

**HFS Technical Report No. 3**

**ASSESSMENT OF HEALTH SYSTEMS,  
FINANCING AND POLICY OPTIONS IN  
AREQUIPA REGION, PERU**

**Submitted to:**

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## ABSTRACT

This report presents the results of an assessment of health systems and financing in the Arequipa Region of Peru, initiated by USAID/Lima and conducted by the Health Financing and Sustainability (HFS) Project. Detailed quantitative and qualitative information is presented on the structure, utilization, operating costs, and financing systems of public (Ministry of Health), quasi-public (Social Security) and private health services in the Arequipa Region. Also presented are the results of a household survey, carried out to obtain information on health service utilization patterns.

The information, which serves as a baseline for development of sound health resource allocation and financing policy, is used to generate recommendations for action by the Regional Government of Arequipa and USAID/Lima. Recommendations are presented for ways in which the regional government can take a more active leadership role in health policy formulation; more effectively generate revenue within Ministry of Health facilities; and more appropriately allocate scarce public health resources to the region's population. The report also provides recommendations for involvement by USAID/Lima in strengthening regional health resources.

## EXECUTIVE SUMMARY

On January 1, 1990, Peru began decentralizing the management and financing of public services, including health. By 1993, the regional government in Arequipa will have full administrative and fiscal responsibility for the delivery of public health and other essential services. Meeting the many challenges of regionalization requires that the regional Ministry of Health (MOH) be aware of the breadth of regional health resources, identify major constraints and policy options for health financing, and develop a strategic plan for financial sustainability.

An assessment of health systems and financing in Arequipa Region was initiated by USAID/Lima and conducted by the Health Financing and Sustainability (HFS) Project to determine how to assist the regional government in implementing the regionalization of health services. Between August 1-24, 1990, a study team consisting of an expatriate consultant and a team of local experts gathered quantitative and qualitative information on the structure, utilization, operating costs, and financing systems of public (Ministry of Health), quasi-public (Social Security) and private health services in the Arequipa Region. The team also carried out a household survey to obtain information on health service utilization patterns.

The intent of the assessment, beyond simple description of the characteristics of health services available to the population in Arequipa, is to provide USAID/Lima and the regional MOH with sound baseline information for planning and policy decisions. Therefore, primary emphasis is given to the issues most relevant to the MOH, and to the role USAID/Lima can play in assisting the regional government, directly and indirectly.

The following recommendations were generated by the extensive analysis of health resources in the Arequipa Region, presented in this report.

Recommendation 1: We recommend that the Government of Arequipa (GOA) consider establishing a high-level health advisory council. Such a council could include representatives of the MOH, the IPSS, private providers and financiers of health care, enterprises, health professional agencies, and the population. The function of the council would be to assist in the development of health care policy, define the roles of the various parties, and to provide the GOA with advice on regulation and related matters. USAID/Lima could assist the GOA in establishing such a council and could also provide technical expertise for assisting the council in its initial activities.

Recommendation 2: USAID/Lima may wish to consider assisting in training personnel in the MOH to analyze resource allocation options, as presented in this report.

Recommendation 3: We recommend that the GOA consider refining the user fee mechanism within MOH hospitals, health centers, and health posts. In conjunction with this, we recommend that USAID/Lima assess the feasibility of providing the resources to the GOA for technical assistance in cost

recovery at MOH facilities. Such assistance would be required for accurate costing of services, development of exemption mechanisms, and design and implementation of a financial management system.

Recommendation 4: We recommend that the GOA carefully consider options with respect to private wards in public hospitals. If it chose to support this activity, USAID/Lima could provide technical assistance to the MOH in performing the necessary analysis to develop policy options for the private wards. Such analysis would center on an assessment of the feasibility of shifting from the current situation, in which government funds subsidize the private wards, to one in which the wards break even or subsidize the public facilities.

Recommendation 5: We recommend that the GOA consider the possibility of decentralizing the MOH to the facility level responsibility (within limits) for decisions important to local service.

Recommendation 6: Further study is needed to estimate level of needs, assess local factors pertinent to pharmaceutical system selection and design (e.g. transportation, wholesale drug supply capacity, storage facilities, experience in drug stock management, local procurement practices and experience), and to propose an approach. It will be critical to consider the option of contracting out pharmaceutical services to a private sector concern, which may prove to be the most cost-effective option. USAID/Lima could provide external technical assistance to the MOH to carry out an assessment of options for improvement of pharmaceutical procurement, and assistance with implementation of the chosen option(s).

Recommendation 7: We recommend that USAID/Lima consider assisting both the central MOH and regional MOHs to develop a greater ability to make resource allocation decisions in the health sector that conform to goals and needs in the health sector. This initiative should include an improved ability to develop policy at all levels, to turn policy decisions into budgetary changes, and to evaluate the effects of policy changes after they are made.

## PREFACE

Health Financing and Sustainability (HFS), a five-year project of the Health Services Division, Office of Health, Bureau of Science and Technology of the Agency for International Development, begun in September 1989, provides technical assistance, conducts applied research, and disseminates information about health financing and organization in developing countries. The project's purpose is to influence policy change, assist in policy implementation, and demonstrate and evaluate the effects of alternative policies and mechanisms for financing health services.

This report is an example of an assessment conducted by HFS. HFS performs assessments to assist in clarifying the initial financing situation in a given setting, to permit appropriate and important interventions to be designed and implemented. The standard elements assessed are:

- Laws and policies regarding health services delivery and financing
- Size and utilization of private sector providers and insurers
- Trends in government expenditures on health services
- Trends in resource allocation
- Decentralization of decisions, resource control, and planning
- Social financing arrangements, both public and private
- Efficiency in the provision of services
- Needs for data collection, analysis, and research

This assessment of the organization and financing of the health sector in the Arequipa region of Peru was conducted by HFS in response to a request from USAID/Lima. The work was funded jointly by USAID/Lima and the Health Services Division. USAID/Lima is seeking to assist the Government of Peru to develop new health financing policies as a part of the effort to decentralize responsibility for the sector to the country's regions. The report provides baseline information about both public and private providers and consumers of services in the Arequipa region. This information will permit the decentralization policy debate to be sharpened and may inspire subsequent more-focused policy analyses. Recommendations are made in this regard.

## **1.0 BACKGROUND**

### **1.1 STUDY PURPOSE**

On January 1, 1990, Peru began decentralizing the management and financing of public services, including health. By 1993, the regional government in Arequipa will have full administrative and fiscal responsibility for the delivery of public health and other essential services. Meeting the many challenges of regionalization requires that the regional Ministry of Health (MOH) be aware of the breadth of regional health resources, identify major constraints and policy options for health financing, and develop a strategic plan for financial sustainability.

An assessment of health systems and financing in Arequipa Region was initiated by USAID/Lima and conducted by the Health Financing and Sustainability (HFS) Project to determine how to assist the regional government in implementing the regionalization of health services. The study obtained information on health resources and financing arrangements in the public (MOH), quasi-public (Instituto Peruano de Seguridad Social (IPSS)), and private sectors in Arequipa Region.

The intent of the assessment, beyond simple description of the characteristics of health services available to the population in Arequipa, is to provide USAID/Lima and the regional MOH with sound baseline information for planning and policy decisions. Therefore, primary emphasis is given to the issues most relevant to the MOH, and to the role USAID/Lima can play in assisting the regional government, directly and indirectly.

This report presents the results of the assessment. The remainder of this chapter is devoted to background information on the regionalization process. Section 2 presents the study methodology. Section 3 contains information on the health context of the Arequipa Region. Sections 4, 5, and 6 contain information on the providers -- the public, quasi-public and private sectors, respectively. Results and interpretation of a household survey of consumers, including information on utilization of services, are presented in Section 7. Finally, Section 8 contains sector-wide conclusions and recommendations for possible actions by the regional government and USAID/Lima.

### **1.2 REGIONALIZATION: PROCESS AND STRUCTURE**

According to a National Regionalization Plan governed by Public Law 232878, by the end of CY 1990 all public services previously funded and administered by the central government will become the responsibility of 12 regional governments, recently established for this purpose. During a transition phase, partial funding will be provided by the central government, but gradually full financial responsibility will shift to the regional governments. To provide an administrative structure, the law established six secretariats to administer public services and programs in the following areas: social services (including health, education, and housing), manufacturing, extractive industries (e.g., mining), public works and infrastructure, and planning and budgeting.

Although each region will have considerable administrative autonomy over local programs and services, the enabling law specifies that certain administrative norms, such as personnel management policies, will continue to be governed until 1993 by national standards currently in effect. Each region is required to have a specific organizational structure based on a regional assembly including, in the Arequipa Region, 10 directly-elected representatives. In turn, the regional assembly selects a regional council. From among the members of the regional council, the president of the region is selected to serve for a term of five years without possibility of reelection.

In the Arequipa Region, no single political party secured an electoral majority allowing control of the regional governmental structure. Therefore, current political decision-making in Arequipa is by coalition among at least six main parties (La Libertad, Fredemo, Izquierda Unida, Frena Traca, and APRA). The Partido Comunista del Perú has little strength in Arequipa and is not a main player in the regional government. The coalition is said to be working well and it is expected, according to observers, to be strengthened by the national economic measures announced August 8, 1990. Victor Manzur Suarez, a member of the Izquierda Unida Party, which leads in terms of numbers of deputies in the regional assembly, was selected as the president of the regional government.

In the Arequipa Region, the right to nominate personnel for each of the six secretariats established under the regionalization law was allotted to the leading parties forming the governmental coalition according to their interests and political orientation. La Libertad and Fredemo jointly control the planning and budgeting, as well as the manufacturing sector; Frena Traca controls the public works secretariat; APRA controls the extractive industries sector; and Izquierda Unida controls the social services sector. Edgar Linares Huaco, a member of Izquierda Unida, was selected by President Manzur as the Regional Secretary of Social Services and has been charged with development of a plan to rationalize the delivery of health and other social services under a regional governmental structure.

### **1.3 ECONOMIC CHALLENGES TO THE REGIONALIZATION PROCESS**

At the time of the study, Peru was experiencing the gravest economic and social crisis of its modern history following a sustained hyper-inflationary period induced by government economic policies resulting in over one million percent inflation during the five-year term of former President Alan García.

Basic commodity prices skyrocketed over this period: milk increased in price 33,000 times, a tin of tuna 17,000 times. During the week of July 30 - August 5, the country experienced 27.6 percent inflation, the highest level registered in the last two years. At the same time, price controls kept real prices artificially low, causing the failure of countless producers. For example, the controlled price of a gallon of gasoline, expressed in dollars, decreased from \$1.03 to \$0.14 over the period. By mid-1990, the Inti had been devalued by over 12,000 times its 1985 value against the U.S. dollar, from 12.4 to the dollar in 1985 to 250,000 per dollar in August 1990.

Alberto Fujimori, newly-elected President of Peru, was sworn in on July 28, 1990. On August 8, the new government announced an adjustment ("ajuste") program intended to arrest inflation, rescind spending commitments of the previous government, and raise funds for the national treasury. Price controls for most commodities were dropped.

Perhaps more than any sector, the health system has felt the sharp effects of the recent adjustment. Medications, already expensive and in short supply due to the inflationary spiral and the pharmaceutical industry's dependence on imported raw materials, rose dramatically in price. Prices of gasoline and other petroleum products, commodities used in large amounts by hospitals, increased by 30 times the pre-adjustment price. By the end of August 1990, newspapers reported hospital closings due to shortages of food, medical supplies, and fuel. The public sector Honorio Delgado and Goyeneche Hospitals in Arequipa stopped admitting all but the most critically ill patients. Similarly, IPSS hospitals throughout Peru reported shortages of food and medications.

The continuing economic crisis, compounded by the economic shocks of the government's recent adjustment, has placed newly-elected regional governments in an apparently untenable position. The regional government of Arequipa is grappling with overwhelming financial issues that threaten the viability of the decentralization plan. Budgets based on the hyper-inflationary trend could not have anticipated the effect of the adjustment on operating costs. Although public sector salaries are frozen for the foreseeable future, program managers are unsure how to continue to pay staff without large increases in government funds, a possibility that would defeat the new government's austerity program.

Although some have speculated on the future of regionalization under the new Fujimori government, most observers agree that long-standing frustration with the centralized bureaucracy and control in Peru will preclude attempts to halt decentralization. However, the effects of the economic adjustment and the severe cash flow problems it has caused pose serious threats to the ability of newly-formed regional governments to maintain services. If additional central government allocations are not forthcoming, local officials may face a choice between program (and staff) cuts and increasing revenues through local sources, alternatives which could damage the credibility and political stability of the regional governments.

## 2.0 STUDY METHODOLOGY

Between August 1-24, 1990, a study team gathered quantitative and qualitative information on the structure, utilization, operating costs, and financing systems of health services in the Arequipa Region. The study leader was Josh Coburn, MPH, a health management specialist, acting as a consultant to the HFS Project. The data collection and interview phase of the study was conducted by four teams of local experts. Seven Peruvian health professionals, including practicing physicians, former health system administrators, and other health professionals, formed three study teams to obtain information regarding the public, quasi-public, and private sectors. A fourth study team designed and conducted a household survey.

A draft report was prepared by the study leader, reviewed by USAID/Lima, and extensively revised by HFS health financing specialists, including Drs. Ricardo Bitran, Charles Griffin, Richard Roberts, and Ruth Levine.

### 2.1 PROVIDER DATA

Where possible, team members abstracted compiled data from existing program records. Where necessary, primary data were collected and compiled using available sources. For data obtained from the IPSS health care system, IPSS staff assumed responsibility for preparing requested information. Interviews were held with physicians, managers, and other health system employees to obtain background information, identify health system issues, define program objectives, and help interpret data. The household survey collected primary data from health system users regarding the health utilization and financing experience of residents in several geographic areas of Arequipa City.

To describe health services in the public, quasi-public, and private sectors, the project's main data objectives included quantitative information on the following for 1990 or, when possible, the period 1985-90:

- physical resources, including health facilities and service capacity
- human resources, including professional and non-professional staff by type and activity
- geographic distribution of resources
- satisfied demand, or utilization
- measures of efficiency, such as proportion of capacity utilized or cost per unit of output
- financial resources, reflected in program income and expenditures
- methods of financing

The high concentration of population and health resources in Arequipa City provided a natural geographic focus for the study, although region-wide

information on public and quasi-public sector services was obtained. Information on private sector facilities was obtained only for Arequipa City. Further details on methodology are provided in the Scope of Work for the activity, Appendix A.

## 2.2 CONSUMER DATA

Information on consumer behavior and attitudes toward the various health care providers was obtained through a survey of 600 households in three neighborhoods in Arequipa City. The goal of the survey was to gain direct knowledge from individuals about their patterns of use of health services and their access to health insurance. This information would complement the data obtained by the study team from secondary sources, as well as from local health authorities. The specific objectives of the survey were to obtain information about: (1) utilization of curative services of MOH, IPSS, and private providers during a one-year recall; (2) prevalence of private health insurance and IPSS coverage; and (3) users' perceptions of the quality of the services of these three categories of provider.

The study team adopted a stratified sampling strategy consisting of choosing households from three residential strata of Arequipa City believed to represent lower-, middle- and upper-income population groups. The survey effort was heavily constrained by the resources available, and the total number of households to be interviewed was determined by the estimated number of households that the team of enumerators could interview over a two-day period. This sampling strategy responded to the terms of reference put forth by USAID/Lima and was considered the most appropriate approach, given existing time and budget constraints. The survey is best understood as a first, rough effort to seek population-based information on the behavior of people using the health sector. More scientifically sound work would require additional time and money for a broader effort, and is highly recommended as a component of future work in Arequipa.

Stratum 1 (the lower-income residential stratum) included the two "pueblos jóvenes" ("young towns") of Hunter and Alto Cayma. These are relatively new settlements established over the past 10 to 20 years and located in the outlying circumference of the city. Hunter is less than a 20-minute drive to Arequipa's MOH hospitals and has an active neighborhood health center. Alto Cayma is farther away from Arequipa's MOH hospitals and has a health center that has a restricted schedule and is closed on weekends. Stratum 2 (middle-income) consisted of Yanahuara, a neighborhood with a well-equipped health center. Finally, Stratum 3 (upper-income) was represented by the neighborhood of Umacollo. Both Stratum 2 and Stratum 3 are within close proximity to the center of the city and thus, to the main MOH, IPSS, and private hospitals.

The sample consisted of a total of 600 households from the three residential strata. This sample size was based on the number of days available for interviews (the survey was conducted over a two-day weekend), the length of the survey instrument, and the number of enumerators available (24 students of obstetrics and five professors). The total sample of 600 households was allocated among the three residential strata based on estimates of the proportion

of the total population of Arequipa City that was comprised by each stratum. Thus, one-half, or 300 households, were allocated to Stratum 1; 40 percent, or 240 households, were allocated to Stratum 2; and the remaining 10 percent, or 60 households, were assigned to Stratum 3. The survey team, as indicated above, readily admits that this sampling plan makes the resulting data inappropriate for statistical analysis.

Since census data were unavailable, the study team developed a method for selecting households using city maps with blocks and street boundaries. Individual blocks were listed for the interviewers, who worked in pairs and took alternating houses on designated blocks. Interviewers were asked to perform a maximum of four household surveys per individual block, and then to move to the next indicated block. The heads of household were selected as respondents.

The questionnaire gathered information on housing characteristics, on all household members, and on individuals who had experienced a health problem (illness or accident) over the 12 months preceding the survey. A copy of the Spanish-language survey questionnaire can be found in Appendix B. Housing information included data on access to both potable water and to the city sewage system, house ownership and type of construction, and household ownership of various assets such as refrigerators, telephones, and cars. Information on all household members included their age, sex, education, employment, insurance beneficiary status (including access to IPSS and private insurance), and their perception of health care services provided by IPSS, MOH, and the private sector.

Information on people who had a recent health problem included the perceived severity of the problem, the type of health care provider visited, if any, and, if applicable, the types of services obtained, whether a payment had been made, the person's level of satisfaction with the services, and the patient's opinion about several provider characteristics.

Normally, health care demand studies, particularly those on curative ambulatory care, use short recall periods (e.g., two weeks or one month preceding the survey). For this survey, however, a one-year recall period was chosen to obtain a larger number of respondents reporting a health problem. The disadvantage of using a longer reference period is that memory losses can result in poor quality of data with losses being greater the farther in the past the events took place. Nevertheless, this recall problem can be assumed to have affected respondents from the three strata in the same manner and thus is not believed to have introduced any biases into the analysis.

The questionnaire was pilot-tested in 20 homes in Alto Cayma and in Yanahuara and was subsequently revised. Completed questionnaires were reviewed by the survey team, non-categorical responses were coded, and the data were keyed on a microcomputer using DBASE-II software .

### 2.3 ADJUSTMENT FOR INFLATION

Economic circumstances in Peru during the past five years have resulted in hyper-inflation and rapid devaluation of the Peruvian Inti against the U.S. dollar. To account for changes over this period in the value of the Inti due to

inflation and devaluation, two sets of adjustment factors used by the Central Reserve Bank of Peru were obtained for use in the study. See Appendix C for detailed information on adjustment.

### 3.0 THE HEALTH CONTEXT OF AREQUIPA

The Arequipa Region, made up of Arequipa Province and seven other provinces, is located in southern Peru and encompasses both coastal and sierra zones. A substantial portion of the region is mountainous and arid, though river valleys descending from the Andes provide the basis for the region's largely agricultural economy. From Arequipa itself, a gradually widening plateau descends to the Pacific, supporting agriculture wherever water is accessible. Mining, fishing, and agriculture-related industries complement the region's economic base.

#### 3.1 POPULATION

Arequipa City dominates the region demographically as well as economically and is Peru's second largest urban area after Lima. According to population estimates, since 1981 Arequipa Region's population has grown by over 30 percent to an estimated 965,000 in 1990 (see Exhibit 1, below). Like other urban areas in Peru and Latin America as a whole, Arequipa City has grown at an even more rapid rate, from 452,000 in 1981 to 689,000 in 1990, an increase of more than 50 percent. More than 85 percent of the region's population resides in urbanized areas, compared with 79 percent in 1981. Today, nearly 85 percent of the region's urban population lives in Arequipa City, compared with 77 percent in 1981.

EXHIBIT 1 POPULATION OF AREQUIPA REGION AND CITY (thousands of inhabitants)							
AREA	1940	1961	1972	1981	1986	1989	1990
PERU (TOTAL)	7,023	10,419	14,122	17,762	N/A	21,793	N/A
AREQUIPA REGION (TOTAL)	271	407	561	739	869	937	965
AREQUIPA REGION (URBAN)	155	251	420	587	720	793	819
AREQUIPA REGION (RURAL)	116	156	141	152	149	144	146
AREQUIPA CITY	60	135	309	452	574	647	689
AREQUIPA CITY AS % OF REGION	22	33	55	61	66	69	71

Sources: Instituto Nacional de Estadística/Censo Nacional (1981). Elaboración en Perú en Números, 1990. Webb, R., Baca, G.F.; Cuanto, S.A.; and Unidad Departamental de Salud Región Arequipa

Arequipa Region's eight provinces each have distinct characteristics. Nearly 94 percent of the population of Arequipa Province is urban, in contrast to adjacent Caylloma, which is 58 percent urban (see Exhibit 2, next page). The population of Islay, a coastal province, is predominantly urban (83 percent), residing primarily in the port city of Mollendo. Coastal Camaná and Caravelí Provinces have 68 percent and 60 percent urban populations, respectively, reflecting the importance of fishing and agricultural cities and towns along the

narrow desert strip between the mountains and the sea. In contrast, the highland populations of Castilla, Condesuyos, and La Unión Provinces are inland and mostly rural (62 percent, 79 percent, and 63 percent of the population in rural areas, respectively).

<i>EXHIBIT 2 POPULATIONS OF MINISTRY OF HEALTH ADMINISTRATIVE DISTRICTS, AREQUIPA REGION, 1988</i>				
<i>MOH ADMINISTRATIVE DISTRICTS</i>	<i>1988 POP'N ( '000s)</i>	<i>% URBAN</i>	<i>% RURAL</i>	<i>% OF REGION POP'N</i>
<i>AREQUIPA PROVINCE</i>	669.3	93.9	6.1	73.5
<i>CAYLLOMA PROVINCE</i>	52.0	57.7	42.3	5.7
<i>ISLAY PROVINCE</i>	55.6	88.4	11.6	6.1
<i>CAMANA PROVINCE</i>	42.7	67.8	32.2	4.7
<i>CARAVELI PROVINCE</i>	26.1	60.3	39.7	2.9
<i>CASTILLA PROVINCE</i>	36.1	38.3	61.7	4.0
<i>CONDESUYOS PROVINCE</i>	10.2	21.4	78.6	1.1
<i>LA UNION PROVINCE</i>	18.5	37.2	62.8	2.0
<i>REGION TOTAL</i>	910.5	85.0	15.0	100.0

After Arequipa Province, each of the other seven provinces represents no more than 6.1 percent of the region's population. The most rural provinces -- Castilla, Condesuyos, and La Unión -- have four percent, 1.1 percent, and two percent of the region's population, respectively.

The population's age structure is similar to other Latin American settings. Approximately 13 percent of the region's population is under five years of age; an additional 26 percent is between five and 14 years of age (see Exhibit 3, below). The adult population comprises about 61 percent of the region's population, including 57 percent between 15 and 64 years of age and 4.3 percent over age 64.

### 3.2 HEALTH STATUS

Indicators of health status in Arequipa Region reflect a population with significant primary health care needs, particularly among infants and young children. However, the indicators compare favorably with indicators for Peru as a whole, and

<i>EXHIBIT 3 AGE DISTRIBUTION, AREQUIPA REGION, 1988</i>	
<i>AGE GROUP</i>	<i>% OF POPULATION</i>
<i>LESS THAN 1 YEAR</i>	2.6
<i>1-4 YEARS</i>	10.3
<i>5-14 YEARS</i>	25.8
<i>15-64 YEARS</i>	57.0
<i>MORE THAN 64 YEARS</i>	4.3

are distinctly better than in predominantly rural, Andean regions. This is largely due to the dominance of urban areas within Arequipa Region, such as Arequipa City, Camaná, and Mollendo, in which a large proportion of the population has access to modern sanitary systems and safe water supplies.

The life expectancy of the Arequipa Region population is 65 years, according to 1989 MOH statistics, compared with an average of 63 years for the nation as a whole. Among the leading causes of mortality in the region are respiratory illnesses, tumors, accidents, trauma, and poisonings. Pulmonary tuberculosis is reported to be the eighth leading cause of death (six percent of all deaths) and this condition is also one of the most common reasons for outpatient clinic visits among children aged one through four years.

For every 1,000 children born in Arequipa Region, 73 die before reaching one year (compared with 82 nationally and 57 for Lima/Callao). In contrast, in predominantly rural departments in Peru, such as Apurimac, Cusco, and Madre de Dios in Inca Province, infant mortality occurs at a rate of 120, 126, and 88 per 1,000 live births, respectively.

Forty percent of infant mortality in Arequipa Region results from infections originating in the perinatal period, and another 40 percent is attributed to respiratory infections and acute diarrheal diseases (see Exhibit 4, below). As shown in Exhibit 5 (next page), more than half of all child deaths in Arequipa Region between ages one and four years of age result from dysentery and gastroenteritis, respiratory illnesses (not including tuberculosis), and nutritional deficiencies.

EXHIBIT 4 LEADING CAUSES OF INFANT MORTALITY (< 1 YEAR), AREQUIPA PROVINCE, 1988	
CAUSES	% OF DEATHS
CERTAIN CAUSES ORIGINATING IN PERINATAL PERIOD	43.7
RESPIRATORY ILLNESSES	24.4
DYSENTERY AND GASTROENTERITIS	16.9
CONGENITAL ANOMALIES	3.4
OTHER INFECTIONS	2.1
IMMATURITY	2.1
NUTRITIONAL DEFICIENCIES	1.3
DISORDERS OF THE NERVOUS SYSTEM	1.3
ENDOCRINE AND METABOLIC DISORDERS	1.2
TRAUMA AND POISONING	1.0
OTHER CAUSES	4.0

EXHIBIT 5  
LEADING CAUSES OF CHILD MORTALITY (1-4 YEARS),  
AREQUIPA REGION, 1988

CAUSE	% OF DEATHS
DYSENTERY & GASTROENTERITIS	34.3
TRAUMA, ACCIDENTS & POISONINGS	24.7
RESPIRATORY ILLNESSES	20.2
NUTRITIONAL DEFICIENCIES	4.8
ENDOCRINE AND METABOLIC DISORDERS	3.1
OTHER INFECTIOUS & PARASITIC DISEASES	2.8
NERVOUS SYSTEM DISORDERS	2.2
TUBERCULOSIS	1.7
TUMORS/CANCER	1.1
CONGENITAL ANOMALIES	1.1
OTHER CAUSES	4.0

The levels and patterns of infant and child mortality in Arequipa are indicative of significant weaknesses in primary and preventive health services, as well as low socioeconomic status and environmental exposures. Availability of health services and implications of current health care financing practices for long-term improvements in the health care system are discussed in the following sections.

#### 4.0 THE MINISTRY OF HEALTH: ORGANIZATION, SERVICES, AND RESOURCES

By law, the mission of the Peruvian Government's Ministry of Health is to provide public health and medical services to that portion of the population without access to other sources of care. In the past, MOH services in Peru were provided through 28 departmental health units, in each of the country's departments, or states. The current regionalization plan calls for creation of 12 political regions, replacing the 28 departments. Unlike in other parts of the country, the Arequipa Region will continue to comprise only the Department of Arequipa. It includes the provinces of Arequipa, Caylloma, Islay, Camaná, Caravelí, Castilla, Condesuyos, and La Unión, which are grouped for administrative purposes as follows: Arequipa and Caylloma; Islay, Camaná, and Caravelí; Castilla, Condesuyos, and La Unión.

This section describes the organization, services, and resources of the regional MOH, which forms part of the Social Services Secretariat of the regional government of Arequipa. (Prior to regionalization, the Ministry of Health in Arequipa was referred to as the Departmental Health Unit in Arequipa Region.)

#### 4.1 FACILITIES

The MOH operates and staffs a total of 179 health facilities throughout Arequipa Region, including hospitals, health centers, and health posts (see Exhibit 6, below).

<i>EXHIBIT 6</i>							
<i>DISTRIBUTION OF MOH HOSPITALS, HEALTH CENTERS AND HEALTH POSTS, AREQUIPA REGION, 1990</i>							
<i>PROVINCE</i>	<i>1988 POP'N</i>	<i>% URBAN</i>	<i>HOSP.</i>	<i>HOSP. BEDS</i>	<i>HEALTH CTRS.</i>	<i>HEALTH CTR. BEDS</i>	<i>HEALTH POSTS</i>
<i>AREQUIPA</i>	669,300	94	2	983	20	--	52
<i>CAYLLOMA</i>	52,000	58	--	--	3	8	18
<i>ISLAY</i>	55,600	88	--	77 <sup>1</sup>	3	--	4
<i>CAMANA</i>	42,700	68	1	78	3	--	10
<i>CARAVELI</i>	26,100	60	--	--	4	--	12
<i>CASTILLA</i>	36,100	38	1	26	5	12	16
<i>CONDESUYOS</i>	10,200	21	--	--	2	17	8
<i>LA UNION</i>	18,500	37	--	--	1	--	14
<i>AREQUIPA REGION TOTAL</i>	910,500	85	4	1,164	41	37	134

1. MOH beds in the Integrated Mollendo Hospital (shared MOH and IPSS use)  
Source: MOH Regional Administration and Facility Documents

The MOH operates four hospitals in the region, with a total of 1,087 beds. Under a joint use agreement with IPSS, MOH also provides inpatient and outpatient services to MOH clients at the Integrated Mollendo Hospital, a facility managed and primarily staffed by IPSS. Including the 77 MOH beds in the Mollendo Hospital, the MOH maintains a total of 1,164 hospital beds in the region. MOH hospitals in Arequipa provide an average of one bed for every 782 inhabitants, a public bed supply three times greater than the Peruvian national average (one bed per 2,500 inhabitants).

Due in part to the national health program's emphasis on the delivery of primary care services, a capital expenditure program expanded the number of primary health facilities (health centers and health posts) throughout Peru. Arequipa Region currently supports 41 health centers, an increase of approximately 30 percent since 1987; each health center is designed to serve an average of 23,500 inhabitants, approximately the national norm. Arequipa Region has 134 health posts, up from 68 in 1985 and 124 in 1987. Health posts serve an average of 6,800 inhabitants, more than the national average of 5,000 per health post.

Approximately 44 percent of the 41 MOH health centers and 46 percent of the 134 health posts are located outside of metropolitan Arequipa. While the average population served by health centers and health posts in rural and coastal areas is much smaller than in Arequipa province, geographic access to these facilities remains a significant problem due to a widely dispersed population. Four rural districts have no MOH facilities.

An important issue to be addressed in planning the regional health system is the concentration of public facilities in Arequipa Province, whose population is almost entirely urban. That province contains 74 percent of the population, 84 percent of the public hospital beds, and also a surprisingly high 49 percent of health centers and 39 percent of health posts. Whether such an extensive system in a highly urbanized area is an efficient use of public money is an open question, and should be studied by the regional ministry.

## 4.2 HUMAN RESOURCES

### 4.2.1. Regional Staff Resources

The MOH staffs its health facilities and direct services with nearly 2,600 full-time workers, of whom 27 percent are assigned to health centers and health posts and the remaining 73 percent to hospitals (see Exhibit 7). These figures exclude an additional 140 administrative staff assigned to the MOH central office in Arequipa.

<i>EXHIBIT 7</i>					
<i>TYPE AND DISTRIBUTION OF MOH PERSONNEL IN HEALTH CENTERS/POSTS AND HOSPITALS, AREQUIPA REGION, 1990</i>					
<i>CATEGORY OF PERSONNEL</i>	<i>HEALTH CENTERS &amp; POSTS</i>	<i>HEALTH CENTERS (% OF TOTAL)</i>	<i>HOSPITALS</i>	<i>HOSPITALS (% OF TOTAL)</i>	<i>TOTAL [% OF TOTAL]</i>
<i>PHYSICIANS</i>	75	27	210	73	276 [10.6]
<i>NURSE-MIDWIVES</i>	43	49	45	51	88 [3.4]
<i>NURSES</i>	116	27	313	73	429 [16.6]
<i>OTHER PROF'LS/AUXILIARIES/</i> <i>FUNCTIONARIES</i>	364	25	1,096	75	1,460 [56.3]
<i>ADMINISTRATIVE<sup>1</sup></i>	103	30	236	70	339 [13.1]
<i>REGIONAL TOTAL</i>	701	27	1,891	73	2,592

1. Excludes 140 staff assigned to regional MOH administration in Arequipa.

Source: MOH Regional Administration and Facility Documents.

