HEALTH CARE DECENTRALIZATION IN PARAGUAY: EVALUATION OF IMPACT ON COST, EFFICIENCY, BASIC QUALITY, AND EQUITY-BASELINE REPORT

To entire on-line report in English

To entire on-line report in Spanish

Note: The report is available both in English and Spanish. Annexes A (Maps) and E (Questionnaires) are only available in print. E-mail measure@unc.edu for a printed copy of the report.

The Executive Summary of the report appears below.

EXECUTIVE SUMMARY

During the past decade, policymakers responsible for the development of national health policy have looked increasingly at the decentralization of health care services as way to improve the delivery of health services. It is generally believed that by replacing a centralized and hierarchical administrative system with one that is controlled at the local level, a health system will be more efficient, more responsive to local needs, and provide better quality services. To date, however, there has been relatively little scientific evaluation of the health and other effects of health system decentralization.

Paraguay's decentralization initiative presents a unique opportunity to examine the impact of this process for two reasons. First, it has been possible to collect information from health facilities and households before the decentralization, and second, the phased implementation of decentralization has enabled the identification of a control group, thus including in the analysis the performance under the centralized regime.

This report presents the results of the first phase of the study, which consists of establishing baseline measures for key performance indicators. These results present the status of the health care system in the study municipalities prior to implementation of decentralization.

Study Objective

The objectives of this study are to identify and to quantify changes in the health care system that result from the transfer of management control for basic health services provision from the central to municipal governments in Paraguay. Specifically, this study examines the impact of decentralization in the following four areas:

- Cost of providing basic health care services
- Efficiency in the use of resources to provide basic health services
- Basic health service quality at health facilities and from the client's perspective
- Patterns of health service use and equity in the use of health services by the population

Health Reform in Paraguay

The health reform process in Paraguay can be divided into two phases. The first phase (1990-1995) is characterized by the "deconcentration" of administrative responsibilities within the structure of the Ministry of Health (*Ministerio de Salud Público y Bienestar Social*, MSPBS). During the first phase, certain administrative responsibilities were transferred from the central levels of the MSPBS to the Health Regions (*Regiones Sanitarias*).

The second phase of health reform, which started at the end of 1995, involves the transfer of key managerial responsibilities from the central to municipal governments. The main municipal authorities are directly elected by the municipality's population. Through decentralization, the municipal government assumes administrative, supervisory and monitoring responsibility for public facilities. The municipal government, in turn, delegates the responsibility of administering these facilities to a Local Health Council, which prepares and implements a Local Health Plan, controls the budget, and supervises the functioning of the public facilities. The facilities subject to decentralization include district hospitals, health centers and health posts.

Paraguayan Law No. 1032/96, enacted in December 1996, provides the legal framework for the decentralization initiative. The explicit objective of health service decentralization, as stated in the law, is to improve the efficiency and quality of service provision, improve the equity of service provision and promote community participation in the planning and delivery of health services.

Implementation of the Local Health Plan is funded through central government funds, contributions from the municipality and user fees. The municipality contributes at least 5% of its budget to implement the Local Health Plan, and facility revenues are deposited directly into a municipal account that is earmarked for health activities. At the end of 1998, 23 (17 in Central, two in Cordillera, and four in Misiones) municipalities had signed decentralization agreements. In 1999, 17 of the 23 municipalities renewed them.

Study Design and Instrumentation

To assess the impact of the decentralization, the study has a pre- and post-decentralization design with a control group. This evaluation design requires the measurement of baseline indicators for each of the four areas of performance before the decentralization is implemented. Then, the measurement of these same performance indicators for the same units is repeated two years after the implementation of decentralization. The units of analysis include health facilities that provide basic health services, their clients and the population of each municipality.

This design allows for two types of analysis. First, the performance of the health system before decentralization can be compared with performance after decentralization for the municipalities adopting the decentralization model. Second, the performance of health systems in municipalities where decentralization has been implemented can be compared with the performance in those municipalities where it has not.

This study uses data from facilities, clients and households in 20 municipalities in the departments of Central, Cordillera and Misiones. These 20 municipalities constitute the main study group, which consists of 11 municipalities that signed decentralization agreements and nine municipalities that did not. Furthermore, to obtain a more complete description of the service supply environment, data were collected in 19 municipalities that are geographically adjacent to the municipalities in the main study group. Baseline data were collected during the second half of 1998.

