4.8 persons), in an average situation with respect to the volume of services consumed, and in a time of approximately 40 minutes. The actual average time for the paper work for all of the households surveyed was approximately 35 minutes.

A "Fieldwork Manual" was compiled to establish ground rules for conduct and data supervision, and organization of the work, functions and responsibilities of the field staff. It contained guide-lines for quality and efficiency control, discussed the most important concepts and definitions pertaining to the content of the household questionnaire and suggested the most appropriate tactics for ensuring the acceptance and satisfactory conduct [Aof the interviewee.

2.4 DATA COLLECTION AND PROCESSING

Under a contract with "Daniel Carr and Associates" of San Salvador, the survey data were collected and recorded on diskettes. The local group was composed of a part-time director-general, a field coordinator and a (part-time) processing coordinator; 5 field supervisors and 27 interviewers (in the budget), 5 in each collection team and 2 re-interviewers; 1 encoding supervisor and 3 encoders; 1 data entry supervisor, 6 data entry operators and 5 jeep drivers.

The activities began with supervisor training and a trial questionnaire over a week-long period and continued for a total of 10 days, in which the supervisors actively participated in training the interviewers, encoders and data punchers. The data was collected in a period of seven weeks. Table 2.D summarizes the most important indicators of the field work.

TABLE 2.D

HOUSEHOLDS SELECTED, INTERVIEWED AND NOT INTERVIEWED, BY CAUSE

Stratum	No. of Seg.		Selec. House.		Aver. House. by seg.	Interv. Househol.		Non-interviewed households					
								Refused		Tempor. Absent		Residence elsewhere	
	No.	%	No.	%	No.	No.	%						
AMSS	92		959	100	10.4	713	74.3	110	11.5	133	13.9	3	0.3
Oth.U.	60		1,403	100	23.4	1,093	77.9	75	5.4	225	16.0	10	0.7
Rural	69		1,325	100	19.2	1,079	81.5	52	3.9	183	13.8	11	0.8
Total	221		3,687	100	-	2,885	78.2	237	6.4	541	14.7	24	0.7

Seventy-eight per cent of the selected households were interviewed, which indicates a reasonable level of efficiency of the collection process, as already noted in section 2.2.3.

The greater coverage achieved in the Rural stratum and the lesser coverage in the AMSS simply confirmed the greater accessibility of the former, as observed in other surveys in this country and other Latin American countries.[6] Of significance are the relatively small differences between the strata, which reflect the logistical and operational efforts made in the urban strata, but particularly in the AMSS, to overcome the very low coverages achieved during the first round of interviews (59.5% in the AMSS during the first 9 days of the survey). On the other hand, the principal reason for non-interviews was the temporary absence of residents from their homes, which was only partially overcome in the re-interviews, since, because of security reasons, interviewers worked on a restricted time table up to 6.30 p.m. Refusal was an important cause for lower coverage only in the AMSS.

The codification of the "open" questions (occupation, causes of illness, consultation and hospitalization; insurance bodies; health institutions used, location of place of care, subsector, agricultural products), the rapid revision of the consistency of the forms filled in, and the preparation of manual controls of the volume of persons interviewed and health events were carried out without any obstacles shortly after the interviews (within an average of 2 days).

The recording of the data on diskettes was done by a local firm "Information Systems" and was completed within the set terms and time limits - five days after the interviews. The Integrated System for Survey Analysis

[6] See ADS et.al (1987), Pabon (1983) and INE/Peru (1984)

(ISSA) was used in this process, which made it possible to include all the checks for inconsistencies in the recording process, thus incorporating in a single operation these two stages, and saving time, cost and final quality of the information. Various kinds of equipment (XT, 640K and 20MB) were used for data recording, and greater capacity (AT) equipment was used for overall controls and partial integrations.

The quality control of data included: a) the daily revision of the forms filled in and the control of coverage in the segments worked by the supervisor in each team; b) revision by the encoders; c) re-interviews carried out in 10% of the households and with one person per household; d) the identification and correction of inconsistencies controlled in the recording process through ISSA.

Re-interviews were conducted with 231 persons from households randomly selected from those previously surveyed, but controlling their balanced distribution by initial interviewer and throughout the collection period. The re-interviewers were not the same persons as those who conducted the initial interview. The latter, fully aware of the control mechanism, were not informed of the dwellings selected for re-interview and thus felt even more stimulated to perform honest and efficient work. Apart from the natural benefit in terms of the psychological role of this procedure, the final purpose of the re-interviews was to generate the quality indicator: "the rate of differences observed at the question level between the interview and the re-interview". There was no provision for correction in the results of the interview as a consequence of the re-interview, since usually there are no elements available by which to decide which is the "correct" one.

Table 2.E presents the results of a comparison between a maximum of 221 of the re-interviews in which the identification was exactly the same as in the interview. For example, in question 7a of the questionnaire, concerning social security affiliation, 12 persons of the 216 re-interviewed in this variable did not give the same answer as in the initial interview; this produces a variation rate of 12/216 = 5.6%, which since it is very low indicates that the information on the variable is of good quality.

The following points should be taken into account in the interpretation of the figures:

- Several of the re-interviews were given by persons in the household other than those who had granted the initial interview.

- Most of the re-interviews were conducted several days (up to 8) after the date of the first interview, which thus affects the comparison of facts or events subject to daily variation, such as the perception of illness (32.4% variation), consultations for reasons of health or illness (12%), and all the characteristics of the consultation.

- A difference was defined as any variation in the scale of replies, even a variation of one unit, in those of the continuous quantitative type (months or years of age, last year of study completed, or first hospitalization).

With regard to the small number of consultations and hospitalizations (11 and 21) identified in the re-interviews, the rate of difference was affected considerably by the small size of the denominators.

The overall control of the collection, codification and recording of data was carried out and adjusted each day by means of a computerized information system. The system recorded the programmed and visited segments, the programmed and actually selected households, the households interviewed and not interviewed by reason, the persons interviewed and the time spent in the interview. On the basis of this information, indicators were also calculated each day of the coverage of the selected sample and of productivity in terms of the number of interviews per interviewer, supervisor, segment and day, and of the average time per interview, with the same separation.

The following stage, comprised of the establishment of an integrated data base, the final revision of the consistency of the data collected, the creation of the analysis archives in the Statistical Package for the Social Sciences (SPSS), and the preparation of the volumes of corresponding documentation (Codebook, Physical Database Documentation, Consistency and Variable Generation Programs and Generated Flat Files) was done outside El Salvador.

TABLE 2.E

RATE OF DIFFERENCES OBSERVED BETWEEN RE-INTERVIEWS AND FIRST INTERVIEWS, BY SELECTED QUESTIONS

Question No.	Subject	Total Cases (a)	No. of differ. (b)	% (c)
2a	Age (months/years)	216	0	0
2b	No. of months/years of age	216	79	36.6
3	Sex	216	0	0
4	Relation to head of household	216	18	8.3
6	Last year of study completed	216	62	28.7
7a	ISSS affiliation	216	10	4.6
7b	Dependent of ISSS affiliate	216	12	5.6
7d	Priv. Insur. affiliate	216	1	0.5
7i	Dependent of priv. insur. affiliate	216	1	0.5
71	Right to use other gov. services	216	7	3.2
711	Right to use ANTEL serv.	216	6	2.8
712	" " CEL "	216	5	2.3
713	" " teaching "	216	5	2.3
714	" " AF "	216	5	2.3
715	" " other inst."	216	5	2.3
8	Illness last 2 weeks	216	70	32.4
16a	Consultation last 2 weeks	216	26	12.0
16b	No. of times consulted	10	0	0
16f	Person consulted	11	0	0
16h	Location of place of care	11	3	27.3
16i	Direct payment of consult.	11	2	18.2
16j	Prescription of medicines	11	1	9.1
16k	Special examinations ordered	11	2	18.2
17c	In which health service consulted	200	21	10.5
17el	Subsector consulted	200	23	11.5
18a	Time since last dental consultation	221	67	30.3
19d	Hospitalization since 1.1.88	221	11	5.0
19e	No. hospitaliz. since 1.1.88	221	11	5.0
19f	Hospitaliz. in 1987	221	17	7.7
19g	No. hospitaliz. in 1987	221	9	4.1
19k	Surgery in hospitaliz.	21	1	4.8
19m	Place of hospitaliz. (name)	21	7	33.3
19n	Direct payment for hospitaliz.	21	7	33.3
20	Work in last 2 weeks	178	22	12.4
20a	Activity of persons not wkg.	178	41	23.0

(a) No. of persons re-interviewed and with reply in the respective question
(b) No. of cases in which the result of the re-interview did not coincide with that of the previous interview
(c) Percentage relationship: (b) over (a).

3. THE POPULATION STUDIED

At the time of the survey (January-February 1989), the restored studied poulation was 4,210,000 inhabitants, 1,045,000 (25%) of whom lived in the Metropolitan Area of San Salvador (AMSS), 1.536,000 (36 %) in the remaining urban centers (Other Urban) and 1,629,000 (39 %) in the Rural zone (Rural).

3.1 SEX AND AGE

Composition by sex showed a slight predominance of women, both in the country as a whole (53.2%) and in the three residential strata, but particularly in the urban areas. This phenomenon was also observed on repeated occasions in all the age groups over 5, thus confirming findings of other studies.[1] By age, 13.4% of the persons surveyed were less than 5 years old and 17% age 45 or over, although the demographic structure was more developed in the urban strata, particularly in the AMSS, with a smaller proportion of children and a greater proportion of elderly persons (Tables 3.A, text, and 3.1 - 3.3, Appendix 3).

TABLE 3.A
POPULATION BY AGE AND RESIDENTIAL STRATUM (Percentages)

	Age				
Stratum	0-4	5-14	15-44	45 and over	Total
AMSS	11.1	23.4	47.8	17.7	100.0
Other Urban	12.3	28.0	42.0	17.7	100.0
Rural	15.9	30.9	37.2	16.0	100.0
Total	13.4	28.0	41.6	17.0	100.0

3.2 EDUCATION

The survey showed that 31% of the population age 6 and above did not know how to read or write, although the indicator varied considerably by sex, age, and residential stratum, showing proportionally more illiterate women (33.4%), persons age 45 and older (48.2%) and inhabitants of the rural zone (48.3%). On the other hand, 46.9% of the population had received some form of primary education, 19.1% some level of secondary education and 4.0% some degree of technical or college education. The contrast in the proportion of the population with a high level of education between the AMSS (highest levels) and the other two strata was very marked, although the situation is

[1] See Alenz et.al. (1986)

not different from that observed in many Latin American countries.[2] (Tables 3.4-3.6).

3.3 ECONOMIC INCOME

This variable was examined from different angles so as to provide the best possible estimation of its relationship with the demand for health services.

The basic method used was similar to that applied by the World Bank in its Survey on Standards of Living.[3] This method, in a process combined with the identification of each of the remunerated occupations or activities of an individual, gradually established the various components of personal income.

As a complement to the above scheme, an estimation of gross income from agricultural production at the household level was made so as to adjust the income of those households in which this activity was important. Finally, the questions on the dwelling included the classification of the household on a scale of levels of overall monthly income, in which account was taken of the incomes of all members of the household. Although this question was asked of all the families surveyed, it was mainly intended to achieve an overall estimate of the income of those families who had shown themselves reluctant or unwilling to provide detailed information regarding income components.

Since an accurate estimation of income is important for the econometric analysis of the demand for health services, the combination of the previous data was a necessary preliminary step. Nevertheless, the high rate of non-response which occurred with the above mentioned basic method (31.2%) could result in difficulties if the groups which did not reply adopted a special behavior in relation to the demand for health services. Furthermore, the low level of non-response observed in the final question on overall household income (12.4%) reflected greater confidence by those surveyed concerning less detailed questions, although it had the disadvantage of allowing the respondents to easily underestimate their real income.

For the purposes of this descriptive presentation, reference is made only to per capita income, calculated for all the residents of each dwelling on the basis of income recorded in the various activities of the members aged 10 and older (series of 20 occupational questions). The calculation did not take account of the additional information on income resulting from agricultural activities, which although assumed to be partially included in the occupational questions, probably did result in some improvement in the estimation for special analytical purposes.

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[2] See PAHO (1986)

[3] See Grotaert (1986)

Forty-seven percent of the population had a monthly per capita income in the household of less than 101 colones "c" ($US 20, at an exchange rate of c 5 for $US 1) and only 14.7% had an income of more than 400 colones. These proportions varied according to the residential stratum and level of education. Whereas only 4.8% of the inhabitants in the rural area had a per capita income of more than 400 colones, the proportion was six times higher in the AMSS (28.9%) and intermediate in the Other Urban strata (13.3%); and whereas 31.5% of those who had received some kind of technical or college education belonged to the highest per capita income group, only 10.5% of those without any education at all achieved this income. Moreover, two thirds of those whose monthly income was the lowest lived in the rural zone and 56% of those with the highest income lived in the AMSS (Tables 3.B, 3.7 and 3.8).

TABLE 3.B

POPULATION BY MONTHLY PER CAPITA HOUSEHOLD INCOME

	Monthly per capita income (colones)				
Stratum	< 101	101-200	201-400	401 and over	Total
AMSS	24.9	22.1	24.1	28.9	100
Other Urban	39.4	26.8	20.5	13.3	100
Rural	66.0	19.9	9.3	4.8	100
Total	44.7	23.0	17.6	14.7	100

3.4 HOUSING

In order to complement the socio-economic panorama, the survey examined the characteristics of dwellings. The results showed that 68.1% of the dwellings were independent houses, with the proportion being slightly higher in the Other Urban strata (77%). There was a marked proportion of dwellings of limited space (one room) in the AMSS (19.3%) and the Other Urban stratum (11.6%) and a significant proportion of poor quality dwellings (huts, hovels) in the rural zone (32.1%). Fifty-seven percent of the dwellings were owned by their inhabitants although the proportion was lower in the AMSS (48.4%). On the other hand, running water was available in 78.4% of the dwellings in the AMSS, compared with 13.4% in the rural zone, although in the Metropolitan Area 30% of dwellings still lacked intradomicile connection. In sanitary facilities, the situation was precarious: in the AMSS, where the proportion of private toilets was almost double that of the Other Urban strata and many times greater than in the Rural zone, only 55% of dwellings had such facilities (Table 3.10).