Physicians and nurses comprise nearly one-third of all health facility personnel. According to figures supplied by the Medical College of Arequipa, the MOH employs about one-quarter of Arequipa Region's 1,080 registered physicians.

Nearly 60 percent of all facility personnel are other professionals (e.g., technicians) and auxiliaries, serving supporting roles in patient care. This category also includes functionaries who provide no direct care services.

About 13 percent of MOH facilities staff are assigned administrative duties. If MOH central office administrative staff are added to facility administrative staff, more than 17 percent of MOH staff are administrative. About 11 percent of all MOH budgeted staff positions currently are vacant.

Recently, 42 individuals assigned to MOH central administration retired in preparation for administrative decentralization of the MOH system, leaving 98 administrative employees in the central office. An MOH task force appointed to study the administrative structure of the regional public health system is considering the feasibility of reducing regional administrative office staffing to between 30 and 50 individuals. Under this scheme, the remaining central office staff would be reassigned to work in direct service sites, including health centers and health posts.

A major issue emerges from these data. Hospitals constitute only two percent of the public health facilities in the region, but they require 73 percent of the personnel, which is indicative of the high resource cost of these institutions, the importance of using those resources efficiently, and the policy issue of whether that concentration of resources is appropriate to the goals of the public sector in health.

#### **4.2.2. Health Center and Health Post Staffing**

The health centers and health posts are staffed to provide basic primary health care, with a total of 75 physicians, 43 nurses, 116 nurse-midwives and 364 other health-related staff. Health centers typically are staffed by doctors of general medicine (generalists); none is staffed by a specialist in internal medicine. There are 1.8 MOH physicians per existing MOH health center, on average. In contrast, health posts are rarely staffed by physicians.

In predominantly rural provinces, for example in the combined area of Castilla, Condesuyos, and La Unión, a total of 17 full-time MOH physicians are assigned. Six of these physicians are assigned to the Aplao Hospital (Castilla) and an additional five are assigned to the five health centers in this province. The remaining six MOH physicians are assigned to the three health centers and 17 health posts in Condesuyos and La Unión provinces.

For illustrative purposes, Exhibit 8 presents facility staffing data for two health centers and six health posts, all located in proximity to the City of Camaná. The health centers and two of the health posts each have a physician or midwife and nurse, while the other four health posts are staffed only with sanitary technicians. If this staffing pattern is typical of the region, many health centers and most health posts can provide only the most basic care due to limited staff qualifications.

EXHIBIT 8 ILLUSTRATIVE MOH PROFESSIONAL STAFFING OF URBAN AND PERI-URBAN HEALTH FACILITIES, CAMANA, 1990					
FACILITY	PHYSICIANS	MIDWIVES	NURSES	NURSING TECHNICIANS	SANITARY TECHNICIANS
<b>HEALTH CENTERS</b>					
SAN GREGORIO	0	1	1	4	1
SAN JOSE	1	0	1	2	1
<b>HEALTH POSTS</b>					
EL CARMEN	1	0	0	0	1
HUALAPUY	0	0	0	0	1
PUCCHUN	0	0	0	0	1
EL CARDO	0	0	0	0	1
QUILCA	0	0	0	0	1
LA PAMPA	0	1	1	0	1

Source: MOH Regional Administration and Facility Documents.

#### 4.2.3. Hospital Staffing

A large proportion of all MOH clinical, support, and administrative staff are assigned to MOH hospitals, and a high proportion of hospital staff are based in acute care facilities located in Arequipa City. More than 70 percent of all MOH health personnel in each category, with the exception of nurse-midwives, are assigned to acute care institutions.

Nearly 86 percent of all MOH hospital personnel are assigned to two hospitals, with about 70 percent of the personnel of these two hospitals assigned to Honorio Delgado Hospital and the remaining 30 percent assigned to Goyeneche Hospital. These two hospitals account for 89 percent of all MOH hospital-based physicians and about 86 percent of hospital-based nurses and nurse technicians (see Exhibit 9).

EXHIBIT 9 TYPE AND DISTRIBUTION OF MOH PERSONNEL IN HOSPITALS, AREQUIPA REGION, 1990					
CATEGORY OF PERSONNEL	HONORIO DELGADO	GOYENECHÉ	CAMANA	APLAO	ALL HOSPITALS
PHYSICIANS	114	64	17	6	201
<b>NURSING PERSONNEL</b>					
NURSE-MIDWIVES	21	10	10	4	45
NURSES	208	59	37	9	313
NURSE TECHNICIANS	205	110	39	--	354
NURSING ASSISTANTS	27	8	--	4	39
TOTAL	461	187	86	17	751
<b>TECHNICAL PERSONNEL</b>					
TECHNICIANS	75	38	22	N/A	135 <sup>1</sup>
TECHNICIANS' ASSISTANTS	14	1	--	N/A	15 <sup>1</sup>
TOTAL	89	39	22	33	183
<b>FUNCTIONARIES/OTHER SERVICES/SUPPORT ADMINISTRATION<sup>2</sup></b>					
	363	121	29	7	520
	106	79	28	23	236
TOTAL HOSPITAL PERSONNEL	1,133	490	182	86	1,891

1. Excludes Aplao

2. Excludes regional MOH administration.

Source: MOH Regional Administration and Facility Documents.

### 4.3 UTILIZATION OF MOH FACILITIES

As the infrastructure and staffing patterns indicate, health posts and health centers are the source of a limited amount of basic health care; hospital resources dominate the public sector. Available utilization information further defines the role of various levels of facilities in serving basic health needs of the residents of Arequipa Region.

#### 4.3.1. Sources of Outpatient Services

The distribution of outpatient visits by type of service and source of care reflects the differences in health delivery capacity between health centers and hospital facilities. The MOH outpatient health services most closely associated with primary care principally are provided by health centers and health posts rather than hospitals, indicating appropriate use of facilities intended to serve primary care needs.

Exhibit 10 shows that more than 71 percent of all outpatient visits in Arequipa and Caylloma Provinces were to health centers and health posts, and the remaining 29 percent were to the Arequipa hospitals, Honorio Delgado and Goyeneche. Health centers/posts in Arequipa and Caylloma accounted for at least three-quarters of all outpatient visits for five main primary care-oriented services (general medicine, pediatrics, obstetrics, gynecology, and dental). These primary care-oriented services accounted for 70 percent of all ambulatory visits to MOH health facilities. Health centers/posts also received three-quarters of the requests for health certificates (for employment and other purposes); such requests comprise 14 percent of all outpatient visits to health centers and hospitals.

EXHIBIT 10 DISTRIBUTION OF OUTPATIENT SERVICE VOLUME: AREQUIPA HOSPITALS COMPARED WITH AREQUIPA AND CAYLLOMA HEALTH CENTERS AND HEALTH POSTS, 1989 <sup>1</sup>			
SERVICE	TOTAL VISITS HEALTH CTRS./HEALTH POSTS/HOSPITALS	% IN AREQUIPA & CAYLLOMA HEALTH CTRS./HEALTH POSTS	% IN AREQUIPA HOSPITALS
INTERNAL MEDICINE	8,705	0	100
GENERAL MEDICINE	36,585	100	0
PNEUMONOLOGY	3,421	0	100
CARDIOLOGY	1,614	0	100
NEUROLOGY	1,514	0	100
GASTROENTEROLOGY	1,824	0	100
DERMATOLOGY	1,918	0	100
RADIOTHERAPY	2,185	0	100
EPIDEMIOLOGY	203	0	100
ONCOLOGY	81	0	100
HEALTH CERTIFICATES	41,561	75	25
OTHER MEDICINE	2,085	0	100
GENERAL SURGERY	6,590	11	89
TRAUMATOLOGY	3,673	0	100
EAR, NOSE & THROAT	4,728	0	100
OPHTHALMOLOGY	4,984	0	100
UROLOGY	1,491	0	100
SURGICAL ONCOLOGY	1,888	0	100
OTHER SURGERY	256	0	100

EXHIBIT 10 (CONTINUED)			
DISTRIBUTION OF OUTPATIENT SERVICE VOLUME: AREQUIPA HOSPITALS COMPARED WITH AREQUIPA AND CAYLLOMA HEALTH CENTERS AND HEALTH POSTS, 1989 <sup>1</sup>			
SERVICE	TOTAL VISITS HEALTH CTRS./HEALTH POSTS/HOSPITALS	% IN AREQUIPA & CAYLLOMA HEALTH CTRS./HEALTH POSTS	% IN AREQUIPA HOSPITALS
PEDIATRICS	49,281	81	19
OBSTETRICS	25,134	75	25
GYNECOLOGY	32,992	80	20
DENTAL	65,365	89	11
TOTAL	298,078	71	29

1. Differences in methods of classification of visits between health centers and hospitals account for some of the differences in distribution of specialty services observed.

Source: MOH Regional Administration and Facility Documents.

#### 4.3.2. Hospital Outpatient Services

The distribution of outpatient visits to MOH hospitals indicates a pattern of utilization consistent with the primary health needs of the region's population. Among MOH hospitals, general internal medicine, pediatrics, obstetrics, and gynecologic services were found to account for the highest proportion of outpatient visits, as shown in Exhibit 11.

EXHIBIT 11							
DISTRIBUTION OF OUTPATIENT CLINIC UTILIZATION BY SERVICE IN MOH HOSPITALS, AREQUIPA REGION, 1989 (percent of institutional total)							
SERVICE	HON. DELG.	GOYENEQUE	CAMANA	APLAO	MOLLENDO <sup>1</sup>	UTES A.C. <sup>2</sup>	TOTAL CLINIC VISITS
GENERAL INTERNAL MEDICINE	12.0	7.5	21.7	30.3	37.8	17.3	19.2
PNEUMONOLOGY	4.9	2.8	2.8	1.8	7.5	--	2.2
CARDIOLOGY	2.0	1.7	--	--	--	--	0.4
NEUROLOGY	3.0	--	--	--	--	--	0.4
GASTRO-ENTEROLOGY	3.6	--	--	--	--	--	0.5
DERMATOLOGY	2.9	1.3	--	--	--	--	0.5
ONCOLOGY	--	0.2	--	--	--	--	0.0
OTHER MEDICINE	4.2	--	--	--	--	--	0.5
GENERAL SURGERY	9.9	3.3	12.1	2.6	8.5	0.4	3.5
TRAUMATOLOGY	6.0	1.9	--	--	--	--	1.0
ENT	5.2	5.9	--	--	--	--	1.3
OPHTHALMOLOGY	9.1	1.2	--	--	--	--	1.3
UROLOGY	2.4	0.8	--	--	--	--	0.4
SURGICAL ONCOLOGY	--	5.3	--	--	--	--	0.5
PEDIATRICS	10.8	10.3	22.4	27.2	17.3	18.9	17.1
OBSTETRICS	7.2	7.3	13.7	12.9	4.2	8.9	8.1
GYNECOLOGY	8.1	7.1	19.0	11.1	7.4	12.4	10.8
ODONTOLOGY	6.0	11.1	8.2	14.1	17.4	297.5	20.6
OTHER PATIENTS	--	6.7	--	--	--	--	0.7
HEALTH CERTIFICATES <sup>3</sup>	2.8	25.7	--	--	--	14.6	11.0
TOTAL VISITS <sup>4</sup>	50,184	35,741	13,441	9,126	55,592	212,153	376,237

1. Integrated hospital MOH/IPSS under IPSS administration.

2. Ambulatory clinic visits to health centers and health posts in Arequipa and Caylloma provinces, for comparative purposes.

3. Certificates of health required for employment and other purposes.

4. Excludes emergency services.

Source: MOH Regional Administration and Facility Documents.

Among outlying support hospitals, including Camaná, Aplao, and Mollendo, most outpatient visits were for general medicine and pediatric services, and these services comprised a higher proportion of outpatient visits for these hospitals than for Honorio Delgado and Goyeneche Hospitals. Honorio Delgado and Goyeneche, in contrast, provided the only source of many types of specialty services. Across all hospitals, specialty services (e.g., cardiology, neurology, ENT, urology, and others) accounted for a small proportion of all outpatient visits to hospitals. (Some of the difference in outpatient service distribution between outlying community hospitals and Honorio Delgado and Goyeneche is likely due to differences in classifying outpatient services.)

#### 4.3.3. Sources and Types of Inpatient Services

More than half of all MOH hospital discharges are accounted for by Honorio Delgado Hospital; Goyeneche Hospital accounted for an additional 22.8 percent of discharges in 1989 (see Exhibit 12). Camaná and Aplao Hospitals together account for slightly more than 10 percent of discharges, while the Integrated Mollendo Hospital accounts for the remaining 15 percent of MOH discharges.

<i>EXHIBIT 12 MOH HOSPITAL DISCHARGES, AREQUIPA REGION, 1989</i>		
<i>HOSPITAL</i>	<i>DISCHARGES IN 1989</i>	<i>% OF MOH HOSPITAL DISCHARGES</i>
<i>HONORIO DELGADO</i>	11,757	52.9
<i>GOYENECHÉ</i>	5,065	22.8
<i>CAMANA</i>	1,803	8.1
<i>APLAO</i>	485	2.2
<i>MOLLENDO</i>	3,109	14.0
<i>TOTAL</i>	22,219	100

Source: MOH Regional Administration and Facility Documents.

The distribution of discharges among leading clinical services within each hospital indicates that an average of 40 percent of all discharges are classified as obstetrics (see Exhibit 13). On average, an additional 17 percent of discharges are treated by pediatrics. Medical discharges account for an additional 13.5 percent of discharges across all hospitals.

EXHIBIT 13							
DISTRIBUTION OF MOH HOSPITAL DISCHARGES BY MAJOR SERVICE, AREQUIPA REGION, 1989							
(percent <sup>1</sup> )							
SERVICE	HONORIO DELGADO	GOYENECHÉ	CAMANA	APLAO	MOLLENDÓ	ALL MOH HOSPITALS	
MEDICINE	15.0	10.4	11.6	15.9	14.5	13.5	
GENERAL SURGERY	14.8	5.0	12.1	7.4	14.3	12.1	
OBSTETRICS	39.9	46.7	41.2	54.2	33.5 <sup>2</sup>	40.5	
GYNECOLOGY	2.8	8.3	13.4	7.7	--	4.5	
PEDIATRICS	17.2	10.5	15.4	14.5	34.8	17.8	
PNEUMONOLOGY	2.0	--	3.1	0.1	3.0	1.7	
ONCOLOGY	--	2.7	--	--	--	0.6	
PRIVATE CLINIC	6.3	9.3	3.2	--	--	5.6	
PSYCHIATRY	1.4	--	--	--	--	0.8	
OTHER SERVICES	0.6	6.9 <sup>3</sup>	--	--	--	1.8	

1. Percent may not total 100% due to rounding

2. Includes gynecology discharges.

3. National police and prisoner units.

Source: MOH Regional Administration and Facility Documents.

On average, 12 percent of all patients are general surgery admissions and only 4.5 percent are gynecology patients (not all of which are necessarily surgical admissions). At Honorio Delgado Hospital, less than 15 percent of patients are general surgical admissions -- about the same proportion of surgical discharges at the Camaná and Mollendo Hospitals. Goyeneche has the lowest general surgical admission rate.

In each of the hospitals for which more detailed case mix (diagnostic) data are available, the predominance of maternity care is evident (see Exhibit 14). According to information on discharge diagnoses, more than half of all MOH hospital system discharges are for obstetrical and maternity-related care.

EXHIBIT 14				
LEADING DISCHARGE DIAGNOSES FOR MOH HOSPITALS <sup>1</sup> , AREQUIPA REGION, 1989				
(percent of hospital discharges) <sup>2</sup>				
DISCHARGE DIAGNOSES	HONORIO DELGADO	GOYENECHÉ	CAMANA	APLAO
NORMAL DELIVERIES	27.8	38.0	36.8	N/A <sup>3</sup>
DISEASES/DISORDERS OF DIGESTIVE SYSTEM	8.7	6.3	6.7	3.3
CONDITIONS ORIGINATING IN PERINATAL PERIOD	8.5	--	--	--
COMPLICATIONS OF PREGNANCY, BIRTH & PUERPERIUM	8.4	10.5	9.3	11.0
TRAUMA & POISONINGS	7.6	5.3	6.7	23.0
ABORTIONS, BLEEDING FROM PREGNANCY & BIRTH	6.2	7.5	7.7	18.0
DISEASES/DISORDERS OF GENITO-URINARY SYSTEM	3.7	5.2	3.6	6.2
TUBERCULOSIS OF ALL TYPES	3.4	2.8	5.2	2.8
RESPIRATORY ILLNESSES	3.3	4.0	6.5	9.0
TUMORS	2.7	4.2	--	--
DYSENTERY & GASTROENTERITIS	--	2.9	3.5	16.7
DISEASES OF THE CIRCULATORY SYSTEM	--	--	3.1	--
OTHER DISEASES	19.8	13.3	10.8	10.0

1. No data available for Mollendo Hospital.

2. Percent may not total 100% due to rounding

3. Included in other categories.

Source: MOH Regional Administration and Facility Documents.

Among MOH support hospitals, in Camaná Hospital, as might be expected, a total of about 37 percent of admissions were for deliveries and an additional 17 percent were for maternity-related conditions. A similar pattern was observed in Goyeneche Hospital.

Honorio Delgado Hospital's case mix is strikingly similar to that of the support hospitals, despite its status as a referral center. More than half of Honorio Delgado discharges were for diagnoses indicating maternity and maternity-related conditions.

Although the case mix of the four MOH hospitals seems quite similar, based on coded diagnostic information available, the severity of conditions may be greater at Honorio Delgado and Goyeneche Hospitals. Honorio Delgado, in particular, is the best-equipped hospital among the four both clinically and technically, and may provide the most complex care.

Among common reasons for seeking hospital treatment, diseases and disorders of the digestive system ranks as the highest non-maternity cause for hospitalization at Honorio Delgado. Many of these admissions are surgical, reflecting the specialty role of this hospital. Similarly, virtually all tumors are treated at either Honorio Delgado or Goyeneche, the latter possessing a cobalt therapy device and the major sub-specialty cancer unit among the MOH hospitals.

#### **4.3.4. Honorio Delgado Patient Origin**

Data on patient origin indicate that Honorio Delgado Hospital serves primarily as a community hospital, serving residents of immediately surrounding areas of metropolitan Arequipa, rather than as a referral facility. This observation is consistent with the predominantly obstetrical and pediatric nature of the hospital's case mix.

The distribution of inpatients by district or neighborhood (within Arequipa City) of residence indicates that most inpatients live in metropolitan Arequipa and a high proportion live in neighborhoods immediately surrounding the hospital. Nearly one-quarter of the 11,728 discharges in 1989 were from Paucarpata, the Arequipa City neighborhood where Honorio Delgado Hospital is located (see Exhibit 15). An additional 59.3 percent of hospital admissions came from Socabaya, Cerro Colorado, Miraflores, Mariano Melgar, Cayma, and Yanahuara, all located within the greater Arequipa metropolitan area and readily accessible by public transportation to the hospital. Thus, more than four-fifths of Honorio Delgado admissions were from local Arequipa City locations.

**EXHIBIT 15**  
**INPATIENT ORIGIN IN HOSPITAL HONORIO DELGADO, 1989**

DISTRICT	DISCHARGES	%	CUMULATIVE %
PAUCARPATA	2,750	23.4	23.4
AREQUIPA	2,041	17.4	40.8
SOCABAYA	1,284	10.9	51.7
CERRO COLORADO	1,087	9.3	61.0
MIRAFLORES	928	7.9	68.9
MARIANO MELGAR	766	6.5	75.4
CAYMA	572	4.9	80.3
OTHER PROVINCES OF DEPARTMENT	453	3.9	84.2
OTHER DEPARTMENTS IN SOUTHERN PERU	285	2.4	86.6
YANAHUARA	281	2.4	89.0
TIABAYA	249	2.1	91.1
LA JOYA	243	2.1	93.2
SACHACA	227	1.9	95.1
UCHUMAYO	132	1.1	96.2
VITORA	60	0.5	96.7
YURA	56	0.5	97.2
OTHER DEPARTMENTS IN PERU	50	0.4	97.6
SABANDIA	47	0.4	98.0
CHARACATO	43	0.4	98.4
SANTA RITA DE SIGUAS	22	0.2	98.6
OTHER AND UNKNOWN	130	1.1	99.7
TOTAL <sup>1</sup>	11,728	100.0	100.0

<sup>1</sup> Percent may not total 100% due to rounding

A relatively small proportion of Honorio Delgado inpatients came from outside areas: 3.9 percent of discharges came from other Arequipa provinces, and another 2.4 percent came from other departments in southern Peru. The remaining patients came from within Arequipa Province.

The geographic distribution of inpatients discharged from Honorio Delgado Hospital reflects a pattern similar to that of outpatient users. Nearly half of outpatient users came from Paucarpata and Arequipa City (including various neighborhoods close to the center of the city). Other provinces in Arequipa Region and other departments of Peru accounted for 5.4 percent of outpatient visits on a sample day. --

#### 4.3.5. Physician Training in MOH Hospitals

Honorio Delgado Hospital is the primary teaching facility of the Medical School of the University of San Agustín, located in Arequipa City. The university's medical curriculum for virtually all prospective physicians is restricted to clinical experience obtained on the hospital campus in the course of providing inpatient and outpatient care. Graduate physicians are first exposed to community-based care settings in their required assignment to provide one to two years of "free" service in health facilities in peripheral urban and rural areas.

#### 4.3.6. Utilization Patterns in the Integrated Mollendo Hospital

In 1985, IPSS initiated an expansion of health service facilities for IPSS-insured residents of Arequipa Region. Rather than build new facilities, IPSS signed an agreement with the MOH to use existing MOH facilities (mostly health centers and health posts) and to provide staffing for IPSS users.

Since then, IPSS reversed its expansion policy and has reduced its facility network to the pre-1985 level, with one exception. The Mollendo Hospital, previously owned and operated solely by the MOH, has remained a shared facility, now called the Integrated Mollendo Hospital, used by both MOH and IPSS inpatients and outpatients, and administered and primarily staffed by IPSS.

This shared service model is of interest for two reasons. First, if shared services are provided efficiently, this may represent a potential savings to both MOH and IPSS. Second, the equitable treatment of MOH patients in an IPSS facility has been a concern expressed by MOH staff.

Utilization data indicate that utilization by IPSS- vs. non-IPSS-insured patients varies greatly by service, with non-IPSS patients served primarily by inpatient services, and IPSS-insured patients by outpatient services. Some 69 percent of inpatients at the Integrated Mollendo Hospital were not IPSS-insured (see Exhibit 16), suggesting that MOH clients have full access to inpatient care.

Nearly 65 percent of all emergency service users were also non-IPSS users. In contrast, only one-quarter of outpatient visits were by non-IPSS users.

**EXHIBIT 16**  
**INPATIENT AND OUTPATIENT UTILIZATION FOR IPSS-INSURED AND NON-INSURED,**  
**HOSPITAL INTEGRADO DE MOLLEDO, 1989**

<i>SERVICES</i>	<i>ADMISSIONS</i> [% OF TOTAL]	<i>% IPSS INSURED</i>	<i>% Non-INSURED</i>
<i>INPATIENT SERVICES</i>			
<i>GENERAL MEDICINE</i>	451 [14.5]	56.9	43.1
<i>PNEUMOLOGY</i>	93 [3.0]	21.5	78.5
<i>GENERAL SURGERY</i>	443 [14.3]	55.9	44.1
<i>Ob/GYN</i>	1,041 [33.5]	31.0	69.0
<i>PEDIATRICS</i>	1,081 [34.8]	10.5	89.5
<i>ALL INPATIENT SERVICES</i>	3,109 [100]	30.8	69.2
<i>OUTPATIENT SERVICES</i>			
<i>OUTPATIENT ODONTOLOGY</i>	9,652	72.4	27.6
<i>CLINIC VISITS</i>	47,874	74.4	25.6
<i>ALL EMERGENCY SERVICES</i>	18,007	35.4	64.6
<i>TOTAL OUTPATIENT VISITS</i>	75,533	64.8	35.2

Source: MOH Regional Administration and Facility Documents.

Individual services vary considerably in the mix of IPSS-insured and non-insured users. Non-IPSS-insured individuals comprise less than 45 percent of medical and general surgery inpatient admissions. Nearly 90 percent of pediatric admissions are of non-insured individuals, largely because IPSS covers no inpatient pediatric care.

#### **4.3.7. Utilization and Capacity in MOH Hospitals in Arequipa City**

Honorio Delgado and Goyeneche Hospitals are located within one mile of each other in the midst of metropolitan Arequipa. The resource commitment represented by these facilities, the extensive duplication of costly hospital facilities and services, and other circumstances -- notably the deteriorated condition of Goyeneche Hospital -- argue strongly for an analysis of the need to maintain both of these facilities to serve MOH acute care needs in Arequipa.

The number of staffed beds among the two institutions has not changed significantly over the past five years. However, utilization is not what one would have expected under normal circumstances. For example, between 1985 and 1988, the number of discharges rose slightly, but much more slowly than the urban population served by the hospitals. Then, in 1989 discharge volume dropped by more than 30 percent. The combined effects of the economic crisis and the work stoppages in 1989 (see Exhibit 17) doubtless contributed to the drop, but further analysis is needed to explain the difference between the rates of growth of population and hospital discharges.

**EXHIBIT 17**  
**UTILIZATION OF HONORIO DELGADO AND GOYENECHÉ HOSPITALS, MOH,**  
**AREQUIPA REGION, 1985-1989**

UTILIZATION INDICATOR	1985	1986	1987	1988	1989
<b>STAFFED BEDS</b>					
HONORIO DELGADO	703	719	719	722	718
GOYENECHÉ	288	259	261	264	265
TOTAL	991	978	980	986	983
<b>DISCHARGES</b>					
HONORIO DELGADO	15,204	16,549	17,048	16,996	11,757
GOYENECHÉ	6,935	6,571	6,791	6,558	5,065
TOTAL	22,139	23,120	23,839	23,554	16,822
<b>ACTUAL HOSPITAL DAYS</b>					
HONORIO DELGADO	197,928	199,055	186,235	166,798	111,231
GOYENECHÉ	65,761	61,046	59,390	53,737	41,508
TOTAL	263,689	260,101	245,625	220,535	152,739
<b>AVERAGE LENGTH OF STAY (DAYS)</b>					
HONORIO DELGADO	13.0	12.0	10.9	9.8	9.5
GOYENECHÉ	9.5	9.3	8.7	8.2	8.2
COMBINED	11.9	11.2	10.3	9.4	9.1
<b>AVERAGE OCCUPANCY (%)</b>					
HONORIO DELGADO	77	76	71	63	42
GOYENECHÉ	63	65	62	56	43
COMBINED	73	73	69	61	43

1. "Staffed beds" refers to the average number of operating beds in each year; the Honorio Delgado and Goyeneche Hospitals have a physical capacity of 770 and 290 beds, respectively.

Source: MOH Regional Administration and Facility Documents.

Due to a long-term trend toward reduced length of stay (LOS), mostly occurring in years before 1989, and a relatively constant number of admissions, the overall occupancy of the two hospitals has dropped. In 1985, average occupancy of the combined hospitals was 73 percent. By 1988, occupancy at Honorio Delgado had dropped to 63 percent of bed capacity from its previous level of about 77 percent. Occupancy at Goyeneche Hospital dropped from 63 percent in 1985 to 58 percent in 1988. In 1989, both hospitals maintained occupancy at slightly more than 40 percent.

Further declines in length of stay are likely to occur due to changes in practice or other operating efficiencies. Thus, even if hospital discharges maintain pre-1989 levels, hospital occupancy may continue to decline.

Over the period 1985-1988, Honorio Delgado Hospital experienced an 11 percent increase in admissions while Goyeneche Hospital's admissions dropped by five percent. Gains in discharges at Honorio Delgado resulted from increases in obstetric and pediatric departments. At Goyeneche, obstetric admissions increased by 12 percent, but no other hospital service registered an increase over the period.

Comparing reductions in LOS over the 1985 to 1988 period, Honorio Delgado Hospital experienced a 25 percent reduction in overall LOS while Goyeneche Hospital's LOS dropped by 14 percent (see Exhibit 18). With the exception of the private clinic (which experienced a slight increase in LOS), Honorio Delgado Hospital recorded substantial decreases in LOS across all services. In contrast, Goyeneche Hospital experienced LOS increases in two high-volume services -- medicine and general surgery -- and only modest decreases in other major services.

<p style="text-align: center;"><i>EXHIBIT 18</i>  <i>TRENDS IN AVERAGE LENGTH OF STAY BY MAJOR SERVICE,</i>  <i>HONORIO DELGADO AND GOYENECHÉ HOSPITALS, 1985-89</i>  <i>(days)</i></p>							
<i>SERVICE</i>	<i>HOSPITAL</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>% CHANGE, 1985-88</i>
<i>GENERAL MEDICINE</i>	<i>HONORIO DELGADO</i>	24.2	21.2	19.8	19.3	17.8	-20
	<i>GOYENECHÉ</i>	19.6	21.0	20.1	21.0	20.5	+7
<i>GENERAL SURGERY</i>	<i>HONORIO DELGADO</i>	20.5	19.7	19.7	17.9	15.0	-13
	<i>GOYENECHÉ</i>	14.6	19.8	16.4	15.6	14.1	+7
<i>OBSTETRICS</i>	<i>HONORIO DELGADO</i>	3.6	3.5	3.2	3.1	2.8	-14
	<i>GOYENECHÉ</i>	2.4	2.5	2.4	2.3	2.1	-4
<i>GYNECOLOGY</i>	<i>HONORIO DELGADO</i>	10.7	8.0	11.0	8.8	8.1	-18
	<i>GOYENECHÉ</i>	3.5	4.3	3.8	3.4	3.2	-3
<i>PEDIATRICS</i>	<i>HONORIO DELGADO</i>	13.5	13.4	11.0	8.5	7.8	-37
	<i>GOYENECHÉ</i>	12.6	11.7	11.8	11.5	11.5	-9
<i>PRIVATE CLINIC</i>	<i>HONORIO DELGADO</i>	5.6	5.4	5.5	5.7	4.8	+2
	<i>GOYENECHÉ</i>	N/A	6.4	6.7	5.3	4.7	-17 <sup>1</sup>
<i>TOTAL</i>	<i>HONORIO DELGADO</i>	13.0	12.0	10.9	9.8	9.5	-25
	<i>GOYENECHÉ</i>	9.5	9.3	8.7	8.2	8.2	-14

<sup>1</sup> Percent of change 1986 to 1988

Source: MOH Regional Administration and Facility Documents.

Capacity and utilization assumptions based on data in Exhibits 18 and 19 were used to estimate the combined utilization of the facilities. For purposes of the analysis, it was assumed that under a combined operation, Honorio Delgado Hospital would serve as the facility for the combined hospital operations. As illustrated in Exhibit 20, the combined operation would need to serve 23,554 discharges and 223,763 patient days within Honorio Delgado's current staffed-bed capacity of 722. Using these assumptions, the projected occupancy of Honorio Delgado Hospital would be nearly 85 percent.

EXHIBIT 19 TRENDS IN ANNUAL HOSPITAL DISCHARGES BY MAJOR SERVICE, HONORIO DELGADO AND GOYENECHEHOSPITALS, 1985-89							
SERVICE	HOSPITAL	1985	1986	1987	1988	1989	% CHANGE, 1985-88
GENERAL MEDICINE	HONORIO DELGADO	2,628	2,879	2,639	2,371	2,037	-10
	GOYENECHÉ	939	760	712	657	568	-30
GENERAL SURGERY	HONORIO DELGADO	2,428	2,631	2,510	2,553	2,295	+5
	GOYENECHÉ	701	625	639	583	581	-17
OBSTETRICS	HONORIO DELGADO	5,817	6,400	7,021	6,978	5,431	+20
	GOYENECHÉ	2,649	2,556	2,939	2,961	2,263	+12
GYNECOLOGY	HONORIO DELGADO	622	672	525	577	417	-7
	GOYENECHÉ	662	661	612	554	403	-16
PEDIATRICS	HONORIO DELGADO	2,199	2,239	2,738	2,913	2,504	+32
	GOYENECHÉ	943	971	927	751	624	-20
PRIVATE CLINIC	HONORIO DELGADO	1,086	1,214	1,129	1,051	883	-3
	GOYENECHÉ	N/A	649	527	533	517	-18 <sup>1</sup>
TOTAL	HONORIO DELGADO	15,240	16,549	17,048	16,996	11,757	+12
	GOYENECHÉ	6,935	6,571	6,791	6,558	5,065	-5

<sup>1</sup> Percent change 1986 to 1988

Source: MOH Regional Administration and Facility Documents.