The study focuses on the departments of Central, Cordillera and Misiones for two reasons. First, most of the decentralization initiatives have taken place in these departments. Second, these departments are priority regions for USAID. Over 70% of the municipalities in each department are included in the study.

Data collected through a facility survey, a client-exit survey and a representative household survey are used to generate the baseline results presented in this report:

- Facility Survey: detailed facility questionnaires and staff time-logs were administered in 52 public health facilities in the main study group municipalities. These data were used to define key indicators of efficiency, cost, equity and basic quality. We also surveyed 72 public facilities in adjacent municipalities and 19 private facilities in both the main study group and adjacent municipalities.
- Client Exit Interviews: 1,261 clients attending facilities in the main study group, including private facilities, were surveyed. Client data were used to construct indicators of service utilization, household social and economic status, and client perceptions of service quality.
- Representative Household Survey: Data on the health status, social and economic status, and health service utilization patterns were collected from a representative sample of households in the three study departments. The sampling frame was adjusted and a module was added to the 1998 *Encuesta Nacional de Salud Materno Infantil,* ENSMI. A total of 2,150 interviews were conducted in the three departments, and 1,200 were completed in the main study group municipalities.

Baseline Results

The baseline data provide a picture of the health care, health behavior and the population's health status prior to any changes in the administration and delivery of basic health services that might result from decentralization.

Service Availability

The range of health services available is important for examining the quality, equity, efficiency and cost of providing services. In terms of basic health services, this study examined the public and private availability of family planning, maternal health, and infant and child health services.

Family Planning

- Pills, condoms and IUDs were available in all of hospitals and 98% of health centers. Seventy-seven percent of health posts provided pills, 75% provided condoms, and 42% provided IUDs.
- Public facilities in Cordillera had the highest availability of pills and condoms (100%), followed by Misiones (94%), and Central (84-86%). Public facilities in Asunción had the lowest availability of both methods (69%). IUD availability in public facilities was lowest in Misiones (56%), Central (61%) and Asunción (66%), and highest in Cordillera (82%). Injection availability in public facilities was lowest in Cordillera (41%) and highest in Misiones (94%).
- Compared to hospitals, heath centers and health posts had the most problems with stockout of reversible methods. Stockout conditions may reflect a high demand for reversible family planning services in public facilities, specifically at health centers and posts. The stockout problem was particularly severe for injections which were out of stock across all public facility types. More than 50% of facilities in Cordillera and Misiones experienced stockouts of injections.
- Private availability of reversible methods was low: 32% offered pills and condoms and 47% offered IUDs and injections. Private family planning availability varied also by facility type, method and department.

Infant & Child Health Services

- All of the hospitals offered the five main infant and child health services. Almost all of health centers offered diarrhea treatment, ARI treatment, immunizations and perinatal care; 84% offered growth monitoring.

- Availability of infant and child health services at health post was lower than in more sophisticated facilities: 94% offered diarrhea treatment; 86-88% offered ARI treatment and polio/DPT/Measles immunizations; 72% offered BCG immunizations; and between 61 and 68% offered growth monitoring and perinatal care.

- Between 74 and 84% of private facilities offered infant and child health services. Immunization services, offered in 74% of private facilities, were the least available service.

Maternal Health Services

- Prenatal care and tetanus toxoid vaccination services were available in all hospitals and in 98% of health centers. Tetanus toxoid vaccinations were available in 84% of health posts, while only 77% offered antenatal care. Folic acid and iron supplements were less available in health centers (28% and 49%, respectively) and posts (23% and 45%, respectively) than in regional hospitals (33% and 67%, respectively).

- Delivery services were available in all public hospitals, 74% of health centers and 22% of health posts. The capacity to manage complicated delivery was present in all regional hospitals, 67% of district hospitals and only 42% of health centers.

- Of public facilities sampled, post-partum care and cancer screening (PAP) were available in all public hospitals, 95-98% of health centers, and in roughly 70% of health posts.

User Fees

- The prices charged in private facilities for the health services examined in the study were around ten times higher than the prices charged by public facilities. Most of the public facilities seemed to have a mandated, set price for each service, and they seldom deviated from that price. The pricing patterns were similar across most public facilities in the sample.

- Sixty-seven percent of district hospitals and health centers charged for family planning services, while 48% of health posts and 67% of regional hospitals offered family planning free of charge.

- Over 85% of health centers and health posts charged for services requiring more time to deliver (e.g., pre- and post-natal care, pap smears), while a smaller percentage (13-33%) charged for lower-intensity services such as tetanus toxoid immunization and nutritional supplements.