3.5 OCCUPATIONAL CHARACTERISTICS

Together with education, economic income, housing and affiliation to Membership Health Care Organizations - MHCO (Social Security, private insurance, etc.), the occupational characteristics of the population are an indicator of social conditions and standard of living. They are also considered one of the risk factors of illness and thus of the demand for health services. Nevertheless, the high correlation which exists between some of these variables makes them to some extent interchangeable in some of the descriptions of the health conditions and the demand for care.

The results of the survey showed (Table 3.9) that 40% of the population age 10 or above stated that they had been working during the previous two weeks. However, this proportion was lower in the Rural zone (35%) than in the Other Urban stratum (39%) and the AMSS (47%). The most important activities of those who said that they had not been working were housework (62%) and study (24%). Traders and vendors, artisans and laborers were the largest occupational groups in the AMSS and in the other urban centers of the country, while in the rural areas the highest proportion, as was to be expected, was that of farmers and cattle-raisers. The type of economic activity of the population of El Salvador reflects their occupation; thus commerce and the public services are the most important specific economic activities in the urban strata, and agriculture, silviculture and fishing in the rural sector (Table 3.9).

In the country as a whole, independent workers (32%) and workers and employees in private firms (28% and 22%) account for 82% of the working population. A similar situation can be seen in each of the residential strata (Table 3.9).

3.6 COVERAGE OF MEMBERSHIP HEALTH CARE ORGANIZATIONS (MHCO)

The survey attempted to identify in a simple and direct form the beneficiaries of the membership health care organizations (MHCO). This designation was applied to organizations which provide or finance health services for persons who acquire the right by mechanisms of direct affiliation or because they are members of the organization which offers the services. The figures given here and those appearing in the corresponding tables are not intended to replace or cast doubt on the figures of the institutions themselves, since in addition to being affected by random variation, like all the other results of the survey, they do not cover the whole of the country. Their novelty lies in the information provided on the structure of the characteristics of the beneficiaries, about which little or nothing is known, and the latter's behavior as regards health.

The Salvadoran Social Security Institute (ISSS) is the most important MCHO in the country and covers 7.3% of the population studied; some governmental institutions such as those responsible for electrical energy (CEL), telecommunications (ANTEL), public education and the Armed Forces, whose health services are more or less restricted to their employees or

members, provide coverage for 2.7% of the inhabitants, and private insurance bodies, in their traditional role as a financing mechanism, cover only 1.3% (Tables 3.11- 3.13).

Seventy-five percent of the beneficiaries of the ISSS surveyed were members (paying contributions) and two thirds were male. Of the dependents, 84% were women, most of whom were over the age of 15 (76%). The dependent population under the age of 15 was 16.5%. The proportion of the male population covered by the ISSS (8.4%) was 31% higher than the proportion of the female population covered by the Institute (6.4%) and the most protected age group was that of 25-44 (1.3%) (Table 3.11).

Private insurance bodies, which are free of the restrictions of Social Security as regards the type of population eligible to be beneficiaries, had a higher number of dependents than direct affiliates, although the coverage of the various subgroups of the population was much lower than that of the ISSS. Of the dependents 53% were under the age of 15 (Table 3.12).

The population covered by various governmental institutions other than the Ministry of Health was distributed throughout several age groups, indicating a convenient extension of benefits to the dependents of the workers of these bodies. Coverage was obviously greater for persons age 25 or above, who were the employees themselves, although the differences in the levels of coverage of the younger population were clearly less than in the ISSS and the private insurance bodies (Table 3.13).

Almost all the persons covered by the MHCO lived in the urban area (more than 90%) and were equally distributed between the AMSS and the Other Urban stratum (Table 3.14).

A review of the total proportion of the beneficiaries of the MHCO (Table 3.15) shows a greater coverage for men (25% higher) and the flagrant lack of protection for children under the age of 15, the inhabitants of rural areas, persons with little or no education, persons with low per capita income and those without any remunerated employment (Tables 3.C and 3.15).

It is important to point out that the difference in the rates of membership in a MHCO between the subgroups of population by sex, age and education becomes considerably more marked as the degree of urbanization falls, thus indicating a proportionally greater lack of protection in the Other Urban strata and, in particular, in the Rural Area, of the most underprivileged groups, such as women, children under the age of 15 and older persons (over 45) and those which the lowest levels of education (Table 3.16).

TABLE 3.C

BENEFICIARIES OF MEMBERSHIP HEALTH CARE ORGANIZATIONS (MHCO)
(Percentages)

	Beneficiaries	Non-beneficiaries	Total
AGE			
< 5	3.7	96.3	100.0
5-14	4.0	96.1	100.0
15-24	9.2	90.8	100.0
25-44	22.0	78.0	100.0
40 or above	13.1	86.9	100.0
EDUCATION			
None	4.3	95.7	100.0
Some primary	9.2	90.8	100.0
Some secondary	23.3	76.7	100.0
Some technical or college	43.6	56.4	100.0
STRATUM			
AMSS	20.5	79.5	100.0
Other Urban	12.0	88.0	100.0
Rural	2.4	97.6	100.0
TOTAL	10.5	89.5	100.0

3.7 SELF-PERCEPTION OF ILLNESS AND INCAPACITY

Approximately 53% of the population studied in El Salvador perceived some symptom or sign of illness during the last two weeks before the interview. The proportion was slightly lower (48.1%) in the AMSS than that observed in the Other Urban strata and the rural area (54%) (Table 3.17). Using similar measuring methods, the National Health Study in Colombia[4] showed rates of 41% for the country as a whole, with 37.4% for Bogota, 40% for Other Urban centers and 43.3% for Rural areas; and the Demand Study for Health Services in Santo Domingo, Dominican Republic (13) showed a rate of 41.5%. By means of a simplified questionnaire (with only one question), the National Nutrition and Health Survey (ENNSA) of Peru recorded a self-perception of illness rate of 35.5% for the country as a whole.[5]

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[4] See Pabon (1983)

[5] See INE/Peru-ENNSA (1984) and Gomez (1986)

The overall rate for the country was higher for women and for persons in the extreme age groups, for residents in the rural zone and for persons lacking any education (Table 3.17).

Table 3.D shows the most important problems perceived by the Salvadoran population.

TABLE 3.D

ILLNESS PERCEIVED IN A TWO-WEEK PERIOD

Perceived Causes	No. of events	%
- Respiratory	1,388,697	33.5
- Intestinal	503,017	12.1
- Nervous system	462,032	11.1
- Osteo-muscular system	374,967	9.0
- Dental	364,967	8.8
- Circulatory apparatus	189,115	4.6
- Respiratory system (others)(b)	184,808	4.4
- Digestive (others)	177,296	4.3
- Urinary system	104,438	2.5
- Skin and sub-cutaneous tissue	101,755	2.4
- Accidents	86,135	2.1
- Infections and parasites	35,248	0.9
- Endocrine glands	34,248	0.9
- Blood	19,077	0.5
- Others	121,012	2.9
Total	4,146,736	100.0

(a) If a person perceived two or more illnesses simultaneously or separately during the two-week period, they were counted as different events.
(b) Problems not classified as respiratory or intestinal by those surveyed but which in the subsequent codification and compilation were classified as affecting the respiratory or digestive apparatus.

The 2,224,000 persons who perceived some health problem in the two-week survey period showed an average of 1.86 events of illness.

The prevalence of those illnesses which are easy to perceive and which were thus covered by special questions in the questionnaire, i.e. respiratory, digestive and dental problems, and accidents, is shown in Table 3.17. With the exception of accidents, which were slightly more frequent in men, the illnesses recorded were a little more common among women. Accidents and dental problems also revealed special behavior by age: very low rates appeared in the early years of life with a progressive increase with age. Respiratory problems were more common in the rural areas, as were intestinal and dental problems, although accidents were more frequent in the AMSS.

The most consistent and regular behavior was observed in terms of the level of education achieved, with a greater prevalence in the least educated and a progressive reduction in health problems as the level of education rose.

The social and economic impact of the self-perception of illness in the two-week survey period was reflected in part in the proportion of health problems which, because of their apparent seriousness, made it necessary for those suffering the ailments to interrupt their usual activities. Nine percent of persons age 6 or above who had shown signs or symptoms of illness had some degree of incapacity. The perception of incapacity was highest in the AMSS (11.4%), intermediate in the rural areas (9.2%) and lowest in the Other Urban strata (7.5%), and was inversely correlated with the level of education, with less incapacity as the level of education rose:

Education	Proportion of sick persons incapacitated
None	10.6%
Some primary	8.6%
Some secondary	8.1%
Some technical or college	7.2%

These figures are clearly lower than those observed in Santo Domingo, Dominican Republic (16.6%), a city which, as noted earlier, showed a lower overall perception of illness.

The average number of days lost through incapacity during the two-week period, was 6.9 per person incapacitated. The averages varied from 6.5 in the AMSS to 7.5 in the rural area. Once again, these average values contrast with those of the capital of the Dominican Republic (5.2 days).

Weighting the total number of days of incapacity during the two weeks by 26 gives an approximate total of 26 million days lost in the year due to health problems, equivalent to 6.3 days per inhabitant per year.

A second indicator of the seriousness of the ailment perceived by he population is the number of days of incapacity spent in bed. A high proportion (73.3%) of the persons incapacitated had to remain in bed for one or more days (all or almost all day), which indicated that most of the incapacitating illnesses were relatively serious. This proportion was slightly higher in the rural areas (76%) than in the urban ones.

The average number of days of incapacity spent in bed during the two-week period was 5.1 for the overall population studied and varied from 3.3 in the AMSS to 4.0 in the Rural area.

A summary of the self-perception of illness and incapacity indicators over the two-week survey period is presented in Table 3.E.

TABLE 3.E

SELF-PERCEPTION OF ILLNESS AND INCAPACITY INDICATORS BY STRATUM

STRATUM	Prevalence of perceived illness	Proportion of incap-acitating illness	Proportion of incap-acity in bed	Average No. of days of incapacity	Average No. of days in bed
AMSS	48.1%	11.4%	69.4%	6.5	3.3
Other Urban	54.4	7.5	72.2	6.7	3.8
Rural	54.5	9.2	75.5	7.3	4.0
Total	52.9	9.1	73.1	6.9	5.1

4. GENERAL OUT-PATIENT CARE

Approximately 11% of the population studied in El Salvador consulted someone for health or illness reasons in the two-week interview period. Eighty-seven percent of those who did so made only one consultation during the period; the average number of consultations per consultant was 1.16.

The consultation rate was higher in the AMSS (14%), intermediate in the Other Urban strata (11%) and lower in the Rural area (8%), and is positively correlated with the level of education and per capita income; the higher the levels of education and income, the higher the consultation rate. These variables which in turn are correlated among them are indirect indicators of the level of access to health care:

	Consultation rate in two weeks
Education	per 100
None	8.2
Some primary	9.6
Some secondary	11.1
Some technical or college	15.1
Monthly per capita income (colones)	
<101	9.7
101-200	11.1
201-400	11.1
401 and +	13.0

As was to be expected in the light of what has been noted in other countries, the probability (or rate) of consulting someone also varies by sex and age and is higher for women (11.8%) than for men (9.1%) and in the extreme age groups, i.e. children under the age of 5 (16.2%) and persons over the age of 45 (14%); the lowest rate recorded was for children between ages 5 and 14 (5.1%).[1]

4.1 PERCEPTION OF ILLNESS AND OUT-PATIENT CARE

Self-perception of illness is the main cause of the demand for health care. However, a high proportion of persons who feel sick do not seek health care for a variety of reasons, including self-treatment, and others who have felt sick consult for preventive reasons, among other causes, because the problem does not merit curative treatment.

Of the total of 427,000 persons who consulted someone in the two-week interview period, only 6.5% had no previous perception of illness. However

[1] See Gomez (1988), Bitran (1989) and Pabon (1984)

(see below, section 4.5), 19.4% of those who made a consultation did so for preventive reasons, which means that 12.9% of them felt some slight health problem which did not require a curative consultation during the two-week period (Table 4.A).

TABLE 4.A

CONSULTATIONS IN A TWO WEEK PERIOD (Percentages)

Self-perception of illness	Reason for consultation: Curative (a)	Preventive (b)	Total (c)
Yes	80.6	12.9	93.5
No	-	6.5	6.5
Total	80.6	19.4	100.0
			426,869

(a) Includes sickness, accident, dental problems
(b) Includes normal pregnancy, childbirth and post-natal care; vaccination and preventive control or check-up
(c) Excludes persons who gave no information on reason for consultation and perception of illness.

The proportion of persons who made a consultation without any prior perception of sickness was higher for women (7.9%) than for men (4.4%), among the population between ages 15 and 44 (8.2%), inhabitants of the AMSS (8.0%), persons with secondary or higher education (9.8%) and the beneficiaries of private insurance bodies (16.8%) (Table 4.1). By association with the above-mentioned factors, the proportion of persons who consulted but who were not sick was also higher among persons engaged in commercial activities and employees of private and government firms (Table 4.2).

Now the probability of making a consultation of those who perceived sickness in a two week period was 18.1%, against 1.5% of those who felt no sickness at all (Tables 4.B, text, and 4.3, Appendix).

Of those who felt sick, the rate of care was clearly higher in the case of children under 5 (23.5%) as well as among the inhabitants of the AMSS (25.6%), persons with some kind of technical or higher education (31.6%), those with a higher per capita income (23%) and the beneficiaries of one or other of the MHCO; among professional and technical workers and office employees; persons employed in the public and community services and in restaurants and hotels; and among workers and employees of the government and persons who did not work on account of temporary incapacity. Of those who felt in good health, the highest consultation rates were recorded once again amongst the most urban, educated, economically well-off inhabitants and those protected by one of the MHCO; and among women, persons engaged in commercial

activities and office employees, especially those of the government (Tables 4.B, 4.3 and 4.4).