EXHIBIT 20 ANALYSIS OF THE CAPACITY OF HONORIO DELGADO HOSPITAL TO ABSORB THE PATIENT LOAD OF THE GOYENECHÉ HOSPITAL	
ASSUMPTIONS	
1. DISCHARGES (COMBINED 1988 HONORIO DELGADO AND GOYENECHÉ HOSPITAL DISCHARGES, THE HIGHEST ANNUAL TOTAL BETWEEN 1985 AND 1989)	23,554 DISCHARGES
2. LENGTH OF STAY (1989 HONORIO DELGADO LENGTH OF STAY: TEACHING HOSPITAL LOS HIGHER, BUT AVERAGE DECLINED BY 26.9 PERCENT BETWEEN 1985 AND 1989)	9.5 DAYS
3. TOTAL HOSPITAL DAYS (1 x 2)	223,763 DAYS
4. AVAILABLE HONORIO DELGADO BED COMPLEMENT (HONORIO DELGADO CAPACITY IS 770 BEDS; ASSUME BED CONVERSIONS REDUCE CAPACITY TO 722, THE NUMBER OF STAFFED BEDS IN 1988)	722 BEDS
5. AVAILABLE BED DAYS AT 722 BEDS CAPACITY (722 x 365 DAYS)	263,530 DAYS
PROJECTED HONORIO DELGADO OCCUPANCY, INCLUDING GOYENECHÉ HOSPITAL DISCHARGES (3/5)	84.9%

#### 4.4 FINANCING AND COST OF MOH HEALTH SERVICES

This section reviews revenue and operating expenditures (costs) for MOH services provided in Arequipa Region. Overall MOH operating income and expenditures are presented by budget category for 1985-1989. Hospital operating expenditures are also presented and hospital costs are compared. Illustrative data from hospital facilities on revenue from user fees and other sources are also presented.

##### 4.4.1. MOH Operating Income and Expenditures

MOH operating expenditures for Arequipa Region for 1985-1989 (expressed in constant Intis) have followed a downward trend. Although total expenditures reached a peak of 82.7 million constant Intis in 1987, expenditures have declined by 13 percent over the period (see Exhibit 21).

EXHIBIT 21 MOH OPERATING EXPENDITURES BY BUDGET CATEGORY, AREQUIPA REGION, 1985-1989 (in thousands of Constant Intis (C.I.)) <sup>1</sup>										
EXPENDITURE CATEGORY	1985		1986 <sup>2</sup>		1987		1988		1989	
	C.I.	%	C.I.	%	C.I.	%	C.I.	%	C.I.	%
<b>PUBLIC TREASURY FUNDS</b>										
SALARIES	50,547	73.1	42,217	67.1	58,656	70.8	40,150	65.0	44,771	74.7
GOODS	4,235	6.1	4,080	6.5	2,887	3.2	3,213	5.2	1,044	1.7
SERVICES	351	0.5	1,033	1.6	869	1.0	549	0.9	85	0.2
CURRENT TRANSFERS <sup>3</sup>	3,417	4.9	2,660	4.2	3,421	4.2	3,851	6.2	3,312	5.5
PENSIONS <sup>4</sup>	6,949	10.1	9,577	15.3	13,036	15.8	10,484	17.0	8,505	14.2
CAPITAL EXPENDITURES <sup>5</sup>	--	--	--	--	--	--	294	0.5	--	--
SUB-TOTAL	65,499	94.7	59,547	94.7	78,669	95.0	58,541	94.8	57,717	96.3
<b>INCOME FROM OTHER SOURCES</b>										
GOODS	3,234	4.7	2,969	4.7	3,530	4.3	2,590	4.2	2,025	3.3
SERVICES	380	0.5	258	0.4	504	0.6	509	0.8	207	0.4
CAPITAL GOODS <sup>5</sup>	61	0.1	103	0.2	83	0.1	87	0.1	4	0.0
SUB-TOTAL	3,675	5.3	3,330	5.3	4,117	5.0	3,186	5.2	2,236	3.7
TOTAL EXPENDITURES	69,174	100	62,877	100	82,786	100	61,727	100	59,953	100
DEFLATION INDEX	1.00		1.76		3.12		20.98		419.26	

1. Base (1.00) = 1985.

2. Excludes expenditures for MOH, Camana and Aplao.

3. Includes MOH contributions to IPSS at nine percent of salaries; FONAVI at 0.5 percent of salaries.

4. Contributions to MOH employee pensions (separate from IPSS pension fund payments).

5. Not major investment; excludes capital expenditures funded through separate central MOH (Lima) accounts.

Source: MOH Regional Administration and Facility Documents.

The MOH derives revenue from two sources: public treasury funds (provided by the central government) and income from other sources. Despite the downward trend in total operating expenditures over the five-year period, the proportion of MOH income from these two sources has not changed significantly over the period reviewed. Public treasury funds have provided about 95 percent of all operating funds for the MOH for each of the years studied. Program income from non-public sources was about 5.2 percent of total expenditures in all years except in 1989, when it dropped to about 3.7 percent of total expenditures.

Salaries accounted for the largest portion of total expenditures in all years, followed by pensions. Salaries alone accounted for between 65 and 75 percent of all MOH expenditures over the years studied. Pension costs varied between 10 percent and 17 percent of total operating expenditures over the same period. Total personnel expenditures, including salaries, current transfers (including the MOH's mandatory employer contributions to the IPSS health insurance program, as well as small contributions to Fondo Nacional de La Vivienda/FONAVI-0.5 percent), and pensions (including MOH contributions to employee pensions that are separate from IPSS pension fund payments), ranged from 86 percent of total MOH program expenditures in 1986 to 94 percent of total MOH program expenditures in 1989 (see Exhibit 22). Expressed as a percent of MOH funds from public sources (i.e., excluding income from non-public sources), total personnel and benefit costs ranged from 91 percent to 98 percent of expenditures from public funds over the period.

<i>EXHIBIT 22</i>					
<i>MOH EXPENDITURES FOR PERSONNEL AND BENEFITS</i>					
<i>AS PERCENT OF HEALTH PROGRAM EXPENDITURES, AREQUIPA REGION, 1985-1989</i>					
<i>PERSONNEL EXPENDITURE CATEGORY</i>	<i>1985</i>	<i>1986<sup>1</sup></i>	<i>1987</i>	<i>1988</i>	<i>1989</i>
<i>SALARIES</i>	73.1	67.1	70.8	65.0	74.7
<i>CURRENT TRANSFERS<sup>2</sup></i>	4.9	4.2	4.2	6.2	5.5
<i>PENSIONS<sup>3</sup></i>	10.1	15.3	15.8	17.0	14.2
<i>CUMULATIVE % PERSONNEL EXPENDITURES AS % OF TOTAL MOH PROGRAM COSTS</i>	88.1	86.6	90.7	88.2	94.3
<i>PERSONNEL EXPENDITURES AS % OF MOH PUBLIC TREASURY FUNDS (EXCLUDING INCOME FROM USERS AND OTHER SOURCES)</i>	93.0	91.5	95.5	93.1	98.0

1. Excludes expenditures for MOH, Camaná, and Aplao.
2. Includes MOH (employer) contributions to IPSS at nine percent of salaries; FONAVI at 0.5 percent of salaries.
3. Contributions to MOH employee pensions (separate from IPSS pension fund payments).

Source: MOH Regional Administration and Facility Documents.

The proportion of all operating funds expended for goods purchased has declined between 1985 and 1989 from a total of 10.8 percent of all expenditures in 1985 to about 5.1 percent of total expenditures in 1989. (This figure is derived by adding the percent of all expenditures in 1985 from both public treasury funds and non-public funds.) This decline is particularly significant because this line item includes medical supplies, drugs, and other goods used by the public health system.

Virtually no local capital expenditures were recorded for the period. Total local capital expenses varied from an annual high of 0.6 percent of total expenditures in 1988 to zero in 1989. Major capital expenditures (e.g., for construction of new facilities) are controlled by the central MOH, and are not reflected in these accounts.

#### 4.4.2. MOH Operating Expenditures Within Hospitals

This section analyzes hospital expenditures in 1989. All numbers are in current (1989) amounts. As shown in Exhibit 23, MOH hospitals accounted for 66 percent of all MOH operating expenditures. Honorio Delgado and Goyeneche Hospitals accounted for more than 40 percent of all MOH operating expenses.

<i>EXHIBIT 23</i> <i>MOH HOSPITAL OPERATING EXPENDITURES, AREQUIPA REGION, 1989</i> (percent of total MOH operating expenditures, millions of current 1989 Intis)					
<i>HOSPITAL</i>	<i>TOTAL EXPENDITURES<sup>1</sup></i>	<i>% OF MOH HOSPITAL EXPENDITURES</i>	<i>HOSPITAL EXPENDITURES AS % OF MOH TOTAL EXPENDITURES<sup>1</sup></i>	<i>% TO SALARIES<sup>2</sup></i>	<i>% TO NON-SALARY INPUTS</i>
<i>HONORIO DELGADO</i>	7,373	44.4	29.3	88.6	11.4
<i>GOYENECHÉ</i>	3,270	19.7	13.0	88.2	11.8
<i>CAMANA</i>	1,170	7.0	4.6	96.4	3.6
<i>APLAO</i>	630	3.8	2.5	92.5	7.5
<i>MOLLENDO</i>	4,157	25.0	16.5	93.1	6.9
<i>ALL HOSPITALS</i>	16,600	99.9	66.0	90.3	9.7

1. Total MOH 1989 expenditures (in millions of constant 1985 Intis) were 1/25,135.895.

2. Salaries, current transfers (IPSS, FONAVI), pensions.

Source: MOH Regional Administration and Facility Documents.

Among MOH hospitals, Honorio Delgado Hospital accounted for the largest portion (44.4 percent) of all MOH hospital operating costs. Goyeneche Hospital represented an additional 20 percent of all MOH expenditures for hospital services. Camaná and Aplao Hospitals together accounted for 10.8 percent of all MOH hospital expenditures and 7.1 percent of all MOH program expenditures.

Salaries accounted for slightly more than 88 percent of hospital operating expenses in both Honorio Delgado and Goyeneche Hospitals. Goods and services purchased were only 11 percent of expenses. Camaná Hospital spent 3.6 percent of its funds on goods and services purchased. Aplao and Mollendo Hospitals spent 7.5 percent and 6.9 percent of funds on goods and services, respectively.

To identify differences in operating costs among the MOH hospitals, efficiency measures were calculated using available capacity, utilization, and cost data for 1989. Note that operating costs are for all hospital services, and

these costs are allocated only to beds or inpatients. By implication, we are assuming that outpatient visits occur in the same proportion to inpatient stays and beds across facilities. Compared with other MOH hospitals, Honorio Delgado and Goyeneche Hospitals have the lowest average cost per staffed bed (see Exhibit 24). Using this measure, the Aplao Hospital is twice as expensive and the Mollendo Hospital is more than three times as expensive per bed as the two least expensive hospitals.

EXHIBIT 24 COMPARISON OF OPERATING COSTS AMONG MOH HOSPITALS, AREQUIPA REGION, 1989					
MEASURE	HONORIO DELGADO	GOYENECHÉ	CAMANA	APLAO	MOLLENDO
STAFFED BEDS	718	265	78	26	110
OCCUPANCY (%)	42	43	--	27	55
DISCHARGES	11,757	5,065	1,803	485	3,109
PATIENT DAYS	111,231	41,508	N/A	2,561	22,123
TOTAL OPERATING COST <sup>1</sup>	7,373	3,270	1,170	630	4,157
AVERAGE COST PER STAFFED BED <sup>1</sup>	10.2	12.3	15.0	24.2	37.8
AVERAGE COST PER DISCHARGE <sup>1</sup>	0.63	0.64	0.65	1.3	1.3
AVERAGE COST PER PATIENT DAY <sup>1</sup>	0.07	0.08	N/A	0.24	0.19

1. Total MOH 1989 expenditures (in millions of constant 1985 Intis) were 1/25,135,895.

Source: MOH Regional Administration and Facility Documents.

Based on annual costs per discharge, Honorio Delgado, Goyeneche, and Camaná Hospitals have comparable costs. However, the Aplao and Mollendo Hospitals are more than twice as costly per discharge as the other MOH hospitals.

Based on the average cost of a patient day in each of the MOH hospitals in 1989, Aplao Hospital is three times more expensive than either Honorio Delgado or Goyeneche Hospitals. Mollendo Hospital is more than twice as expensive as either of these hospitals in cost per patient day. Part of the difference in cost could be explained if the apparently less efficient hospitals treat proportionately more outpatients. However, it is more likely that if outpatient visits were included, the relative greater efficiency of Honorio Delgado and Goyeneche would be enhanced.

#### 4.4.3. Cost Recovery in Hospitals and Health Centers

As a result of continuing inflation and lack of available funds for supplies and equipment, hospitals and health centers are unable to continue providing free medical supplies to indigent patients. To be able to purchase needed supplies, including health center equipment, most facilities currently charge for services. Although fee schedules have been available for most services for some time, until the past year patients were liberally exempted from payments. However, due to the critical shortage of funds and supplies with which to perform laboratory tests and X-ray exams, MOH health facilities have been forced to insist on payment for services, such as X-rays, to enable purchases of chemicals and film.

MOH social service employees responsible for determining individual patient exemptions for the costs of hospitalization at Goyeneche Hospital indicated that they are under great pressure not to exempt anyone from paying at least a portion

of their hospitalization costs. All health centers charge nominal amounts for their services and exempt few people from paying a portion of fees for their care. Health centers have established drug funds with which they purchase and sell drugs to the public.

MOH fiscal constraints have forced health centers and health posts to charge for pharmaceutical products. Data available on cash sales and exemptions in the health centers and health posts of the region for an 11-month period in 1989-1990 indicate that 98 percent of the value of the drugs distributed was recovered in cash payments from the patients; drugs given free of charge represented only two percent of the value of all drugs distributed (see Exhibit 25).

<i>EXHIBIT 25</i>		
<i>CASH SALES AND EXEMPTIONS FOR COMMERCIAL DRUGS DISPENSED BY MOH HEALTH CENTERS AND HEALTH POSTS, AREQUIPA REGION, 1989-1990<sup>1</sup></i>		
<i>MONTH</i>	<i>CASH SALES (% OF TOTAL)</i>	<i>EXEMPTIONS (% OF TOTAL)</i>
<i>AUGUST (1989)</i>	4,404,510 (99.2)	34,030 (0.8)
<i>SEPTEMBER</i>	7,465,595 (99.8)	13,100 (0.2)
<i>OCTOBER</i>	7,280,786 (99.9)	3,240 (0.1)
<i>NOVEMBER</i>	8,849,030 (96.8)	290,230 (3.2)
<i>DECEMBER</i>	9,554,650 (91.1)	935,680 (8.9)
<i>JANUARY (1990)</i>	28,391,390 (99.7)	96,000 (0.3)
<i>FEBRUARY</i>	27,213,085 (89.9)	3,066,200 (10.1)
<i>MARCH</i>	35,067,240 (-)	N/A (-)
<i>APRIL</i>	69,681,020 (99.9)	24,150 (0.1)
<i>MAY/JUNE</i>	117,591,350 (98.9)	1,192,105 (1.1)

1. 11 months.

Source: MOH Regional Administration and Facility Documents.

The following sub-sections present information on the extent of cost recovery among hospitals and health centers in the MOH system. Information is presented on the fee exemption process used at Goyeneche Hospital, user fee receipts for Honorio Delgado and Camaná Hospitals, and revenue derived from user fees paid by users of private clinic beds in Honorio Delgado, Goyeneche, and Camaná Hospitals.

#### 4.4.3.1. Illustration of Cost Recovery: Goyeneche Hospital

According to the social services staff at Goyeneche Hospital, many of the hospital's patients are among the poorest in the city and the region. A small number of patients with IPSS coverage come to the hospital, mostly for ambulatory services for which they pay directly. However, if IPSS patients require hospitalization, they are transferred to IPSS facilities. Privately insured patients do not use general hospital inpatient services. However, privately insured patients do use the private physicians' clinic located in one section of the hospital.

Official fee schedules are prepared for use by MOH hospitals. The fee schedule for services is maintained in a computer and periodically updated with price increases for materials.

An estimated 90 percent of patients pay for some portion of their hospital care. Patients with specific types of diseases (e.g., tuberculosis, cancer) are exempted from payments once the nature of their illness has been established and they become known to the hospital. For other cases, there are no set criteria for exemption.

All patients and patient families currently are interviewed by social service staff to determine employment, income, and other circumstances that might justify exemption. The amount charged is determined by social service staff based on the disposition of previous cases. Individuals are categorized as full-pay ("pagante") and partial-pay ("semi-pagante"). No reliable information was available on the proportion of full-pay and partial-pay individuals. Social service staff estimated that about eight percent of patients are completely exempted from any payment.

Social service staff state that they are under extreme pressure not to exempt individuals from payment due to the virtual bankruptcy of the hospital and the need to purchase basic medical supplies to treat individuals. Some direct service departments, including laboratories and radiology, are unwilling to exempt anyone due to the shortage of materials. In most cases, fees are required of patients prior to scheduling or performing laboratory tests or X-rays.

A new patient registering for admittance to the hospital is required to pay about I./45,000 (US\$0.16 @ 280,000 I./U.S.\$ on August 8, 1990) for the paper folders and other materials used in documenting the patient's care.

#### **4.4.3.2. Cost Recovery: Estimated Revenues from Patient Fees at Honorio Delgado, Camaná, and Goyeneche Hospitals**

Income from patient fees is recorded separately in most MOH facilities. Estimates were made of the proportion of hospital expenses that are covered by patient payments of all types. Fees analyzed included those charged to general hospital patients and those charged to patients using private wards.

Fees charged for general (non-private) services in the hospitals are very low and appear to have little or no relation to the cost of providing services. For example, on August 8, 1990, a basic hospital outpatient fee was I./60,000 (US\$0.21 @ I./280,000 per U.S. \$).

In Camaná Hospital, room and board charges for both general and private patients accounted for more than 40 percent of fee income. Radiology and laboratory charges accounted for another 27.3 percent of total fee income. Income from all user fees for general ward patients as well as private ward patients at Camaná Hospital accounted for only 6.6 percent of hospital operating funds in 1989 (see Exhibit 26).

<i>EXHIBIT 26</i>		
<i>INCOME FROM USER FEES PAID BY PATIENTS, HOSPITAL CAMANA, 1989<sup>1</sup></i>		
<i>(current Intis)</i>		
<i>SERVICE/SOURCE<sup>2</sup></i>	<i>FEES PAID</i>	<i>% OF ALL FEES PAID</i>
<i>LABORATORY ANALYSES</i>	9,613,830	12.5
<i>RADIOLOGY EXAMS</i>	11,404,294	14.8
<i>OUTPATIENT CLINIC VISITS</i>	8,001,294	10.4
<i>GENERAL (NON-PRIVATE) HOSPITALIZATION</i>	23,490,041	30.5
<i>PRIVATE WARD HOSPITALIZATION</i>	9,760,750	12.7
<i>EMERGENCY SERVICES</i>	11,739,482	15.3
<i>CERTIFICATES OF HEALTH</i>	2,905,657	3.8
<i>TOTAL USER FEES PAID</i>	76,915,509	100.0
<i>USER FEES PAID AS % OF TOTAL CAMANA HOSPITAL EXPENDITURES</i>	6.6	

1. May include direct (out-of-pocket) patient payments and insurance reimbursement.
2. Does not include user fees not directly attributable to hospital health service delivery.
3. Camaná operating expenditures were 1,170,000,000 Intis.

Source: MOH Regional Administration and Facility Documents.

At Honorio Delgado Hospital, hospitalization or per diem fees accounted for most (60 percent) of all user fee revenues. Laboratory and radiology fees were 16 percent of total revenues. Income from user fees including both general and private clinic service revenues accounted for about 4.8 percent of the hospital's total operating income for 1989 (see Exhibit 27).

<i>EXHIBIT 27</i>		
<i>USER FEES PAID BY PATIENTS, HOSPITAL HONORIO DELGADO, 1989</i>		
<i>(current Intis)</i>		
<i>SERVICE/SOURCE<sup>1</sup></i>	<i>FEES PAID</i>	<i>% OF ALL FEES PAID</i>
<i>DRUGS</i>	3,257,500	9
<i>HOSPITALIZATION</i>	213,123,900	60.3
<i>EMERGENCY SERVICES</i>	12,061,900	3.4
<i>OUTPATIENT CLINIC VISITS</i>	42,913,300	12.2
<i>RADIOLOGY</i>	5,618,800	1.6
<i>LABORATORY</i>	51,486,300	14.6
<i>CERTIFICATES OF HEALTH</i>	4,238,900	1.2
<i>OTHERS</i>	20,501,700	5.8
<i>TOTAL USER FEE INCOME</i>	353,202,300	100.0
<i>PRIVATE WARD REVENUES AS % OF TOTAL USER FEE INCOME</i>	38.3	
<i>USER FEE INCOME AS % OF TOTAL HOSPITAL OPERATING COSTS<sup>2</sup></i>	4.79	

1. Includes 1/ 135,195.5 private clinic revenues.
  2. Honorio Delgado 1989 operating expenses were 7,373,000,000 Intis.
- Source: MOH Regional Administration and Facility Documents.

In sum, while user fees are collected from most hospital users, the revenue they provide makes up a small fraction of total operating expenditures.

#### 4.4.3.3. Cost Recovery: Revenues from Private Ward Operations at Honorio Delgado, Camaná, and Goyeneche Hospitals

Three MOH hospitals maintain small numbers of beds used by MOH physicians to admit fee-for-service (private) patients. Data on revenues derived from private ward admissions in 1989 for Honorio Delgado, Goyeneche, and Camaná Hospitals indicate that this income represented a small portion of total hospital revenues. The data indicate that none of the private wards returns income to the hospital in proportion to the average daily costs of operation per bed or discharge.

The Honorio Delgado Hospital clinic contributed the highest proportion (1.8 percent) of operating revenues among the three hospitals (see Exhibit 28). However, considering that the clinic operates 3.6 percent of all beds in that hospital and accounts for 6.3 percent of discharges, the revenues derived from the private services are clearly less than the average operating cost per bed or discharge.

<i>EXHIBIT 28 PRIVATE WARD UTILIZATION AND INCOME FROM USER FEES PAID BY PATIENTS, MOH HOSPITALS, AREQUIPA REGION, 1989</i>			
<i>UTILIZATION INDICATOR</i>	<i>HONORIO DELGADO</i>	<i>GOYENECHÉ</i>	<i>CAMANA</i>
<i>PRIVATE WARD BEDS</i>	26	16	8
<i>% OF HOSPITAL BEDS</i>	3.6	6.5	10.3
<i>DISCHARGES</i>	745	453	57
<i>% OF ALL HOSPITAL DISCHARGES</i>	6.3	8.9	3.2
<i>LENGTH OF STAY</i>	4.9	5.4	3.1
<i>REVENUES<sup>1</sup></i>	135,195.5	52,438.3	9,760.7
<i>REVENUES/BED<sup>1,2</sup></i>	5,199.8	3,277.4	1,220.1
<i>REVENUES/DISCHARGE<sup>1,3</sup></i>	181.5	115.8	171.2
<i>REVENUES/PATIENT-DAY<sup>1,4</sup></i>	37.0	21.4	55.1
<i>1989 HOSPITAL OPERATING EXPENSES<sup>5</sup></i>	7,373	3,270	1,170
<i>PRIVATE WARD REVENUES AS % OF HOSPITAL OPERATING EXPENSES</i>	1.8	1.6	0.8
<i>TOTAL REVENUES AS % OF EXPENSES</i>	4.8	N/A	6.6

1. In thousands of current (unadjusted) Intis.

2. 1989 cost per bed: Honorio Delgado = 10,269; Goyeneche = 12,340; Camaná = 15,000 in thousands of current Intis.

3. 1989 cost per discharge: Honorio Delgado = 627.0; Goyeneche = 646.0; Camaná = 1,080.0 in thousands of current Intis.

4. 1989 Cost per patient-day: Honorio Delgado = 66.3; Goyeneche = 78.8; Camaná = N/A.

5. Total MOH 1989 expenditures (in millions of constant 1985 Intis) were 1/25,135.895.

Source: MOH Regional Administration and Facility Documents.

In Goyeneche Hospital, the private ward contributed 1.6 percent of the hospital's total income, but the private operation accounted for 6.5 percent of all the hospital's beds and nearly nine percent of all hospital discharges. Camaná Hospital's private ward used more than 10 percent of hospital beds but admits a small number of discharges (3.2 percent of all discharges) and contributes less than one percent of the revenues.

#### **4.4.3.4. The Role of the Private Ward in an MOH Facility: Case Study of Honorio Delgado Hospital**

During the study, an interview was held with the Director of Honorio Delgado Hospital and the head of the hospital's private ward, a physician who is also Chief of the Department of Neurology. An anesthesiologist on the hospital staff and the Chief Financial Officer of the hospital were also in attendance to discuss the role and operation of the private service ward in the hospital.

The head of the private ward stated that the existence of the ward was controversial within the hospital because there are many who argue that the ward is nothing more than a program to benefit the doctors who admit patients to it. There are jealousies between private ward staff and other staff. Some claim that the ward adds great expense to the cost of hospital operations, but yields little benefit to the hospital; in fact, they believe that the hospital subsidizes the cost of the private ward.

In contrast, the private ward head argued that he believed the ward brought substantial revenues to the hospital that were very beneficial. Since few see the financial benefit of the ward, he added, it would be important to make them aware of this benefit. The benefit in labs and X-rays is clear to staff, he said, because they see the revenues from paying patients. One way to make the rest of the hospital staff see these benefits would be to make sure they are aware of items that are purchased with private ward revenues.

The ward is very informally organized and uses 26 of the hospital's 718 beds. Staff, in addition to the physicians who attend to patients, consist of nine nurses and 14 auxiliaries. The private ward director identified personnel as the major costs of the ward, stating that all the other expenses are paid for by the patients, based on standard hospital charges.

About five percent of patients are admitted to the private ward via the emergency room. The rest are admitted by their private doctors. In the past, private ward patients would pay the hospital for all their care, including the professional fees. The hospital would retain 20 percent of the physician's charge and pay the physician the remainder. However, the hospital often did not pay the physicians for many months. At other times, the hospital would issue checks to the physicians but banks would not accept them. Now the physicians are charging the patients directly for their services.

According to the head of the private ward, the more immediate issue facing the ward involved proposed increases in clinic fees. Currently, expenditures by a private patient at Honorio Delgado are often higher than at other private facilities because of longer lengths of stay at Honorio Delgado.

The concern among private patients at wards within public facilities is not quality of medical care, per se, but rather the dilapidated appearance of the hospital, and the lack of amenities and medical supplies. For example, it is common for the rooms to lack light bulbs -- available bulbs are moved from room to room depending on where patients are. The walls badly need painting. Patients have to bring their own bed clothes (sheets, towels). There are no in-room telephones or other central communications systems to allow nurse communication with patients in their rooms. In fact, there is no telephone on the floor. Equipment is not a problem at the hospital. For example, the hospital has seven X-ray machines. But there is a lack of maintenance and medical supplies.

The lengths of stay in the private ward are somewhat shorter than in the regular hospital due to a high proportion of maternity care and a large number of cesarean deliveries. Also, many private patients receive pre-admission testing, reducing their length of stay. The private ward director stated that shorter lengths of stay are sought by attending physicians because their fees are based on the case, not the length of stay.

The head of the ward cited the hospital's pharmacy as evidence of the structural and management problems at the hospital. In 1987 a pilot private pharmacy was opened in the hospital. It worked well but was halted for political reasons. The hospital generates about 800 prescriptions per day. If only 20 percent of these were filled in the hospital, this would give a large volume to the in-house pharmacy. The doctors have established a commission in the hospital to study the possibility of re-establishing a pharmacy, this time inside the private ward.

The head of the private ward claimed that the physicians want the ward and the hospital to be run professionally, like a service business. He said that the private ward needed its own management and autonomy to a certain degree to be able to manage its own operations. The ward is currently very loosely managed and it is unclear who is in charge. Although the ward director is supposed to be in charge, this has not been made clear to the rest of the hospital staff. In addition, the ward has little administrative autonomy, which they need to make operational decisions.

The ward director thought they needed a source of funding to make improvements that would upgrade the qualitative aspects of the ward and allow it to compete more effectively with the other private facilities in the city. For example, the private ward has 26 beds of three types: A-with private bathrooms; B-also with private baths, but multi-patient rooms; C-no private baths. The head of the ward said the ward should evaluate how much it would cost to convert all rooms to A and B categories. Also, there should be a television in every room and telephones at least on the floor. Most importantly, the hospital has to establish reasonable prices for services.

As to whether the ward needed more beds and whether the doctors had ambition to expand the private ward operation, the head of the ward thought 26 beds were sufficient. One service the ward could offer would be pediatrics, since there is no well-developed private pediatric service in Arequipa. A pediatric ward would require specially trained nurses. He thought six pediatric beds would be

sufficient. Other services the hospital could contemplate include day surgery, which would appeal to many people and be a good way to lower costs.

The director thought that the establishment of reimbursement agreements with businesses to serve area workers would be a good idea and a means to increase demand for the ward's services as well as increase income to the hospital. Other staff commented that they know that companies want to establish such agreements with them, but that insurance companies and private firms alike are reluctant because of the hospital's deficiencies.

This section has reported on interviewees' recommendations. For the regional Ministry, the following issues must be addressed to assess the feasibility of expanding the private ward:

- (1) Could the private ward reach a break-even point or even become a profit center for the hospital?
- (2) If not, are there quantifiable benefits to the public system that would justify subsidies to the private patients?
- (3) What type of investment would be required to be able to charge enough for private beds and achieve a high enough occupancy rate to achieve the revenue required to fulfill the criteria in (1) or (2), above?
- (4) Given the level of investment required in (3), above, are the benefits to the public system large enough to justify the expenditure there, rather than pushing private patients completely into the private sector?

#### 4.5 MOH PHARMACY SUPPLY AND DISTRIBUTION

Perhaps more than any single service provided by the MOH, the pharmacy distribution system is viewed as key to public acceptance of MOH services. However, it became apparent both in interviews as well as through data collected from the public and private sectors, that the public perception of the adequacy of MOH pharmacy services was not determined by the availability of free drugs but rather by the availability of any drugs at all.

The study also revealed the potential fiscal importance of drugs to the MOH. The former director of the pharmacy at Goyeneche Hospital described how a once-active, well-stocked, and well-managed pharmacy at that institution contributed significant profits to the hospital, to the benefit of departments needing new equipment and supplies. Physicians at Honorio Delgado Hospital are eager to establish a private pharmacy to serve the private ward patients, partly because they recognize that the current pharmacy system at the hospital does not function well. In addition, they recognize that a well-managed pharmacy is a potential source of revenues that the hospital desperately needs to be able to maintain services.

#### **4.5.1. MOH Pharmacy Supply Systems**

Hospital pharmacy and health center pharmaceutical supply operations are separate under the current MOH administrative system. Each hospital maintains its own purchasing department through which all pharmacy supplies, as well as other hospital supplies, are bought directly from suppliers. According to MOH staff, no group purchasing occurs across hospitals.

In Arequipa Region, three separately staffed pharmacy purchasing and distribution networks are maintained to purchase drug supplies for health centers and health posts. Provincial purchasing and distribution facilities are located in Arequipa, Camaná, and Aplao, each supplying health centers and posts in the immediate geographic area.

According to staff in the MOH distribution facility in Arequipa, drug supplies are purchased monthly. Health centers estimate drug supplies needed for the next month and orders are placed with the central distribution headquarters. Drugs purchased are marked up 10 percent; lists of official prices for the period are provided by the distribution office.

Purchases are made from distributors based on bids from suppliers. Bidding and purchasing are handled through the MOH's central supply system, located in the regional administrative office. Nearly all drugs purchased are brand-name medications. CONAMID (Comisión Nacional de Medicamentos, Insumos y Drogas) supplied generics in the past, but has not for at least one year.

#### **4.5.2. Case Study: Goyeneche Pharmacy**

The Goyeneche pharmacy department currently purchases its own pharmaceutical supplies through its own hospital purchasing department which handles materials purchases. Goyeneche buys only for itself; the MOH does not have a group purchasing effort.

Prior to 1985, the Goyeneche pharmacy maintained an adequate stock of medications through a hospital-based revolving fund. Most medicine use was paid for by patients at rates that allowed the hospital to exempt needy individuals and still generate a profit margin that not only maintained the drug supply fund, but also supported the purchase of supplies and equipment for other parts of the hospital. During the pre-1985 period, the drug supply fund was profitable and self-sustaining, with strict control exercised over income and expenditures to run the drug supply fund. A formal system of fund transfers was in place to ensure that the pharmacy received credit for drug sales to patients and to monitor stocks and purchases.