- In health centers and health posts that charged for services, there appeared to be little association between the average price of a service and the effort required to provide the service.

- Almost all sanatoriums charged for child health services.

Staff Availability

- Physicians (general doctors, pediatricians, OB/GYNs), licensed and auxiliary nurses, and technicians staffed hospitals and health centers. One-half of public facilities in Misiones had no physicians, while public facilities in Central and Cordillera had a median of one physician.

- Health centers in the sample had a median of four physicians, one licensed and seven auxiliary nurses, and one health technician.
- Auxiliary nurses were the main health providers at health posts. Health posts had a median of only one auxiliary nurse. The auxiliary nurse was the most common type of provider in all types of facilities.
- Private facilities in the sample had a median of two general doctors, two pediatricians, one OB/GYN, and four auxiliary nurses.

Staff Training

- Almost all health centers had at least one staff member trained in family planning, diarrhea and ARI management, and 16% had no staff member trained in delivery.
- Ninety-three percent of health posts had at least one staff member trained to manage diarrhea, 84% had staff member trained to manage ARI, and 75% had a staff member trained to deliver family planning services. Only 36% had a staff member trained in attending deliveries, which is a service offered by few health posts.
- Overall, though private facilities tended to have a higher median number of physicians than health centers, the proportion of private facilities with staff trained to provide family planning, delivery, and ARI and diarrhea management was generally lower than in public health centers.

Group Talks and IEC

- More than 90% of hospitals and health centers offered group talks.
- Cordillera had the highest percentage (95-100%) of public facilities that offered group talks on key health themes. Asunción lagged behind other departments in terms of the percent of public facilities that offered family planning (69%) and maternal health (76%) talks.
- Health education by means of group talks was a distinctive characteristic of public facilities. Between 11 and 32% of private facilities offered group talks on family planning or MCH themes. Only one of every ten private clinic offered family planning talks.

Medicine and Equipment Supply

- Cordillera had the highest proportion of public facilities with a stock-outof vaccines (10-40%). While Misiones experienced no vaccine stock-outs, it had the highest proportion of facilities with stockouts of syringes (38-78%) and gloves (60-100%).
- The lack of vaccines, syringes, gloves and oral rehydration salts (ORS) was a problem in health centers and health posts. The lack of equipment and supplies to administer vaccines was an important problem for health centers.
- Roughly 13% of health centers and health posts ran out of tetanus toxoid vaccine, and 7% of health centers ran out of BCG vaccine. Of equal or greater concern was health center stock-out of disposable and non-disposable syringes (27-46%) and disposable and non disposable gloves (36-46%). The lack of these items may have disrupted provision of immunization and injectable contraceptive services as well as jeopardized infection control practices.
- Health posts were the only type of facility to experience stock-out conditions for all vaccines, ranging from 11% for polio and DPT to 20% for BCG. The proportion of health posts that experienced a stock-out of syringes and gloves was comparable in magnitude to stock-out levels at health centers.

Facility Supervision

- In Misiones, 40% of public facilities received supervisory visits for family planning, MCH and immunization services within the three months preceding the survey. In Cordillera, 20% of public facilities received immunization supervision, 30% received family planning supervision and 40% received MCH supervision in the three months preceding the survey.
- Despite greater accessibility of public facilities in Central, facilities in this department suffered from inadequate and non-existent supervision for the three types of health services. More troubling was the high proportion of public facilities that had never been supervised for family planning (16%), MCH (23%) or immunization services (13%).
- One hundred percent of regional and district hospitals received supervisory visits for family planning, maternal and child health, and immunization services in the three months preceding the survey. Supervision at health centers was substantially lower than at hospitals.
- Health post supervision was weak. Between 27 and 33% of health posts received no family planning, MCH or immunization supervision in the six months preceding the survey, and between 17 and 23% had never been supervised.

Cost of Basic Health Services

Total Recurrent Cost

A total of 709.6 million Guaraníes (US$252,091) per month was spent on staff, medicines and recurrent overhead expenses at public health facilities in the primary study group for which complete cost estimates were constructed (47 of 52).

On average, sampled municipalities in Misiones had the highest per capita monthly expenditure (2,281 Guaraníes, US$0.81), and sampled municipalities in Corillera had the lowest (921 Guaraníes, US$0.33). In the sampled municipalities in Central, average per capita monthly expenditure was 946 Guaraníes (US$0.34).