Within each of the residential strata the differentials in the consultation rate by prior perception of sickness were maintained in all the demographic and socio-economic population sub-groups. However there was a greater demand for care, in the three residential strata, among persons with technical or higher education, the beneficiaries of one of the MHCO, persons with professional or technical occupations, persons employed in the public or community services and government workers or employees. The lower rate of care amongst those who felt not ill was higher for women in the three strata; in the urban areas, it was higher for persons with technical or higher education, the beneficiaries of one of the MHCO, persons with a remunerated occupation, persons employed in commerce or in the public and community services, and employees or workers of the government. Tables 4.5-4.10).

TABLE 4.B

OUT-PATIENT CARE BY PERCEPTION OF ILLNESS IN A TWO WEEK PERIOD

Variables	Perceived sickness and received attention (consultation rate x 100 ill persons)	Did not perceive sickness and received attention (consultation rate x 100 not ill persons)
Sex		
Male	17.0%	0.8
Female	19.0	2.2
Age		
<5	23.5	2.9
5-14	10.8	0.5
12-24	17.3	1.6
25-44	21.4	2.1
45 and +	18.9	2.0
Stratum		
AMSS	25.6	2.3
Other Urban	18.4	1.5
Rural	13.5	1.0
Education		
None	12.9	0.9
Some primary	17.2	1.1
Some secondary	22.9	1.9
Some Tech. or college	31.6	2.6
Total	18.1	1.5

4.2 REASONS FOR NON-CONSULTATION

The household survey questionnaire, which was essentially designed to ensure an objective reconstruction of the perception and behavior of the population as regards their health status and the search for solutions to their problems, included a subjective component concerning the reasons generally cited by the population studied for not seeking a consultation, even though they had perceived some sign or symptom of sickness.

Twenty-seven percent of those who had felt ill and had not made a consultation in the two-week period said that their sickness was too minor to merit attention. Of the remaining 73% who said that they required attention, 46% said that they had treated their health problem themselves, 7% said that they had not sought care for economic reasons and 20% cited a variety of other reasons, in particular lack of time, difficulty in obtaining permission at work, lack of credibility in the usefulness of health care, unsatisfactory experiences, the programming of the consultation for a later date, the distance of the place of care and problems of transportation. However, it should be pointed out that although the motive concerning "economic reasons" refers exclusively to the inability to pay for the desired health services, probably of a private kind, several of the "non-economic reasons" given by the surveyed population are of an eminently economic character, such as difficulties of access because of distance or transportation problems, or partially economic, such as self-treatment, a decision which could in some cases be based on the cost of the desired formal treatment. (Tables 4.C, 4.D and 4.11).

TABLE 4.C

REASONS FOR NON-CONSULTATION FOLLOWING THE PERCEPTION OF ILLNESS
(percentages)

Stratum	Thought that no treatment was required	Thought that treatment was necessary			
		Self-treatment	Economic reasons	Others	Total (a)
AMSS	34.9	34.0	5.7	22.5	100.0
Other Urban	31.0	45.8	4.6	18.6	100.0
Rural	20.3	51.4	9.0	19.3	100.0
Total %	27.4	45.4	6.7	20.5	100.0
No.	406,704	673,882	99,449	304,286	1,484,321

(a) Excludes non-informants of reasons for non-consultation.

TABLE 4.D

COMPOSITION OF THE RESIDUAL GROUP "OTHER REASONS" FOR NON-CONSULTATION BY PERSONS WHO BELIEVED CONSULTATION WAS NECESSARY

Other reasons	% of others
Lack of time, lack of permission at work	58.6
Dislike of consultation, skeptical of usefulness, unsatisfactory previous experience	16.1
Consultation programmed for later date	9.7
Distance of place of care. Transportation problems	5.1
Obtained consultation prior to two-week period	(4.2)
No care provided	(1.7)
Medicines not provided	(1.7)
Place of care closed	(1.7)
Missed appointment (late arrival)	(0.8)
Permanent illness from birth	(0.4)
No. 99,449	% 100.00

( ) Figures with very little statistical significance.

By residential stratum, the proportion of those persons who minimized the importance of their health problem and said that they did not require attention was much higher in the AMSS (34.9%), although self-treatment was much more frequent in the rural area where health resources are scarcer; economic reasons were directly cited in a low proportion (less than 10%) in all strata, although once again here it must be emphasized that these reasons may be at the heart of several of the motives given in the first instance by the persons surveyed. (Tables 4.C and 4.13-4.15).

The views of the different occupational sub-groups concerning the causes for not seeking consultation have certain interesting characteristics: the high proportion (40-50%) of professional workers and office employees, essentially in the government sector, and laborers, who said that they did not need health care; also the high proportion of persons who treated themselves (more than 40%) among persons in commerce, agricultural workers, artisans, and day laborers, working essentially in agricultural and manufacturing activities; and among laborers and employers in the private sector and family and independent workers; and the proportions in which mention was made of economic reasons (much higher than the average, 7%) among persons without any regular economic activity, especially those who were looking for a job, persons temporarily incapacitated and the permanently disabled (Table 4.12)

4.3 REASONS FOR GENERAL OUT-PATIENT CARE

The principal stated reason for seeking out-patient care from any provider during the two-week period was sickness (74.4%); consultations for accidents (2.8%) and dental problems (3.8%) accounted for a further 6.6%, making a total of 81% of consultations for curative reasons. The remaining 19% of out-patient care was of a preventive kind covering normal childbirth (1.7%), vaccination (0.3%) and various kind of preventive health controls or checkups (12.4%) (Tables 4.16 and 4.E).

TABLE 4.E

STRUCTURE OF OUT-PATIENT CONSULTATIONS BY CAUSE

Variables	Cause: Curative (a)	Cause: Preventive (b)	TOTAL %	TOTAL No.
SEX				
Male	87.0	13.0	100.0	199,030
Female	77.1	14.2	100.0	293,836
AGE				
>5	75.2	24.8	100.0	102,049
5-14	90.8	9.2	100.0	64,958
15-44	80.0	20.0	100.0	211,585
45 or +	83.1	16.9	100.0	144,274
SUBSECTOR (c)				
Min. of Health	76.9	23.1	100.0	179,694
Other Gov.	88.2	11.8	100.0	9,549
ISSS	70.6	29.4	100.0	50,532
Private	85.4	14.6	100.0	226,969
No inf.	78.8	21.2	100.0	10,733
TOTAL	81.0	19.0	100.0	492,866

(a) Includes sickness, accidents and dental problems
(b) Includes normal childbirth, vaccination and various kinds of preventive health controls or checkups
(c) Excludes consultations with a dentist and when no cause was given.

There were proportionally more consultations for curative reasons among men, the population age 5 to 14, and the users of private services and of other governmental institutions (CEL, ANTEL, public education etc.) (Tables 4.E and 4.16). Traditionally the Ministry of Health is the body which has given most emphasis to preventive medicine, especially among the maternal and child groups.

Respiratory illnesses perceived by the population were the cause of self-perception leading to the highest demand for out-patient care (30.1%) in El Salvador. Less frequent causes were illnesses of the nervous system (15.3%) and the digestive tract (15.2%) (Table 4.17). As was to be expected, there was a high correlation observed between the causes of the perceived illness and the stated reasons for the out-patient consultation (Table 4.F). However, the priority consultations for problems such as those affecting the nervous system and the genito-urinary apparatus, where the frequency of self-perception is lower than for other problems, reflects the greater need for assistance.

TABLE 4.F

ORDER OF THE MOST IMPORTANT PERCEIVED CAUSES OF ILLNESS AND CONSULTATION

Cause	Illness (order)	Consultation (order)
Respiratory	1	1
Intestinal	2	3
Nervous system	3	2
Osteo-muscular system	4	-
Dental	5	7
Circulatory apparatus	6	6
Genito-urinary apparatus	7	4

4.4 PERSON WHO PROVIDES THE HEALTH CARE

The medical doctor is the chief provider of out-patient care in El Salvador, accounting for 83.4% of the total consultations in the two-week period. The other providers account for the remaining 16.6% of out-patient care, the most important being the pharmacist (6.4%) and nursing personnel (4.9%). Dentists provided only 1.5% of the total care (Table 4.18).

Isolated although foreseeable situations which did not conform to the averages noted above included care provided by nursing staff to children under 5 (10.5%) and in the establishments of the Ministry of Health (9.7%); by dentists for children age 4 to 14 (11%), and that provided by the pharmacist within the wide framework of the private subsector (12.9%) (Table 4.18).

A classification of the persons consulted by cause of consultation shows that overall, the proportion of preventive care provided by "other staff" different from the medical doctor, was slightly lower than the proportion of curative care provided by such staff, basically because of the role of the curative care provided by the pharmacist. However, the role of non-medical staff was proportionally greater for preventive than for curative care, and as regards attention given to children under the age of 5, to the inhabitants of

rural areas and, not surprisingly, in the establishments of the Ministry of Health. In the other subsectors, in the beneficiaries of the MHCO, in the urban strata and in the remaining age groups, non-medical staff played a greater role in curative rather than preventive out-patient services (Tables 4.G and 4.19).

TABLE 4.G

PROPORTION OF CURATIVE AND PREVENTIVE OUT-PATIENT CARE BY "OTHER PERSONNEL" DIFFERENT FROM THE MEDICAL DOCTOR

Variables	Care by "others"	
	Proportion of curative consultations	Proportion of preventive consultations
SEX		
Male	22.3	21.3
Female	18.7	12.2
AGE		
<5	17.3	21.8
5-14	25.2	4.3
15-44	21.2	14.1
45 and +	17.9	10.1
STRATUM		
AMSS	22.5	6.9
Other Urban	18.7	9.0
Rural	20.0	31.4
MHCO AFFILIATION		
Beneficiary	14.9	3.7
Non-beneficiary	21.7	17.6
SUBSECTOR		
MOH	11.0	20.9
Others Gov.	7.3	-
ISSS	0.8	2.1
Private	23.8	12.2
Total	20.2	14.8

This structure of out-patient health care by type of person providing the care reflects in many cases a characteristic of provider and not necessarily the preference of the users. For example, in the case of children under 5, a mother may request preventive care (i.e. immunizations, control of healthy child) which the Ministry of Health provides by recourse to nursing staff.

5. OUT-PATIENT MEDICAL CARE

As was noted in the previous chapter, 80.7% of the outpatient health care received by the population of El Salvador in the two-week period was provided by a medical doctor. The volume of consultations done by this first supplier of health care (396,000) allows a deeper and more detailed analysis to be made of the indicators of utilization, coverage and concentration and of the characteristics of access to and provision of the service.

5.1 UTILIZATION, COVERAGE AND CONCENTRATION

These indicators, which are usually used to express some of the operational objectives of the health programs, are applied however over a field which is exclusively restricted to the governmental health services, sometimes with serious problems arising in the population denominators because of the difficulty of establishing the target population which is the priority responsibility of the Ministry of Health.

In the case of this study, the additional attraction of the indicators lies in the opportunity given to estimate them for the whole range of public and private health services, by affiliation to the MHCO, and for different subclasses of the population of a geographical, demographic and socio-economic kind, thereby greatly improving the integrated analysis of action by the health sector.

Utilization is defined as the ratio between the total number of consultations effected in a given period and place (geographical), and the population of the place, which presumably has access to the service; coverage is the relation between the total number of persons receiving a consultation and the population, and is usually expressed as a percentage; and concentration is the average number of consultations by each consultant (person receiving consultations) and is the result of the division of the total number of consultations by the total number of consultants. The three indicators have a close mathematical relationship between one another:

Utilization = Coverage x Concentration

thus,

$$\frac{\text{Consultations}}{\text{Population}} = \frac{\text{Consultants}}{\text{Population}} \times \frac{\text{Consultations}}{\text{Consultants}}$$

The indicator of utilization reflects the total effort of the health care system in a specific activity. The household survey showed that in El Salvador the average number of medical consultations per inhabitant in a two-week period was 0.10.

Weighting the number of consultations in the two-week period by 26 provides an approximate estimate of the consultations over one year, assuming

little seasonal variation in the behavior of the volume of this service, as has been demonstrated elsewhere.[1] Thus the average number of consultations per inhabitant/year was 2.54, an extremely useful indicator, since the programming of health services is usually made on a yearly basis. The maximum variation in the indicator was seen among those residents of the rural area whose activity was study (0.59 consultations/year) and retired, incapacitated and disabled persons who were beneficiaries of one of the MHCO in the Other Urban stratum (16.15 consultations/year) (Tables 5.1-5.12).

The concept of coverage of health services implies a temporal reference, almost always of a one year period. The coverage of out-patient medical care of a population may therefore be defined in a loose sense as the percentage of a population, or of a segment of the latter, which has received at least one out-patient medical consultation in the course of the program period of a health institution. Coverage may also be defined in more restricted terms by limiting the framework of reference to the care provided by a specific kind of staff (for example, medical doctors), to a given demographic subgroup of the population (for example, men or women or a specific age group) or by a particular MHCO (for example, the ISSS).

In the two-week period of the interview, 340,000 visited a doctor, making a total of 396,000 consultations in the same period. The relation between the persons receiving consultations in the same two weeks and the population gives the coverage indicator for the said period, which in this case was 8.4%, with a maximum variation of between 2.3% and 35.8% in the various subgroups. Furthermore, the relation between the number of consultations and the number of persons receiving consultations gives the indicator of concentration or intensity of the care, which is the average number of consultations per consultant in the period under review. Out-patient medical care in El Salvador thus showed a concentration of 1.17 consultations per consultant with a medical doctor in the two weeks prior to the interview (with a variation of between 1.00 and 1.79) (Tables 5.1-5.12). The survey also provided, for those persons who had not consulted a medical doctor in the previous two weeks, information on their last medical consultation, making in possible to estimate approximately the coverage and concentration of care for longer periods, for example one year, with the risks resulting from the lack of precision in recalling events as the time interval increases. Since this was an exceptional opportunity to gain a rough idea of these indicators as they refer to the entire health sector and subsectors difficult to study separately like the private subsector, the corresponding calculations were made, although it must be pointed out once again that the objective was not to compete with the figures which may have been reached by such bodies as the Ministry of Health and the ISSS, but rather to complement data on the structure of care according to the demographic and socio-economic variables of the beneficiaries within a context of subsectoral and regional comparison.