Drug supplies were purchased directly through distributors who willingly gave credit to the hospital. In addition to supplying its own needs, the Goyeneche pharmacy used to be responsible for maintaining supplies of medicines throughout the peripheral health center system in Arequipa. During this period, primarily brand name medicines were purchased and sold through the hospital pharmacy. The majority of patients paid willingly for medicines.

Currently, the pharmacy has sporadic stocks of a few medicines, but essential (generic) medicines, such as penicillin and others, are unobtainable through the governmental pharmacy distribution system CONAMID, the only authorized supplier for the MOH system.

CONAMID has served the hospital ineffectively. When there were medicines available, hospital orders were often incorrectly filled. Rather than providing the quantity of drugs ordered, CONAMID would supply quantities in excess in some and short in others depending on their own supplies. Currently, CONAMID itself has no drug stocks and cannot supply even essential medicines such as the ones noted above.

#### **4.6 CONCLUSIONS AND RECOMMENDATIONS FOR MOH PROVISION AND FINANCING OF HEALTH SERVICES**

The current regionalization of management and financing of health services brings with it extraordinary challenges and opportunities for the MOH in the Arequipa Region. On the one hand, serious problems stemming from resource shortfalls and systemic inefficiencies hamper the ability of the MOH to fulfill its mission of providing care to those without other sources. These problems are likely to become increasingly acute as responsibility for financing is brought to the regional level. On the other hand, the MOH can become much more innovative and responsive to regional needs under the new system, and can take full advantage of the health care expertise and broad range of health resources in the region.

The MOH faces the need to generate resources at the regional level, and can choose among several options. These include (a) developing a more effective cost recovery system within MOH facilities, and (b) instituting a form of earmarked tax, through the Government of Arequipa.

With respect to the first option, there are many additional opportunities for cost recovery through user fees. At present, though nearly all users are accustomed to paying a small amount for care, and few receive exemptions, fees are too low to cover a substantial portion of costs. The MOH could consider refining the user fee system, which would include setting fees that more closely reflect actual costs; building in pricing mechanisms that would provide incentives and disincentives to use of particular services; developing a useful, objective exemption mechanism; and institutionalizing a means for local retention of a portion of the revenues. In addition, there are opportunities for additional use of the private ward (and consequent cost recovery) by improving the quality of surroundings and amenities. This would provide a means of subsidization by users who can afford treatment of those who cannot.

A relatively large proportion of MOH users are covered by IPSS; some are also covered by private health insurance. As part of its cost recovery activities, it is important for the MOH to consider more effective means of charging those patients for their care, either through fee-for-service or prepaid arrangements. In particular, the MOH and IPSS could make a reimbursement arrangement, based on the number of IPSS patients seen at MOH health clinics and hospitals, and the type of services they use.

The second option, the use of earmarked taxes, is viewed by the economics profession as little more than a method to circumvent the annual appropriation process. However, any bureaucracy would like to do its best to circumvent the appropriation process, and it is always worth a try. In health, a case can be made that earmarking is a way to capture an insurance premium from all segments of the population, as is done under social security (which does exist in Peru and is a payroll tax earmarked for health). It could also be argued that potential unhealthful behavior like cigarette smoking, driving a car, or drinking alcohol should be taxed so that people engaging in the behavior also pay a pseudo-insurance premium each time they smoke, drink, or buy a car. For each of these arguments it should be understood that there are equally logical arguments against earmarking.

Two important negative aspects of earmarking should be mentioned: First, earmarked consumption taxes tend to be regressive, with the poor paying a higher share of their income to support the earmarked programs. Health officials, who worry about how the poor will be able to pay for health care, are in favor of punitive taxes on unhealthful behavior (e.g., alcohol consumption, smoking, and gambling), without realizing that those behaviors are popular among the poor and that the taxes fall heavily on them.

Second, the revenue potential of a reasonable earmarking scheme in Peru may be dwarfed by the amount of revenue that could be raised within the health system through user fees. Health facilities typically are delivering many services at no cost for which consumers would willingly pay (and such a fee is not a tax).

There are at least two reasons to believe that an earmarked excise tax will not grow faster than inflation. First, beer and cigarette consumption may rise slowly over time, but they also vary on a year-to-year basis. Second, because the tax rate is on the quantity of beer or cigarettes sold, the only way to adjust it to inflation is to change the tax rate, which requires legislative approval. It actually may be more likely that regular appropriations will do better in keeping up with inflation in a high-inflation environment.

In contrast, the MOH has almost complete control over user fee rates, which it can adjust to inflation administratively. Furthermore, for the departments and facilities to have an incentive to collect fees, the resulting revenue must represent a net addition to the budget, which may not be the case with earmarked taxes. If the MOH benefits from an earmarked tax, appropriations from other sources are likely to be reduced.

Put simply, there are so many problems with earmarked taxes, both economically and politically, that the MOH would be well advised to seek other ways to increase the resources available to it. The temptation to pursue earmarking may, however, prove to be irresistible. The MOH may, for example, find ready support among those who accept the argument that the health sector should receive revenues generated by unhealthful behavior. If earmarking is pursued, the MOH should argue for fairly small tax rates and for a tax based on the percentage of the product's price rather than one based on the quantity sold. The former approach would keep up with inflation automatically; the latter approach would require repeated legislative changes in the tax rate. USAID may consider supporting technical assistance that would show quantitatively the relative costs

and revenue generating capacity of user fees, relative to feasible earmarked taxes in the Arequipa Region.

From our analysis, it appears that the most pressing inefficiencies within the current MOH system include the following: First, there is considerable duplication of services between Honorio Delgado and Goyeneche Hospitals in Arequipa City. It is likely that savings could be realized with a carefully planned and executed merger of the two facilities, and such an option should be explored from the perspective of economic and political feasibility. Second, hospital resources may be inappropriately used for excessive outpatient care due to a breakdown of referral networks. It appears, for instance, that Honorio Delgado Hospital is used as a type of neighborhood outpatient center. This may be an inefficient use of the facility. Referral links require refinement. Finally, pharmaceutical supply procurement practices appear to be ineffective, resulting in large-scale shortages of medications, and low quality (and perceptions of low quality) of services.

Serious attempts should be made to increase the efficiency of pharmaceutical management. In this regard, it is important to assess the option of contracting out to a private concern. As discussed above, Goyeneche Hospital had successful pharmacy operations before 1985, and much can be learned from that experience. It is critical to determine, first, in what ways the private pharmaceutical sector operates in a more efficient manner than the public sector and, second, how public facilities can either adopt practices similar to the private sector, or make arrangements with private operators to provide medications.

## 5.0 THE INSTITUTO PERUANO DE SEGURIDAD SOCIAL (IPSS)

This section presents the study findings regarding the design, structure, and financing of the health insurance system that is a component of the Peruvian Social Security Institute (IPSS).

### 5.1 BACKGROUND ON THE IPSS SYSTEM

IPSS was started in 1943 as a health and welfare insurance fund for workers ("obreros"), separate from the government health services provided by the Ministry of Health. Physicians and other professional staff who went to work for IPSS in these new services became somewhat of an elite because they benefited from better pay and working conditions than their counterparts in the Ministry's health services.

In 1952, Peru initiated another component of the IPSS services, designed specifically for white-collar employees ("empleados"), in which physicians and other staff were even better paid than their obrero service colleagues. At the time the "empleado" component was initiated, the Federation of Medicine of Peru prohibited its members from joining the "empleado" staff; those who went over to the "empleado" services had to disassociate themselves from the Federation.

The history of the development of the IPSS program has left a legacy that has important programmatic and cost implications for the region's health services as well as important policy dilemmas. Jealousies between IPSS and MOH exist to this day throughout Peru. In addition to the long-standing rivalry between IPSS "obrero" and "empleado" hospitals, distrust exists between Ministry health services staff and IPSS staff. Attempts have been made in the past to merge Ministry and IPSS resources to provide single-site services to both the IPSS-insured population and to the indigent. However, these efforts have had little lasting success.

A contributing factor in the continuing mutual distrust between the two organizations is the fact that IPSS employees typically earn twice what MOH workers earn, although differentials between medical staff employed by the two organizations have narrowed recently.

#### 5.1.1. IPSS Health Insurance Eligibility

The IPSS program is both a social security and disability insurance system, as well as a health insurance fund. According to the law, the following categories of individuals are obligatory participants in the insurance system: employees of both public and private firms, regardless of the length of employment; employees of non-profit enterprises, cooperatives, and other similar organizations; retirees, the disabled, widows, and orphans.

In addition, optional or voluntary IPSS coverage may be obtained by individuals who have lost IPSS coverage through loss of employment or other reasons, or by independent workers. While virtually anyone has a right to IPSS insurance coverage, in practice most enrollees are employees of public and private companies.

### **5.1.2. IPSS Medical and Health Benefits**

Comprehensive diagnostic and curative (medical and surgical) care is provided to the enrollee (primary insured). These services include both ambulatory and hospitalization services, as well as complete dental care. Pharmaceuticals, medical supplies, prosthetic devices, orthopedic equipment, and physical and occupational rehabilitation are also completely covered for employees. Regarding preventive care, vaccinations, prenatal care, and sanitary education services are provided. Children of covered subscribers are eligible only for preventive health services, ambulatory care, and drugs. Wives of enrollees have maternity benefits (expecting mothers are covered for prenatal, delivery, and post-natal care for children up to age one). If the female spouse were the primary insured, the male spouse would not be covered by IPSS health insurance.

In addition to medical service benefits, IPSS health insurance also provides cash subsidies for days of illness, pregnancy, and nursing. Finally, burial services are included in the health insurance. Virtually all services covered by IPSS are provided without charge to eligible beneficiaries.

### **5.1.3. Regional IPSS Coverage: Employers and Eligibles**

Until 1985, the regional IPSS Administration (Gerencia Regional de Arequipa) was responsible for a large geographic area in southern Peru, including the departments of Arequipa, Moquegua, Tacna, Puno, Cuzco, Apurimac, and Madre de Diós. Currently, the regional administration has responsibility for a more limited geographic area, including the provinces of Arequipa, Camaná, Mollendo, Aplao, La Joya, Chivay, and Vitor within the Arequipa Department.

According to data provided by the regional IPSS Administration, Division of Planning and Budgeting, the number of employers enrolled in the Arequipa Region IPSS insurance system has grown by 23 percent over the five-year period. During the same period, largely due to liberalization of eligibility, the number of enrolled beneficiaries has grown by 55 percent (see Exhibit 29). However, these data have not been adjusted for withdrawals from the IPSS system, or for deaths and other decreases in the number of enrolled beneficiaries. Therefore, it is likely that both the overall increase over time and the absolute number of enrolled beneficiaries are less than shown.

**EXHIBIT 29**  
**GROWTH IN NUMBERS OF EMPLOYERS AND INSURED EMPLOYEES,**  
**IPSS, GERENCIA REGIONAL AREQUIPA, 1985-1989**

PROVINCE	1985	1986	1987	1988	1989	% CHANGE, 1985-89
<b>CUMULATIVE NUMBER OF EMPLOYERS</b>						
AREQUIPA	23,952	25,156	26,606	28,270	29,451	22.9
MOLLENDO	3,779	3,928	4,042	4,166	4,198	11.1
CAMANA	3,939	4,028	4,235	4,484	4,585	16.4
APLAO	--	--	320	413	463	44.7 <sup>1</sup>
<b>TOTAL</b>	<b>31,670</b>	<b>33,112</b>	<b>35,203</b>	<b>37,333</b>	<b>38,697</b>	<b>22.1 <sup>2</sup></b>
<b>CUMULATIVE NUMBER OF INSURED EMPLOYEES</b>						
AREQUIPA	231,335	260,143	297,448	333,258	359,348	55.3
MOLLENDO	23,106	25,014	28,634	31,356	33,191	43.6
CAMANA	7,914	8,791	10,522	12,760	14,447	82.5
APLAO	--	--	676	1,395	2,190	223.9 <sup>1</sup>
<b>TOTAL</b>	<b>262,355</b>	<b>293,948</b>	<b>337,280</b>	<b>378,769</b>	<b>409,176</b>	<b>56.0 <sup>2</sup></b>

<sup>1</sup> Percent change 1987 to 1989

<sup>2</sup> Excludes Apiao for 1985

Source: Gerencia Regional Arequipa, IPSS.

Using data provided by IPSS, the enrolled population (410,714) is estimated to represent approximately 44 percent of the Arequipa Region's total population in 1989. By comparison, national estimates of IPSS coverage indicate that about 19 percent of the Peruvian population has mandated coverage. Some observers express doubt as to the reliability of IPSS enrollment and eligibility data and estimate that national coverage is less than this figure (Zschock, 1988).

Zschock estimates that in 1981, 17.4 percent of the population of Arequipa Department was covered by IPSS, compared with 14.0 percent nationally. In contrast, Lima was estimated to have 26.7 percent of its population covered. At least part of the difference between current coverage estimates and 1981 estimates is due to changes in eligibility that have resulted in the coverage of spouses and children. According to Zschock, among Peruvian departments, Arequipa had the fourth highest proportion of departmental population covered by the IPSS social security system, after Lima/Callao, Ica, and Tacna. It should not be surprising that Arequipa would have coverage higher than the national average; those eligible for coverage tend to live in urban areas and Arequipa's population is much more highly urbanized than the national average.

Annual data on the number of newly-enrolled employers (those entering the IPSS system for the first time during 1985-1989) provide a general indicator of the level of economic activity in the region, reflecting periods of growth in the

number and type of economic enterprises. According to the annual totals, 1986 and 1987 were periods of increasing activity, while 1988 and 1989 figures reflect declines in the number of enterprises (and other types of organizations) enrolling in the IPSS system (see Exhibit 30, below).

<p style="text-align: center;"><b>EXHIBIT 30</b>  <b>DISTRIBUTION OF NEWLY-ENROLLED EMPLOYERS</b>  <b>BY ECONOMIC ACTIVITY CODE BY YEAR,</b>  <b>IPSS<sup>1</sup>, GERENCIA DEPARTAMENTAL AREQUIPA, 1985-1989<sup>2</sup></b></p>						
<i>ECONOMIC ACTIVITY</i>	1985	1986	1987	1988	1989	% IN 1989
<i>AGRICULTURE</i>	45	166	400	282	110	8.0
<i>FISHING</i>	--	2	5	3	1	0
<i>MINING</i>	2	5	7	14	18	1.3
<i>INDUSTRY</i>	45	109	181	256	169	12.3
<i>CONSTRUCTION</i>	240	257	247	45	7	0.5
<i>ENERGY</i>	--	20	1	--	2	0.1
<i>COMMERCE</i>	177	228	318	354	294	21.3
<i>INSURANCE</i>	6	9	14	6	29	2.1
<i>HOUSING</i>	--	2	--	--	--	--
<i>TRANSPORT</i>	19	42	27	54	48	3.5
<i>COMMUNICATIONS</i>	--	--	2	1	1	0.0
<i>VARIOUS SERVICES</i>	96	156	216	184	155	11.2
<i>PUBLIC ADMIN. &amp; DEFENSE</i>	--	2	7	6	3	0.2
<i>EDUCATION</i>	6	12	19	21	17	1.2
<i>HEALTH</i>	6	9	14	10	4	0.2
<i>TOURISM</i>	15	15	13	18	21	1.5
<i>WORKERS IN HOME</i>	330	372	439	330	352	25.5
<i>CIVIL CONSTRUCTION</i>	233	471	381	402	150	10.9

1. IPSS offices included: Arequipa, Camaná, Mollendo, and Aplao.

2. Does not total 100 Percent due to rounding

Source: Gerencia Regional Arequipa, IPSS.

These data also provide an indication of the extent to which increases in IPSS coverage are occurring in geographic and economic sectors that are considered to be under-represented in the IPSS insurance system, despite broadened eligibility. As of 1985, IPSS coverage was relatively high among salaried employees in manufacturing, public utilities, and other urban enterprises compared with agriculture and self-employed activities. Over the five-year period shown, commercial organizations, industry, and services accounted for nearly 45 percent of the increase in new employers. Although the number of agricultural employers enrolling in IPSS in 1987 exceeded all other

categories, by 1989 this category represented only eight percent of new enrollments and little more than one-third of new enrollments among commercial organizations in 1989. In 1989, the highest proportion of the newly-enrolled were individual households, although these are not enterprises and represent few new enrollees.

Among new enrollees, the proportion who are employees, dependent spouses, and dependent children has not changed substantially (see Exhibit 31). The percentage of new enrollees who are employees (primary insureds) and dependents has remained relatively constant over the period (assuming the "housewives" category added in 1987 should be included among primary insureds and dependents). At the same time, the number of voluntary enrollees increased from about two percent of the newly-enrolled population in 1985 to about five percent in 1989, but the numbers are too small to consider indicative.

<i>EXHIBIT 31</i>					
<i>DISTRIBUTION OF NEWLY-INSURED HEALTH PROGRAM ENROLLEES<sup>1</sup></i>					
<i>BY ELIGIBILITY CATEGORY, IPSS GERENCIA REGIONAL AREQUIPA, 1985-1989:</i>					
<i>NUMBER OF NEWLY-INSURED BY YEAR</i>					
<i>ELIGIBILITY CATEGORY</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>
<i>1. EMPLOYEES (PRIMARY INSURED)</i>	7,750	10,025	13,129	13,002	9,268
<i>2. SPOUSES</i>	933	5,073	6,988	5,502	4,335
<i>3. CHILDREN</i>	29,586	15,210	19,162	17,966	14,007
<i>4. VOLUNTARY ENROLLEES</i>	828	402	1,700	1,728	1,443
<i>5. HOUSEWIVES</i>	N/A	N/A	1,849	2,851	1,035
<i>6. SURVIVORS (WIDOWS, ORPHANS)</i>	441	547	504	431	319
<i>TOTAL</i>	39,538	31,257	43,332	41,480	30,407

1. Includes only employees entering the IPSS health insurance system during each year.

Source: Gerencia Regional Arequipa, IPSS.

For each newly-enrolled employee, nearly two dependents were enrolled in the IPSS system in 1989. However, spousal enrollees numbered less than half the number of employee enrollees, suggesting that many spouses do not register for the IPSS coverage. Therefore, each newly-enrolled employee had an average of 1.5 children enrolled in the program.

About 95 percent of voluntary enrollees reside in Arequipa (see Exhibit 32). Few (14.1 percent) of new IPSS enrollees reside in Camaná, Mollendo, and Aplao.

**EXHIBIT 32**  
**DISTRIBUTION OF NEWLY-INSURED HEALTH PROGRAM ENROLLEES**  
**BY ELIGIBILITY CATEGORY AND ADMINISTRATIVE DISTRICT,**  
**IPSS REGION DEPARTAMENTAL AREQUIPA, 1989**

ELIGIBILITY CATEGORY	AREQUIPA	CAMANA	MOLLENDO	APLAO	TOTAL [%]
1. EMPLOYEE (PRIMARY INSURED)	8,095	489	337	347	9,268 [30.5]
2. SPOUSES	3,639	242	373	81	4,335 [14.3]
3. CHILDREN	11,718	904	1,029	356	14,007 [46.1]
4. VOLUNTARY ENROLLEES	1,378	26	31	8	1,443 [4.7]
5. HOUSEWIVES	967	25	41	2	1,035 [3.4]
6. SURVIVORS (WIDOWS AND ORPHANS)	293	1	24	1	319 [1.0]
<b>DISTRICT TOTAL</b>	<b>26,090</b>	<b>1,687</b>	<b>1,835</b>	<b>795</b>	<b>30,407</b>
<b>DISTRICT AS % OF TOTAL</b>	<b>85.8</b>	<b>5.5</b>	<b>6.0</b>	<b>2.6</b>	<b>100.0</b>

Source: Gerencia Regional Arequipa, IPSS.

## 5.2 IPSS REGIONAL HEALTH FACILITIES AND SERVICES

The service delivery capacity of the IPSS system in Arequipa is organized around a regional hospital complex, the Hospital Central del Sur, whose campus houses the "empleados" and the "obreros" hospitals. The Integrated Mollendo Hospital, serving both MOH and IPSS clients, is the only other facility in the region that can be classified as an inpatient facility. IPSS also uses a small, but unspecified number of inpatient beds in the Camaná Hospital and the Aplao Hospital, both of which are operated by the MOH.

An additional 10 facilities operated by IPSS are called "hospitals" due to the use of day observation beds, but none of these facilities provides inpatient treatment of typical medical or surgical conditions.

The remainder of the physical infrastructure of the IPSS delivery system in Arequipa Region is composed of 14 ambulatory facilities ("postas") providing limited preventive and clinical services.

The IPSS hospitals and health center infrastructure underwent a significant expansion between 1985 and 1988, to meet goals set by "Health for All in the Year 2000." To achieve broader geographic coverage, IPSS developed an agreement with the MOH to integrate health services of the two organizations in sites operated primarily by the MOH. As a consequence, IPSS health service sites increased from 13 (ambulatory services only) in 1985 to about 118 ambulatory service sites organized into eight assistance networks. The majority of new facilities were primary care delivery sites -- both health centers and health posts -- most of which were existing MOH service sites. For IPSS patients, these new services were staffed largely by itinerant IPSS physicians and health professional staff.

The expansion was maintained through 1988. In 1989, due to a reversal in policy, the new service network was disbanded, including the functional integration with the MOH, with the exception of the Integrated Mollendo Hospital.

### **5.2.1. Service Profile of IPSS Facilities, 1990**

Two IPSS hospital facilities offer inpatient medical and surgical services: the Hospital Central del Sur and the Integrated Mollendo Hospital. However, only the Hospital Central del Sur offers a full range of medical and surgical sub-specialties. The Mollendo Hospital and inpatient services in Camaná offer only basic inpatient services: general medicine, surgery, obstetrics and gynecology, pediatrics, and dentistry, plus basic diagnostic services (laboratory and radiology).

Among the larger ambulatory facilities (referred to as support hospitals and, in some cases, polyclinics), no inpatient services are offered, though many of these facilities do provide beds for observation and normal deliveries. Otherwise, these facilities provide basic medical services. Three of the support hospitals have laboratory services, one has radiology services, and six offer pharmacy services. The smaller "posta" facilities offer only primary care, with no laboratory capacity.

### **5.2.2. Hospital Central del Sur**

In Arequipa, the parallel development of IPSS "obrero" and "empleado" services has resulted in the existence of two adjacent and redundant units in the Hospital Central del Sur -- Block A ("obrero") and Block B ("empleado"). These two units are physically separate and provide virtually identical types of medical and surgical services. The units have separate medical staffs offering identical medical and surgical sub-specialties; separate nursing and technical support staffs; complete, independent physical infrastructures (e.g., maternity units, surgical suites); and separate laboratory, radiology, and pharmacy services.

Recent administrative changes within IPSS have encouraged the regional management to present the two units as a unified hospital, with central management, for practical and operational purposes. However, each continues to operate independently and the two do not work together to any significant extent.

### **5.2.3. Distribution of IPSS Facilities**

Most IPSS facilities are located in and around Arequipa Province. Outside Arequipa, IPSS provides inpatient services in the Integrated Mollendo Hospital, which IPSS manages. IPSS also uses inpatient facilities of the MOH in Camaná and Aplao, although IPSS admits few patients to these institutions. Most IPSS enrollees obtain inpatient care in Arequipa at the Hospital Central del Sur. Of the 14 "postas," three are in metropolitan Arequipa and four more are in Arequipa or Caylloma provinces. Regional authorities commented that the distribution of facilities and resources in the regional IPSS health system prevents it from

functioning as a regional service system due to the concentration of resources in metropolitan Arequipa, and the lack of adequate service facilities in other areas.

### **5.3 IPSS PHYSICIAN RESOURCES**

According to data from the Medical College of Arequipa, IPSS employs 470 physicians, about 44 percent of all practicing physicians in the region. An important factor in the development of IPSS medical services has been the effect of national employment and personnel standards on hospital staffing and productivity. Physician and hospital productivity in the public and quasi-public sectors are affected by national law defining the standard physician work week as 36 hours. (This affects both MOH and IPSS physicians.) In IPSS hospitals, physicians have a strong incentive to perform "guardia" (evening shift coverage), since these hours are paid with an evening differential and "guardia" hours are counted as standard work hours, allowing a medical staff member to complete the required 36 hours during two or three days.

Emergency services (where much of the "guardia" hours are spent) consume a high proportion of available physician time at the expense of other inpatient and outpatient services, aggravating the delays experienced by patients seeking medical attention. Regional administrative personnel have suggested that this situation could be changed by the creation of a dedicated emergency room staff that would have the permanent capacity to staff the emergency services. This arrangement would effectively free IPSS staff physicians to attend to hospital outpatient and inpatient duties. It is not clear why hospital management is not able to schedule physician work hours to meet needs; that is what one would expect in a well-run hospital, particularly one as heavily staffed with physicians as those of IPSS in Arequipa.

As a consequence of these policies, despite large increases in staffing, physician coverage is insufficient to attend to patients because many physicians complete the work week within three days. This situation has been used to justify increased staffing in recent years, further increasing personnel costs. However, other IPSS observers note that political patronage has increased markedly over the past five years.

#### **5.3.1. Professional Staff at Hospital Central del Sur**

Staffing of Hospital Central del Sur illustrates the trend toward increasing personnel costs. In 1973, the combined medical staff of the two hospitals was about 73 physicians (approximately 33 in the "obrero" and 40 in the "empleado"). Today, the combined physician staff in both institutions exceeds 200 (see Exhibit 33). In addition, support staffs have increased proportionately.

EXHIBIT 33 PROFESSIONAL STAFF, HOSPITAL CENTRAL DEL SUR, IPSS, 1985-1990					
RESOURCE	Block <sup>1</sup>	1985	1986	1990	% CHANGE, 1985-90
BEDS	BLOCK A	184	173	172	
	BLOCK B	278	289	301	
	TOTAL	462	462	473	2.4
PHYSICIANS	BLOCK A	108	109	N/A	
	BLOCK B	121	103	N/A	
	TOTAL	229	212	228	N/C
DENTISTS	BLOCK A	4	5	N/A	
	BLOCK B	4	6	N/A	
	TOTAL	8	11	11	37.5
PHARMACISTS <sup>2</sup>	BLOCK A	3	3	N/A	
	BLOCK B	3	3	N/A	
	TOTAL	6	6	5	-16.6
MIDWIVES	BLOCK A	4	3	N/A	
	BLOCK B	14	14	N/A	
	TOTAL	18	17	22	
NURSES	BLOCK A	117	132	N/A	
	BLOCK B	134	145	N/A	
	TOTAL	251	277	334	33.1
OTHER PROFESSIONALS	BLOCK A	447	N/A	N/A	
	BLOCK B	582	N/A	N/A	
	TOTAL	1,029	N/A	981	-4.6

1. Block A = "Obreros"; Block B = "Empleados"

2. "Químicos".

Source: Gerencia Regional Arequipa, IPSS.

Based on a total bed capacity of 473, Hospital Central del Sur has one physician for every two beds in active use in the hospitals and one nurse for every 1.5 beds. (By comparison, Honorio Delgado Hospital has one physician for every 6.3 beds, and Goyeneche Hospital has one physician for every 4.1 beds (see Exhibit 34, below). Hospital Central del Sur also has more than twice the number of nursing staff per bed compared with the two MOH hospitals.

EXHIBIT 34 COMPARISON OF PERSONNEL INDICATORS AMONG MOH AND IPSS HOSPITALS			
INDICATOR	HONORIO DELGADO	GOYENECHE	HOSPITAL CENTRAL SUR
BEDS/PHYSICIAN	6.3	4.1	2.1
BEDS/NURSE	3.1	3.8	1.4
DISCHARGES/PHYSICIAN	103	79	63
DISCHARGES/NURSE	51	73	42

Source: MOH Regional Administration and Facility Documents; Gerencia Regional Arequipa, IPSS.

### 5.3.2. Impact on Patient Care: Estimates of Patient Waiting Time

Despite the staffing level observed in Hospital Central del Sur, access to services continues to be difficult. The difficulties involved in using IPSS services are commonly acknowledged and are a main reason IPSS eligibles seek care elsewhere -- in many cases through the use of employer-sponsored private health insurance. Through interviews with physicians and staff working in the IPSS system in Arequipa, the study team estimated the time required for a patient to obtain medical attention for a hypothetical, but common, non-emergency problem - a persistent cough requiring diagnostic X-ray of the lungs.

The patient would need to get up early (e.g., 5:00 a.m.) to get in line to make an appointment with an IPSS physician later in the morning. The visit with the doctor may last one half-hour during which the physician would order the necessary X-ray exam. The patient would then present the physician's order to the radiology department, which would schedule the X-ray in about three weeks, at the earliest, because of the demand for radiographs and the limited daily hours of the radiology department (six hours per day) for non-emergency films.

In three weeks, the patient would return to the hospital to have the X-ray exam, and would return two days later to have the radiograph read by a physician and to obtain a diagnosis and therapeutic recommendations. However, to see a physician, the patient once more must be in line at 5:00 a.m. to make an appointment for later in the morning. If the physician prescribes medication, the pharmacy will attend the patient immediately.

## 5.4 UTILIZATION OF IPSS FACILITIES

In 1989, the hospital facilities managed by IPSS maintained an average occupancy of 70 percent (see Exhibit 35). Among the three facilities, the Block A ("obreros"), Block B ("empleados"), and Mollendo Hospitals accounted for approximately 30 percent, 50 percent, and 20 percent of all discharges, respectively. Average length of stay at the three hospitals was 8.6 days. Occupancy at the Block A facility was higher than the Block B and Mollendo facilities (85 percent, compared to 67 percent and 55 percent, respectively).

**EXHIBIT 35**  
**SELECTED UTILIZATION STATISTICS FOR IPSS (INPATIENT) HOSPITAL UNITS,**  
**IPSS GERENCIA DEPARTAMENTAL, AREQUIPA, 1989**

UTILIZATION STATISTIC	CENTRAL SUR "BLOCK A" <sup>1</sup>	% OF TOTAL	CENTRAL SUR "BLOCK B" <sup>2</sup>	% OF TOTAL	INTEGRADO MOLLENDO <sup>3</sup>	% OF TOTAL	TOTAL
<b>INPATIENT</b>							
BEDS	172	29.5	301	51.6	110	18.9	583
DISCHARGES	5,572	32.0	8,728	50.2	3,109	17.8	17,409
AVERAGE LENGTH OF STAY (DAYS)	9.6	--	8.5	--	7.1	--	8.6
% OCCUPANCY	85.5	--	67.7	--	55.1	--	70.37
DELIVERIES	1,532	31.2	2,641	53.8	737	15.0	4,910
DELIVERY ROOMS	1	25.0	2	50.0	1	25.0	4
INCUBATORS	10	--	8	--	N/A	--	N/A
OPERATING ROOMS	4	36.5	6	54.5	1	9.0	11
SURGICAL PROCEDURES	3,063	36.6	3,802	45.4	1,507	18.0	8,372
<b>OUTPATIENT</b>							
DENTAL VISITS	12,935	28.1	23,390	50.9	9,652	21.0	45,977
CLINIC VISITS	155,354	42.1	165,915	44.9	47,874	13.0	369,143
EMERGENCY ROOM VISITS	39,747	34.1	58,698	50.4	18,007	15.5	116,452
<b>LABORATORY</b>							
CLINICAL LABORATORY	191,524	42.8	225,605	50.5	30,027	6.7	447,156
PATHOLOGY	5,710	45.9	5,958	47.9	770	6.2	12,438
BLOOD BANK	128,150	73	45,500	25.9	2,000	1.1	175,650
<b>RADIOLOGY</b>							
X-RAYS	26,156	40.3	30,850	47.6	7,824	12.1	64,830

1. Block A = "Obreros".

2. Block B = "Empleados".

3. Combined IPSS and MOH use.

Source: Gerencia Regional Arequipa, IPSS.

## 5.5 IPSS FINANCING

In the following sub-sections, the financing of the IPSS health insurance and delivery component of the Peruvian Social Security System are described. In addition, regional revenue and expenditure information are presented over a five-year period, 1985-1989. Income and operating expenditures are then compared and financial issues facing the IPSS system are discussed. Finally, the IPSS free-election system is described.

### 5.5.1. Employer and Employee Contributions

The joint contribution for IPSS health and welfare (retirement) benefits for both employer and employee is 18 percent of the employee's base salary. Of this 18 percent, half is allocated by IPSS to health insurance. Of the half for health benefits, the employer contributes two-thirds and the employee contributes the remaining one-third through payroll deductions. Therefore, the employer's contribution to IPSS health insurance represents the equivalent of six percent of each worker's salary; the worker's contribution represents three percent of his or her salary.