Distribution of Total Recurrent Cost by Component

Overall, medical staff costs constituted 63% of the total recurrent cost, followed by 21% for medicines and supplies, 13% for administrative staff cost, and 3% for other recurrent overhead expenses. Medical staff costs were distributed as follows: physicians (31%), nurses (27%), and nurse auxiliaries (41%). This distribution varied by facility type and department.

Distribution of Total Recurrent Cost by Service Type

Of the total expenditure (including staff time) to provide basic health services, 38% was expended for maternal health services, 21% for infant and child health services, 38% for "other" services, and 3% for family planning services.

Overall, deliveries were the most costly service to provide, averaging 148,942 Guaraníes (US$52.91) per normal delivery, while immunizations were the least expensive service, averaging 1,594 Guaraníes (US$0.57) per case.

The per visit cost for selected basic health services were 7,429 Guaraníes (US$2.64) for prenatal care, 6,896 Guaraníes (US$2.45) for family planning, 7,117 Guaraníes (US$2.53) for

treating ARI, and 5,799 Guaraníes (US$2.06) for treating diarrhea.

With the exception of immunizations and family planning services, per visit cost for other basic health services was higher in health posts than in health centers or hospitals.

Efficiency of Basic Health Services

Staff Productivity

Overall, physicians had the highest productivity, attending an average of 5.4 patients per hour, compared to nurse auxiliaries (4.4 patients/hour) and nurses (3.0 patients/hour). For all types of health providers, productivity was highest in the public facilities of Central, while nurse and nurse auxiliary productivity was lowest in Cordillera.

Staff Utilization Rates

Overall, health providers spend an average of 70% of their time in direct patient contact (utilization rate). By type of provider, 77% of physician time was spent with patients compared to 54% for nurses and 32% for nurse auxiliaries.

By department, utilization rates for physicians (96%) and nurse auxiliaries (42%) were higher in Central than in Misiones and Cordillera, while nurse utilization rates were highest in Misiones (83%). Utilization rates for all types of health providers were highest in hospitals (84%) and lowest in health posts (42%).

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Utilization Rate for Inpatient Beds

By department, hospital bed utilization rates were higher in Misiones (43%) than in Central (25%), and health center bed utilization was higher in Central (19%) than in either Misiones (15%) or Cordillera (10%).

Overall, the average inpatient-bed utilization rate (weighted by the number of beds at each facility) was low, with only an average utilization rate of one bed for every five. Bed utilization rates were highest in hospitals (30%) and lowest in health posts (2%).

Maternity patients used the majority (69%) of inpatient bed-days, followed by pediatric patients (18%) and other medical cases (13%).

Cost Recovery

Overall, cost recovery rates were highest for deliveries, with roughly 66% of the recurrent cost of providing this service recovered in user fees. For all other basic health services, user fees accounted for 30% or less of the recurrent cost of providing the services.

Client Exit Interview and Client Perspections on Quality of Service

Client Characteristics and Client Perceptions of the Quality of Care in Public Facilities

- Among public-sector clients, 66% had completed only a primary level education; the average monthly income was low (678,592 Guaranies, US. $241); only 38% were employed; and 91% had no health insurance (social security or private).

- Overall, 93% of clients reported that they were satisfied with the facility's hours of operation.

- Waiting times were long. Public facilities have an average of 57 minutes and a median of 35 minutes. The longest waiting times were in district hospitals, and the shortest in health posts. Overall, 31% clients reported dissatisfaction with the length of the wait.

- Duration of the consultation was relatively short-approximately 10 minutes. For most clients the short duration was characteristic of all facilities and all departments. Ninety-three percent of clients stated that they were satisfied with the length of the consultation, and 94% reported that there was sufficient time during the consultation for their concerns to be addressed. About 95% of clients reported that the level of privacy during their consultation was sufficient and that they had received a clear explanation from the provider.

- Almost all clients interviewed would return to the same facility to obtain medical care, though 11% of clients reported that the condition for which they had sought care was not resolved by the visit or that they were referred elsewhere for care. This percentage of unresolved health conditions ranged from 7% in Cordillera to 18% in Cordillera.

- In general, 29% of clients stated that the prescribed medication to treat their condition was not available in the facility at the time of their appointment. This percentage ranged from 21% in Misiones to 36% in Cordillera. Perceived lack of medicine was greater among clients in health centers (39%), district hospitals (37%) and regional hospitals (29%) than among health post clients (10%).