In one year, 49% of the population studied in El Salvador (with a maximum variation of between 30.4% and 100%) was seen at least once by a medical

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[1] See Pabon (1984)

doctor for health or illness reasons, and the concentration per consultant was 5.2 (maximum variation of between 1.75 and 10.84) (Tables 5.1-5.12).

Confirmation was once again obtained of the significant differentials in the indicators of out-patient medical care between the three major residential strata, particularly between the AMSS and the Rural area, with the Other Urban stratum systematically occupying an intermediate and almost equidistant position: whereas the AMSS showed an average of 3.5 medical consultations per inhabitant/year, in the Rural area the average was 1.8; in the same way, whereas in the AMSS 58% of the population was seen by a doctor at least once in the year, the figure was only 41% in the Rural area, and whereas in the AMSS there was a concentration of 6 consultations per consultant in the year, the average was 4.5 in the Rural area (Tables 5.A and 5.1).

TABLE 5.A

INDICATORS OF OUT-PATIENT MEDICAL CARE BY RESIDENTIAL STRATUM, IN TWO WEEKS AND ONE YEAR

Indicators	Strata			
	AMSS	Other Urban	Rural Area	Total Country
TWO WEEKS				
Utilization: average No. of consultations per inhabitant	0.13	0.10	0.07	0.10
Coverage: % of population receiving at least one consultation	11.1%	8.9%	6.3%	8.4%
Concentration: average No. of consultations per consultant	1.21	1.15	1.13	1.17
ONE YEAR				
Utilization: average No. of consultations per inhabitant	3.49	2.66	1.84	2.54
Coverage: % of population receiving at least one consultation	58.0%	51.9%	41.1%	49.2%
Concentration: average No. of consultations per consultant	6.01	5.12	4.49	5.18

Both in the country as a whole and within each residential stratum, the three kinds of indicators analyzed are consistently higher for women and the extreme age groups; they are directly associated to the level of education attained by the users of the services and their per capita income; and they are higher for persons protected by MHCO, for those holding remunerated employment and for retired or disabled persons (Tables 5.1-5.4).

The comparison between the group of beneficiaries of one or other of the MHCO and the non-beneficiaries, both for the country as a whole and by residential stratum, is striking; in the former group the indicators of utilization, coverage and concentration are much higher (Tables 5.B, 5.5-5.12).

It is interesting to note that the differential by level of urbanization (residential stratum) is maintained, among the group of non-beneficiaries of some MHCO, for the various indicators: greater access and use of medical resources in the AMSS, intermediate in the Other Urban stratum and lower in the Rural area. Among the beneficiaries, on the other hand, there is a greater utilization of medical resources per inhabitant/year among residents of urban centers other than the AMSS, although the proportion of the population attended (coverage) in the strata is similar (Tables 5.B and 5.5-5.12).

TABLE 5.B

ANNUAL INDICATORS OF OUT-PATIENT MEDICAL CARE FOR BENEFICIARIES OF SOME MHCO AND FOR NON-BENEFICIARIES BY RESIDENTIAL STRATUM

Annual Indicators			
STRATUM AND AFFILIATION TO MHCO	Utilization (average No. of consultations per inhabitant)	Coverage (% of population receiving care	Concentration (average No. of consultations per consultant
AMSS			
Beneficiary	4.91	69.7%	7.04
Non-beneficiary	3.12	55.0%	5.68
OTHER URBAN			
Beneficiary	5.86	69.6%	8.43
Non-beneficiary	2.21	49.4%	4.48
RURAL			
Beneficiary	4.79	69.9%	6.85
Non-beneficiary	1.77	40.4%	4.38
TOTAL			
Beneficiary	5.31	69.7%	7.62
Non-beneficiary	2.22	46.8%	4.75

5.2 SUBSECTOR

Five subsectors were defined for classifying the health establishments of El Salvador and the services provided to the population. The Ministry of Health (MOH), which accounted for 39.8% of the medical consultations; the Salvadoran Social Security Institute (ISSS), with 12.7% of the medical consultations; the private subsector, both profit- and non-profit making, which comprises a heterogenous range of establishments and places of [B[Battention, from the most modern profit-making clinics to the most distant non-institutional pharmacy, provided 45.2% of the total number of medical consultations, the highest proportion; of this total of private consultations, 12.8% were non-profit making. Other governmental health institutions, such as those providing services to the staff of ANTEL, CEL and to public educators, whose health services accounted for approximately 1.5% of the total; and the health services of the Armed Forces (FA) with 0.8% (Table 5.13). Because of the small volume of care provided, the latter two subgroups were combined as a matter of course in the tables presenting the results of the study.

The concept of subsector implies a set of characteristics of the care provided, closely related to the purposes and objectives of the institutions, the form of financing, the freedom or restriction of access and the type of population which is the primary beneficiary. For these reasons, the systematic classification of the results by this variable is particularly relevant in the analytical process to an understanding of the behavior of the population towards the available services.

The importance of the subsector varies by residential stratum, since whereas in the AMSS the private sector provides 54% of the out-patient medical care and the Ministry of Health only 25%, in the Rural area the situation is the reverse, with the second subsector (MOH) having the greater responsibility (53%), although the private sector continues to play a very significant role (41%). In the Other Urban stratum, the weight of these two subsectors is equal (42 and 41%). As regards the ISSS, the volume of medical attention which it provides is similar in the two urban strata (17 and 15%) and very low in the Rural area (4.4%). The other governmental institutions have some importance in the AMSS (4.6%) although their coverage tends to disappear as the level of urbanization decreases (Table 5.C).

TABLE 5.C

STRUCTURE OF MEDICAL CONSULTATIONS BY SUBSECTOR AND RESIDENTIAL STRATUM

Stratum	Subsector				Total	
	MOH %	Other Gov. %	ISSS %	Private %	%	No. (a)
AMSS	24.5	4.6	17.0	53.9	100.0	129,540
O. Urban	42.0	1.8	15.2	41.0	100.0	149,955
Rural	54.6	0.2	4.4	40.8	100.0	109,912
Total	39.8	2.3	12.7	45.2	100.0	389,407

(a) Excludes those without information on subsector

The classification of the medical consultations of the subsectors by protection or lack of protection by the MHCO, shows the flexibility with which the population, irrespective of their affiliation to a MHCO, moves between the various subsectors. The reasons of such phenomena remain to be studied and which perhaps are related to the limited coverage of risks by the systems mentioned, the level of satisfaction of the beneficiaries, the perceptions of the population concerning costs and quality, double affiliation and the physical access, among other factors.

Of the ISSS medical consultations, only 71.2% were effected in the establishments of this institution, with 23.1% in private establishments and 4.5% in the Ministry of Health. Of the consultations received by the beneficiaries of private insurance bodies, 30% were effected outside the private sector, and in particular in the ISSS (19.3%). Of the non-beneficiaries of any system, who account for the majority of the population (90%) and who include the most marginal and unprotected groups, a high 47.3% went to the private subsector, part of which is non-profit making. This proportion, which is even higher in the AMSS (60.5%), is consonant with the results of the recent study in the Metropolitan Area of Santo Domingo, Dominican Republic (51.6%).[2] (Tables 5.D, 5.13 and 5.15).

From another point of view, that of the subsector consulted, the results of the survey show that, of the total number of medical consultations in the MOH, 96.7% were by non-beneficiaries of MHCO, i.e. almost exclusively persons who had no other alternative; that of the consultations received in private establishments, 81.9% were also by non-beneficiaries of a MHCO and curiously, that 17.4% of those received in the ISSS (26% in the AMSS) and 27.8% of those provided in other governmental institutions were by non-beneficiaries of such MHCO, a situation which highlights the lack of rigorous control in the type of user of such services. In the Santo Domingo (D.R.) study, 26% of the medical

[2] See Gomez (1988)

consultations in Social Security were by non-affiliates and non-dependents of the latter[3], a figure which is exactly equal, by coincidence, to that recorded in the AMSS (Tables 5.D, 5.14 and 5.18).

TABLE 5.D

DISTRIBUTION OF MEDICAL CONSULTATIONS BY SUBSECTOR AND AFFILIATION TO MHCO

Affiliation to MHCO	Subsector				Total (b)	
	MOH	Other Gov.	ISSS	Private	%	No.
ISSS	4.5	1.2	71.2	23.1	100.0	53,703
Priv.Insur.	5.7	5.0	19.4	69.9	100.0	15,566
Other Gov.	11.9	32.1	1.9	54.1	100.0	15,566
Non-benef.	49.1	0.8	2.8	47.4	100.0	304,319
Total	39.8	2.3	12.7	45.2	100.0	389,154
ISSS	1.5	6.9	76.0	6.9	13.8	
Priv.Insur.	0.6	8.8	6.1	6.2	4.0	
Other Gov.	1.2	56.5	0.6	4.8	4.0	
Non-benef.	96.7	27.8	17.4	82.1	78.2	
Total	100.0	100.0	100.0	100.0	100.0	
	154,883	8,951	49,423	175,897	389,154	

(a) Beneficiaries of more than one MHCO at the same time are classified by order, in private insurance, or ISSS (if not beneficiary of private insurance).
(b) Excludes those without information on subsector and MHCO affiliation

The classification of the medical consultations in the private subsector according to the fundamental objective of the respective institutions, profit- or non-profit making, shows that 12.8% of the out-patient medical care is provided in non-profit making institutions, with the proportion being slightly higher in the AMSS (16.5%) (Table 5.E).

[3] See Gomez (1988)

TABLE 5.E

PROPORTION OF PRIVATE OUT-PATIENT MEDICAL CONSULTATIONS
BY PROFIT-MAKING STATUS OF THE INSTITUTIONS

Profit-making	Stratum: AMSS	Other Urb.	Rural	Total (a)
Yes	83.5	92.9	84.8	87.2
No	16.5	7.1	15.2	12.8
Total %	100.0	100.0	100.0	100.0
No.	69,817	61,453	44,871	176,141

(a) Excludes those without information on profit-making status

Tables 5.15-5.20 present additional details on the structure of medical consultations, within each of the residential stratum by subsector and affiliation to a MHCO, with the limitations resulting from the reduction in the size of the sample. The most significant findings are: the relatively stable proportion of ISSS beneficiaries who go to the private sector (between 18 and 28%) in the three strata and the larger proportion of non-beneficiaries of any system in the AMSS who also went to such private establishments (61%).

As regards the demographic and socio-economic characteristics of consultants to the different health subsectors, such persons are for the most part users of the establishments of the Ministry of Health, children under the age of 5 resident in the rural area (66%) and in the other urban centers (59%), the non-beneficiaries of a MHCO in the same strata (58% and 55%) and persons with a lower per capita income and lower level of education in the rural area. On the other hand, all AMSS demographic and socio-economic subgroups are basically ISSS users, in proportions of 40% or higher than those recorded in the Ministry of Health, the second most important provider of out-patient medical care in the capital of the country (Tables 5.21-5.28).

In all the subsectors the greatest proportion of consultations is by women; in the Ministry of Health and the private subsector, by non-beneficiaries of a MHCO (97%); within the MHCO, by the affiliates or dependents themselves, who correspond in their majority to the 15-14 age group and who are concentrated in the urban areas, as was to be expected; and within the private subsector, the greatest proportion comprises obviously persons not protected by a MHCO, since those covered by private insurance bodies represent a tiny fraction (Tables 5.29-5.36).

5.3 PLACE OF CARE

The place of health care corresponds to a classification of establishments and other places, according to a concept which combines the

level of complexity of the care, the subsector and the number of persons receiving consultations.

Private medical clinics carried out the highest proportion (36%) of medical consultations in the study population in the two-week period; establishments with hospital beds (hospitals, centers and clinics in all subsectors) occupied the second position with 27% of the medical consultations, and the health posts the following position (20.6%). A lesser proportion was provided by outpatient clinics of the MHCO and the private sector with 11%, other places, which included the patient's home, with 3.4%, and non-institutional pharmacies, with 2.4% (Table 5.F, 5.37 and 5.38).

TABLE 5.F

DISTRIBUTION OF OUT-PATIENT MEDICAL CONSULTATIONS BY PLACE OF CARE AND RESIDENTIAL STRATUM

Stratum	Place of care: Hospital, Center, Clinic with beds	Health Post/ Unit	Instit. clinics	Physic. clinics	Pharmacy	Others	Total (a) %	Total (a) No.
AMSS	20.9	13.2	19.0	42.3	2.0	2.6	100.0	133,009
Other Urb.	28.9	21.9	8.2	36.4	1.4	3.2	100.0	150,927
Rural	29.9	27.8	5.5	28.1	4.3	4.5	100.0	111,511
Total	26.5	20.6	11.1	36.1	2.4	3.4	100.0	395,447

(a) Excludes those without information on place of attention

The importance of physician private clinics is evident only in the urban centers, especially the AMSS, where they accounted for 42% of the out-patient medical care, since in the rural area the responsibility (approximately 28%) is shared between these clinics, establishments with beds and the health units and posts of the Ministry of Health. It is furthermore clear that the Ministry of Health with its network of in-patient and out-patient establishments, accounts for the largest volume of medical care for residents in the Rural stratum (54.6%) (Table 5.39).

The volume of care provided by MOH hospitals, health centers and out-patient bodies is shared, and the proportions are relatively similar to those recorded by the Ministry of Health itself in 1987, through its information

system, with account being taken of the different date, the shorter period covered by the survey and the random variation of the latter:

	89 Survey (2 weeks)	Minsalud 87 Information system (full year)
Hospitals, Health centers	48.1	45.1
Units, posts and others	51.9	54.9
	100.0	100.0

Within the ISSS there is also a relatively large degree of balance between hospital and out-patient bodies (47 and 53%); in other governmental institutions, the proportion of outpatient care is higher (61%), and in the private subsector, three quarters of the care is provided by the physician clinics (78%) (Table 5.40).

5.4 LOCATION OF THE PLACE OF CARE

A variable which provides a simple relationship between the place of residence of consultants and the place of care was developed for this research so as to provide an evaluation of the effect of distance between the two places on the health services demand.