If a person has two or more places of employment, full IPSS contributions are required of each employer. (However, as one observer pointed out, when a multiple contributor retires, each is entitled to an IPSS pension based on only one salary. This circumstance has led some to characterize IPSS as a good collector but a bad payer.) Two spouses working in the formal economy, as well as their employers, also must contribute fully to IPSS, although in this case both individuals would receive full health coverage as primary insureds.

### 5.5.2. Trends in Regional IPSS Income and Operating Expenditures

Total health subscriber income from employers and employee contributions varied dramatically over the 1985-90 period for which data were available. In 1985, the total regional IPSS income from both sources was U.S.\$5.5 million (see Exhibit 36). By 1987, this figure had grown three-fold, to nearly U.S.\$16 million. However, the following year, IPSS income dropped to less than U.S.\$1.5 million, doubled in 1989, then dropped well below \$1.5 million in 1990 (projected).

EXHIBIT 36 ANNUAL SUBSCRIBER INCOME (EMPLOYERS AND EMPLOYEES) FOR HEALTH CARE INSURANCE PROVIDED UNDER DECRETO LEY 22482, IPSS, GERENCIA DEPARTAMENTAL AREQUIPA, 1985-1990 (current Intis and U.S. \$)						
CURRENCY	1985	1986	1987	1988	1989	1990 <sup>1</sup>
<b>AREQUIPA</b>						
INTIS	68,492,746	145,480,109	330,102,368	1,519,613,068	38,307,451,036	187,063,000,000
DOLLARS <sup>2</sup>	4,909,874	10,428,673	14,352,278	1,342,414	2,783,971	1,068,931
<b>CAMANA</b>						
INTIS	4,564,698	5,566,462	12,589,835	58,329,593	1,448,075,142	10,942,000,000
DOLLARS	327,218	399,029	547,384	51,527	105,238	62,526
<b>MOLLENDO</b>						
INTIS	4,120,431	8,075,839	18,569,802	93,486,231	2,052,122,865	12,425,000,000
DOLLARS	295,371	578,913	807,382	82,585	149,137	71,000
<b>APLAO</b>						
INTIS	N/A	N/A	4,577,756	22,451,208	570,026,175	2,652,000,000
DOLLARS	--	--	199,032	19,833	41,426	15,154
<b>TOTAL</b>						
INTIS	77,177,875	159,122,410	365,839,761	1,693,880,100	42,377,675,218	213,082,000,000
DOLLARS	5,532,459	11,406,623	15,906,076	1,496,359	3,079,772	1,217,611

1. January - April collections extrapolated to 12 months.

2. Intis-dollars conversion rates: 1/. per dollar 1985 - 13.95; 1986 - 13.95; 1987 - 23.00; 1988 - 1,132.00; 1989 - 13,760.00; 1990 - 175,000.00.

Source: Gerencia Regional Arequipa, IPSS.

There are several possible explanations for this variation in income. In 1985, the regional IPSS system encompassed a broader geographic area and population, including the cities of Tacna and Cusco. Tacna is comparable to Arequipa with respect to the proportion of the departmental population covered

by the IPSS system (19.7 percent for Tacna vs. 17.4 percent for Arequipa (Zschock, 1988). Together, these departments undoubtedly constitute a significant proportion -- perhaps half -- of the IPSS system's 1985 income.

Increases in income recorded for 1986 and 1987 are not explained by increases in the population covered, and are due to increases in contributions of employers and employees. The reason for the dramatic reduction in income between 1987 and 1988 is not known.

Between 1988 and 1990, despite growth in the cumulative number of employers and employees covered by the program, revenues varied somewhat (peaking in 1989 at U.S.\$3 million) but were similar during 1988 and 1990 (estimated). This lack of increase in income may be due to the nature of the IPSS contribution formulae during periods of accelerated inflation. According to Zschock, the implementing law sets salary ceilings for contributions to the IPSS system, beyond which contributions from any given employee remain constant. Thus, during periods of rapid inflation, salaries (and costs) rise but IPSS income per enrollee remains constant.

Expenditures followed the same pattern as income. Expenditures in 1985 were U.S.\$8.7 million, rising to U.S.\$19.1 million in 1987, and dropping to U.S.\$2.5 million in 1988, suggesting that the patterns observed for both income and expenditures are linked to economic trends in Peru rather than to programmatic or coverage changes in the IPSS system itself.

Salaries accounted for an increasing proportion of regional IPSS health system expenditures over the period studied, rising from 45 percent of total expenditures in 1985 to about 54 percent in 1989 (see Exhibit 37). Employee pensions and benefits, including contributions of IPSS itself and of IPSS employees to the IPSS insurance funds, are subsumed under current transfers. These costs accounted for an additional 15 percent of total IPSS expenditures in 1985 and rose to nearly 25 percent of total expenditures in 1989. These personnel costs totaled 60 percent of all IPSS expenditures in 1985 and nearly 80 percent of total IPSS expenditures in 1989 (see Exhibit 38, below).

EXHIBIT 37 SELECTED CATEGORIES OF HEALTH PROGRAM OPERATING EXPENDITURES, IPSS, GERENCIA DEPARTAMENTAL, AREQUIPA, 1985, 1987, 1988, 1989 (U.S. \$) <sup>1</sup>								
EXPENDITURE CATEGORY	1985	% OF TOTAL HEALTH <sup>2</sup>	1987	% OF TOTAL HEALTH <sup>2</sup>	1988	% OF TOTAL HEALTH <sup>2</sup>	1989	% OF TOTAL HEALTH <sup>2</sup>
SALARIES (TOTAL)	3,875,120	45.4	10,904,182	57.0	1,326,169	51.5	2,191,390	54.4
GOODS PURCHASED (TOTAL)	2,771,822	31.6	3,605,515	18.8	576,937	22.4	727,208	18.1
DRUGS & MEDICAL SUPPLIES	1,805,177	20.6	2,545,788	13.3	424,343	16.4	231,722	5.7
LABORATORY SUPPLIES	103,443	1.2	106,848	0.5	27,515	1.1	318,886	7.9
SERVICES PURCHASED (TOTAL)	672,994	7.7	663,303	3.5	72,786	2.8	115,467	2.9
FREE ELECTION	141	0	39,424	0.2	2,998	0.1	2,762	0
CONTRACTED SERVICES	219	0	10,757	0	575	0	115	0
CURRENT TRANSFERS (TOTAL)	1,280,038	14.6	3,831,575	20.0	598,424	23.2	994,588	24.7
CAPITAL INVESTMENTS (TOTAL)	38,102	0.4	--	--	--	--	--	--
TOTAL HEALTH PROGRAM EXPENDITURES	8,738,436	100.0	19,054,756	100.0	2,575,889	100.0	4,031,530	100.0

1. Average annual exchange rates: 1985 1/.13.94/U.S.\$, 1987 1/.23.00/U.S.\$, 1988 1/.1,132.00/U.S.\$, 1989 1/.13,760.00/U.S.\$

2. Percent may not equal 100% due to rounding.

Source: Gerencia Regional Arequipa, IPSS.

<b>EXHIBIT 38</b>				
<b>SALARIES AND BENEFITS<sup>1</sup> AS PERCENT OF TOTAL HEALTH PROGRAM EXPENDITURES,</b>				
<b>IPSS GERENCIA DEPARTAMENTAL DE AREQUIPA, 1985, 1987, 1988 AND 1989</b>				
<i>EXPENDITURES</i>	<b>1985</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>
<i>SALARIES</i>	45.4	57.0	51.5	54.4
<i>CURRENT TRANSFERS</i>	14.6	20.0	23.2	24.7
<i>SALARIES &amp; BENEFITS AS % OF TOTAL HEALTH PROGRAM EXPENDITURES</i>	60.0	77.0	74.7	79.1

1. Excludes pensions (expenditure category 5.0), which could not be apportioned to health program expenditures.  
Source: Gerencia Regional Arequipa, IPSS.

In 1985, drugs and medical supplies purchased for use in the service delivery system accounted for 30 percent of total expenditures. By 1989, this proportion had declined to account for only 5.7 percent of total expenditures. Across all types of goods purchased for the IPSS system in the region, the proportion of these expenditures declined from 32 percent of total expenditures in 1985 to 18 percent in 1989.

Comparing IPSS income and expenditure data, the health insurance system in Arequipa Region recorded a deficit in each of the years studied (see Exhibit 39). The excess of program expenditures over income in 1985 was nearly 60 percent of that year's total income. Similarly, deficits in 1987, 1988, and 1989 were 20 percent, 72 percent, and 30 percent of actual operating income for each respective year.

<b>EXHIBIT 39</b>				
<b>DIFFERENCE BETWEEN SUBSCRIBER INCOME AND HEALTH PROGRAM OPERATING EXPENDITURES</b>				
<b>FOR HEALTH CARE PROVIDED UNDER DECRETO LEY 22482,</b>				
<b>IPSS GERENCIA DEPARTAMENTAL AREQUIPA, 1985-1989</b>				
<b>(current Intis, constant Intis and U.S. dollars)</b>				
<i>FINANCIAL INFORMATION</i>	<b>1985</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>
<i>CURRENT INTIS</i>				
<i>INCOME</i>	77,177,875	365,839,761	1,693,880,100	42,377,675,218
<i>PROGRAM EXPENDITURES</i>	122,157,204	440,153,300	2,915,030,000	55,436,407,000
<i>DIFFERENCE</i>	-44,979,329	-74,313,539	-1,221,149,900	-13,058,731,782
<i>CONSTANT INTIS<sup>1</sup></i>				
<i>INCOME</i>	29,879,132	170,554,630	92,952,867	1,473,954,700
<i>PROGRAM EXPENDITURES</i>	47,292,762	205,199,670	159,964,270	1,928,156,000
<i>DIFFERENCE</i>	-17,413,630	-34,645,040	-67,011,403	-454,201,300
<i>U.S. DOLLARS</i>				
<i>INCOME</i>	5,532,463	15,906,076	1,496,359	3,079,772
<i>PROGRAM EXPENDITURES</i>	8,756,789	19,137,100	2,575,114	4,028,808
<i>DIFFERENCE</i>	-3,244,326	-3,231,024	-1,078,755	-949,036

1. Total MOH expenditures in millions of constant 1985 Intis.  
Source: Gerencia Regional Arequipa, IPSS.

Deficits in the IPSS system are attributable to several factors. Despite the fact that all governmental employees are mandatory participants in the IPSS health insurance and social security systems, government contributions to these funds consistently have been withheld or significantly underpaid. Also, employers have become adept at under-reporting employees, therefore reducing their contributions despite the fact that their employees continue to use the IPSS services. Finally, the fact that the contribution ceiling is not adjusted for inflation has contributed to the disparity between salary-based contributions and program costs.

Exhibit 40 illustrates the effect of adjusting the IPSS contributions for inflation for one employer. This employer contributes to IPSS, a self-insurance fund, and pays directly to providers for health services used by employees. Over six recent months, the company's contributions to the self-insuring health fund increased from I/. (Intis) 23,000 to I/. 150,000, following adjustments in payments to the fund required to maintain pace with inflation. Direct payments to outside providers for health services rendered to company employees increased even more rapidly, from I/. 146,000 in the first month to I/. 2,442,000, reflecting the rising trend in health care prices paid by consumers and businesses over the period. In contrast, the company's contributions to IPSS increased only slightly over the same period. The bottom row of the table shows the percentage difference in contributions between the first and last month. According to company sources, the nearly flat (or rapidly declining in constant currency terms) contributions to IPSS are mostly due to the rigid nature of the IPSS contribution formulae.

<i>EXHIBIT 40</i>			
<i>TREND IN EMPLOYEE HEALTH INSURANCE PAYMENTS FOR IPSS AND PRIVATE INSURANCE COVERAGE COMPANY</i>			
<i>*X* JANUARY - JUNE, 1990</i>			
<i>MONTH (1990)</i>	<i>CONTRIBUTION TO IPSS FOR HEALTH SERVICES</i>	<i>CONTRIBUTION TO SELF-INSURANCE FUND</i>	<i>PAYMENTS FOR HEALTH SERVICES PURCHASED BY EMPLOYEES</i>
<i>JANUARY</i>	573,500	23,000	146,000
<i>FEBRUARY</i>	578,500	27,000	514,000
<i>MARCH</i>	1,006,000	33,000	511,000
<i>APRIL</i>	922,500	82,000	875,000
<i>MAY</i>	740,500	166,000	1,374,000
<i>JUNE</i>	698,500	150,000	2,442,000
<i>CHANGE, JANUARY TO JUNE</i>	21.8%	552.2%	1,572.6%

### 5.5.3. IPSS Free-Election System

Provisions of the IPSS system allow for IPSS-insureds to obtain care from non-IPSS providers who are then reimbursed based on a fee-for-service schedule of prices of individual services. This system, referred to as free-election ("libre elección"), accounted for negligible IPSS expenditures for all years studied, as did IPSS expenditures for health services that are contracted by IPSS to outside providers.

Given the barriers faced by those insured by IPSS in obtaining access to covered care, one would expect the free-election system to record a high level of use by individuals seeking health care services outside the IPSS system. Anecdotally, it is widely acknowledged that IPSS-insured individuals avoid IPSS

facilities. For example, conversations with MOH employees revealed that MOH employees prefer to pay for their own care at MOH facilities than to obtain free care at IPSS. However, this anecdotal evidence is difficult to reconcile with the available utilization data. For example, with 473 beds, IPSS's Hospital Central del Sur had 14,300 discharges in 1989 compared to 11,757 discharges at MOH's Honorio Delgado, which has 718 beds.

Under the IPSS free-election system, IPSS-covered individuals obtain health services from the facility or provider of their own choice, including the MOH. Individuals then pay for the services and are reimbursed by IPSS. However, the IPSS reimbursement system effectively pays only about 30 percent of the amount charged by private facilities or providers (see Exhibit 41), providing a significant disincentive for potential free-election system users. The reimbursement schedule in effect during the period of the study shows that rates for individual services are very low, accounting for the low percentage of total charges actually reimbursed to free-election users (see Exhibit 42).

EXHIBIT 41 CHARGES AND PAYMENTS FOR IPSS-INSURED SERVICES PROVIDED BY NON-IPSS PROVIDERS UNDER "FREE ELECTION SYSTEM," AREQUIPA REGION, JULY - DECEMBER, 1989 (thousands of current (unadjusted) Intis)							
	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
CLAIM CHARGES	4,208.4	8,463.2	6,709.3	9,462.6	9,015.9	15,410.7	53,270.3
ALLOWED (PAID) CHARGES <sup>2</sup>	1,254.0	3,214.0	2,258.1	3,359.8	2,861.0	4,930.0	18,057.0
% OF CHARGES PAID	29.8	38.0	33.6	35.5	31.7	32.0	33.9

1. Sistema de Libre Elección.

2. Based on table of prices for non-IPSS services.

EXHIBIT 42 ALLOWED REIMBURSEMENT FOR NON-IPSS PROVIDER SERVICES FOR THE "FREE-ELECTION SYSTEM," AREQUIPA REGION, 1989 (Intis) <sup>1</sup>	
SERVICE	CHARGE
MEDICAL CONSULTATION	30.00
HOSPITALIZATION (1 DAY)	8.00
DELIVERY CARE	60.00
LABORATORY	
HEMOGRAM	15.75
HEMATOCRIT	5.25
SEDIMENTATION RATE	9.19
COAGULATION AND BLEEDING TIME	7.88
HEMOGLOBIN DOSAGE	9.88
GLYCEMIA	13.13
CHOLESTEROLEMIA	13.13
CREATINEMIA	13.13
TOTAL AND FRACTIONAL PROTEINS	14.44
TOTAL AND FRACTIONAL BILIRUBIN	19.69
BLOOD TYPING	9.94
RH FACTOR	9.94
COOMBS TEST	19.69

EXHIBIT 42 (CONTINUED)	
ALLOWED REIMBURSEMENT FOR NON-IPSS PROVIDER SERVICES FOR THE "FREE-ELECTION SYSTEM," AREQUIPA REGION, 1989 (Intis) <sup>1</sup>	
SERVICE	CHARGE
LATEX TEST	13.13
LIPIDGRAM	34.13
PROTEINGRAM	39.38
ANTISTREP	26.25
COMPLETE URINALYSIS	9.19
24-HOUR PROTEIN IN URINE TEST	10.50
SPINAL FLUID EXAM	31.50
HEPATOGRAM	84.00
GLUCOSE TOLERANCE TEST	52.50
PREGNANCY TEST	26.25
ANTIBIOGRAM	31.50
CULTURE AND ANTIBIOGRAM	63.00
WEIL FELIX TEST	15.75
VIRUS IDENTIFICATION	39.38
RADIOGRAPHY	
SIMPLE CRANIUM	19.69
COLUMN STUDY	210.00
MYLEOGRAPHY	157.50
PHEUMOENCEPHALOGRAPHY	393.75
ARM BONES	21.00
WRIST ARTICULATION	21.00
ARTERIOGRAPHY OF A LIMB	196.88
SIMPLE THORAX	32.82
FLUOROSCOPY	15.75
BRONCOGRAPHY	157.50
INTESTINAL TRANSIT	131.25
ABDOMINAL EXAM	157.50
EXCRETORY PYELOGRAM	144.38
HYSTERO-SALPINGOGRAM	144.38
MAMMOGRAM	59.07
COMPUTERIZED AXIAL TOMOGRAPHY	2,062.50
ECHOCARDIOGRAM	210.00

1. Exchange rate (1989 average) U.S.\$1 = I/. 13,780.00)

## 5.6 CONCLUSIONS AND RECOMMENDATIONS FOR IPSS PROVISION AND FINANCING OF HEALTH SERVICES

The IPSS health care system, designed to provide health services to all IPSS beneficiaries (workers and dependents) faces severe problems due to declining revenue and deterioration of infrastructure, combined with high and inflexible personnel costs.

Opportunities exist for increasing efficiency of IPSS operations with improved allocation of physicians. For instance, it may be useful to assign personnel only to the emergency room to overcome problems with "guardia" duty.

Efficiency can also be improved through consolidation of redundant services ("obrero" and "empleado").

Given that the wages of IPSS medical personnel exceed those of MOH personnel, it may be true that IPSS physicians are paid above market wages. A study should be carried out to determine appropriate compensation.

A concerted effort should be made toward improving quality of care if IPSS wishes to provide health services to IPSS contributors. At present, dissatisfaction with the quality and accessibility of care leads many IPSS beneficiaries to use MOH or private facilities. Employers often carry double coverage, adding private health insurance to the IPSS coverage, because of the inadequacy of care at IPSS.

As stated in conclusions for the section of this report on the MOH, the use of MOH facilities by IPSS beneficiaries suggests that an arrangement could be made between IPSS and MOH for a formal mechanism for reimbursement of services.

To provide ambulatory care for rural beneficiaries of IPSS, arrangements could be made with local private providers, with fee-for-service or prepaid financing mechanisms.

It would be useful for IPSS to review its reimbursement system, determining appropriate (reimbursable) fees for private sector physicians. In addition, it would be very useful to carry out a study of the relative costs of providing care directly through IPSS facilities vs. through the private sector. This information could guide future decisions about whether IPSS beneficiaries will receive direct services, or reimbursement for care received in non-IPSS facilities.

## 6.0 PRIVATE CLINICS, INSURERS AND PHARMACIES

Data from the Medical College of Arequipa indicates that approximately 30 percent of 1,080 practicing physicians in Arequipa are in private practice, unaffiliated with either MOH or IPSS health systems. As noted, many MOH and IPSS physicians also maintain private practices.

The following sub-sections review findings from an investigation of health resources and services in the private sector in Arequipa Region. Information is presented on the characteristics of two large private health facilities that provide both inpatient and outpatient services, representing most of the non-office-based private health service delivery capacity in the region. Information is also presented on the nature and coverage of private health financing resources in the area. Included are insurance companies offering health insurance plans to individuals and employers, employers providing private health insurance coverage for their employees, and one organization that serves physicians by managing reimbursement between insurance companies and private physicians. Finally, information on an informal survey of pharmacies in Arequipa is provided.

### 6.1 PRIVATE CLINICS

#### 6.1.1. Hogar Clínica San Juan de Dios

In 1955, the Orden de los Hermanos Hospitalarios de San Juan de Dios began providing services for children with orthopedic and congenital motor disorders. By 1967, the organization had expanded its original ambulatory services to include a broad range of inpatient as well as outpatient specialties provided through the Clínica Hortencia Espinoza de Salinas, the hospital named for its principal benefactor. Under the auspices of the Orden, which owns and operates one large hospital in Lima and more than 40 hospitals in Spain, the Clínica Hortencia currently maintains the largest private health facility in Arequipa.

The clinic is headed by the Superior de la Orden and Administrative Director of the health services organization, who also heads the executive committee ("consejo directivo"). Under the director are the medical director and the administrative managers of the clinic.

The clinic has a paid staff of 56: six physicians (medical director and five "residentes," or recent medical school graduates, no longer in training); seven administrative personnel; 15 nurses; one social worker; one accountant; six technicians/ auxiliaries; and 20 maintenance workers. In addition to paid staff, the clinic and the San Juan de Dios organization are served in various capacities by 18 brothers who do not receive compensation from clinic funds. Other non-paid services are provided by 140 ad-honorem attending physicians, three volunteer administrators, one social worker, 40 nursing students, and 100 nursing aide students.

The clinic's policy is to provide attending physicians with admitting privileges for their private patients on the condition that they do not charge for services provided to second floor free-care patients. In addition to the

non-paid services of attending physicians, the hospital contracts "residentes" who are paid relatively low wages to work in the hospital, generally as assistants to the medical staff. "Residentes" are willing to work under these circumstances at Clínica Hortencia because there are few jobs available in Arequipa.

The San Juan de Dios health service organization is categorized as a non-profit entity (qualifying as a "sociedad beneficiencia" receiving tax benefits as well as public support and charitable donations). The clinic uses a mix of free care and fee-for-service to finance the operation of its health services. Financing for Clínica Hortencia operations is obtained from three main sources: insurance, direct payment by patients, and contributions.

Approximately 60 percent of the cost of clinic operations is covered by income from patients treated in the private wing. Of this income, about 70 percent is from insured patients, and the balance is direct payments by individuals. Income from the sale of drugs in the pharmacy also provides substantial support for the clinic.

The remaining 40 percent of operating funds come from local donations and fund-raising activities (e.g., a telethon to benefit health and community service organizations) and from donations from outside Peru. As a non-profit "beneficiencia," the San Juan de Dios organization qualifies to receive governmental funds, but these are negligible.

In 1967, the clinic opened 10 beds for private paying patients. Today, the clinic operates 100 beds, including 40 private beds for adult and pediatric patients on the third floor of the hospital facility, in addition to the 60 beds it maintains for free care only for children on the second floor. The current physical plant of the hospital has an operating capacity of 140 beds.

Utilization of the second and third floors of the clinic's inpatient services differs substantially due to differences in the populations served. From August 1989 to July 1990, the clinic served 2,237 patients with an average length of stay per discharge of 11.9 days. Of these patients, 38 percent (619) were free-care pediatric patients under the age of 15 staying an average of 24.4 days. Private clinic patients accounted for 62 percent (1,619) of all clinic discharges and stayed an average of 7.1 days.

Based on these utilization figures, the second floor pediatric service of the clinic maintains an occupancy rate of 69 percent based on a current capacity of 60 beds; the third floor private services function at an occupancy rate of 79 percent for the 40-bed capacity.

According to the Hermano Director, the clinic does not have ambitions to become a larger medical center by expanding its plant and bed capacity. Rather, the clinic will seek to maintain its leadership in Arequipa and in southern Peru by improving its technical services, particularly in the area of medical equipment. For example, he said the clinic has the hope of becoming the site of the first CAT scanner in southern Peru. Currently, people need to go to La Paz or to Lima for computerized axial tomography (CAT) scans since there is no regional CAT service. Other types of equipment mentioned as needed in the region

were echosonograph and laser treatment equipment. He has indicated that the acquisition of useful diagnostic equipment was a high priority for the clinic. Due to its tax status and to its linkages to outside philanthropic organizations, the clinic has greater chances of acquiring such equipment than other private facilities.

The Hermano Director noted that the Clínica San Juan de Dios had also identified the expansion of its outpatient promotive and preventive services as an important organizational goal. Although the clinic has an active outpatient service, this functions as a sub-specialty clinic. The clinic does not have adequate facilities to provide needed primary care to the community. As a consequence, the clinic recently made an agreement with the MOH to provide physician support in four health posts in nearby low-income urban areas ("pueblos juvenes") where currently there are no staff physicians. Under the agreement, "residentes" employed by the clinic will go to the health posts on a periodic basis to provide primary care at no charge to area residents.

The Clínica Hortencia does not provide maternity services for reasons of religious concern, despite the generally acknowledged fact that there is a lack of competition among private facilities for the provision of these services.

#### 6.1.2. Clínica Arequipa

The Clínica Arequipa is a privately-owned facility providing ambulatory and inpatient services. The clinic is owned by a small number of shareholders, all of whom are attending physicians at the facility. Although the clinic is privately-owned, it cannot be considered "for profit" since it does not pay dividends to the shareholders; surplus funds are reinvested in improvements in the physical plant and in acquisition of new equipment.

More than 90 percent of the care provided by the Clínica Arequipa is financed by private insurance. The remaining portion is paid directly by patients. Clínica Arequipa currently has 11 agreements with individual companies to provide services for their employees covered by company-run health insurance systems. The clinic maintains agreements with an additional 17 insurance companies for reimbursement for care for their policyholders. The clinic has standard fees charged to self-paying patients. Insured patients are charged fees set by agreement between the clinic and individual insurance companies. The clinic provides no free care.

Patients are usually admitted to the Clínica Arequipa by physicians with admitting privileges or through the emergency room. Patients admitted by physicians are charged by the doctor, who then pays the clinic. Patients without a private doctor usually must provide a letter of guarantee of payment, most often from their employer.

Salaried staff of the clinic include the following: 10 administrative personnel; one medical director; six "residentes," four nurse-midwives; 11 nurses; and two technicians/auxiliaries. Attending physicians ("médicos de planta"), 50 physicians with admitting privileges, are not paid by the clinic.

The clinic has 32 beds as well as one special care bed. The clinic is the major source in Arequipa of private maternity services. In addition to one delivery room, the clinic has 12 bassinets, three incubators, and two phototherapy units. For surgical services, the clinic has two operating rooms for major procedures, a room for ophthalmic surgery, and a minor procedure room for gynecologic surgery and casting. The clinic also provides emergency medical services.

According to the administrative director, the Clínica Arequipa just initiated a same-day surgery program. No data were available on its operation. Occupancy of clinic inpatient services is about 75 percent and lengths of stay average about 4.5 days due to the high proportion of maternity care. On average, four to five surgical procedures are performed daily. The emergency room attends to about 15 visits per day.

Clínica Arequipa recently has started a program of continuing education which is not formally affiliated with an academic institution. However, approximately 90 percent of attending physicians at Clínica Arequipa also serve as faculty at the University of San Agustín Medical School.

The clinic's president indicated that the clinic was very interested in performing service to the community. He indicated that, for example, the clinic would be able to provide medical personnel to staff primary health services and to conduct vaccination campaigns and the like. Another area of interest mentioned was family planning. The medical director, who also works in the IPSS health service system, said they had the intention of developing a program for a specific geographic area.

The service could be free; however, the president stated that the clinic was not prepared to provide materials and medical supplies for this type of effort. The clinic could provide "internos" for outlying clinics, either in health centers or other locations, who would provide primary care. No medical staff of the clinic would be provided, and services would be limited to primary care. If patients needed hospitalization, they would be referred to one of the public hospitals or to another of their choice.

## 6.2 PRIVATE HEALTH INSURANCE COMPANIES AND SERVICES

The continuing economic crisis in Peru and the inexorable deterioration of public services have resulted in the creation of a significant market for private health insurance. Large and medium-sized public and private companies operating in Arequipa have acquired private health insurance for some or all of their workers for various reasons: in conformance with countrywide health coverage norms if they are a national enterprise; due to labor agreements in effect; due to legal obligations, as in the case of mining companies; and, finally, due to pure operating cost and efficiency imperatives.

Although all employers in Peru are obligated to contribute to IPSS, many have opted to purchase parallel coverage to protect themselves against the high costs of absenteeism and employee frustration associated with the use of IPSS services. Large and medium-sized public and private sector enterprises in

necessity and cost. García and Associates operates a computerized information system that allows claims transactions to be rapidly processed and summarized for quick delivery to insurance companies and self-insured plans.

The insurance market in Arequipa is changing to reflect greater demand for indemnity coverage, rather than the reimbursement method, according to company sources. Under the reimbursement method, the beneficiary pays the provider directly for care received and is then reimbursed by the insurance company or other insurer. Under the ambulatory credit plan, payment for ambulatory services is made under direct contracts between the insurer and the provider, similar to the way in which inpatient services are reimbursed under many private insurance plans in effect in Arequipa.

Ambulatory credit is more advantageous to both employers and employees because the former no longer have to loan to the employees to pay for services. However, ambulatory credit has greater risk for the payer because of reduced control over outpatient utilization.

Dr. García said he thought short-term growth in insurance activity in Arequipa would come almost exclusively from expansion of the ambulatory credit concept. His company is currently experiencing rapid growth in claims volume due to this shift. In contrast, Dr. García said he believed that no market expansion would occur through new companies initiating private insurance coverage for their employees. He knew of no companies of any significant size without a private insurance plan of some type already in place.

#### **6.2.4. Description of Private Insurance Plans and Costs**

Information was obtained from individual companies in Arequipa regarding their sponsorship of private health insurance plans for their employees. Data on coverage, basic benefit characteristics, and cost were collected. In addition, data on company payments for mandatory IPSS health insurance coverage for corresponding periods were obtained for comparison with the costs of private insurance coverage. The findings of this component of the study are presented in this section.

Relatively complete coverage and cost information was obtained from two companies: Sociedad Eléctrica del Sur Oeste, S.A. (SEAL) and SIDSUR. Additional information was obtained on private insurance premiums paid by Banco Popular del Perú in Arequipa, but no IPSS payment information was available from this source.

SEAL offers a self-insured program covering 770 employees and 2,000 dependents (see Exhibit 43). SIDSUR purchases coverage from La Positiva for its 147 employees and their 271 dependents (see Exhibit 44). The ratio of dependents to employees at SEAL and SIDSUR was 2.6:1 and 1.8:1, respectively.

**EXHIBIT 43**  
**IPSS AND FAMILY HEALTH INSURANCE PROGRAMS,**  
**SOCIEDAD ELECTRICA DEL SUR OESTE, S.A. (SEAL), AREQUIPA, 1990**

<b>PREMIUMS</b>	<b>COMPANY</b>	80%
	<b>EMPLOYEE</b>	20%
<b>ELIGIBLES</b> (ALL EMPLOYEES COVERED -- WHITE AND BLUE COLLAR)	<b>EMPLOYEES</b>	770
	<b>SPOUSES, PARENTS, CHILDREN</b>	2,000
	<b>TOTAL</b>	2,770

Ratio of dependents to employees = 2.6:1

Benefits: hospitalization, ambulatory services, others

<b>UTILIZATION, 8 MONTHS, 1990</b>	
<b>HOSPITALIZATION</b>	
<b>SURGERY</b>	80
<b>MEDICAL SERVICES</b>	60
<b>TOTAL HOSPITALIZATIONS</b>	140
<b>AMBULATORY SERVICES</b>	
<b>PHYSICIAN OFFICE</b>	8,093
<b>HOSPITAL-BASED</b>	26
<b>TOTAL AMBULATORY SERVICES</b>	8,119

<b>COMPANY PAYMENTS</b> (Current Intis)			
	(1) IPSS Cost <sup>1</sup>	(2) FAMILY HEALTH INSURANCE Cost	(3) RATIO (1)/(2)
<b>PAYMENTS (JANUARY - AUGUST, 1990)</b>	3,993,037,000	523,505,383	7.6:1
<b>COST/EMPLOYEE PER MONTH<sup>2</sup></b>	648,220	84,984	--
<b>COST/BENEFICIARY PER MONTH<sup>2</sup></b>	180,191	23,623	--

1. Health insurance portion only.

2. Employees = 770; beneficiaries = 2,770

Source: Company Records.

**EXHIBIT 44**  
**IPSS AND PRIVATE HEALTH INSURANCE COSTS,**  
**SIDSUR (COMPANY), AREQUIPA; INSURANCE PROVIDED BY LA POSITIVA, AREQUIPA**

*ELIGIBLES: ALL EMPLOYEES COVERED,  
 WHITE AND BLUE COLLAR*

TYPE	NUMBER
EMPLOYEES	147
DEPENDENTS	271
TOTAL	418

Ratio of dependents to employees = 1.8:1

<b>COMPANY PAYMENTS</b> (current Intis)			
	(1) IPSS <sup>1</sup>	(2) LA POSITIVA	(3) RATIO (1):(2)
<i>PAYMENTS (JULY 1990)</i>	401,238,550	60,884,688	6.6:1
<i>COST PER EMPLOYEE PER MONTH<sup>2</sup></i>	2,729,513	414,182	-
<i>COST PER BENEFICIARY PER MONTH<sup>2</sup></i>	959,901	145,657	--

1. Health insurance portion only.

2. Employees = 147; beneficiaries = 418.

Source: Company Records.