- Private facility clients were richer, more educated and had a higher level of health insurance coverage than public-facility clients. Like clients at public facilities, private-sector clients had a favorable perception of service quality, except in the perception of waiting time and the availability of medications.

- Public clients waited longer than private clients to be attended, and the duration of the consultation was shorter. Overall, 69% of public clients perceived the length of waiting time to be acceptable compared to 86% of private clients. Though 93% of public clients and 98% of private clients perceived that the duration of the consultation was sufficient, the average (17 minutes) and median (15 minutes) durations of a consultation for private clients were substantially longer than the average (10 minutes) and median (10 minutes) durations for public facility clients.

- A lack of alternative sources of medical care or courtesy bias may account for the high levels of satisfaction reported by clients on the various quality indicators.

Equity in Use of Services

- Forty-six percent of public facility clients were from the poorest households and 5% were from the wealthiest, while two out of five private facility clients were from the richest households and 1% were from the poorest.

- The relationship between individual income and total payment for health services was small and positive, suggesting that monthly income might not have an effect on the amount paid by clients for health services. In other words, the poor as well as the wealthy paid a similar amount for their health services.

- Ninety-one percent of public facility clients reported that they had no health insurance

coverage (social security or private insurance).

Composition of Health Expenditure

- Health expenditures for clients who attended public facilities were relatively low. Public clients who were not charged for their health services reported earning an average income lower than the rest of clients.
- Ninety-eight percent of public clients covered their total health expenses without assistance from a third party. However, 19% of public clients perceived the consultation to be expensive or very expensive.
- Forty-eight percent of medical expenditures was spent on consultation fees, 31% on medical supplies, and 21% on medications. The median expense for a medical consultation was 3,000 Guaraníes (US$1.07).

Client Place of Residence

- Public facilities served primarily individuals who lived in close geographic proximity. More than 91% of clients lived within 10 kilometers of the health center where they sought care, and 92% lived within 30 minutes of care.
- The proportion of clients from municipalities other than the one in which their source of care was based did not exceed 10%, except in three municipalities of Central where between 16 and 27% of clients came from other municipalities.
- In terms of the efficiency in the design of taxes, these findings suggest that people who pay local taxes may be the principal users of the health system supported through this tax revenue.

Patterns of Health Service Utilization

Prenatal Care

- Overall, 97% of pregnant women had at least one prenatal consultation during their last pregnancy.
- There were no substantial differences by level of wealth in the proportion of women who received at least one prenatal visit: 93% of the poorest and 98% of the wealthiest women attended at least one visit. Wealthy women sought care earlier and more frequently during their pregnancy than poor women.
- Overall, 63% of women in the sample received prenatal care at public facilities, which were also the leading source of prenatal care in each department. Wealth and the proportion of women who obtained prenatal care at public facilities were inversely related: 85% of pregnant women in the poorest wealth group received care at public facilities compared to 25% in the wealthiest group. Private medical facilities were the source of prenatal care for almost 20% of pregnant women overall, and the second most important source in Central (25%) after public facilities.
- The poorest women paid higher indirect and direct costs for prenatal care than the wealthiest women did. Overall, the total direct cost of prenatal care was low-roughly 60% of women spent between 0 and 3,000 Guaraníes (US$ 1.07) during their last visit.
- Nevertheless, poor women were less likely to benefit from free care than wealthy

women: 50% of pregnant women in the wealthiest group paid no charge for their prenatal care compared to 25% in the poorest group.

Delivery Care

- Overall, a majority (83%) of live births in the five years prior to the survey occurred in public, private, or semi-public institutions. Most (91%) births in Central occurred in medical facilities, compared to 53% in Cordillera and 58% in Misiones. Overall, 12% of births were delivered at home. Cordillera had the highest rate of home delivery (33%), followed by Misiones (24%) and Central (5%). A traditional midwife (8%) or obstetric nurse (2%) attended one of every ten home births.

- Delivery location was associated with wealth levels. The proportion of institutional births among the poorest women was only 59% compared to 99% among the wealthiest women. Also, 48% of births in the wealthiest households occurred in private facilities compared to 4% of births in the poorest ones.

- Overall, 18% of births took place in an unintended location due primarily to insufficient time to reach the desired facility (24%), referral to another facility (22%) and failure to be attended at planned facility (21%). The poorest women cited lack of time (41%) and referral elsewhere (34%) as key reasons, while 78% of the wealthiest cited "other" reasons.