For the country as a whole, 26% of the external medical consultations were carried out in places located in the same sector as the residence of consultants, i.e. very close to their homes. In the study, the sector coincides with the canton in the rural areas and with one or more blocks, with an average of between 250 and 300 dwellings, in the urban centers. Twenty-nine percent of the consultations of this kind were in a different sector of the same zone (only for San Salvador, which is divides into 14 zones), 36% in another zone of the same city (in San Salvador) or in another municipality of the same department; 3.8% comprised residents outside the AMSS who consulted in the capital, a very low proportion, since apparently the large majority of San Salvador non-resident consultants came from other places within the AMSS and were included in the previous group; finally, 12% of the medical consultations were in another place of the country different from San Salvador and also different from the consultants' department of residence (Table 5.G).

If by adequately accessible we mean the location of the health services in the same residential sector or at least in the same zone (in AMSS), or the same city or municipality, then 55% of the country's out-patient medical consultations, 39% of those in the AMSS, 69% of those in the Other Urban and 54% of those in the Rural area, could be said to have been effected in a place of adequate accessibility. Of course, the above-mentioned indicator is debatable, particularly in the AMSS, where the use of a more flexible

criterion would lead to the inclusion of consultations effected in a different zone of the city, and which account for 26%; this would give a figure of 65.1% of consultations in this stratum which were effected in a conveniently accessible location.

TABLE 5.G

DISTRIBUTION OF MEDICAL CONSULTATIONS BY LOCATION OF THE PLACE OF CARE AS REGARDS THE PLACE OF RESIDENCE

	Location of place of care						
STRATUM	Same sector (a)	Another sector, same zone or municip-ality	Sub-total	Another zone, same city; another munic., same dept.	San Salvador (for Oth. Urb. & Rural)	Another place in the country	Total
AMSS	18.3	20.8(b)	39.1	59.0(c)	-	1.9	100.0
Oth.Urb.	39.6	29.9(d)	69.5	17.2	8.0	5.3	100.0
Rural	15.1	39.0(d)	54.1	32.6	2.8	10.5	100.0
Total	25.5	29.4	54.9	35.6	3.8	5.7	100.0

(a) Includes own house and same sector
(b) Includes different sector, same zone (San Salvador), or same municipality.
(c) Includes different zone, same city (San Salvador), and different municipality, same department (in AMSS).
(d) Includes different sector, same municipality
\- Not applicable

As regards the proportion of medical consultations in health subsectors effected in adequately accessible places, the Ministry of Health has the highest indicators of adequate accessibility with regard to the place of residence, although the private subsector also has high indicators. Using the more flexible alternative, whereby adequate of accessibility covers consultations in the same sector or in a different sector of the same zone or municipality, or in a different zone of the same city (San Salvador), 67% of the MOH consultations and 65% of those in the private sector were effected in a place situated at a convenient distance from the consultant's place of residence. The observations made for the country as a whole are also

applicable at the level of each of the residential strata, but the highest rate of adequate accessibility occur in the Other Urban stratum. In the ISSS the rates of convenient access in the urban centers are approximately 55% (Table 5.H).

TABLE 5.H

PROPORTION OF OUT-PATIENT MEDICAL CONSULTATIONS IN EACH SUBSECTOR PROVIDED IN ADEQUATELY ACCESSIBLE PLACES

STRATUM	Subsector			
	MOH	Others Gov.	ISSS	Private
AMSS (a)	38.7	30.1	32.0	42.0
AMSS (b)	66.1	48.2	57.6	69.1
Other Urb.	76.4	(31.5)	53.2	70.7
Rural	57.1	-	(61.4)	50.0
Total(a)	61.1	29.6	44.5	54.1
(b)	66.8	41.6	55.9	64.8

( ) Figures with very little statistical significance

Adequately accessible: For AMSS (a): same sector, different sector same zone or same municipality. For AMSS (b): same as (a) with the addition of a different zone same city. For Other Urban and Rural strata: same sector, different sector same municipality.

The situation regarding the accessibility of the various types of health establishments is as follows: greater closeness to place of residence of health units and posts, and other MOH establishments providing exclusively external care, with 82% of its medical consultations given in adequately accessible places; in second position the outpatient clinics of the MHCO and private institutions, with 67% of their consultations given in places of adequate accessibility; and in third position, private physician clinics with 62% of their consultations given in places situated at a convenient distance from the residence of patients. In the AMSS and the Other Urban stratum the health units and posts continue to be the most accessible places. In the rural area, the MOH establishments show a high rate (74%) and the greater percentage of the institutional clinics is based on a very small absolute figure with a high random variation (Table 5.I).

TABLE 5.I

PROPORTION OF OUT-PATIENT MEDICAL CONSULTATIONS IN EACH TYPE OF ESTABLISHMENT OR PLACE OF CARE, MADE IN ADEQUATELY ACCESSIBLE PLACES (a)

STRATUM	Type of establishment or place					
	Hospital, Center with beds	Health Unit, Post	Institut-ional clinic	Physic. clinic	Pharmacy	Others (includes patient's home)
AMSS (a)	14.0	63.6	44.3	37.8	(88.9)	(61.9)
AMSS (b)	47.8	87.0	65.7	65.6	(88.9)	(81.2)
Oth.Urb.	57.3	88.0	60.5	69.0	(82.3)	(74.0)
Rural	40.6	73.7	(82.6)	41.4	(29.6)	(88.7)
Total						
(a)	40.5	77.3	54.2	50.8	57.7	76.4
(b)	49.5	82.4	66.6	61.6	57.7	81.4

(a) Adequately accessible; same as Table 5.H
( ) Figures with very little statistical significance.

5.5 PAYMENT OF CONSULTATION

The survey examined whether direct payment had been made by the consultant or by another person belonging to the household or close to the consultant; in the same way it tried to find out how much had been paid, and in the event that no direct payment had been made, the reasons for non-payment.

Of the total of 387,000 out-patient medical consultations in the two-week period about which information was obtained concerning the first of these data, 66% involved some direct payment. This proportion varied by subsector, as follows: 80% of the consultations carried out by the Ministry of Health, 73% of private consultations, and only a tiny fraction of those provided by the health services of the MHCO, i.e. 6.4% of those of the ISSS and 3.7% of the other governmental institutions (Table 5.41). The very high proportion of consultations involving some form of payment in the Ministry of Health can be explained, however, in the light of the amount of the payment (an average of 2.93 colones, see Table 5.J), which corresponds to the minimum amount usually charged by the health service. At all events, this situation is markedly different from that observed in Santo Domingo, Dominican Republic,[4] where more than 90% of the persons receiving consultations in the Ministry of Health did not pay anything.

[4] See Bitran (1989)

In the private subsector, on the other hand, the average payment per consultation rose to c 23, a figure eight times higher than that paid in the Ministry of Health, and which varied from c 25 in the profit-making establishments (87% of the private consultations) to c 10 in the non-profit making institutions (13% of the private consultations). In the ISSS the average payment (c 2.34) was even lower than in the Ministry of Health (Tables 5.J, 5.K and 5.42-5.45).

TABLE 5.J
PROPORTION OF CONSULTATIONS PAID FOR DIRECTLY
AND AVERAGE PAYMENT (colones) BY SUBSECTOR AND STRATUM

Stratum and Payment (colones)	Subsector				
	MOH	Other Gov.	ISSS	Private	Total
AMSS					
Proportion paid(%)	82.7	5.3	12.9	72.0	60.9
Average Payment	2.16	( )	( )	31.30	20.94
Other Urb.					
Proportion paid(%)	79.8	0	1.3	71.5	63.4
Average Payment	3.59	-	( )	19.87	11.06
Rural					
Proportion paid(%)	78.8	0	0	77.6	74.7
Average Payment	2.60	-	-	16.77	8.76
Total					
Proportion paid(%)	80.0	3.7	6.4	73.3	65.7
Average Payment	2.93	( )	2.34	23.44	13.29

( ) Figures with very little statistical significance
(a) The average payment was calculated for consultations which cost 1 or more colones. 3.1% of consultations cost less than 1 colon.

TABLE 5.K
AVERAGE DIRECT PAYMENT, IN COLONES, BY MEDICAL CONSULTATION (PAID)(a)

Variables	Stratum			
	AMSS c	Oth.Urb. c	Rural c	Total c
SUBSECTOR				
MOH	2.16	3.59	2.60	2.93
Other Gov.	( )	-	-	( )
ISSS	( )	( )	-	2.34
Priv.profit	34.80	20.24	17.83	25.01
Priv.non-profit	10.25	13.28	9.57	10.54
PLACE OF CARE				
Heath Unit, Post	1.84	2.84	2.32	2.44
Hospital, center	2.81	4.45	3.14	3.59
Instit. clinic	5.11	( )	( )	6.02
Physic. clinic	36.40	20.53	18.58	25.78
TOTAL	20.94	11.06	8.76	13.29

( ) Figures with very little statistical significance
(a) The average payment was calculated for consultations which cost 1 or more colones. 3.1% of the consultations cost less than 1 colon.

The proportion of paid consultations and the average amount of payment also varied by residential stratum, but in a different manner. Whereas for the subsectors as a whole the proportion decreased as the level of urbanization increased, going from 74.7% in the rural area to 60.9% in the AMSS, the average payment increased as the level of urbanization rose, from c 9 in the rural area to c 21 in the AMSS. These tendencies are related to: a) the greater presence in the urban centers of the country of the ISSS and other governmental institutions health services in which the proportion of paid consultations and the amount paid were very low; b) the maintenance in the various strata of practically the same proportion of paid consultations in the Ministry of Health and private subsectors, and of the average amount paid in the MOH and c) the clear increase in the amount paid in the private subsector as the level of urbanization increases (from c 17 to c 31) (Tables 5.J, 5.K and 5.42-5.45).

By sex and age of consultants (except for children under 5), the proportion of paid consultations also tended to decrease as the level of urban concentration rose. The similar proportion of paid consultations among children under 5 in the various strata could be explained by the fact that the MOH and private subsectors (in which the proportion by stratum did not vary) attend more than 95% of consultants of this age group in all strata (Tables 5.46-5.49).

The average payment per consultation by type of establishment providing the service, which is closely linked with the subsector, was c 2.44 in the units and posts of the Ministry of Health, c 3.59 in hospitals, centers and clinics with beds in the various subsectors (more than 80% of the beds are in the Ministry of Health), c 6.02 in the institutional clinics (of the MHCO) and c 26 in the physician private clinics. By stratum only the private clinics showed a major variation: c 36 in the AMSS as compared with c 21 and c 19 in the Other Urban stratum and the Rural area respectively (Table 5.K).

Of the reasons for non-payment given by consultants, particularly interesting are those which relate to the private subsector (36% of the total non-paid). In 6.5% of the cases, payment was ensured by a private insurance company, in 16.2% the service was free of charge or dispensed on a charitable basis, and in 13.3% various other reasons were given (friendship, family relationship, etc.) (Table 5.42).

5.6 PRESCRIPTION, OBTENTION AND PAYMENT OF MEDICINES

The prescription of medicines in the medical consultation is considered by a large number of the population as a factor of quality health care, and thus conditions the consumption of services (18 and 19). On the other hand, the direct amount paid for the medicines has a considerable impact on the individual's direct health expenditures, making it an important factor in the financing of the health services and in particular, the concept of equity in the household's responsibility for such financing. Furthermore there is also the problem of the logistics required to guarantee fluid access, at reasonable costs, and when necessary, to the essential medicines required by the population. The survey explored specific profiles of these problems and its results are presented below.

Ninety percent of the persons consulting medical doctors were prescribed medicines. This proportion is similar in the health subsectors. In the Other Governmental Institutions (CEL, ANTEL, etc.), the apparently lower proportion is subject to considerable random variation because of the subclass small sample size (Table 5.50). Within the three residential strata, the proportion of prescriptions was also relatively similar (Tables 5.51-5.53).

One way of visualizing the process of acquiring and paying for medicines in each subsector is by means of an index or rate established on the basis of 100 persons to whom medicines have been prescribed; Table 5.L is constructed from the percentages of Table 5.50 and shows the protective effects of the MHCO, since a greater proportion of consultants to these institutions, to whom medicines had been prescribed, finally obtained them in the same place of attention (approximately 95%), although in different conditions. In the ISSS, only 3% of the patients had to make some payment, as compared with 20% of the affiliates of the other governmental MHCO. The Ministry of Health offered an intermediate panorama with a slightly lower proportion of consultants obtaining their medicines in the same place of attention (86%) and an intermediate proportion who had to pay for them (18%). In the private subsector, on the other hand, a greater proportion of consultants had to

obtain their medicines in a different place from that of the consultation (18%) and an even greater proportion (45%) had to pay for them (Table 5.L).

TABLE 5.L

OBTENTION AND PAYMENT OF MEDICINES PRESCRIBED TO PATIENTS IN MEDICAL CONSULTATIONS

Variables	Subsector				
	MOH	Others	ISSS	Priv.	Total Gov.
Of each 100 consultations in which medicines were prescribed:					
Obtained at place of consultation	86	96	93	61	76
Paid for at place of consultation	14	19	2	27	18
Obtained at a different place (a)	4	0.5	0.7	18	8
Finally obtained medicines	90	97	94	79	84
Finally paid for medicines	18	20	3	45	26
Did not finally obtain medicines	10	3	6	21	16

(a) presumably by paying

The situation in the MOH, however, varied in the residential strata. In the AMSS, a smaller proportion of consultants and who were prescribed medicines finally obtained them (77%), a higher proportion had to pay for them from their own pocket (22%), whereas in the Other Urban and Rural strata a higher proportion of consultants finally obtained their prescriptions (91%), most of them at the same place as the consultation (89 and 88%) and a smaller proportion had to pay for them (19 and 14%) (Table 5.M).