Both plans cover ambulatory services and hospitalization, although details about differences in benefits were not available. For this reason, the costs of these plans could not be compared. In addition, the relative cost of these private health insurance plans is likely to be different on a per-employee basis because one is a self-insured plan and the other is a commercial plan.

For each plan, however, the cost relative to the cost of IPSS health coverage for the same employees was estimated. For the SEAL plan, estimated IPSS health insurance contributions were 7.6 times more expensive relative to the cost of group commercial insurance coverage provided by La Positiva. For the SIDSUR plan, the cost of IPSS health insurance was 6.6 times more expensive relative to the cost of the company's self-insured plan.

The data suggest at first glance that private coverage may be relatively inexpensive compared with the current costs of IPSS health insurance premiums, but it is not clear that this is the case. It is important to recognize that IPSS health insurance provides completely free care, including drugs, prosthetic devices, and other goods, and beneficiaries have no co-payments or other required cost sharing.

As noted earlier, there is widespread use of private health insurance by large and medium-sized employers, which indicates that there is significant demand for coverage among employers for higher-quality or speedier health care than is delivered by IPSS. IPSS participation is mandatory, and purchasing private health insurance does not exempt employers from continuing contributions to this system. The cost that employees and companies are willing to bear to purchase an alternative to the IPSS service delivery system indicates that IPSS does not fully satisfy demand for health insurance among companies that can afford to buy additional coverage despite the high cost of IPSS premiums.

### **6.3 PRIVATE PHARMACIES IN AREQUIPA**

The study team performed an informal survey of six major pharmacies in Arequipa to obtain information on the demand, supply, and cost of medications.

Between 50 percent and 70 percent of all prescription medications at pharmacies studied were purchased without a physician's prescription. The most commonly purchased drugs are antibiotics and chemical therapeutics for different types of infections. These include penicillin, megacillin, and other antibiotics. Next in terms of volume are analgesics. Anti-respiratory infection drugs are also among the most commonly sold.

Pharmacies surveyed were given a list of four common prescription drugs and asked to provide price information for these items immediately before and after the recent "ajuste." Before the "ajuste," prices of drugs were controlled by government regulation. According to new economic policies of the Fujimori Government, drug prices hereafter will be set by the market. Following the "ajuste," pharmacies (like other commercial establishments) did not have reference prices upon which to base the decontrolled prices of medications. Therefore, price increases have been exaggerated, with prices increasing by 300-800 percent. In the case of other products, prices set immediately post-"ajuste" have subsequently dropped substantially as consumers have resisted purchases. In addition, producers and retailers have probably determined that their costs were not going to rise as much as originally anticipated.

Drugs manufactured outside of Peru experienced even greater than average price increases because of government policies to restrict import goods. These imported products are said by pharmacies to have increased in cost (the official government table price) as much as 1,600 percent compared with pre-"ajuste" prices.

Drug pricing in Peru is affected also by taxes and by government-allowed margins on sales. CONAMID, which is charged by the government with the distribution of generic drugs, explained the pricing structure. A general sales tax of 14 percent is levied on the cost of drugs to the pharmacy, establishing the base cost of drugs to the pharmacy. A CONAMID representative said that, according to the Colegio Químico Farmacéutico, the retail sale price to the consumer is calculated with a margin for the pharmacy of 35 percent. However, in reality, the actual margin is about 53 percent. Other sources state that the official retail margin is supposed to be 24 percent. Retail sales carry an additional 14 percent sales tax on the retailer's margin.

Pharmacies frequently do not provide sales receipts to customers, allowing them to avoid paying taxes on margin for these sales. It is likely that unit sales are most frequently affected by this practice. Pharmacies sell generic drugs in limited quantities and types.

Pharmacies commonly charge customers for a consultation ("consulta") as part of the process of recommending drugs for patients without prescriptions. Some pharmacies indicated that they were charging I/. 100,000 for "consultas". The feeling among pharmacies is that this practice will soon become sanctioned by the Colegio Químico Farmacéutico. Thus, it can be expected that the role of pharmacies in dispensing drugs to the public will expand to include services normally performed by physicians.

Pharmacies surveyed stated that the mode of financing of supplies varies with the general economic situation. Before the "ajuste," during a period of rampant inflation, distributors were reluctant to give credit to purchasers or, if they did, it was for very short periods (less than one week) at compensatory rates. After the "ajuste," sales are more sluggish and pharmacies say that credit is available more readily, although also only for short terms. Because of significant price rises, suppliers probably needed to provide more extensive credit to enable pharmacies to restock.

#### **6.4 CONCLUSIONS AND RECOMMENDATIONS ON PRIVATE SECTOR PROVISION OF HEALTH SERVICES**

Arequipa has an active and diverse private sector, although we have insufficient detailed information about its breadth or financing mechanisms to fully understand it. Before taking full advantage of private health resources, it is important to gather additional information on the types available, prices charged, fee waiver practices, ability of local firms to accept government contracts from health care institutions, etc.

There appears to be a small insurance market in Arequipa. Most of the expansion will depend on broadening the types of services offered, rather than on expanding the population covered.

The Government of Arequipa can promote private sector financing of services, through third-party payers or managed care arrangements, in two ways. First, on the demand side, it can provide technical assistance and loans to small enterprises to help them create a viable risk pool and establish a prepaid arrangement with a provider. Second, it can increase the supply of providers by providing credits to associations of physicians who provide managed care options to groups of patients.

More importantly, as stated in the conclusions of the section on IPSS, the Social Security Institute could make direct arrangements with the private sector for provision of care to beneficiaries. A study should be carried out to determine the relative costs of direct provision by IPSS versus financing of privately provided care. --

## 7.0 HOUSEHOLD SURVEY OF HEALTH CARE CONSUMERS

The following sub-sections present the results of the survey of approximately 600 households in Arequipa, which was carried out to obtain background information on utilization and attitudes toward health service providers. As stated in the description of survey methodology (Section 2 of this report), the survey is best understood as a first, rough effort to seek population-based information on the behavior of people in using the health sector.

### 7.1 SURVEY RESULTS

#### 7.1.1. Number of Completed Interviews

As shown in Exhibit 45, of the 600 target interviewed, 580 were completed and the representation of each stratum was approximately equal to that originally intended.

EXHIBIT 45				
TARGET, ACTUAL SAMPLE SIZES, AND INDIVIDUAL AND HOUSING CHARACTERISTICS BY RESIDENTIAL STRATUM				
	RESIDENTIAL STRATUM			
	LOWER INCOME	MIDDLE INCOME	UPPER INCOME	TOTAL
TARGET SAMPLE SIZE	300	240	60	600
ROW PERCENT	50	40	10	100
ACTUAL SAMPLE SIZE	302	220	58	580
ROW PERCENT	52	38	10	100
INDIVIDUAL CHARACTERISTICS				TOTAL SAMPLE PERCENT
LITERACY (%)	84	99	98	91
EDUCATION:				
INCOMPLETE PRIMARY (%)	25	6	5	15
COMPLETE PRIMARY ONLY (%)	15	11	3	15
SOME OR COMPLETE UNIVERSITY (%)	9	44	54	21
HOUSEHOLD SIZE:				
1-3 CHILDREN (%)	53	70	64	56
5 OR MORE CHILDREN (%)	29	11	12	26
EMPLOYMENT STATUS (AGES 18-64)(%)				
RESPONDENTS EMPLOYED (%)	43	54	57	79
HOUSEHOLDS WITH ONE SPOUSE EMPLOYED (%)	63	49	46	51
HOUSEHOLDS WITH BOTH SPOUSES EMPLOYED (%)	25	30	35	44
HOUSEHOLDS WITH NEITHER SPOUSE EMPLOYED (%)	8	7	9	11
HOUSING CHARACTERISTICS				
SANITARY SERVICES:				
HOUSEHOLDS WITH FULL SANITARY SERVICE (WATER AND SEWER) IN HOUSE (%)	40	99	100	58
HOUSEHOLDS OBTAINING DRINKING WATER FROM TANK TRUCK (%)	11	0	0	6
HOUSEHOLDS WITH LATRINE ONLY (%)	22	0	0	11
OWNERSHIP OF ASSETS:				
HOUSEHOLDS OWNING DWELLING (%)	82	71	71	70
HOUSEHOLDS OWNING REFRIGERATOR (%)	33	78	90	47
HOUSEHOLDS OWNING TELEPHONE (%)	1	26	61	10
HOUSEHOLDS OWNING CAR (%)	6	34	51	16

### 7.1.2. Characteristics of the Sample and Stratification

A comparison of household and individual characteristics across residential strata was performed to validate the socioeconomic significance of the stratification method chosen. As is shown in Exhibit 46, the individuals and households from Stratum 1 (lower income) exhibited important differences in their characteristics relative to those in the two other strata. For example, respondents from the first stratum were more illiterate, less educated, had a larger family size and, for individuals of working age, were less likely to be employed than were those in the two other strata. With regard to housing characteristics, residents from the first stratum were less likely to have potable water and sanitary hookups in their homes than were the residents of the other strata. Finally, ownership of refrigerators, cars, and telephones was much less prevalent in Stratum 1 than elsewhere.

EXHIBIT 46 INCIDENCE OF HEALTH PROBLEMS AND USE OF HEALTH CARE PROVIDERS				
	RESIDENTIAL STRATUM			
	LOWER INCOME	MIDDLE INCOME	UPPER INCOME	TOTAL
INTERVIEWED HOUSEHOLDS	302	220	58	580
ILLNESS REPORTED IN LAST 12 MONTHS	135	79	24	238
COLUMN PERCENT	45	36	40	41
HEALTH SERVICE USE BY THOSE REPORTING AN ILLNESS <sup>1</sup>				TOTAL SAMPLE PERCENT
TRADITIONAL HEALERS	8	5	1	6
SELF MEDICATION	15	13	14	14
PRIVATE PHARMACY	15	11	8	13
MOH HEALTH CENTER	23	16	10	19
MOH HOSPITAL	15	13	10	14
IPSS FACILITY	11	21	20	15
PRIVATE CLINIC	2	3	14	4
PRIVATE PHYSICIAN'S OFFICE	11	18	23	15
TOTAL	100	100	100	100

1. Percentages correspond to instances in which use of that provider was reported.

While the attributes listed above differed in an important way between Stratum 1 and the other strata, no important differences were observed between the second and third strata. A possible explanation for this is that while the stratification criterion may have been successful in defining two distinct populations -- lower-income and the rest -- it may have failed to distinguish between middle- and upper-income groups. An alternative explanation is that the three income strata may indeed have differed, but the variables used above to compare strata were not adequate to discriminate between the middle- and upper-income strata.

### 7.1.3. Illness Incidence and Health Services Use

Overall, 40 percent of the respondents reported a health problem in the 12 months preceding the survey, with small variations across strata (Exhibit 46, above). All respondents reporting an illness (n=238) within the one-year recall period were asked about their use of health services, including traditional (e.g., faith healers) sources. Patterns of service and facility use were tabulated by residential stratum.

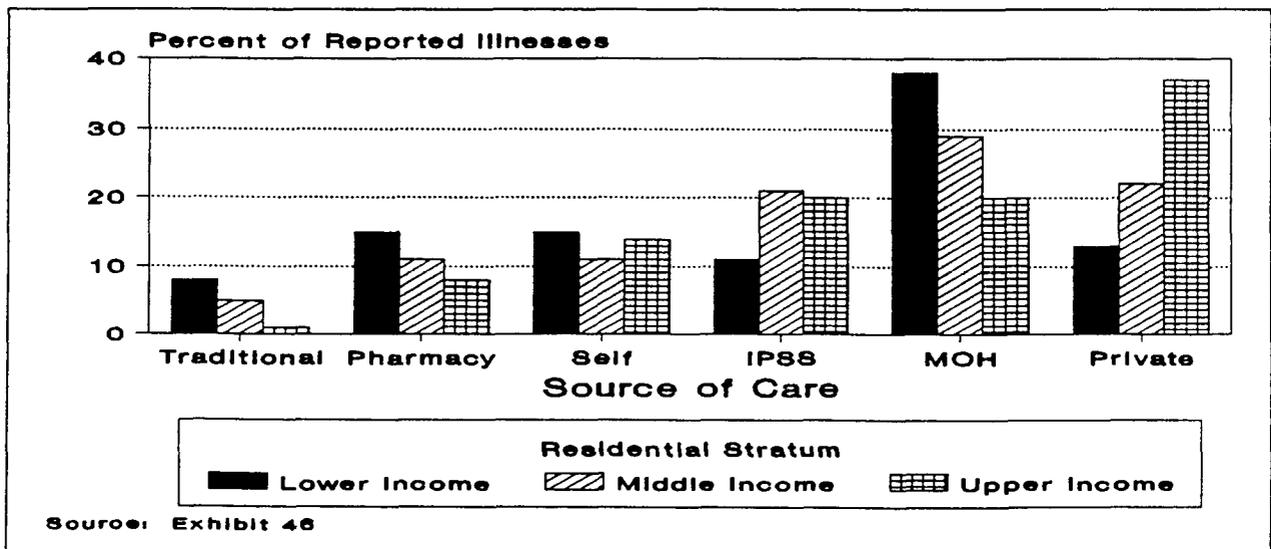
In another survey of health care utilization in Peru (Encuesta Nacional de Nutrición y Salud, Perú, 1984), 37 percent of the respondents reported one or more health problems during a two-week recall period. This is equivalent to 9.6 illness episodes or accidents per person annually. Similar rates have been found in Colombia, El Salvador, and the Dominican Republic. The much lower rate obtained in Arequipa (on average, 0.5 annual illness episodes or accidents per person) may be attributable to the way the question about incidence was asked, and particularly to the fact that the head of household was interviewed on behalf of the other household members. In the other surveys referred to above, each household member was asked about his or her health status and health events.

Significant differences in facility and service use were observed among respondents residing in the three strata. Although traditional or faith healers were the least-used providers among all groups, their use was inversely related to income.

A higher proportion (50 percent) of Stratum 1 residents used the services of private pharmacies, compared with Stratum 2 (34 percent) and Stratum 3 (25 percent) residents. This difference may be evidence of pharmaceutical supply problems among Stratum 1 residents who are significantly more likely than other residents to use MOH services (health centers and hospitals) where pharmaceutical supplies are short. As implied by anecdotal evidence presented elsewhere in this study, lower-income MOH health service users satisfy their demand for pharmaceutical supplies through private pharmacies while Stratum 2 and Stratum 3 residents are more likely to be able to obtain drugs through private physicians' offices, IPSS facilities, or private clinics.

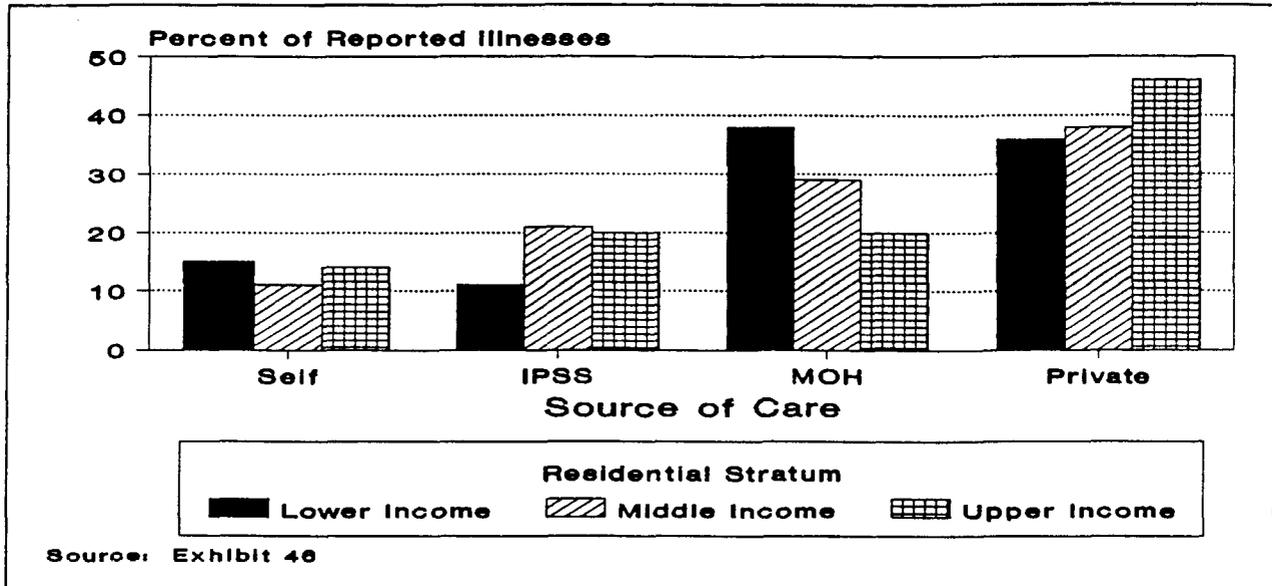
Exhibit 47 displays the data in a slightly consolidated form, arranged in terms of increasing use by the upper-income stratum. MOH services (either hospital or clinic) are the most frequently used by all groups except the wealthiest one, and the MOH serves a relatively larger share of the poor stratum than it does the middle and upper strata. The opposite is true of IPSS; even so, the MOH is at least as likely to be chosen as is IPSS by the two wealthier groups.

EXHIBIT 47 USE OF HEALTH CARE PROVIDERS BY INCOME GROUP



If the private sector is defined broadly to include traditional healers, private pharmacies, and private doctors, the graph would look quite different. The next figure (see Exhibit 48) shows more clearly the balance between the use of public and private services of all kinds. In this case, lower- and middle-income individuals are nearly as likely to seek private care as are upper-income individuals. Again, IPSS use is greatest among middle- and upper-income households; and MOH facilities are used most by the lower-income households.

EXHIBIT 48 USE OF HEALTH CARE PROVIDERS BY INCOME GROUP, WITH ALL PRIVATE SERVICES COMBINED INTO ONE CATEGORY



#### 7.1.4. Out-of-Pocket Payment for Health Services

To determine consumers' readiness to pay part or all of the cost of health care services, the survey asked all respondents whether they were used to paying for health services. Respondents reporting a health problem in the past year who obtained care were also asked whether they had paid for their care and, if so, what proportion of the providers' full price they had paid (see Exhibit 49). No attempt was made to ascertain actual amounts paid for services, because the inflationary environment precluded direct comparisons even within very narrow time frames.

	RESIDENTIAL STRATUM			
	LOWER INCOME	MIDDLE INCOME	UPPER INCOME	TOTAL
ALL RESPONDENTS: USED TO PAYING OUT-OF-POCKET FOR HEALTH SERVICES (%)	84	87	79	85
ALL RESPONDENTS: WITH A RECENT HEALTH PROBLEM OBTAINING HEALTH CARE WHO PAID FOR IT (%)	90	86	75	87
SICKNESS EPISODE: OUT-OF-POCKET PAYMENT IN WHICH PAYMENT WAS EQUAL TO FULL PRICE (% OF THOSE PAYING)	65	74	67	68
SICKNESS EPISODE: OUT-OF-POCKET PAYMENT IN WHICH PAYMENT WAS PART OF FULL PRICE (% OF THOSE PAYING)	35	26	33	32

Eighty-five percent of all respondents said they were used to paying for health services (first row) and slightly more respondents reporting a health problem and obtaining care indicated that they paid for health care (second row).

When asked what proportion of costs respondents actually paid out-of-pocket for recent health service use, respondents in all three strata gave similar answers. Between 65 and 75 percent of respondents stated that they had paid the full price of care. Another 26 to 35 percent stated that they had paid part of the price.

These data on the respondents' expectations and experience regarding payment provide strong evidence that respondents are accustomed to cost sharing, even if only on a modest scale, and that cost sharing is an expected and commonly accepted form of financial participation in health care across all socioeconomic strata. This finding is consistent with anecdotal evidence reported elsewhere in this study.

#### 7.1.5. Insurance Beneficiary Status of All Household Members

As mentioned earlier, an important objective of the household survey was to determine the rate of health insurance coverage among residents of Arequipa. As shown in Exhibit 50, nearly half (45 percent) of all persons interviewed (n=580) stated that they had no insurance coverage of any kind, while 39 percent responded that they had IPSS coverage only, and 16 percent of all persons interviewed stated that they had both private health insurance and IPSS coverage.

EXHIBIT 50 INSURANCE BENEFICIARY STATUS OF ALL HOUSEHOLD MEMBERS BY RESIDENTIAL STRATUM				
INSURANCE STATUS REPORTED	RESIDENTIAL STRATUM			
	LOWER INCOME	MIDDLE INCOME	UPPER INCOME	TOTAL
NO INSURANCE [COLUMN %]	184 [61]	64 [29]	16 [27]	261 [45]
IPSS COVERAGE ONLY [COLUMN %]	85 [28]	110 [50]	30 [53]	226 [39]
IPSS COVERAGE AND PRIVATE INSURANCE [COLUMN %]	33 [11]	46 [21]	12 [20]	93 [16]
TOTAL	302	220	58	580

The proportion of individuals indicating some insurance coverage is higher than might be expected. For example, published estimates of IPSS coverage suggest that population-based coverage is around 20 percent or less. As noted earlier, however, the Regional IPSS administration in Arequipa set estimated coverage rates considerably higher. Similarly, coverage figures obtained from the local insurance industry suggest that approximately five percent of the population of the region is covered by private health insurance.

Several factors may account for the discrepancy between the survey and the other estimates noted. First, the survey was performed in an entirely urban setting where concentrations of individuals employed in the formal economy are very high compared with the norm for Peru as a whole. Interviews were conducted in residential areas, which would tend to bias the selection of interviewees toward higher incomes and increased insurance coverage.

Second, data for all respondents are unweighted and therefore do not accurately reflect the true socioeconomic mix of the region. The results by stratum (Exhibit 50, above) are considerably more consistent with the study

team's expectations, based on other data sources. Nearly two-thirds of Stratum 1 residents stated that they had no insurance of any kind. Stratum 1 coverage rates were observed to be half the rates of coverage indicated by respondents in Strata 2 and 3. In addition, Stratum 1 IPSS coverage (28 percent) is more consistent with other independent estimates.

According to the data, approximately 10 percent of Stratum 1 respondents interviewed stated that they had some form of private health insurance compared with 20 percent of respondents in Strata 2 and 3.

#### 7.1.6. Choice of Health Care Provider According to Insurance Beneficiary Status

This sub-section focuses on the use of health care provider type by those individuals who reported a health problem in the last year and obtained health care. In accordance with the rest of the report, health care providers have been classified into three categories: MOH providers (including hospitals and health centers), IPSS providers, and private providers. Exhibit 51 shows the number of instances that the individuals reporting an illness obtained care from each of the above providers, by residential strata. An instance corresponds to at least one visit to the provider. It is understood that a person's single illness episode may have resulted in multiple visits to a single provider type or to several provider types. In the remainder of this discussion, the term "user" is adopted to refer to an instance of use. Overall (bottom right of the table), 391 instances were reported, of which 250 took place at MOH facilities, 113 at IPSS facilities, and 28 with private providers.

EXHIBIT 51 CHOICE OF HEALTH CARE PROVIDER ACCORDING TO HEALTH INSURANCE BENEFICIARY STATUS OF THOSE REPORTING AN ILLNESS AND OBTAINING CARE, BY RESIDENTIAL STATUS (numbers indicate instances when use of provider was reported)						
	TYPE OF HEALTH CARE PROVIDER					
	(1) MOH HEALTH CTR	(2) MOH HOSP'L	(3) MOH FACILITY 1+2	(4) IPSS FACILITY	(5) PRIVATE PROV.	(6) TOTAL 3+4+5
<b>STRATUM 1</b>						
NO INSURANCE COVERAGE	75	51	126	15	7	148
IPSS COVERAGE ONLY	18	10	28	26	2	56
PRIVATE INSURANCE AND IPSS COVERAGE	10	5	15	8	2	25
TOTAL STRATUM 1	103	66	169	49	11	229
<b>STRATUM 2</b>						
NO INSURANCE COVERAGE	16	18	34	8	2	44
IPSS COVERAGE ONLY	17	10	27	37	3	67
PRIVATE INSURANCE AND IPSS COVERAGE	4	2	6	5	2	13
TOTAL STRATUM 2	37	30	67	50	7	124
<b>STRATUM 3</b>						
NO INSURANCE COVERAGE	4	4	8	2	4	14
IPSS COVERAGE ONLY	2	3	5	10	2	17
PRIVATE INSURANCE AND IPSS COVERAGE	1	0	1	2	4	7
TOTAL STRATUM 3	7	7	14	14	10	38
<b>ALL STRATA</b>						
NO INSURANCE COVERAGE	95	73	168	25	13	206
IPSS COVERAGE ONLY	37	23	60	73	7	140
PRIVATE INSURANCE AND IPSS COVERAGE	15	7	22	15	8	45
TOTAL FOR ALL STRATA	147	103	250	113	28	391

About 59 percent (229) of the total instances were attributed to Stratum 1 residents, while 32 percent (124) and 9 percent (38) were attributed to residents from Strata 2 and 3, respectively. These percentages closely match the distribution of respondents by strata (see Exhibit 45). The total number of instances in Stratum 3 was small enough to require a warning that the patterns shown may be a poor approximation of the actual distribution of visits in the wealthier population.

The insurance beneficiary status of users, by type of health care provider, is explored in Exhibit 52. Overall (i.e., for all strata), 53 percent of all users had no insurance, and 47 percent had IPSS coverage. Of these 47 percent, 36 percent had only IPSS coverage, and 11 percent had both IPSS coverage and private health insurance. As expected, these overall percentages are similar to those reported in Exhibit 50 for all respondents and the same is true within strata.

EXHIBIT 52 COMPOSITION OF FACILITY CLIENTELE ACCORDING TO HEALTH INSURANCE BENEFICIARY STATUS OF THOSE REPORTING AN ILLNESS AND OBTAINING CARE, BY RESIDENTIAL STATUS (percent by type of health care provider and computed based on information from Exhibit 51)						
	TYPE OF HEALTH CARE PROVIDER					
	(1) MOH HEALTH CTR	(2) MOH HOSP'L	(3) MOH FACILITY 1+2	(4) IPSS FACILITY	(5) PRIVATE PROV.	(6) TOTAL 3+4+5
<b>STRATUM 1</b>						
NO INSURANCE COVERAGE	73	77	75	31	64	65
IPSS COVERAGE ONLY	17	15	17	53	18	24
PRIVATE INSURANCE AND IPSS COVERAGE	10	8	8	16	18	11
TOTAL STRATUM 1	100	100	100	100	100	100
<b>STRATUM 2</b>						
NO INSURANCE COVERAGE	43	60	51	16	29	35
IPSS COVERAGE ONLY	46	33	40	74	43	54
PRIVATE INSURANCE AND IPSS COVERAGE	11	7	9	10	28	11
TOTAL STRATUM 2	100	100	100	100	100	100
<b>STRATUM 3</b>						
NO INSURANCE COVERAGE	57	57	57	14	40	37
IPSS COVERAGE ONLY	29	43	36	72	20	45
PRIVATE INSURANCE AND IPSS COVERAGE	14	0	7	14	40	18
TOTAL STRATUM 3	100	100	100	100	100	100
<b>ALL STRATA</b>						
NO INSURANCE COVERAGE	65	71	67	22	47	53
IPSS COVERAGE ONLY	25	22	24	65	25	36
PRIVATE INSURANCE AND IPSS COVERAGE	10	7	9	13	28	11
TOTAL FOR ALL STRATA	100	100	100	100	100	100

Across all three strata, the majority of MOH users were people without insurance: as shown at the bottom of the table, two-thirds (67 percent) of all MOH users (column three) had no insurance coverage; 33 percent (24 percent plus 9 percent) of all MOH users had IPSS coverage, and a small proportion (9 percent) of all MOH users had private insurance.

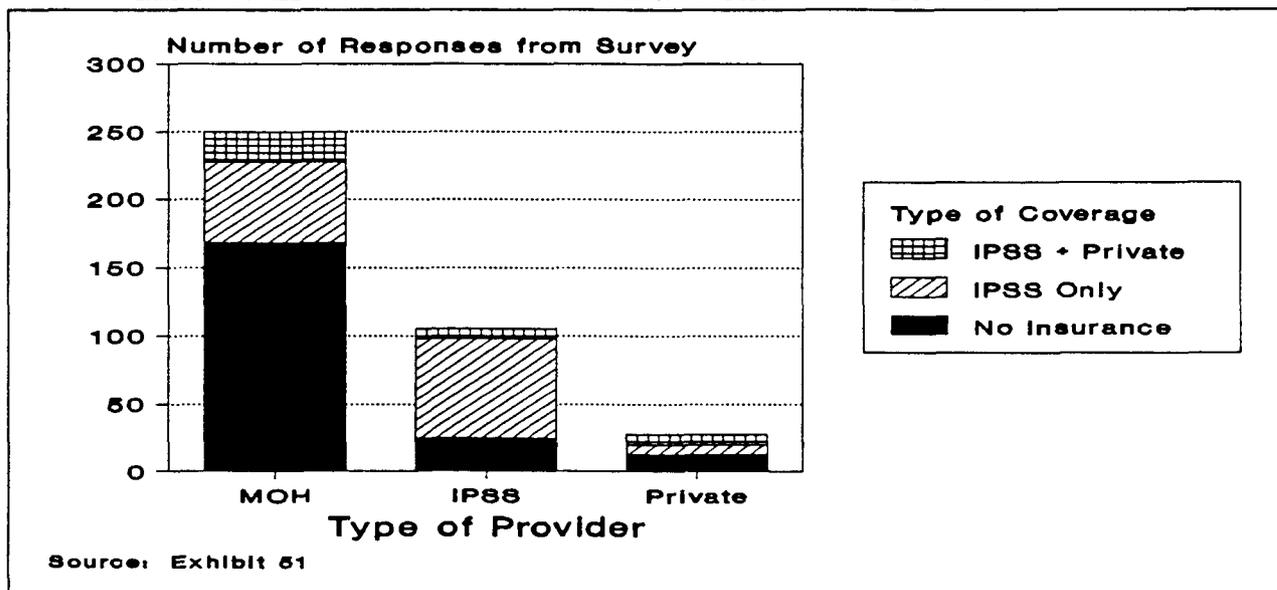
Overall, more than one-fifth (22 percent) of all IPSS users were non-IPSS beneficiaries, a rather anomalous situation. When compared with results from similar studies in other Latin American countries, however, this finding is not surprising: In El Salvador (Bitran, 1990), 21 percent of all social security

users had no social security coverage; in Santo Domingo, Dominican Republic (Bitran, 1990), the equivalent figure was 31.4 percent. It would be important for authorities in Arequipa to find out under what circumstances people who are not eligible for IPSS coverage obtain IPSS health care services.

More than 70 percent (46 percent plus 25 percent) of all private provider users did not have private insurance, a result that resembles the findings from the studies in El Salvador and the Dominican Republic, cited above. Thus, though the private sector appears to play a small role as a provider (see discussion below), a majority of its users are uninsured. Stratum 1 had the highest percentage of private-sector users without insurance (82 percent), an interesting finding considering that private sector prices are much higher than those in other sectors. In general, and for all three strata, the insurance beneficiary status by provider type more or less reflects the insurance status of individuals reported in Exhibit 49.

Exhibit 53 concisely shows the relative numbers and composition of facility clientele by insurance coverage. Among those seeking private care, about one-third have IPSS and private coverage; another third have only IPSS coverage; and the remainder have no insurance coverage. Among users of IPSS, the majority are IPSS beneficiaries; however, as noted elsewhere, a substantial portion of IPSS users have no coverage. Finally, among users of MOH facilities, more than one-third of the individuals report themselves as IPSS beneficiaries.