TABLE 5.M

OBTENTION AND PAYMENT OF MEDICINES PRESCRIBED TO PATIENTS IN MEDICAL CONSULTATIONS IN THE MINISTRY OF HEALTH

Variables	Stratum		
	AMSS	Other Urb.	Rural
Of each 100 consultations in which medicines were prescribed:			
Obtained at place of consultation	77	89	88
Paid for at place of consultation	13	17	11
Obtained at a different place (a)	9	2	3
Finally obtained them	86	91	91
Finally paid for them	22	19	14
Did not finally obtain them	14	9	9

(a) presumably by paying

In the private subsector, the obtention rates of prescribed medicines showed the same behavior as in the Ministry of Health, at a slightly lower level, but the rates of payment were completely different, twice as high in the AMSS (41%) and the Other Urban strata (43%) and three and a half times higher in the Rural area (51%) (Table 5.N).

TABLE 5.N
OBTENTION AND PAYMENT OF MEDICINES PRESCRIBED TO PATIENTS IN MEDICAL CONSULTATIONS IN THE PRIVATE SUBSECTOR

Variables	Stratum		
	AMSS	Other Urb.	Rural
Of each 100 consultations in which medicines were prescribed:			
Obtained at place of consultation	61	55	69
Paid for at place of consultation	25	19	38
Obtained at a different place (a)	16	24	13
Finally obtained them	77	79	82
Finally paid for them	41	43	51
Did not finally obtain medicines	23	21	18

(a) presumably by paying

The average amount paid directly for medicines in the place of attention, per medical consultation was, c 40 for the country as a whole. This amount refers to the 16% of persons having a medical consultation and the 18% of those who were prescribed some kind of medicine and who paid 1 or more colones (Table 5.0).

The average amount paid in the place of consultation was lower in the AMSS (c 35) and higher in the Other Urban (c 45). The profit-making private subsector, however, charged the highest amount (c 61), basically due to the prices charged for medicines in the private doctors' offices (c 71) (Table 5.0). The private non-profit making subsector, on the other hand, charged an average of c 14.3 and the MOH establishments c 6.5 (Table 5.0).

TABLE 5.0

AVERAGE AMOUNT PAID, IN COLONES, FOR MEDICINES PER MEDICAL CONSULTATION IN THE PLACE OF CARE (a)

Subsector and place of care	Average payment (Colones)
Stratum	
AMSS	35.40
Other Urban	44.59
Rural	40.63
Subsector	
MOH	6.52
Other Gov.	( )
ISSS	( )
Priv. profit	60.62
Priv. non-profit	14.30
Place of care	
Hospitals, Centers (with beds)	11.11
Health Units, Posts	6.68
Institutional clinics	22.59
Physicians clinics	70.60
Pharmacies	24.01
TOTAL	40.31

( ) Figures with very low statistical significance. Most of the figures of the simultaneous cross of stratum with subsector and place of care had very low statistical significance.

(a) The average payment was calculated for prescriptions which cost 1 or more colones. 1.5% of the prescriptions cost less than 1 colon.

Now, the average amount paid for medicines per medical consultation outside the place of care is 50% higher (c 60), but refers only to 7 of each 100 consultations and 8% of those which involved the prescription of medicines. The highest differential was in the Ministry of Health and the non-profit making private subsector (Table 5.P).

TABLE 5.P

AVERAGE AMOUNT PAID, IN COLONES, FOR MEDICINES, BY MEDICAL CONSULTATION OUTSIDE THE PLACE OF CARE (a)

Stratum Subsector and place of care	AMSS	Other Urb.	Rural	Total
Subsector				
MOH	23.43	56.40	35.57	39.92
Other Gov.	( )	-	-	( )
ISSS	23.00	11.00	15.00	21.31
Priv. profit	84.02	66.29	64.79	71.67
Priv. non-profit	( )	( )	( )	69.26
Place of care				
Hosp., Center (with beds)	28.96	84.39	28.39	43.74
Health Unit, Post	( )	26.10	51.37	32.04
Instit. clinic	31.61	-	( )	32.96
Physician clinic	83.45	70.97	66.03	73.68
Total	60.86	65.11	52.21	60.03

( ) Figures with very low statistical significance
(a) The average payment was calculated for prescriptions which cost 1 or more colones. 2% of the prescriptions cost less than 1 colon.

In the private subsector the reasons for non-direct payment of the medicines obtained in the actual place of care included financing through a private insurance body (only 14% of the cases) and a variety of explanations related to the low economic resources of consultants which led the provider to offer the service free of charge, or on a charitable basis in the remaining cases (86%) (Table 5.50).

As regards those consultants to whom medicines were prescribed, but did not obtain the medicines in the place of care nor in another place, the reasons given directly to justify this behavior were of an economic kind in 87% of the cases, and because they did not consider it necessary, in the remaining 13%, although this latter reason could also be considered as a covert economic reason (Tables 5.50-5.53).

5.7 PAYMENT OF COMPLEMENTARY EXAMS

One fourth of the medical consultations required additional examinations (laboratory tests, X rays, etc.). The proportion is slightly higher for the consultations given in the MHCO, as was to be expected, since they are part of the benefits provided by these systems, and for the consultations of residents

in the urban areas where the health services are more comprehensive (Tables 5.54 and 5.55).

Fifty-six percent of the examinations were paid for directly by consultants, at their full or partial cost, but the highest proportion obviously occurred among users in the private subsector (78%). Fifty percent of the users of the Ministry of Health paid something. As was to be expected, the beneficiaries of the MHCO paid a much lower proportion, as well as the residents of the intermediate urban centers (Tables 5.54 and 5.55).

The average payment for complementary examinations, per medical consultation, was c 37, varying from c 47 in the private profit-making subsector to c 22 in the Ministry of Health, and from c 49 in the AMSS to c 28 in the Other Urban stratum (Table 5.Q).

TABLE 5.Q

AVERAGE AMOUNT PAID, IN COLONES, FOR COMPLEMENTARY EXAMS PER MEDICAL CONSULTATION (a)

Variables	Amount paid (colones)
Stratum	
AMSS	48.78
Other Urb.	28.04
Rural	31.51
Subsector	
MOH	22.10
Other Gov.	(8.00)
ISSS	(35.73)
Priv. profit	45.76
Priv. non-profit	30.98
Place of care	
Hosp., Center (with beds)	17.71
Health Unit, Post	26.12
Instit. clinic	23.32
Physician clinic	49.35
Pharmacy	(16.00)
Other	(18.00)
Total	37.47

( ) Figures with very low statistical significance
(a) The average cost was calculated for examinations costing 1 or more colones. 2.5% of the examinations cost less than 1 colon.

5.8 TRAVEL AND WAITING TIMES

In some studies the travel (journey) time to and the waiting time at the place of care have been important determinants of the health services demand.[5] In this survey the conformation of three subdivisions of analysis with scattered rural areas and different levels of urbanization, with a context of a limited geographical area and high population density, constituted an import "case study" which in addition to providing answers to crucial questions of national interest concerning the location of the health infrastructure and the efficiency of the care provided, will greatly increase general knowledge on the subject.

By way of introduction to this descriptive presentation of the variables in question, it is important to point out that for 91.2% of the medical consultations, the journey to the place of attention was made from the place of residence, 7.4% from the place of work and for the remaining 1.4%, from some other different place. These proportions varied by subsector, but particularly in the services of the MHCO, to which a greater proportion of consultants went from their place of work: 22.7% in the ISSS and 13.9% in other governmental institutions (Table 5.56).

Although the usual means of transportation is by car (66% of the cases), journeys on foot are an important means (33%) reflecting the relative physical accessibility of the services. By subsector, the highest proportion of consultants who traveled on foot was observed in the Ministry of Health (38%), and the lowest in the ISSS (13.3%) (Table 5.56).

As regards the travel time to the place of consultation a dividing line was established, for the purposes of discussion, in Tables 5.R-5.T separating the times below and above 30 minutes, on the supposition that the adequately accessible places of care are those which can be reached in less than 30 minutes from the point of departure (residence, place of work, etc.). In this way, 37% of the MOH consultations were done at an acceptable distance (in time) from the starting point, 51% in the private sector, 33% in the ISSS and 57% in the other governmental institutions (CEL, ANTEL, etc.), although the number of cases that give bases to this last value is small (Tables 5.R and 5.56).

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[5]See Bitran (1988) and Dor et. al. (1987)

TABLE 5.R

ACCUMULATED PERCENTAGE OF MEDICAL CONSULTATIONS BY TRAVEL TIME TO THE PLACE OF CONSULTATION AND SUBSECTOR

Travel time (minutes)	Subsector				
	MOH	Others	ISSS	Private	Total
	Accum. %	Accum. %	Accum. %	Accum. %	Accum. %
0-14	16.9	(30.2)	11.9	29.4	22.0
15-29	37.2	57.3	32.6	50.7	42.9
30-44	60.5	71.9	57.7	67.9	63.7
45-59	63.2	76.1	61.3	71.5	67.1
60-119	84.7	76.1	85.8	84.5	84.6
120-179	95.2	92.1	96.1	94.2	94.9
180 and +	100.0	100.0	100.0	100.0	100.0

( ) Figures with very low statistical significance.

In the private subsector the situation by residential stratum shows a similar proportion of consultations at an acceptable distance (in time) in the AMSS (61%) and the Other Urban stratum (60%) and only 23% in the Rural area (Table 5.S). In the Ministry of Health the proportions are lower, 45% in the AMSS, 52% in the Other Urban stratum and only 18% in the Rural area (Table 5.T).

TABLE 5.S

ACCUMULATED PERCENTAGE OF MEDICAL CONSULTATIONS IN THE PRIVATE SUBSECTOR, BY TRAVEL TIME TO THE PLACE OF CONSULTATION AND STRATUM

Travel time (minutes)	Stratum: AMSS Accum. %	Other Urb. Accum. %	Rural Accum. %
0-14	36.9	36.9	(7.9)
15-29	61.0	59.8	22.6
30-44	81.8	75.6	36.2
45-59	86.4	79.6	37.8
60-119	96.0	89.0	60.7
120-179	97.9	96.1	85.8
180 and +	100.0	100.0	100.0

( ) Figures with very low statistical significance.

It should be noted that of the travel times of one hour or more to the place of consultation, 37% were for consultations in the Ministry of Health, 39% in the ISSS and 29% in the private subsector (Table 5.R).

TABLE 5.T

ACCUMULATED PERCENTAGE OF MEDICAL CONSULTATIONS IN THE MINISTRY OF HEALTH, BY TRAVEL TIME TO THE PLACE OF CONSULTATION AND STRATUM

Travel time (minutes)	Stratum: AMSS Accum. %	Other Urb. Accum. %	Rural Accum. %
0-14	19.3	28.9	(3.3)
15-29	44.9	51.7	18.3
30-44	69.2	75.3	40.9
45-59	70.6	76.2	46.2
60-119	91.7	90.0	75.7
120-179	99.1	95.5	93.0
180 and +	100.0	100.0	100.0

( ) Figures with very low statistical significance

The waiting time within the health establishment is longer than that of the travel time. Making a separation once again, for the purposes of discussion, between waiting times of less and more than 30 minutes, only 8.5%

of medical consultations in the Ministry of Health, 18.1% of those in the ISSS and 37.3% of those in the private subsector were given within a reasonable waiting period; a high 43.2% of consultations in the subsectors as a whole had a waiting time of more than 2 hours, according to the surveyed population (Table 5.U). The situation by residential strata in the Ministry of Health and the private subsector is similar to that described for the country as a whole (Tables 5.V and 5.W).

TABLE 5.U
ACCUMULATED PERCENTAGE OF MEDICAL CONSULTATIONS BY WAITING TIME IN THE PLACE OF CONSULTATION AND SUBSECTOR

Waiting time (minutes)	Subsector				
	MOH	Other Gov.	ISSS	Priv.	Total
	Accum. %	Accum. %	Accum. %	Accum. %	Accum. %
0-14	5.0	(12.1)	(8.6)	25.9	14.9
15-29	8.5	(46.5)	18.1	37.3	23.2
30-44	17.0	70.2	31.3	56.8	37.6
45-59	17.4	74.6	32.6	57.3	38.2
60-119	32.9	100.0	54.6	77.1	56.8
120-179	55.5		76.8	88.1	73.8
180 and +	100.0		100.0	100.0	100.0

( ) Figures with very low statistical significance

TABLE 5.V

ACCUMULATED PERCENTAGE OF MEDICAL CONSULTATIONS IN THE MINISTRY OF HEALTH, BY WAITING TIME IN THE PLACE OF CONSULTATION AND STRATUM

Waiting time (minutes)	Stratum		
	AMSS	Other Urb.	Rural
	Accum. %	Accum. %	Accum. %
0-14	(3.8)	(6.2)	(4.3)
15-29	(7.2)	10.3	7.3
30-44	16.7	20.8	13.1
45-59	16.7	20.8	14.1
60-119	37.0	35.6	27.9
120-179	57.2	55.3	55.0
180 and +	100.0	100.0	100.0

( ) Figures with very low statistical significance

TABLE 5.W

ACCUMULATED PERCENTAGE OF MEDICAL CONSULTATIONS IN THE PRIVATE SUBSECTOR, BY WAITING TIME IN THE PLACE OF CONSULTATION AND STRATUM

Waiting time (minutes)	Stratum		
	AMSS Accum. %	Other Urb. Accum. %	Rural Accum. %
0-14	28.1	24.7	24.0
15-29	38.7	39.9	32.0
30-44	56.0	60.1	53.8
45-59	56.0	61.5	53.8
60-119	77.2	79.2	74.3
120-179	89.1	92.0	81.5
180 and +	100.0	100.0	100.0

The greater opportunity for care in the private subsector as compared with the Ministry of Health was confirmed in each of the strata, for whereas in the Ministry of Health more than 90% of the consultations had a waiting time of 30 or more minutes, but in the private establishments only between 40 and 46% of the consultations had such a wait (Tables 5.V and 5.W).

6. IN-PATIENT CARE

The survey searched the hospitalizations of the studied population over a period of approximately one year. It first identified the persons hospitalized and the number of hospitalizations occurring between January 1, 1988 and the date of their interview in the survey (sometime between January 9 and March 6, 1989). Secondly, of those who were not hospitalized in the above-mentioned period, it identified those who had been hospitalized and the number of hospitalizations in 1987 (January 1 - December 31). Finally, it recorded the characteristics of the hospitalizations occurring in one or other of the periods.

The two successive stages of inquiry into this event were justified with reference to the veracity of the data and the frequency of the events, since these two factors are associated with the wide reference period: the shorter the period the more accurate the information on the number of hospitalizations and their characteristics, whereas the longer the period and the greater the number of hospitalizations recorded and, by extension, the greater the possibilities for separating the results and making an in-depth analysis, the less accurate the detailed information on certain characteristics.

For these reasons, the indicators of utilization, coverage and concentration have been calculated only with the data of the previous year, the validity of which was corroborated, at least in part (for lack of other evidence), with the overall estimates of the survey for the Ministry of Health being relatively similar to those of the overall registers of this institution[1]; but most of the results of this chapter, separated by subsector and stratum, have been generated on the basis of the sum of the events of both periods, in which the structure of the events is also similar (Table 6.1), although their significance is for a period of approximately 12 months, since there is no duplication of persons hospitalized between one period and the other.

6.1 UTILIZATION, COVERAGE AND CONCENTRATION

An estimated total of 207,000 persons had approximately 224,000 hospitalizations in 1988, which means that 5% of the Salvadoran population studied had been hospitalized at least once in the year and that the average number of hospitalizations per person hospitalized is 1.08, figures which are very similar to those estimated in national surveys in other Latin American countries.[2] These rates of coverage and concentration of this health service, which are correlated the one with the other, as in out-patient care, are higher for women, the groups above the age of 15, especially the 15-44 age group, in the Metropolitan Area of San Salvador (AMSS), for persons with a higher level of education and the beneficiaries of the MHCO (Tables 6.A and 6.2).

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[1] See Ministerio de Salud Publica de El Salvador (1988)

[2] See Gomez (1988) and Pabon (1984)

TABLE 6.A

COVERAGE AND CONCENTRATION OF IN-PATIENT CARE IN 12 MONTHS, BY STRATUM AND AFFILIATION TO MHCO

Stratum and Affiliation	Coverage % of population hospitalized at least once in the year	Concentration Average no. of hospitalizations per person hospitalized in the year
Stratum		
AMSS	5.51	1.11
Other Urb.	5.02	1.11
Rural	4.52	1.03
Affiliation to MHCO		
Beneficiary	7.35	1.14
Non-beneficiary	4.67	1.07
Total	4.95	1.08

The differentials observed in the indicators reflect phenomena and situations which are mutually consistent: the great importance of hospitalizations for pregnancy and normal childbirth among women of fertile age; the greater seriousness of and importance attached to health problems of persons over the age of 45; the clearly greater access to hospitalization of residents in the urban areas, and of beneficiaries of the MHCO who, in their turn are urban inhabitants with greater personal resources.

6.2 SUBSECTOR

The provision of hospital care has a sectoral participation exactly opposed to the one observed for outpatient care. While it was found that a significant group of population, even among those belonging to the lowest level of income, sought ambulatory care from the private sector (45%) a small proportion of population sought inpatient care from the private sector (9.4%). This pattern was observed in every income group. As a matter of fact, 68% of the hospitalizations provided to the highest income group[3] took place at hospitals run by the Ministry of Health (Table 6.8). While public expenditure in ambulatory care is highly targeted to the lowest income group, an important degree of leakages toward the group with more ability to pay is observed in outpatient care. Although the reasons behind these different patterns of utilization are not analyzed in this report, it is clear that the high level of subsidy with which the Ministry of Health provides hospital care, explains to some degree this high participation (75.5%) (Table 6.B).

[3]This group has an income per capita >/c 400 and includes 14.7% of the populati

As it is shown in section 6.6 the average price paid in the private sector was equivalent to 16 times the price paid in the Ministry of health.

TABLE 6.B

DISTRIBUTION OF OUT-PATIENT MEDICAL CONSULTATIONS AND HOSPITALIZATIONS BY SUBSECTOR

Activity	Subsector				
	MOH	Other Gov. and AF	ISSS	Private	Total
Medical consultations	39.8	2.3	12.7	45.2	100.0
Hospitalizations	75.5	2.5	12.6	9.4	100.0

This phenomenon becomes more marked according to the residential stratum, since the proportion of hospitalizations in the Ministry of Health increases radically from 54.0% in the AMSS to 77.1% in the Other Urban stratum and to 92.4% in the Rural area, whereas that of the other subsectors decreases dramatically (Table 6.C). This pattern is repeated as a matter of course in all the demographic and socio-economic subgroups (Tables 6.5-6.10).

Table 6.D shows specifically the evolution of the indicator by monthly per capita income in the household. In the urban areas, but particularly in the AMSS, the proportion of hospitalizations in the Ministry of Health and private subsectors, in each of the per capita income groups, shows a marked inverse relation: as income increases, the proportion of hospitalizations in the MOH decreases and that in the private subsector increases.

TABLE 6.C

DISTRIBUTION OF HOSPITALIZATIONS BY SUBSECTOR AND STRATUM

Stratum	Subsector				Total	
	MOH	Other Gov.	ISSS	Private	%	No.(a)
AMSS	54.0	4.8	22.8	18.4	100.0	98,451
Other Urb.	77.1	2.5	12.4	8.0	100.0	140,168
Rural	92.4	0.4	3.9	3.3	100.0	112,242
Total	75.5	2.5	12.6	9.4	100.0	350,861

(a) Excludes those without information on subsector

TABLE 6.D

DISTRIBUTION OF HOSPITALIZATIONS BY SUBSECTOR, STRATUM AND MONTHLY PER CAPITA INCOME IN THE HOUSEHOLD

Stratum and per capita Income (colones)	Subsector				Total	
	MOH	Other Gov.	ISSS	Private	%	No.(a)
AMSS						
<201	63.3	5.4	18.5	12.8	100.0	32,983
201-400	57.2	(5.8)	22.7	14.2	100.0	17,133
401 or +	40.5	6.2	26.8	26.4	100.0	23,134
Other Urb.						
<201	79.2	2.4	13.4	4.9	100.0	58,462
201-400	67.2	5.7	14.5	12.6	100.0	21,467
401 or +	68.7	2.9	14.7	13.7	100.0	18,783
Rural						
<201	90.6	-	5.9	3.5	100.0	60,246
201-400	95.3	-	-	4.7	100.0	5,575
401 or +	(85.9)	-	(8.0)	(6.1)	100.0	4,267

( ) Figures with very low statistical significance
(a) Excludes those without information on subsector and per capita income.

From another point of view, that of the profile of hospitalized persons, mention may be made of the following findings: the greater proportion of women than men hospitalized, except in other governmental institutions, in which the proportion is reversed; however, in the rural area, where the figures are much less significant, there is a slightly higher proportion of men attended in the ISSS. In all the subsectors there is a greater proportion of hospitalized adults, although in the ISSS the proportion of children under the age of 15 attended is really very low (less than 4%) since only the children under 3 months as dependents of affiliates are beneficiaries of this health service (Tables 6.11-6.14).

By residential stratum, only a very small proportion of the persons hospitalized in the MOH live in the AMSS (20%). In the rural area, on the other hand, the MOH clearly has the largest responsibility (39%) and there are almost no users of the other subsectors (less than 12%) (Table 6.11).

The distribution of hospitalizations by affiliation to a MHCO and subsector shows a situation somewhat similar to that described for out-patient medical care. Of the affiliates to the ISSS, or their dependents, who were hospitalized in 1987 or 1988, 26% were hospitalized in the Ministry of Health, probably, in most cases, because of restrictions in the risks covered by the ISSS, but 12% were hospitalized in the private subsector, perhaps in part to seek more satisfactory attention. Of the very small number of beneficiaries

of private insurance bodies who received in-patient care, and who were surveyed, only 29% went to private establishments, whereas a high 50% received attention in hospitals of the Ministry of Health and 21% in establishments of the ISSS. The reasons are not clear, except those of the restriction in risks covered, the high subsidy which characterizes the services of the Ministry of Health (section 6.6 shows that the average amount paid in the private sector was equivalent to 16 times the amount paid in the Ministry of Health), and to some extent, the random variation in the estimates for this subgroup due to the small size of the subsample. Of the beneficiaries of other governmental institutions, only 41% of those hospitalized were in establishments of the same institutions and similar proportions were observed in the Ministry of Health and the private subsector, for reasons which will require further analysis. Of the non-beneficiaries of a MHCO, 85% were not surprisingly hospitalized in the Ministry of Health (Table 6.E).

Now of the persons hospitalized in the establishments of the Ministry of Health and in those of the private subsector, the highest proportions (94% and 70%), as anticipated, are not of beneficiaries of a MHCO; however, of the users of the services of the MHCO, a very high proportion (approximately 40%) was accounted for by non-beneficiaries, probably because of the flexible application of the regulations governing exclusivity (Table 6.E).

TABLE 6.E

DISTRIBUTION OF HOSPITALIZATIONS BY SUBSECTOR AND AFFILIATION TO A MHCO

Affiliation to MHCO	Subsector				
	MOH	Other Gov.	ISSS	Priv.	Total
ISSS	25.5	0.7	61.9	11.9	100.0
Priv. Insurance	50.2	-	20.8	29.0	100.0
Others Gov.	27.3	41.1	2.5	29.1	100.0
Non-beneficiaries	85.0	1.2	5.9	7.9	100.0
Total	75.5	2.5	12.6	9.4	100.0
ISSS	4.0	3.5	57.7	14.9	12.3
Priv.Insurance	1.0	-	2.5	4.7	1.5
Other Gov.	1.2	56.4	0.7	10.5	3.6
Non-benef.	93.8	40.1	39.1	69.9	82.6
Total	100.0	100.0	100.0	100.0	100.0

6.3 REASONS FOR HOSPITALIZATION

Illness was the main cause of hospitalization in El Salvador in 1987 or 1988, accounting for 50% of hospitalizations; in second place came normal childbirth, with 26%; accidents accounted for 15% and other reasons (supposedly preventive) for 9%. As a whole, clearly curative reasons accounted for 65% of the hospitalizations. This overall structure of the causes of hospitalization shows a certain similarity with that estimated in the sample surveys of the National Health Study of Colombia and the Survey of Health Services Consumption in Santo Domingo, Dominican Republic, with similar measuring methods (Table 6.F).[4]

TABLE 6.F

REASONS FOR HOSPITALIZATION ACCORDING TO SURVEYS IN EL SALVADOR, COLOMBIA AND SANTO DOMINGO, DOMINICAN REPUBLIC

Reasons	El Salvador (1989)	Colombia (1977-80)	Sto. Domingo Dominican Rep. (1987)
Illness	50.1	52.9	51.2
Normal Childbirth	26.3	33.0	32.0
Accidents	14.7	9.0	10.1
Other	8.9	5.1	6.7
Total	100.0	100.0	100.0

Source: Pabon (1983) and Gomez (1988)

A break-down of the illnesses which led to hospitalization (Table 6.G) shows that almost two thirds of the cases were due to problems of the digestive tract (24.0%), the respiratory apparatus (14.9%), the genito-urinary tract (12.2%), and the nervous system (11.2%). With a slight variation in order, the causes given are the same as those identified as the principal causes of general out-patient care (Table 4.F).

[4] See Gomez (1988) and Pabon (1983)

TABLE 6.G

ILLNESSES CAUSING HOSPITALIZATION
(Break-down of the reason "illness")

Groups	%
Digestive apparatus	24.0
Respiratory apparatus	14.9
Genito-urinary apparatus	12.2
Nervous system	11.2
Infectious and parasit. diseases	8.0
Circulatory system	5.7
Skin, subcutaneous cellular tissue	4.2
Tumors	4.1
Endocrine glands	3.7
Pregnancy and Childbirth	3.6
Osteo-muscular apparatus	3.6
Other illnesses	4.8
Total %	100.0
No.	171,091

The relative importance of the causes of hospitalization varies somewhat according to subsector. The clear difference observed in the proportion of hospitalizations for illness in the private subsector (66%) and the other subsectors (approximately 50%) can be explained by the higher proportion of hospitalizations for normal childbirth in the Ministry of Health (28%) and the ISSS (29%) with regard to that observed in the said subsector (16%), and the high proportion of hospitalizations due to accidents (22%) in the other governmental institutions (Tables 6.H and 6.15).

TABLE 6.H

DISTRIBUTION OF HOSPITALIZATIONS BY REASON AND SUBSECTOR

Subsector	Illness	Normal Childbirth	Accident	Other	TOTAL
MOH	48.6	27.8	16.2	7.4	100.0
Other Gov.	50.9	9.8	22.4	16.9	100.0
ISSS	47.8	29.1	8.8	14.3	100.0
Private	65.7	15.8	6.8	11.7	100.0
Total	50.1	26.3	14.7	8.9	100.0

The predominantly curative reasons, which are illness accidents, together accounted for two thirds of the hospitalizations. The high proportion of this curative of hospitalization was maintained in all the strata. As special cases, mention should be made of the practically exclusive dedication of the

other health institutions of the Government to providing treatment for illnesses and accidents in the Other Urban and Rural strata and in these same strata, the reduction in the proportion of hospitalizations for childbirth in the Ministry of Health as compared with the situation observed in the AMSS (36%) (Tables 6.I and 6.16-6.18).

TABLE 6.I

DISTRIBUTION OF HOSPITALIZATIONS BY REASON, ACCORDING TO SUBSECTOR AND STRATUM

Stratum and Subsector	Reasons			
	Illness and Accident	Normal Childbirth	Other	Total
AMSS				
MOH	52.9	35.8	11.3	100.0
Other Gov.	62.7	18.1	19.2	100.0
ISSS	57.3	28.4	14.3	100.0
Private	74.4	16.2	9.4	100.0
Total	58.7	29.4	11.9	100.0
Other Urban				
MOH	69.7	25.8	4.4	100.0
Other Gov.	84.0	-	16.0	100.0
ISSS	55.5	32.3	12.2	100.0
Private	72.0	11.1	16.9	100.0
Total	68.7	24.4	6.9	100.0
Rural				
MOH	65.6	25.9	8.5	100.0
Other Gov.	(100.0)	-	-	100.0
ISSS	(58.1)	(20.2)	(21.7)	100.0
Private	64.9	28.1	7.0	100.0
Total	65.7	25.8	8.5	100.0
Total Country				
MOH	64.8	27.8	7.4	100.0
Other Gov.	73.3	9.8	16.9	100.0
ISSS	56.7	29.1	14.2	100.0
Private	72.5	15.8	11.7	100.0
Total	64.8	26.3	8.9	100.0

(a) Figures with very low statistical significance

Some kind of surgery was performed in 31% of the hospitalizations which occurred in one year, but this type of treatment was applied particularly in

the private establishments (42%) and in the other governmental institutions (45%). In general, surgery was performed a little more frequently among hospitalized persons in the AMSS, in women and adults (Tables 6.15-6.19).