EXHIBIT 53 RELATIVE NUMBERS AND COMPOSITION OF FACILITY CLIENTELE BY INSURANCE COVERAGE



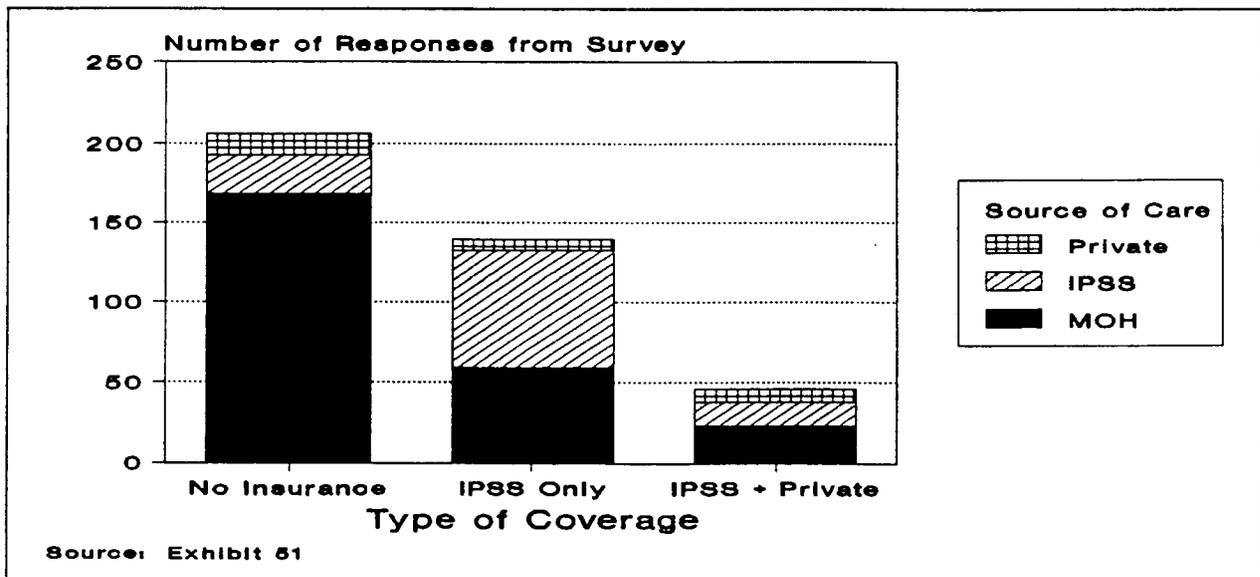
The choice of provider within each insurance beneficiary group, and by strata, is explored in Exhibit 54 (below). This table, like Exhibit 52, is constructed based on the data from Exhibit 51, except that here the percentages are computed row-wise. Overall (bottom section of the table), the MOH accounted for about two-thirds (64 percent) of all users, the IPSS for 29 percent, and the private sector for only seven percent. These results contrast sharply with the findings from the two other Latin American countries referred to above. In both El Salvador and Santo Domingo, the private sector accounted for more than half of all users.

EXHIBIT 54 CHOICE OF HEALTH CARE PROVIDER ACCORDING TO HEALTH INSURANCE BENEFICIARY STATUS OF THOSE REPORTING AN ILLNESS AND OBTAINING CARE, BY RESIDENTIAL STATUS (percent by health insurance beneficiary status and computed based on information from Exhibit 51)						
	TYPE OF HEALTH CARE PROVIDER					
	(1) MOH HEALTH CTR	(2) MOH HOSP'L	(3) MOH FACILITY 1+2	(4) IPSS FACILITY	(5) PRIVATE PROV.	(6) TOTAL 3+4+5
<b>STRATUM 1</b>						
No Insurance Coverage	51	34	85	10	5	100
IPSS Coverage Only	32	18	50	47	3	100
Private Insurance and IPSS Coverage	40	20	60	32	8	100
<b>TOTAL STRATUM 1</b>	<b>45</b>	<b>29</b>	<b>74</b>	<b>21</b>	<b>5</b>	<b>100</b>
<b>STRATUM 2</b>						
No Insurance Coverage	36	41	77	18	5	100
IPSS Coverage Only	25	15	40	55	5	100
Private Insurance and IPSS Coverage	31	15	46	39	15	100
<b>TOTAL STRATUM 2</b>	<b>30</b>	<b>24</b>	<b>54</b>	<b>40</b>	<b>6</b>	<b>100</b>
<b>STRATUM 3</b>						
No Insurance Coverage	29	29	58	13	29	100
IPSS Coverage Only	12	17	29	59	12	100
Private Insurance and IPSS Coverage	14	0	14	29	57	100
<b>TOTAL STRATUM 3</b>	<b>18</b>	<b>18</b>	<b>37</b>	<b>37</b>	<b>26</b>	<b>100</b>
<b>ALL STRATA</b>						
No Insurance Coverage	46	35	81	12	6	100
IPSS Coverage Only	26	16	43	52	5	100
Private Insurance and IPSS Coverage	33	16	49	33	18	100
<b>TOTAL FOR ALL STRATA</b>	<b>38</b>	<b>26</b>	<b>64</b>	<b>29</b>	<b>7</b>	<b>100</b>

As shown at the bottom of Exhibit 54, uninsured individuals were very likely (81 percent) to use MOH services, and only a few of them (six percent) used private care.

Again, a graphic representation makes the points more clearly. Exhibit 55 shows the distribution of patients across providers according to insurance coverage

EXHIBIT 55 DISTRIBUTION OF PATIENTS ACROSS PROVIDERS ACCORDING TO INSURANCE COVERAGE OF PATIENTS



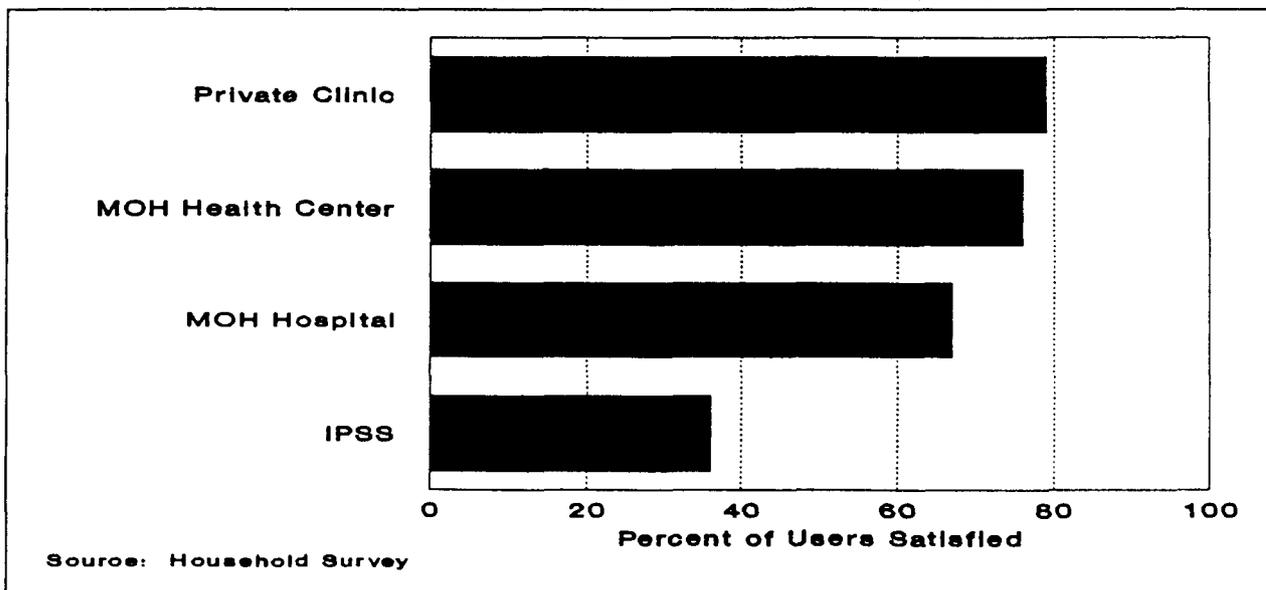
coverage. An interesting finding is that among IPSS beneficiaries, only one-half chose IPSS services, whereas 43 percent sought care in MOH facilities. This result may reflect the fact that IPSS facilities are overcrowded and that, while in theory a rather large percentage of the population has been entitled to IPSS services, in practice only about half of them find it convenient to use IPSS care. Thus, to a large extent, the expansion of IPSS coverage that took place during the government of Mr. Alan García appears to be a political measure that yields little to a large fraction of the presumed beneficiaries.

Finally, it is interesting to note that one-half (50 percent) of the individuals who claimed to have both health insurance and IPSS coverage used MOH services, and less than one-fifth (17 percent) of them used private sources of care.

### 7.1.7. User Satisfaction with the Services Obtained

Overall satisfaction with the services received was highest for MOH health center and private clinic users (76 percent and 79 percent, respectively). MOH hospital users reported a somewhat lower overall satisfaction (67 percent) with the care received. Overall satisfaction with IPSS care was the lowest (36 percent). See Exhibit 56.

EXHIBIT 56 HOUSEHOLD'S OVERALL SATISFACTION WITH PROVIDERS USED DURING THE PREVIOUS YEAR



For most measures of satisfaction, MOH health center users were consistently satisfied with the services. User satisfaction with MOH health centers was most comparable with user satisfaction with private clinic services, though the types of services received from either of these two types of facilities may have been very different. The main exceptions to this pattern were in supplies and materials availability, and in drug availability, both of which appeared to be lacking in MOH health center facilities. In these areas, private facilities had much higher ratings of satisfaction.

## 7.2 CONCLUSIONS ON HOUSEHOLD SURVEY

A high proportion of the interviewees indicated that they were accustomed to paying for health services in both private and public facilities. This was confirmed by the high share (87 percent) of interviewed users from all three strata who reported paying for health care. Thus, public acceptance of payment for health care is well established. Given that well over two-thirds of those with a recent illness episode paid full price and that two-thirds of those using a formal provider reported using an MOH facility, there must be a high incidence of out-of-pocket spending in connection with visits to the public sector. The formal implementation of user fees at MOH facilities therefore would not constitute a departure from current practice. Further refinement of the fee system at MOH facilities could improve the efficiency of the cost recovery system, as well as its equity. This requires an analysis of the current system of fees, a study of health facility costs, and knowledge about the population's demand for health care services.

The high IPSS coverage figures reported by the regional IPSS office in Arequipa were confirmed by the survey findings. IPSS coverage, however, was much higher in middle- and upper-middle income strata (about 70 percent) than in the lower-income group (about 40 percent), although 40 percent coverage among the low-income stratum is high. The difference in coverage among strata may reflect the fact that lower-income individuals are less likely to be employed in the formal sector. This suggests that IPSS coverage in urban areas of Arequipa may be much higher than that of rural areas where formal employment is less prevalent, and that an important policy issue is the question of whether there are ways to expand coverage of those populations, or if they are already well served by other institutions.

Despite the high IPSS coverage rates observed, more than one-half of the IPSS beneficiaries who obtained health care during the survey's reference period chose non-IPSS facilities, most of them going to MOH sources. This pattern may be a matter of choice or may reflect that only a portion of the people who claim IPSS coverage are able to benefit from IPSS health services (the latter possibility is fairly unlikely in this urban center, where most IPSS facilities are located). The survey also showed that IPSS providers received the lowest quality rating by the population. It may also be that, since IPSS benefits for dependents are limited, those individuals must seek care elsewhere.

The expansion of IPSS coverage was accomplished during the previous Administration in Peru, and it is unclear whether all the people who claim to be IPSS affiliates are required to make periodic contributions to the IPSS health fund. In any case, the IPSS should re-examine its current coverage policy to make it more fair and rational. To many employees and employers, the monthly payments to the IPSS health fund may be no more than a tax that bears little or no relationship to the employees' ability to obtain IPSS health care services.

High use of MOH care by IPSS beneficiaries suggests the possibility that IPSS could be used as a source of revenue for the public system, that MOH could get reimbursed by the latter for the care given to IPSS beneficiaries. This would improve the financial situation of MOH facilities. The same should be true in the case of privately-insured individuals, since one-half of the privately-insured obtaining care choose MOH facilities.

Approximately 16 percent (see Exhibit 50) of the population reported double coverage, with private insurance and IPSS. Yet, in practice, less than one-fifth of those reporting private coverage used private services. A partial explanation for this phenomenon is that, in many cases, private insurance appears not to cover ambulatory care.

Overall, the MOH plays a leading role as a provider of health services, capturing 64 percent of utilization of formal medical care outlets. The IPSS is also a large provider, with 29 percent of utilization. Private physicians account for only a small fraction of total health care use in urban Arequipa -- about seven percent of the total, although their share is much higher among the wealthiest stratum. We do not observe from the survey the use of private providers in public facilities, which may be an important source of care. Considering the fact that there are few IPSS facilities in rural areas and that the private sector there appears to be less developed, the MOH may be virtually the only source of health care in rural areas of Arequipa, although we have no information on use patterns in rural areas.

The apparent minor role of the private sector as a provider of services contrasts sharply with the findings of studies of health care utilization in other Latin American countries. For example, even in rural areas of El Salvador, private sector providers account for 43 percent of total utilization of curative ambulatory services. It is apparent that there are barriers to private growth in the health sector in Arequipa, and it would be important to find out what these are. Elsewhere, the private sector has been shown to be an efficient provider of quality health care services, and that should also be the case in Arequipa. As part of its health strategy, the Government of Arequipa should explore the conditions that would motivate health care professionals and private sector entities to participate in the delivery and financing of health care services and infrastructure, particularly in rural areas.

## 8.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This section presents a brief summary description of the characteristics of the public, quasi-public, and private health sectors in the Arequipa Region, focusing on the structure, patterns of expenditures, and current sources of revenues. Bringing together information from each of the sectors, conclusions are drawn about the health resources available in the region, and the most effective means of coordination among them. Finally, recommendations are made regarding possible actions by the Regional Government, as it attempts to maintain and improve the health of the population under the current social service regionalization plan. In addition, recommendations are made for consideration by USAID/Lima.

### 8.1 OVERVIEW OF THE HEALTH SYSTEM IN AREQUIPA

#### 8.1.1. The Ministry of Health

The MOH is charged with providing public health services and medical care to the portion of the population without access to other care. About 95 percent of the MOH revenue in Arequipa comes from Peru's Treasury; the remaining five percent is derived from various user fees in MOH facilities. As shown in this report, the MOH is an inadequately funded agency that also provides substantial amounts of care to citizens who are covered by IPSS and/or private health insurance.

##### 8.1.1.1. Description of the Ministry of Health

The MOH operates and staffs 179 health facilities throughout Arequipa Region, including 41 health centers, 134 health posts, and four hospitals. It employs 276 physicians, 517 nurses and midwives, 1,460 other non-administrative personnel, and 140 administrative staff.

There is a consensus among experts that MOH health personnel are highly qualified. However, quality of care is jeopardized by lack of pharmaceutical products and other medical supplies at MOH facilities, and deteriorated physical infrastructure.

MOH resources, like the population, are heavily concentrated in urban Arequipa Province. The average population per health center or health post in the rural and coastal zones is less than in Arequipa Province, which reflects the dispersion of facilities and population. Even so, much of the rural population may still face substantial transport time to reach rural facilities, because the rural population is very widely dispersed.

Arequipa Region has more MOH hospital beds per capita (one bed per 829 inhabitants) than the national average (one bed per 2,500 inhabitants), but utilization is low. The four hospitals operated by the MOH function at low and

declining occupancy rates. Between 1985 and 1988, the number of discharges rose slightly, but much more slowly than the urban population served by the hospitals. In 1988, the MOH's largest inpatient facilities in the region, Goyeneche Hospital and Honorio Delgado Hospital, had occupancy rates of 58 percent and 63 percent respectively, down from 63 percent and 77 percent in 1985. Occupancy rates fell despite the rise in discharges due to shorter lengths of stay.

According to the household survey, among respondents reporting a recent illness, an average of 19 percent sought care at an MOH health center, and 14 percent used MOH hospital facilities. Health center use was more common in lower-income households than in middle- and upper-income strata (23, 16, and 10 percent, respectively).

Improvements in MOH services depend on the answers to three questions: (1) Is this low level of spending directed to services that would improve health? (2) Can the total budget amount be increased? (3) Can it be spent more efficiently to get more output per Inti expended?

Given the turn toward a regionalized system, the MOH must move toward local generation of revenue to supplement transfers from the national government. Lack of funding is partially a result of inadequate use of opportunities for cost recovery through user fees, with user fees too low to cover a substantial portion of costs. In addition, private units within public facilities are underutilized. Evidence from interviews conducted as part of the study suggests that low use is primarily because of lack of amenities.

Sources of inefficiencies in the MOH include centralized management, duplication of hospital services, inadequate referral patterns, and poor pharmaceutical supply and delivery, leading to chronic shortfalls in needed medications.

### 8.1.2. The Peruvian Social Security Institute

IPSS health services are available only to the employees and dependents who are beneficiaries of the IPSS system, and are provided free of direct charge. Estimates of the IPSS beneficiary population in Arequipa vary from 15 to 40 percent. IPSS derives almost all of its revenue from employee payroll deductions and from employer contributions. There are no user fees, co-payments, or deductibles. The sum of these contributions represents 18 percent of the employees' salaries up to a maximum salary level.

#### 8.1.2.1. Description of the Peruvian Social Security Institute

IPSS provides pension benefits to its enrollees and health care services to its enrollees and dependents. Although the IPSS has regional offices throughout the country, the central IPSS offices in Lima are in charge of setting policy and administering IPSS funds nationwide. According to the regionalization laws, and in contrast to the MOH, the IPSS will remain a centralized institution.

Estimates of IPSS enrollment in Arequipa vary from a low of 15 percent to a high of 40 percent, the higher figure being based on IPSS records. Independent studies of IPSS affiliation in Peru place the figures between 15 percent and 20 percent nationally (Mesa-Lago, 1988). A small household survey conducted only in the capital city for this study found coverage of IPSS to stand at about 55 percent of households, which would lend credence to the higher figure of 40 percent for the region.

The infrastructure of IPSS underwent a significant expansion between 1985 and 1988. The number of IPSS ambulatory facilities increased from 13 in 1985 to 118 in 1988. A reversal in policy in 1989, however, resulted in the elimination of most IPSS ambulatory facilities, bringing the total down to about the 1985 level. Currently, the IPSS operates two hospitals that are contained in adjacent

buildings in Arequipa City, and 14 ambulatory facilities. In Mollendo, the IPSS operates a third hospital, part of which it makes available to the MOH. The major IPSS health facilities are located in or near Arequipa City, consistent with the fact that about 88 percent of all IPSS beneficiaries in the region live in that city.

In the household survey, respondents who used IPSS facilities had the lowest frequency of satisfaction, compared to MOH and private providers. Many private enterprises, whose employees are by law IPSS enrollees, offer alternative health care services with private providers to their employees and dependents. In some cases the companies organize their own health care services; in others, they purchase private health insurance.

This double coverage is costly. In the household survey, about 16 percent of respondents had this kind of double coverage. Health benefits accrue almost exclusively to the employee; dependents are entitled to a very limited set of benefits. In addition, available IPSS hospitals and clinics may be inconvenient relative to other available services. For instance, the household survey found that 43 percent of those with only IPSS coverage used MOH services, very close to the 52 percent who used IPSS facilities.

The IPSS also maintains a system of "free election," whereby beneficiaries can seek care from non-profit providers who are reimbursed by the IPSS on a fee-for-service basis. In practice, IPSS reimbursement rates are set so low that very few beneficiaries exercise this option.

In the case of employed individuals, IPSS draws its funds from employee payroll deductions and employer contributions. The contributions to IPSS represent currently 18 percent of the employee's salary. Half of this amount, or nine percent, is allocated to the health fund. IPSS also has independent enrollees who, in 1989, represented about five percent of all IPSS enrollees; they pay the entire 18 percent. No user fees are charged for use of IPSS services. The household survey found that about 22 percent of IPSS users were not covered by IPSS; it is not clear whether these patients receive free care or are private patients of IPSS physicians.

In recent years the IPSS has experienced operating deficits. IPSS officials cite several reasons for this performance, including IPSS contributions that have not caught up with inflation, under-reporting of salaries by the employees, and under-payment of the employee part of the contribution to IPSS by government agencies and enterprises.

IPSS expenditures followed the same pattern as income. Expenditures in 1985 were U.S.\$8.7 million, rising to U.S.\$19.1 million in 1987, suggesting that the patterns observed for both income and expenditures are linked to economic trends in Peru rather than to programmatic or coverage changes in the IPSS system itself. By 1989, when the number of facilities had returned to the 1985 level, expenditures were U.S. \$4,028,808.

Salaries accounted for an increasing proportion of regional IPSS health system expenditures over the period studied, rising from 45 percent of total expenditures in 1985 to about 54 percent in 1989. Employee pensions and

benefits, including contributions of IPSS itself and of IPSS employees to the IPSS insurance funds, are subsumed under current transfers. These costs accounted for an additional 15 percent of total IPSS expenditures in 1985 and rose to nearly 25 percent of total expenditures in 1989. Thus personnel costs totaled 60 percent of all IPSS expenditures in 1985 and nearly 80 percent of total IPSS expenditures in 1989.

In 1985, drugs, medical supplies, and laboratory supplies purchased for use in the service delivery system accounted for 32 percent of total expenditures. By 1989, this proportion had declined to 18 percent of total expenditures. In contrast to MOH facilities, which spend 90 percent of their funds on salaries, the IPSS has not been forced to squeeze out as much of its non-salaried inputs. However, the trend is in the direction of doing just that to maintain employment under a shrinking budget.

#### 8.1.2.2. Assessment of the Peruvian Social Security Institute

The coexisting MOH and IPSS systems offer several instructive comparisons. As noted above, the MOH system spent about U.S. \$1.89 per person in Arequipa Region in 1989. The IPSS health budget, U.S. \$4,028,808, was more than double the MOH budget for the region. Assuming that 40 percent of Arequipa's residents are IPSS beneficiaries (this is the highest estimate of coverage), it spent \$10.44 per beneficiary in 1989, about five times more than spent per capita by the MOH. Apparently almost all of the IPSS spending was for hospital-based services. If the IPSS and MOH budgets were combined, which is a purely hypothetical scenario, spending per capita on health services would climb to U.S. \$6.06 in the region.

What does the IPSS purchase with its much higher spending? First, as has already been pointed out, it is able to purchase drugs and laboratory supplies, which the MOH is almost completely unable to do. Second, it is able to maintain two virtually identical hospitals in the capital city that share the same grounds and provide the same services but operate as independent units. Third, it is able to maintain higher staffing levels. For example, the main MOH hospital (Honorio Delgado) has 6.3 beds per physician and discharges about 103 patients per physician per year. The IPSS consolidated hospital (Hospital Central del Sur) has only 2.1 beds per physician and discharges 63 patients per doctor per year. The IPSS hospital also maintains a more expensive staff: it has 1.5 nurses per physician, compared to 2.0 nurses per physician in the MOH hospital. (This ratio in an industrialized country would be four to seven nurses per physician).

There are also some cross-subsidies between the two systems, but the net flow of subsidies is from the MOH system to IPSS. The household survey found that of all reported sickness episodes that precipitated a visit to a clinic or hospital, about 33 percent of patients choosing MOH services were covered by IPSS. About 22 percent of those who used IPSS facilities had no insurance and should therefore have used MOH facilities. In raw numbers, 82 people with IPSS coverage used MOH clinics or hospitals; 25 people without IPSS coverage used IPSS facilities; and 88 people with IPSS coverage used IPSS facilities. These figures indicate a potentially implicit transfer of resources from MOH to IPSS by virtue of patients' use patterns. No mechanism exists for reimbursing the MOH for these

services. The subsidy from the poorer systems to the wealthier system also calls into question the formal separation of the two systems when in practice they are treated by patients as interchangeable to some degree.

These findings in combination with the "topping up" of IPSS benefits by employers, suggest very serious policy problems in the health sector revolving around the design of the IPSS system, how the MOH and IPSS systems might benefit from greater coordination or consolidation, how health sector goals are served or impeded by the dual MOH/IPSS structure and the dual structure (white collar versus blue collar) within IPSS, and how these two systems interact with the private sector (which must happen in a largely unobserved manner through the dual public/private activities of physicians). The basic policy issue is what is the government purchasing with the U.S. \$5,855,544 being spent from general revenues and the payroll tax relative to its goals in the health sector.

IPSS faces severe problems due to declining revenue and deterioration of infrastructure, combined with high and inflexible personnel costs. Opportunities exist for increasing efficiency of IPSS operations with improved allocation of physicians, and consolidation of redundant services.

If IPSS wishes to continue to provide direct health services to beneficiaries, a concerted effort is required to improve quality of care. At the present time, long waiting times and other aspects of poor quality are forcing employers to carry "double coverage" for workers, and enroll in additional health insurance programs. Over the long term, however, IPSS may choose to phase out direct service provision and/or make contributions voluntary.

### 8.1.3. The Private Sector

A complete inventory of private health care providers is difficult to obtain through a study of this nature, since there are no public records available on the number, types, and location of private providers in the region.

The study team obtained information from two institutional private health care providers: the Arequipa Clinic and the San Juan de Dios Clinic. The Arequipa Clinic has about 30 beds and provides mainly inpatient services, although plans for expanding outpatient services are under way. Arequipa Clinic is a private for-profit entity that belongs to a group of its attending physicians. The San Juan de Dios Clinic is a non-profit entity that operates 100 beds. Sixty of those beds are devoted to the provision of free care to children; the remaining 40 beds are allocated to the hospital physicians for their private patients. These physicians must pay to the clinic a portion of what they collect from their private patients. About 60 percent of the clinic's revenue comes from patients directly, or from their health insurance companies. The remaining funding for the clinic's operations comes from donations and fund-raising activities.

In addition to these two institutional providers of health care services, there are undoubtedly numerous other private institutional and individual providers of care in the region, including the health services owned and operated by some enterprises (e.g., some mining companies). Knowledge about their number,

the types of services offered, and the proportion of total utilization captured by these providers would give a more complete picture of the regional health care market. This was beyond the scope of this study.

Use of the private sector in Arequipa appears to be relatively low, according to the household survey, contrasting sharply with the findings of other studies of health care utilization in Latin America. Only 25 percent of respondents reporting that they sought care for a recent illness went to a private clinic, private physician's office, or traditional healer. Another 13 percent stated that they went to a private pharmacy for treatment.

Aside from the existence of private providers of care, there exist in Arequipa private health insurance companies and other financial intermediaries. The two largest health insurance companies in the region, La Positiva and Inti, insure approximately 36,000 individuals. In addition to the insurance companies, there are at least three private companies that process claims for institutional and independent private providers. The insurance companies appear to be prospering, in spite of the poor state of the overall economy.

The household survey found that less than one-fifth of the respondents with private insurance reported that they used the private sector during a recent illness. A partial explanation is that private insurance often does not cover ambulatory care.

#### **8.1.3.1. Assessment of the Private Sector**

Arequipa has an active and diverse private sector, and additional information is required on its breadth to gain a complete understanding of the role that the private sector does -- and could -- play in health financing. There is a booming insurance market in Arequipa. Its expansion will depend on broadening the types of services covered, rather than on expanding the population covered.

Opportunities exist for collaboration between the public and private sectors, and several private sector concerns have expressed interest in providing trained medical personnel to assist with public health programs.

A crucial policy issue in this area is the heavy dependence on the public sector to supply hospital services. Are there opportunities through insurance, prepaid private plans, reimbursement from IPSS, and other financial arrangements to encourage private sector expansion that would generate improved quality of care at the same or lower cost? Many of these techniques have been used in other countries, and their effects are well understood. It appears that to some degree the MOH and IPSS have "crowded out" some private sector activities in curative care because they have provided what amounts to part-time employment and capital equipment to assist physicians in their private practices. As in the earlier discussion of interactions between IPSS and MOH, health sector planning at the regional level could benefit from taking into account the potential for the private sector to take over the provision and financing of some curative care activities.

## 8.2. CONCLUSIONS AND RECOMMENDATIONS

With decentralization of health and other social services, in future years health care in the region will be financed primarily, if not exclusively, by the population of the region. The Regional Government has the opportunity to assess whether it should act as a policy leader, or as a service provider (through the regional MOH), or take on both roles.

In carrying out its goals of reducing infant and childhood morbidity and mortality, USAID/Lima might consider directing Child Survival resources toward assisting the regional governments with the challenges of allocating resources in a sustainable manner, consistent with sound health policy goals.

From review of the Project Paper and other documents, it appears that the Child Survival Action project has not pursued health financing as a strategy. However, without attention to resource allocation and financing issues, the primary care emphasis of the MOH may suffer as responsibilities are shifted from national to regional levels, and as hospitals continue to consume such a large share of resources as is apparent in the Arequipa Region. Consequently, advances in Child Survival programs, such as dissemination of information on appropriate treatment of diarrheal disease and implementation of immunization activities, may be jeopardized by financing practices that emphasize curative services. Because of this, it is critical for USAID/Lima to consider a variety of approaches to health financing assistance. It would be appropriate to place this within the context of the Child Survival activities. Many of the following recommendations for the MOH and USAID/Lima have particularly strong effects on the sustainability of Child Survival activities.

### 8.2.1. The Government of Arequipa as Policy Leader

Over the next years, the GOA will have the responsibility for drawing policies governing the provision and financing of social services. Policymaking can be a powerful mechanism for achieving desired health goals. In the case of health care, the GOA will have the opportunity to establish rules regarding its own role as a provider and financier of services as well as that of the private sector. If IPSS operations are eventually decentralized to the regional level, the GOA might also influence IPSS behavior through policymaking.

Coordination of the health sector through establishment of a health council: Critical aspects of policymaking within the health sector are definition of the roles of public and private entities, and coordination of their actions. In Arequipa, there is clear evidence of uncoordinated overlap, and opportunities for successful collaboration between MOH and IPSS, and between the public and private sectors. For instance, many IPSS-insured individuals are also covered by private health insurance, and many of those also seek care at MOH outpatient facilities. --

Recommendation 1: We recommend that the Government of Arequipa consider establishing a high-level health advisory council. Such a council could include representatives of the MOH, the IPSS, private providers and financiers of health care, enterprises, health professional agencies, and

the population. The function of the council would be to assist in the development of health care policy, define the roles of the various parties, and to provide the GOA with advice on regulation and related matters. Such councils exist in a number of countries, their roles depending on local practices and the determination of the local authorities to make the best use of all health resources for the benefit of the population.

USAID/Lima could assist the GOA in establishing such a council and could also provide technical expertise for assisting the council in its initial activities. These activities could take place within the context of the Mission's Child Survival activities, given the apparent importance of a reorientation of resource allocations in health for sustainable improvements in health service delivery in the public sector.

Recommendation 2: Health sector policy and resource allocation issues in the Arequipa Region require personnel in the ministry who can provide the type of analysis produced in the report, in support of policy decisions that must be made on a regular basis. USAID/Lima may wish to consider assisting in developing these resources within the regional ministry. A subsequent recommendation suggests that policy development be given more attention both regionally and nationally.

### 8.2.2. The MOH as Service Provider

To achieve financial sustainability of health service under the current regionalization plan, the MOH faces three key challenges: a) to avail itself of existing potential for local resource generation to finance its programs at an adequate level; b) to increase productivity in health facilities, given existing resource constraints; and c) to allocate public resources in line with health needs and its goals for the health sector.

Local resource generation through user fees: The results of this study suggest that increased emphasis on cost recovery within MOH facilities is warranted and should be pursued. Cost recovery through user fees is a commonly-established practice in MOH facilities, though in most cases the fees are minimal relative to costs.

A carefully designed cost recovery system can ensure that those able to pay subsidize the care of the indigent, and that preventive health services are promoted, while disincentives are instituted for overuse of certain types of curative care. If the MOH decides to formally adopt cost recovery in MOH facilities with the aim of raising substantial revenue, then decisions will have to be made regarding the types of cost recovery mechanisms to adopt. The most obvious mechanism is the adoption of user fees, although other mechanisms, such as prepayment, may also be possible.

Greater reliance on fees can help to achieve several other objectives: (a) allow MOH to charge IPSS for services rendered to its beneficiaries; (b) allow the MOH to reallocate its tax-supported funding away from curative services toward child survival and preventive activities; (c) allow MOH to target its

subsidies for curative care more directly to the needy; and (d) allow MOH institutions to improve the quality and efficiency of their services by having funds for non-salary expenses.

In general, imposition of appropriate user fees is a more effective means of financing health care than are many other funding mechanisms, including earmarked taxes. Taxes on cigarettes, alcohol, and automobile registration have often been suggested as taxes that could sensibly be earmarked for the health sector because the taxes would be on behaviors that tend to result in costly illnesses. Experience and estimates from other countries indicate that fairly large amounts of money can be raised with small taxes on such items. However, there are many arguments for and against earmarking, and the case to be made for earmarked health taxes is at best equivocal.

From an economic standpoint, earmarked taxes violate the basic rule that expenditures on all programs should be weighed against each other through an appropriate process and that all revenues should go into one pool to finance those programs. Earmarking is one way to circumvent this process. From a practical standpoint, earmarked excise taxes on cigarettes and beer are fixed to quantities, so revenues will tend to lag behind inflation unless the tax rate is constantly adjusted through legislative action, which is slow to take place under the best of circumstances.