6.4 LENGTH OF STAY

The average number of days' stay (nights) by hospitalized persons in El Salvador, according to the statements made by the surveyed population, was 6.0. The average was much higher in the other governmental institutions (11.4), intermediate in the MOH and the ISSS (6.3 and 5.3 days), and lower in the private subsector (3.5 days). However, there was no uniform behavior by residential stratum, since the figure fell as the level of urbanization increased in the MOH and other governmental institutions, and varied irregularly in the other subsectors. The hospital stay was clearly associated with the reason for the hospitalization and was much longer in the case of clearly curative hospitalizations, i.e. for illness (7.1 days) and accident (7.9 days) than for normal childbirth (3.1 days) and other supposedly preventive reasons (6.0 days); these overall averages were confirmed in the MOH and the ISSS; in the private establishments the stay was much shorter for all reasons (Table 6.J).

The performing of surgical operations during the hospitalization considerably lengthened the time of stay of the MOH hospitalizations (by 3.3 days) and in those of the other governmental institutions (by 5.9 days), and by a small amount in the ISSS (by 1 day) (Table 6.J).

TABLE 6.J
LENGTH OF STAY (NIGHTS) PER HOSPITALIZATION BY SUBSECTOR

	Subsector				
Variables	MOH	Other Gov.	ISSS	Priv.	Total
Stratum					
AMSS	5.8	11.4	5.7	3.6	5.5
Other Urb.	6.2	( )	4.7	3.1	5.8
Rural	6.7	( )	6.1	( )	6.8
Reason for Hospitalization					
Illness	7.7	7.5	6.7	3.9	7.1
Accident	7.8	( )	6.0	2.5	7.9
Normal Childbirth	3.0	( )	2.9	1.9	3.1
Other	7.1	( )	5.3	3.8	6.0
Surgery					
Yes	8.6	14.6	6.0	3.2	7.9
No	5.3	8.7	5.0	3.6	5.1
Total	6.3	11.4	5.3	3.5	6.0

( ) Figures with very low statistical significance

6.5 LOCATION OF THE PLACE OF HOSPITALIZATION

The location of the hospital with regard to the place of residence of patients hospitalized is further away than that noted concerning the establishments providing out-patient care, for the obvious reason that their number is smaller. As a result only 9.8% of the hospitalizations in a 12 month period were made in establishments located in the patient's same residential sector, 26.5% in hospitals of another sector of the same zone (in San Salvador) or in the same municipality, and 42.2% in another municipality of the same department. In the same way, 10.7% of persons interned in establishments in San Salvador came from other departments (most of the movements towards San Salvador were from the "another municipality same department" group); and 10.8% were interned in hospitals in another part of the country. This means that 36.3% of the total number of hospitalized patients went to establishments very close to their own homes (alternative "a"), or 47%, if patients of establishments from another zone of the city different from that of residence are included in San Salvador (alternative "b"). As occurred with out-patient medical care, the population living in the intermediate urban centers of the country has easier access to hospitals and 52.7% of the hospitalizations were made in the same sector or in a different sector of the same residential zone or municipality. Here once again if the number of persons hospitalized in another zone of San Salvador is included for the purposes of comparison, the proportion of easy access to the AMSS would be 59.3%. In the rural area only 29.1% of the hospitalizations were made in relatively close places (Table 6.K).

TABLE 6.K
DISTRIBUTION OF HOSPITALIZATIONS BY LOCATION OF THE PLACE OF HOSPITALIZATION WITH REGARD TO THE PLACE OF RESIDENCE

	Location of the Place of Hospitalization					
	Same sector (a)	Another sector same zone or municip.	Another zone same city, another municip. same dept.	In San Salvador (for Other Urb. and Rural)	Another place in the country	Total
AMSS	2.9	18.5(b)	68.3	-	10.3	100.0
O.Urb	20.4	32.3(d)	20.8(c)	16.5	10.0	100.0
Rural	2.7	26.4(d)	45.6(e)	12.9	12.4	100.0
Total	9.8	26.5	42.2	10.7	10.8	100.0

(a) includes own house and same sector
(b) includes another sector same zone (San Salvador) or same municipality
(c) includes another zone same city (San Salvador) and another municipality same department (in AMSS)
(d) includes another sector same municipality
\- not applicable

Among the subsectors, it is the ISSS which offers higher conveniently accessible in-patient care, with 43% of its hospitalizations in the alternative "a" and 56% in the alternative "b". The other subsectors have lower and relatively similar "indices of accessibility" (Table 6.L).

TABLE 6.L
PROPORTION OF HOSPITALIZATIONS IN EACH SUBSECTOR
BY ESTABLISHMENTS CONVENIENTLY ACCESSIBLE FROM THE PLACE OF RESIDENCE

	Subsector				
STRATUM	MOH	Other Gov.	ISSS	Private	Total
AMSS(a)	16.8	(32.3)	26.6	25.4	21.4
(b)	63.4	(61.3)	52.4	55.5	59.3
Other.Urb.	60.3	(34.3)	58.2	43.5	52.7
Rural	28.0	-	(73.2)	(8.8)	29.1
Total(a)	36.2	31.4	42.8	29.3	36.3
(b)	45.6	47.2	56.0	46.3	47.0

( ) Figures with very low statistical significance.

Conveniently accessible
For AMSS (a): same sector, another sector same zone or same municipality
(b): same as (a), plus another zone same city
For Other Urban and Rural Area: same sector, another sector same municipality.

6.6 PAYMENT OF HOSPITALIZATION

For 41% of the hospitalizations recorded in this survey, some direct payment was made, a proportion which is lower than that noted in the case of out-patient medical care (66%). The proportion was much higher in the private subsector (84.2%), similar to the general average in the Ministry of Health (41%), and very low in the services of the MHCO, for obvious reasons. Non-beneficiaries of the MHCO had a rate of payment (45%) similar to that of the overall average. Residents in the Other Urban stratum had a slightly lower rate (35%) and those in the AMSS a slightly higher rate (48%). Among patients hospitalized in the private subsector who did not pay, only a small proportion gave private insurance as the reason for non-payment (8%); the rest simply mentioned reasons of charity or beneficence (Tables 6.M and 6.20-6.22).

TABLE 6.M

DIRECT PAYMENT (TOTAL OR PARTIAL) PER HOSPITALIZATION BY SUBSECTOR, STRATUM AND AFFILIATION TO MHCO (PERCENTAGES)

Variables	Some direct payment	
	Yes	No
Subsector		
MOH	41.4	58.6
Other Gov.	7.4	92.6
ISSS	10.5	89.5
Private	84.2	15.8
Stratum		
AMSS	48.3	51.7
Other Urb.	34.6	65.4
Rural	42.4	57.6
Affiliation to MHCO		
Beneficiary	23.5	76.5
Non-beneficiary	44.7	55.3
Total	41.0	59.0

The average amount paid directly per hospitalization was c 563. In the private establishments the average was c 2,330 and in those of the Ministry of Health c 146. Payments were much higher for clearly curative treatment, c 2,788 in the private subsector and c 191 in the Ministry of Health, and especially when surgery was performed, c 3,217 and c 374 respectively. Of the amounts paid in the private subsector, the highest were recorded in the AMSS (c 2,993), and of the payments in the Ministry of Health, those recorded in the Other Urban strata (c 301) (Table 6.N).

TABLE 6.N

AVERAGE AMOUNT PAID DIRECTLY PER HOSPITALIZATION, BY SUBSECTOR (colones)

Variables	Subsector MOH c	Private c	Total c
Stratum			
AMSS	86	2,993	991
Other Urban	301	1,478	534
Rural	59	( )	214
Reason for Hospitalization			
Illness	220	2,968	865
Accident	89	1,132	196
Curative subtotal	191	2,788	734
Normal childbirth	43	1,344	201
Other	284	1,298	621
Surgery			
Yes	374	3,217	1,095
No	41	1,560	280
Total	146	2,330	563

( ) Figures with very low statistical significance. For this reason not presented to the ISSS and other government institutions.

6.7 TRAVEL AND WAITING TIMES

The car is the usual means of transportation to the place of hospitalization and was used by 83% of the patients hospitalized. However, unlike the case of out-patient medical care (33%), only a small proportion of persons went on foot (11%), reflecting in this case the greater seriousness of the health problems and the greater distance between the place of residence and the place of attention, already presented in the description of the establishments location (Tables 6.23-6.25).

As regards the travel time proper, 11% of the persons hospitalized took less than 15 minutes, 27% less than 30 minutes, 52% less than one hour, and 10% 3 hours or more. If the same dividing line established for medical care between those who take less and those who take more than 30 minutes is used to distinguish the adequately accessible places from those which are less adequately situated, only 23% of the MOH hospitalizations were made in an adequately accessible place; in the ISSS the proportion was higher (32%) and even higher in the private subsector (44%) (Tables 6.0 and 6.23-6.25).

TABLE 6.0

ACCUMULATED PERCENTAGE OF HOSPITALIZATIONS BY TRAVEL TIME TO THE PLACE OF CARE AND SUBSECTOR

Travel Time (minutes)	Subsector: MOH Accum. %	Other Gov. Accum. %	ISSS Accum. %	Priv. Accum. %	Total Accum. %
0-14	9.6	(26.5)	12.6	19.7	11.3
15-29	22.8	(43.6)	33.7	43.5	26.6
30-44	44.9	68.2	56.8	65.6	48.9
45-59	47.8	68.2	60.2	70.3	52.0
60-119	71.1	68.2	85.7	88.4	74.5
120-179	88.1	96.9	95.0	95.5	89.9
180 or +	100.0	100.0	100.0	100.0	100.0

( ) Figures with very low statistical significance.

The accessibility of the MOH establishments increases with the level of urbanization. From only 11% of hospitalizations in adequately accessible places in the Rural Area, the figure rises to 29% in the Other Urban stratum and to 32% in the AMSS. The accessibility of private hospitals remains at the same level in the AMSS and the Other Urban strata (49 and 44%) Tables 6.P and 6.Q).

TABLE 6.P

ACCUMULATED PERCENTAGE OF HOSPITALIZATIONS IN THE MINISTRY OF HEALTH BY TRAVEL TIME TO THE PLACE OF CARE AND STRATUM

Travel Time (minutes)	Ministry of Health: AMSS Accum. %	Other Urb. Accum. %	Rural Accum. %
0-14	(6.2)	16.3	(4.2)
15-29	32.0	29.4	11.4
30-44	60.5	54.9	27.2
45-59	63.1	57.6	30.4
60-119	89.2	77.6	55.9
120-179	96.3	90.3	82.0
180 or +	100.0	100.0	100.0

( ) Figures with very low statistical significance.

The waiting time for a hospital bed, on the other hand, was shorter than anticipated, since 79.6% of hospitalizations were made, according to statements by the persons surveyed, in less than three hours after being ordered by some medical doctor. This figure, which may give rise to doubts as to its validity, coincides however with the proportion of patients hospitalized through the "emergency service" (80.5%), a rate which is unusually high if account is taken of the habitual admission standards for this service, which restrict it to only much more serious cases, for administrative reasons. The admission rate for emergencies is higher in the Ministry of Health (85%) than in the other subsectors (73%) (Tables 6.R and 6.23).

The higher rate of hospitalization two hours or less after being ordered in the Ministry of Health and in the private subsector was observed in the Other Urban stratum (Tables 6.S and 6.T).

TABLE 6.Q
ACCUMULATED PERCENTAGE OF HOSPITALIZATIONS IN THE PRIVATE SUBSECTOR BY TRAVEL TIME TO THE PLACE OF CARE AND STRATUM

Travel Time (minutes)	Private subsector		
	AMSS Accum. %	Other Urb. Accum. %	Rural Accum. %
0-14	18.6	(22.7)	Figures not significant
15-29	49.1	43.9	
30-44	73.8	69.3	
45-59	77.3	75.2	
60-119	94.1	91.5	
120-179	95.7	96.3	
180 or +	100.0	100.0	

TABLE 6.R

ACCUMULATED PERCENTAGE OF HOSPITALIZATIONS, BY WAITING TIME FOR A BED AND SUBSECTOR

Waiting Time	Subsector: MOH Accum. %	Other Gov. Accum. %	ISSS Accum. %	Priv. Accum. %	Total Accum. %
Less than 1 hr.	52.8	74.1	59.7	82.3	56.9
1-2 hrs.	77.6	91.4	81.7	90.2	79.6
3-23 hrs.	97.1	91.4	98.0	96.7	97.0
1 day or more	100.0	100.0	100.0	100.0	100.0

TABLE 6.S

ACCUMULATED PERCENTAGE OF HOSPITALIZATIONS IN THE MINISTRY OF HEALTH, BY WAITING TIME FOR A BED AND STRATUM

Waiting Time	AMSS Accum. %	Other Urb. Accum. %	Rural Accum. %
Less than 1 hr.	50.3	56.7	49.8
1-2 hrs.	72.4	81.6	75.0
3-23 hrs.	96.1	97.0	97.7
1 day or more	100.0	100.0	100.0

TABLE 6.T

ACCUMULATED PERCENTAGE OF HOSPITALIZATIONS IN THE PRIVATE SUBSECTOR, BY WAITING TIME FOR A BED AND STRATUM

Waiting Time (minutes)	AMSS Accum. %	Other Urb. Accum. %	Rural Accum. %
Less than 1 hr.	76.4	86.0	Figures not significant
1-2 hrs.	83.9	97.2	
3-23 hrs.	94.1	100.0	
1 day or more	100.0	100.0	

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