From a medical standpoint, it may make sense to impose earmarked taxes on products such as cigarettes and beer in order to tax the associated unhealthful behaviors, but unless the taxes are extremely large they will not reduce the targeted behavior significantly (that is why they raise so much revenue), and the taxes will tend to be regressive, because the poor engage in these unhealthful behaviors and the taxes take a much higher share of their incomes than of wealthier households' incomes.

It is difficult to recommend earmarking as a strategy for increasing resources for the health system over the long run. If compared to user fees or insurance, earmarked taxes are almost certainly not to be preferred in the short run, because the health system has a much greater capacity to generate revenues from within its own system -- and retain control over those revenues -- than if the funds came from taxes.

Peru already has an earmarked payroll tax for health care that generates an amount equivalent to about nine percent of formal sector wages for health. Another high priority in the health sector is how to use that money wisely and efficiently in support of overall health sector activities.

Recommendation 3: We recommend that the Government of Arequipa consider refining the user fee mechanism within MOH hospitals, health centers, and health posts. To increase the effectiveness of this type of cost recovery, the MOH could consider developing a fee schedule that more closely reflects actual costs of services for those who can pay (private ward patients, insured patients, and IPSS enrollees); analyze the ways in which fees can be used to provide incentives and disincentives for use of particular types of services; design and implement an inexpensive but effective system to exempt the indigent; and develop a plan for --

disbursement of funds that provides incentives to health facilities to collect fees, but also benefits the health system as a whole by providing support for activities that do not lend themselves to fees (particularly activities related to child survival programs).

We recommend that USAID/Lima assess the feasibility of providing the resources to the Government of Arequipa for technical assistance in cost recovery at MOH facilities. As stated above, such assistance would be required for accurate costing of services, development of exemption mechanisms, and design and implementation of a financial management system. Again, such activities would be appropriately placed within a larger program to enhance public sector sustainability under the Mission's Child Survival projects.

Recommendation 4: We recommend that the Government of Arequipa carefully consider options with respect to private wards in public hospitals. There are many good arguments for and against private wards. Currently, however, they are poorly utilized, in a state of disrepair, and heavily subsidized with scarce public funds. Continuing to maintain these wards requires either that they be fully self-financing or that they provide other quantifiable benefits to the hospital that merit a subsidy. However, it is unlikely that existing private wards could become self-sustaining (or, possibly, profit centers) without considerable investment.

If it chose to support this activity, USAID/Lima could provide technical assistance to the MOH in performing the necessary analysis to develop policy options for the private wards. Such analysis would center on an assessment of the feasibility of shifting from the current situation, in which government funds subsidize the private wards, to one in which the wards break even or subsidize the public facilities.

Improving productivity through optimal resource allocation: Currently, the MOH is hampered from efficient operation through its staffing pattern, constraints on hiring and firing personnel, operation of redundant facilities, and centralized management. Given the large proportion of all expenditures devoted to staff, it is critical to look at personnel issues to improve efficiency. Ways of improving efficiency in MOH operations could also include innovative approaches to management. Centralized management of the type that is traditional in the MOH introduces rigidities in operations whose effectiveness depends on their being responsive to their surroundings, as is to some extent the case with health care facilities.

Recommendation 5: We recommend that the Government of Arequipa consider the possibility of decentralizing the MOH to the facility level responsibility (within limits) for decisions important to local service. Issues for local decision-making might include, for example, hours of operation; appropriateness of cost recovery, of particular kinds of cost recovery and fee levels; expenditure of all or part of cost recovery revenues. This would be very much in keeping with ideas expressed in the MOH 1989 planning document about restructuring and delegation of authority and responsibility for effective decentralization of peripheral health services, with emphasis on rural and marginal urban areas.

MOH efficiency can be increased by a cost-benefit analysis of the return to consolidating Goyeneche and Honorio Delgado Hospitals. A similar analysis should be performed for the two IPSS hospital blocks, and for potential consolidation and/or privatization of specific MOH and IPSS facilities or services (such as laboratory, cleaning, administration, maintenance, and so forth). Given the overlap in services provided and the low occupancy rates at the facilities, it is prudent to consider at least some level of coordination among hospitals and the agencies that own them.

Efficiency and quality of care can also be improved by providing appropriate incentives to health facility personnel. Possible incentives include performance bonuses or, where cost recovery is practiced, the ability of the employees to retain the facility's revenue beyond a pre-established limit. Non-monetary incentives should also be considered, as well as the contracting out of support activities to the private sector.

If it were consistent with the goals of the Child Survival or other projects in the health sector, USAID/Lima could aid the Government of Arequipa by providing technical assistance to carry out the background studies required to implement this recommendation, exploring potential for consolidation and privatization of some activities. For instance, a feasibility study would be required to assess the costs and benefits of consolidating MOH or IPSS hospitals in Arequipa City. A demonstration study of innovative management in a health center would be required to assess how best to allot decision-making authority.

Improving productivity in pharmaceutical procurement: The MOH requires a system that will ensure timely, reliable facility-level supply of good quality drugs at the most economical possible prices using funds generated at the facility level and/or from regional budget allocations. This report provides a case study about a large pharmacy that was established within an MOH hospital and self-financed through the sale of drugs. This case offers rich evidence that a well-stocked pharmacy can be financed through the sale of its drugs and managed in a decentralized manner.

Recommendation 6: Further study is needed to estimate level of needs, assess local factors pertinent to pharmaceutical system selection and design (e.g. transportation, wholesale drug supply capacity, storage facilities, experience in drug stock management, local procurement practices and experience), and to propose an approach. It will be critical to consider the option of contracting out pharmaceutical services to a private sector concern, which may prove to be the most cost-effective option.

USAID/Lima could provide external technical assistance to the MOH to carry out an assessment of options for improvement of pharmaceutical procurement, and assistance with implementation of the chosen option(s). --

Resource allocation in the public sector: Both Peru generally, and the Arequipa Region in particular, face some serious health problems. According to World Bank data, life expectancy at birth for women has increased since 1965 from 52 to 64 years. Infant mortality has declined from 130 to 86 deaths per 1,000 live

births. In comparison, Chile, which is close to Peru both geographically and in terms of income per capita, has seen female life expectancy rise from 63 to 75 years and infant mortality fall from 101 to 20. In short, by 1988, Peru had finally achieved the same life expectancy Chile had enjoyed 20 years earlier despite the fact that Peru had more physicians and nurses per capita than Chile over the entire time period. The patterns of illness and death in Arequipa appear to mimic those for Peru as a whole, and they are indicative of significant weakness in primary and preventive health services and slowness in resolving public health problems related to poverty, environmental conditions, and malnutrition. USAID's child survival program is oriented to solving these health problems, and countries like Chile have shown that it can be done.

The decentralization of health services in Peru creates both opportunities and potential problems in trying to improve the policy environment for the health sector. The opportunities stem from the fact that the provision and financing of MOH services will take place closer to the users. The problems stem from several sources: less ability to develop policy at the local level, and the consequent potential that budgets will be captured by providers, in service of their needs; a lack of decentralization of IPSS, with the result that MOH regional administrations will be in a very weak position to influence IPSS activities in their regions; and the possibility that funding for health services will begin to reflect regional disparities in income, with little or no offset from central funds. If the national MOH offices can supply support to policy development at the regional level and offsetting funds for poorer or less healthy areas, some of these problems can be neutralized or turned into advantages.

Recommendation 7: We recommend that USAID/Lima consider assisting both the central MOH and regional MOHs to develop a greater ability to make resource allocation decisions in the health sector that conform to goals and needs in the health sector. This initiative should include an improved ability to develop policy at all levels, to turn policy decisions into budgetary changes, and to evaluate the effects of policy changes after they are made. In particular, the central and regional MOHs require the development of financial and policy tools to solve serious, persistent problems in child health and weaknesses in both public health and services. They also need strategies to successfully implement the decentralization without harming the poorer and weaker regions, and to interact successfully with IPSS even if plans for integration do not succeed.

There are many other issues that merit attention at the level of overall policy and even may merit experimentation in order to achieve the end result of better health for Peru's citizens. An investment in this area, through technical assistance, training, and experimental field activities, may have a long-term payoff for the health sector.

### **8.3 CONCLUSION**

It is clear from the information gathered and analyzed on the MOH, IPSS, the private sector, and household utilization of health services that the Regional Government of Arequipa faces enormous challenges in achieving

sustainable health care for the population. However, there are important opportunities for improving the efficiency of health care provision within the MOH, for expanding the base of resources available to finance health services, for better meeting the health needs of the population, and for allocating resources consistent with health sector goals.

Under the regionalization plan, the Government of Arequipa will be able to play a key leadership role in developing the health sector to better meet the needs of Arequipa's population. Toward that end, USAID/Lima has the opportunity to consider specific means of assisting the Regional Government by providing critical technical assistance inputs, providing information for policy decisions and expertise for implementation of demonstration efforts.

## **APPENDIX A: Scope of Work**

### **A.1. Background**

On January 1, 1990, Peru began regionalization of health care as part of a process to decentralize all public services according to a National Regionalization Plan regulated by Public Law No. 232878. By the end of CY 1990, all public services will be provided through 12 new established regions with partial funding from the central government and also local taxes. Each region will have considerable administrative autonomy over its programs, including the responsibility to allocate funds among the various local public service organizations.

With the total financial burden of allocating limited resources to continue ongoing programs, it is anticipated that the new Regional Health Secretaries will be very interested in exploring ways to cut costs, improve management and financial accountability, and determine alternatives for financing curative and preventive health services at the regional level.

To assist in this process, USAID will conduct a study to gather base-line health care financing (HCF) information of primary health care institutions in Arequipa, one of the first newly designated regions. The Ministry of Health (MOH) of Arequipa Region currently supports a total of 32 health centers and 94 health posts. Additionally there are 16 Social Security (IPSS) and an unknown number of privately-operated health centers and posts. There is currently no information on costs and utilization of health services provided by these institutions or plans on how the new regions will be able to cover these costs.

### **A.2. Purpose**

The purpose of this study is to analyze health care costs, management, financial systems, utilization and allocation of funds from a sample of MOH, IPSS, and privately-managed health institutions in Arequipa and to recommend means for improvements and alternatives for financing which may include Ministry/IPSS contracting with the private sector for management and for delivery of services, cost recovery mechanisms, and options for an expanded utilization of private health care institutions. The report will also suggest possible future USAID activities with respect to primary health care financing with a focus on public/private sector collaboration.

### **A.3. Methodology**

A. The contractor will review and analyze current health care costs and financing, resource allocation, demand and utilization

information in Arequipa, including national and regional MOH, IPSS, and private sector records, and A.I.D. and other donor reports and surveys.

B. A sample of MOH, IPSS, and private hospitals, health centers, and health posts will be selected. At each site administrative personnel will be interviewed and financial and health records studied to prepare an analysis of overall operation costs and financing. If possible, information will be gender-disaggregated and will include allocation of resources between wage and non-wage uses and among primary, secondary, and tertiary care, and disaggregated by program, peri-urban or rural location, and institution.

C. The team will interview regional health officials, departmental and community authorities, health center and post personnel, and clients to solicit demand for services, cost recovery information, and consumer satisfaction.

D. The team will present a report to USAID/Lima containing the following information:

1. Cost structure, financing, and utilization of services for hospitals, health centers, and posts disaggregated by program, institution, and location;
2. Recommendations for alternative health care financing strategies which can be used by regional health authorities to reduce and/or recover costs and improve services, including consideration of privatization, and;
3. Recommendations for changes in current USAID projects and for future USAID assistance in PHC financing and programming with specific reference to identification of complementary private sector opportunities.

#### **A.4. Team Composition**

The team will consist of three specialists who possess skills in health care financing and economics, administration of health care services, and private sector health care options with respect to cost, cost recovery, privatization, and complementarity to public health services. Team members should be fluent in Spanish and English and familiar with the provision and financing of public and private primary health care services in Latin America. It is expected that one of the team members will be an expatriate and the other two Peruvians from the Arequipa Region. USAID will assist the contractor in identifying suitable local candidates.

### **A.5. Proposed Schedule of Activities**

An HFS consultant will visit one week in March 1990 to finalize the study design, select the two Peruvian team members, and collect background information. The team will begin to work in April 1990. The study will take approximately five weeks, (five-day work weeks).

### **A.6. Reporting Requirements**

The final report will have the following sections:

1. Executive Summary which summarizes the document, listing the purpose of the study and the major recommendations;
2. Paginated Table of Contents;
3. Methodology sections;
4. Body of the Report: This should include a description of the departmental context in which the study was developed and carried out, and provide the findings and problems encountered on which the conclusions and recommendations are based. Analyses of PHC cost structure and financing will be disaggregated into rural and peri-urban categories;
5. Conclusions: These should be short and succinct, with the topic identified by a short subheading. Conclusions should be related to findings;
6. Recommendations: These should correspond to the conclusions and wherever possible should specify who, or what agency, should take the recommended actions, including implications for follow-on USAID activities;
7. Appendices. These are to include at a minimum the following:
  - a. Scope of Work
  - b. Tools or questionnaire used in the investigation
  - c. List of persons and organizations consulted
  - d. Bibliography of documents consulted
  - e. List of places visited by the team

The Mission requires that the team deliver a draft final report in English before the team leaves Peru. An office at the Mission will be made available to the team, as well as a microcomputer with word processing software and printer. No secretarial services will be provided.

Within two weeks of receiving the draft final report from the team, USAID will review the report and FAX its comments to the contractor for incorporation into the final report. Within 30 days of receiving the written comments by USAID, the contractor shall mail

10 copies of the final report in English and Spanish to the following addressee: Charles Mantione, Health Officer, USAID/Lima, APO Miami 34031.

QUESTIONARIO M S X

APPENDIX B

No. de Encuesta:..... Código Encuestadora:.....  
 Código: Barrio/Urbanización/Pueblo Joven:.... Código Distrito:....  
 Calle :..... No.....

CARACTERISTICAS DEMOGRAFICAS Y SOCIO-ECONOMICAS

Edad del Entrevistado : \_ \_ 001\_\_

SEXO: Masculino  1 Femenino  2 002\_\_

GRADO DE INSTRUCCION

- Sabe leer Ud. Si  1 No  2 003\_\_

- Hasta que año ha estudiado Ud:

Primaria Incompleta  1 Secundaria Completa  4  
 Primaria Completa  2 Universitaria Incompleta  5  
 Secundaria Incompleta  3 Universitaria Completa  6 004\_\_

ESTADO CIVIL

Casado/a  1 Soltero/a  2 Viuda/a  3 005\_\_

Otro  4 \_\_\_\_\_ 006\_\_  
 ( Especificar )

NUMERO DE HIJOS EN CASA

1  2  3  4  5+ NINGUNO  9 007\_\_

OCCUPACION

Esta Ud. Trabajando actualmente : Si  1 No  2 008\_\_

Cuál es su ocupación \_\_\_\_\_ 009\_\_  
 ( Especificar )

(Si tiene esposo/a ) Esta su esposo/a trabajando actualmente:

Si  1 No  2 010\_\_

Cuál es la ocupación de su esposo/a \_\_\_\_\_ 011\_\_  
 ( Especificar )

AGUA Y DRENAJE

Agua y Drenaje Si  1 No  2 012\_\_

Agua solo Si  1 No  2 013\_\_

Agua de camión Cisterna/tanque Si  1 No  2 014\_\_

Letrina Si  1 No  2 015\_\_

Otro \_\_\_\_\_ 016\_\_  
 ( especificar )

**VIVIENDA**

Su vivienda es: Propia  1 Alquilada  2 017\_\_  
 Material de su casa: Noble  1 Rústico  2 018\_\_

**TIENE USTED**

Refrigeradora Si  1 No  2 019\_\_  
 Teléfono Si  1 No  2 020\_\_  
 Automóvil/Caminoneta/Camión Si  1 No  2 021\_\_  
 Otro tipo de Vehículo a motor Si  1 No  2 022\_\_

=====

EN LOS ULTIMOS MESES UD. O ALGUN MIEMBRO DE SU FAMILIA ESTUVO ENFERMO: Si  1 No  2 023\_\_

=====

EN CASO DE SER "NO" PASAR AL ITEM No 34 ----->----->----->

=====

**QUIEN SE ENFERMO**

Ud.  1 Esposo/a  2 Hijo/a  3 Otro familiar  4 024\_\_

CUAL ES EL TIPO O NOMBRE DE LA ENFERMEDAD QUE TUVO : \_\_\_\_\_ 025\_\_  
 ( Especificar )

CUANTOS DIAS ESTUVO ENFERMO: \_\_\_ días 026\_\_

PASO ALGUNOS DIAS EN REPOSO :  
 Si  1 No  2 027\_\_

Cuántos días en reposo \_\_\_ días 028\_\_

ESTUVO HOSPITALIZADO :  
 Si  1 No  2 029\_\_

Cuántos días de hospitalización \_\_\_ días 030\_\_

CUANTOS DIAS DE TRABAJO PERDIO : \_\_\_ días 031\_\_

FUE NECESARIO CONSEGUIR ASISTENCIA FUERA DE SU CASA PARA TRATAR O CURAR LA ENFERMEDAD QUE UD. O ALGUN MIEMBRO DE SU FAMILIA TUVO:  
 Si  1 No  2 032\_\_

EN CASO DE RESPONDER "SI". CUAL FUE EL SERVICIO O LUGAR AL CUAL UD./O ALGUN MIEMBRO DE SU FAMILIA ACUDIO : \_\_\_\_\_ 033\_\_  
 ( Especificar )

=====

EN GENERAL QUIEN DECIDE A DONDE IR PARA CONSEGUIR ASISTENCIA MEDICA: <-----<-----<-----<

Ud.  1 Esposo/a  2 Hijo/a  3 Otro familiar  4 034\_\_

ACOSTUMERA UD. O SUS FAMILIARES CONSEGUIR ASISTENCIA DE:

Curandero/partera	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	035__
Farmacia	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	036__
Automedicación	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	037__
Consultorio Privado/Médico Particular	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	038__

EN EL ULTIMO AÑO, UD. O ALGUN FAMILIAR HA USADO O VISITADO CUALQUIER SERVICIO DE ASISTENCIA MEDICA DEL CENTRO DE SALUD/POSTA MEDICA.

Si  1 No  2 (En caso de ser "NO" pase a la No. 56) 039\_\_

QUE TIPO DE SERVICIOS LE PROPORCIONARON EN EL CENTRO DE SALUD/POSTA MEDICA:

Atención Médica	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	040__
Inmunizaciones/Vacunas	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	041__
Dental	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	042__
Control del Embarazo	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	043__
Planificación Familiar	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	044__
Otro	_____		045__
	( Especificar )		

EN TERMINOS GENERALES, QUEDO SATISFECHO CON LA ATENCION RECIBIDA :

Si  1 No  2 046\_\_

QUE PIENSA UD. DE LA ATENCION QUE RECIBIO:

- El costo de la atención fué justo :	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	047__
- Lo hicieron esperar mucho tiempo :	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	048__
- Le brindaron buen trato :	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	049__
- Falto materiales de Laboratorio / Pruebas diagnósticas/placas de RX:	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	050__
- Faltó medicamentos :	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	051__
- Hubo profesional para atenderle :	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	052__
- Esta muy lejos de su casa :	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	053__
- Le agradó la calidad del servicio :	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	054__
- El horario fue adecuado :	Si <input type="checkbox"/> 1	No <input type="checkbox"/> 2	055__

EN EL ULTIMO AÑO UD. O ALGUN FAMILIAR HA USADO O VISITADO CUALQUIER SERVICIO DE ASISTENCIA MEDICA DEL SEGURO SOCIAL/IPSS.

Si  1 No  2 (En caso de ser "NO" pase a la No. 70) 056\_\_

**QUE TIPO DE SERVICIOS LE PROPORCIONARON EN EL SEGURO SOCIAL/IPSS**

- Consulta Ambulatoria Análisis/RX /Otro Servicio Ambulatorio Si  1 No  2 057\_\_
- Hospitalización Si  1 No  2 058\_\_
- Otro : \_\_\_\_\_ ( Especificar ) 059\_\_

EN TERMINOS GENERALES, QUEDO SATISFECHO CON LA ATENCION RECIBIDA :

Si  1 No  2 060\_\_

QUE PIENSA UD. DE LA ATENCION QUE RECIBIO:

- El costo de la atención fue justo : Si  1 No  2 061\_\_
- Lo hicieron esperar mucho tiempo : Si  1 No  2 062\_\_
- Le brindaron buen trato : Si  1 No  2 063\_\_
- Falto materiales de Laboratorio / Pruebas diagnósticas/placas de RX: Si  1 No  2 064\_\_
- Faltó medicamentos : Si  1 No  2 065\_\_
- Hubo profesional para atenderle : Si  1 No  2 066\_\_
- Esta muy lejos de su casa : Si  1 No  2 067\_\_
- Le agradó la calidad del servicio : Si  1 No  2 068\_\_
- El horario fue adecuado : Si  1 No  2 069\_\_

EN EL ULTIMO AÑO UD. O ALGUN FAMILIAR HA USADO O VISITADO CUALQUIER SERVICIO DE ASISTENCIA MEDICA DEL HOSPITAL GOYENECHE/HONORIO DELGADO U OTRO HOSPITAL DEL MINISTERIO DE SALUD

Si  1 No  2 (En caso de ser "NO" pase a la No. 84) 070\_\_

**QUE TIPO DE SERVICIOS LE PROPORCIONARON EN EL HOSPITAL**

- Consulta Ambulatoria Análisis/ RX/Otro Servicio Ambulatorio Si  1 No  2 071\_\_
- Hospitalización Si  1 No  2 072\_\_
- Otro : \_\_\_\_\_ ( Especificar ) 073\_\_

EN TERMINOS GENERALES, QUEDO SATISFECHO CON LA ATENCION RECIBIDA:

Si  1 No  2 074\_\_

QUE PIENSA UD. DE LA ATENCION QUE RECIBIO:

- El costo de la atención fue justo : Si  1 No  2 075\_\_
- Lo hicieron esperar mucho tiempo : Si  1 No  2 076\_\_



POR SU CUENTA PROPIA CUANTO PAGO UD. POR LOS SERVICIOS  
 Todo  1 Una parte  2 Nada  3 100\_\_

CUENTA UD CON ALGUN TIPO DE SEGURO MEDICO:

Seguro Social/IPSS Si  1 No  2 101\_\_  
 Seguro Privado Si  1 No  2 102\_\_  
 Seguro Familiar Si  1 No  2 103\_\_  
 Seguro de su Empresa Si  1 No  2 104\_\_  
 Otro Seguro ----- 105\_\_  
 ( Especificar )

SI TIENE SEGURO:

En general, paga su seguro una parte del costo:  
 Si  1 No/ No tiene Seguro  2 106\_\_

En general, cuanto paga su seguro:  
 Todo  1 Una parte  2 Nada  3 107\_\_

CUAL FUE EL NOMBRE DEL SEGURO QUE PAGO  
 ----- 108\_\_  
 ( Especificar )

SI TUVIERA CONDICIONES PARA SELECCIONAR EL LUGAR DONDE PREFIERE RECIBIR SERVICIOS DE SALUD, CUAL SERIA:

Servicios Seguro Social/IPSS Si  1 No  2 109\_\_  
 Servicios Centros/Postas Salud Si  1 No  2 110\_\_  
 Servicios de Hospitales/Ministerio de Salud: Goyeneche H. Delgado Si  1 No  2 111\_\_  
 Servicios de Clínica Privada/Particular Si  1 No  2 112\_\_  
 Otro ----- 113\_\_  
 ( Especificar )

SI TUVIERA CONDICIONES PARA OBTENER UN SEGURO DE SALUD, CUAL PREFIERE ESCOGER:

Seguro Social/IPSS Si  1 No  2 114\_\_  
 Seguro Privado Si  1 No  2 115\_\_  
 Seguro Familiar Si  1 No  2 116\_\_  
 Seguro de su Empresa Si  1 No  2 117\_\_  
 Otro Seguro ----- 118\_\_  
 ( Especificar )

AQUI TERMINA LA ENCUESTA "GOOD BYE"

### APPENDIX C: Adjustment Factors Used for Conversion of Current Intis

The first set of adjusters allowed conversion of current (actual) Intis to "constant" Intis, defined as the value of the Inti in base year 1985. These annual conversion factors were used to convert calendar year 1986, 1987, 1988, and 1989 financial information into Intis with a value equal to the base value of the Inti in 1985. The base (1985) Inti value and the conversion factors used for each year were:

1985 (base)	=	I./	1.00
1986	=	I./	1.76
1987	=	I./	3.12
1988	=	I./	20.98
1989	=	I./	419.26

The following formula was used to convert current Intis to base 1985 Intis:

$$\frac{\text{Current Intis}}{\text{Adjuster}} = \text{Base 1985 Intis}$$

A second type of adjuster allowed conversion of current (actual) Intis for each year of the study into a U.S. dollar equivalent value based on the average exchange rate for each year of the study, from 1985 through 1990. The average annual exchange rates used were:

1985	=	I./	13.95 per U.S. \$
1986	=	I./	13.95 per U.S. \$
1987	=	I./	23.00 per U.S. \$
1988	=	I./	1,132.00 per U.S. \$
1989	=	I./	13,760.00 per U.S. \$
1990	=	I./	175,000.00 per U.S. \$

## **APPENDIX D: Places Visited and Contacts in Arequipa**

### Regional Government of Arequipa

Victor Manzur Suarez, President  
Edgar Linares Huaco, Secretary of Social Services

### Ministry of Health, Arequipa Region

Dr. Rulo Ugarte Barillo, Director  
Goyeneche Hospital

-Marlene B.de Sarmiento, Social Worker  
-Former Director, Hospital Pharmacy

### Honorio Delgado Hospital

-Dr. Justo Bustamante Montealegre, Administrator  
-Dr. Caparo, Chief of Neurology and Director, Private

### Clinic

Hunter Health Center  
Yanahuara Health Center  
Manuel Prado Health Center

### Peruvian Institute of Social Security (IPSS)

Dr. Victor Raul Valdivia, Regional Director

Gino Davila Herrera, Sub-Director

Ronald Muro Ochoa, Sub-Director, Planning and Management

Mario Arce Munoz, Chief, Division of Planning and Budgeting  
Hospital Central del Sur

-Hospital "Empleado"

### Hogar Clinica San Juan de Dios, Clinica Hortencia

Hermano Antonio Medina, Brother Superior and Administrator

### Clinica Arequipa, S.A.

Dr. Benigno Lozada Stanbury, President, Board of Directors

### Compania Regional de Seguros, "La Positiva"

Alejandro F. Ibarra C., Manager, Health Insurance Division

### Asesores Y Coredores de Seguros, S.A., "Inti"

### Gonzalo Garcia Bragagnini & Asociados

Gonzalo Garcia

### Sociedad Electrica del Sur Oeste, S.A. (SEAL)

### SIDSUR

### Banco Popular del Peru

### Compania de Minas Tintaya

## **APPENDIX E: Acknowledgements**

The author wishes to thank the staff of USAID/Lima for its support in organizing and completing the study. In particular, Edgar Necochea provided invaluable assistance in the initial days of the research.

### **E.1. Health Sector Participants**

The information used in preparation of this report was collected with the assistance of numerous individuals and organizations.

The field research conducted in Arequipa Region benefited from the collaboration and cooperation of individuals and organizations throughout the health system. Participants generously contributed their time as well as their expertise in assisting the author and the research team. Their contributions are gratefully acknowledged.

The Regional Government of Arequipa, under the leadership of President Victor Manzur Suarez, graciously provided support and encouragement for the goals of the study. The Secretariat of Social Services, under the direction of Edgar Linares Huaco, and the Director of the Regional Ministry of Health, Dr. Rulo Ugarte Barillo, provided essential commitments of free access to staff and information at all levels in the public sector health system. Unfortunately, it is impossible to acknowledge each contributor individually.

The administration and staff of the Instituto Peruano de Seguridad Social (IPSS), Region Arequipa, under the direction of Dr. Victor Raul Valdivia, Regional Administrator, provided extensive assistance in preparing information on the resources and utilization of the IPSS health insurance and service system. This effort, undertaken despite significant time and resource constraints on the part of IPSS, was initiated by Gino Davila Herrera and ably led by Ronald Muro Ochoa, Sub-Director of Planning and Budgeting. He was assisted in this time-consuming effort by Mario Arce Munoz, Chief of the Planning and Budgeting Division, and by Cesar Simborth Velasquez, Jimmy Escalante Palacios, Carlos Cuadros Gallegos, Gilma Begazo Cardenas, and Socorro Arenas Guillen.

Hermano Antonio Medina, Superior of the Order of Brothers and Chief Administrator of the Clinica San Juan de Dios, provided useful background on the history and objectives of the clinic. Dr. Benigno Lozada, President of the Board, provided information regarding the Clinica Arequipa.

Two insurance companies, Asesores Y Corredores de Seguros, S.A., "Inti", and "La Positiva," Compañia Regional de Seguros, S.A., provided valuable information on the role of private health insurance in Arequipa. Private companies, including Cia. Minas Tintaya, Sociedad Electric del Sur Oeste, S.A.(SEAL), and SIDSUR

provided information regarding company policies and expenditures for health coverage. Dr. Gonzalo Garcia provided information on the changing market for private health insurance in Arequipa and on the growth of new insurance products.

Finally, several private pharmacies in Arequipa shared information with the study team on sales, financing, and costs of pharmaceuticals.

Without the generous cooperation of all these individuals and organizations, this study could not have been completed.

## **E.2. Field Study Team**

Research for this study was conducted by the author working in collaboration with local health sector experts in Arequipa. The author gratefully acknowledges the contributions and support of these health professionals.

Dr. Vicente Saenz, Coordinator of the USAID Child Survival Project in Arequipa Region, and former Director of the Hospital Regional Honorio Delgado, served as Senior Advisor to the Arequipa Health Systems and Financing Study. Dr. Crisogono Rubio assisted in identifying local experts for participation in the field research.

The following sectoral teams and individuals assisted in the study research:

### **Ministry of Health:**

Ingeniera Gladys Garnica, Senior Analyst, Department of Statistics and Planning, Departmental Health Unit, Ministry of Health, Arequipa Region

Dr. Juan Fernando Malpica Faustor, former General Director, Office of Technical Assistance, Departmental Health Unit, Ministry of Health, Arequipa Region

### **Peruvian Institute of Social Security (IPSS):**

Dr. Juan Manuel Malaga Gomez de La Torre, former Director of the IPSS Hospital del Obrero, currently Head of the Department of Preventive Medicine, Hospital Central del Sur, Arequipa

Dr. Jose Francisco Valdivia N., former Director, IPSS Arequipa

### **Private Sector**

Dr. Crisogono Francisco Rubio Barrios, neurosurgeon and attending physician at Clinica Hortencia, Hospital San Juan de Dios

Dr. Raul Lazarte Cardenas, internist and attending physician at Clinica Hortencia, Hospital San Juan de Dios, and former Director, IPSS Hospital del Obrero, Arequipa; member of Arequipa AIDS Committee

Dr. Raul Lazarte Cuba, resident internist at Clinica Hortencia, Hospital San Juan de Dios

### Household Survey

Dr. Raul Miranda, Senior Epidemiologist, Ministry of Health, Lima, former Director, Centro de Salud Paucarpata, Arequipa

Ingeniero Enrique Valderrama, Director, Centro de Computo, Unidad Departamental de Salud, Region de Arequipa

### Interviewers:

(Professors of Obstetrics)

Vick de Vinatea  
Berta Lazo Herrera  
Sobi Cartillo de Carpio  
Amelia Ludina de Saenz  
Jennet Escobedo

(Students of Obstetrics)

Gregorio Alvarado Garcia  
Seisbel Bilbao Portugal  
Marizela Bengoa Rondah  
Carla Apaza Gutierrez  
Silvia Sanchez Wilson  
Lorena Obando del Carpio  
Gabriela Almenara Sandoval  
Amparo Lajo Aguipe  
Yngrid Zea Fernandez  
Gladys Cota Miranda  
Nancy Mellado Calle  
Ana Barrantes Limahuaya  
Flor Deza Luz Marina  
Flossy Gamarra Coazvila  
Deysi Garcia Pena  
Zoila Estrada Saavedra  
Maribel Lopez Gallegos  
Odeli Delgado Holguin  
Miriam Arce Maldonado  
Ludgarda Fuentes Alvarez  
Isabel Salas Gomez  
Maritza Huanca Tarbisco  
Maria Gomez Suca  
Maria Elena Valdivia Grande

**APPENDIX F**  
**ABBREVIATIONS**

CONAMID	Comisión Nacional de Medicamentos, Insumos y Drogas
FONAVI	Fondo Nacional de Vivienda
GOA	Government of Arequipa
HCF	Health Care Financing
HFS	Health Financing and Sustainability Project
IPSS	Instituto Peruano de Seguridad Social (Peruvian Social Security Institute)
MOH	Ministry of Health
USAID	United States Agency for International Development

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