- Twenty-nine percent of institutional births were by Cesarean section, with little variation by department or level of wealth.

- Overall, one-half of women traveled up to 30 minutes to reach the source of delivery services and paid no charge for their delivery care. Poorer women had both higher indirect and direct delivery care costs. The poorest women paid higher average (10,382 Guaraníes, US$3.69) and median (500 Guaraníes, US$0.18) transportation costs than the wealthiest women who paid an average of 719 Guaraníes (US$0.26) and a median of zero.

- Regarding direct costs, 18% of the poorest women received delivery care free of charge compared to 38% of the wealthiest.

Postnatal Care

- Overall, 96% of children born in the five years preceding the survey received postnatal care, and over one-half of these children received postnatal care within seven to eight days after delivery. Eighty-nine percent of children were reported healthy at their first postnatal visit. About 14% of children from the poorest households were ill at their first postnatal visit compared to 10% of children from the wealthiest ones.

- A higher proportion of the wealthiest children (100%) received postnatal care than the poorest (91%), and wealthier children received care sooner after birth (median of seven days and an average of 12) than the poorest children (median of eight days and an average of 18).

- MSPBS facilities provided postnatal care to 62% of clients overall, and were the main source of postnatal care in all departments and in all but the wealthiest households. Eighty-nine percent of the poorest women attended MSPBS compared to only 18% of the wealthiest, who were most likely to obtain private care (49%).

- Compared to individuals in the wealthiest households, those in the poorest spent more time and money to travel to their source of postnatal care. The poorest clients traveled a median of 30 minutes at a median cost of 650 Guaraníes (US$0.23). In contrast, those in the wealthiest household traveled a median of 15 minutes and 50% incurred no

expense for their travel.

- Twenty-four percent of the wealthiest individuals paid no fee or other service charges for their postnatal care visit compared to 27% of the poorest. Though similar proportions of the wealthiest and poorest individuals received free care, 54% of the poorest individuals paid less than 2,000 Guaraníes (US$0.71) and 54% of the wealthiest individuals paid more than 10,000 Guaraníes (US$3.55), reflecting their greater use of private medical facilities for postnatal services.

Diarrhea

- Overall, 15% of children under five years of age experienced at least one episode of diarrhea in the four weeks preceding the survey, 62% for whom it was their most severe health problem. Cordillera had the highest prevalence (20%), while Misiones and Central had a prevalence of 13% each. Diarrhea prevalence was highest among children from the poorest households (21%) and lowest among the wealthiest (13%).

- Overall, 79% of children for whom diarrhea was the most severe health problem sought care outside of the household. This proportion was lowest in Cordillera (56%) and Misiones (64%), and highest in Central (88%). Seventy-three percent of children in the poorest households received care outside of the home compared to 92% among the wealthiest.

- Overall, MSPBS facilities, primarily health centers, were the lead providers of diarrhea care, attending to almost 40% of cases that sought out-of-home care. Private facilities attended 32% of cases.

- A substantial proportion (29%) of persons who sought outside care cited distance to the facility as the leading reason for choosing their site of care. For individuals in the poorest households, distance to a source of care (35%) and the cost of servces (12%) were the main determinants of source choice, while cost was not a factor among the wealthiest individuals.

- Both travel time and costs were higher for the wealthiest group than for the poorest: 50% of the wealthiest quintile paid more than 10,000 Guaraníes (US$3.55) for transportation and traveled at least 20 minutes. In contrast, 50% of those in the poorest group paid no charge for travel and reached their care site within ten minutes.

- Thirty-two percent of individuals in the poorest quintile spent less than 2,000 Guaraníes (US$0.71) in service fees compared to 22% among the wealthiest quintile. A sizeable proportion (24%) of cases among the poorest households paid over 40,000 Guaraníes (US$14.21) in service fees, while no case among the wealthiest quintile exceeded 40,000 Guaraníes (US$14.21). Medicine to treat the diarrhea was more expensive for the poor than for the rich.

Acute Respiratory Infection (ARI)

- Fifty-nine percent of children under five years of age were reported to have at least one symptom of ARI in the four weeks preceding the survey. For 84% of these cases, the ARI symptoms were the only ones that they experienced, or they were the most severe among other symptoms. Roughly 19% of symptoms among the latter group were either mild or moderate, and 12% were severe. ARI prevalence ranged between 43% in Cordillera and 53% in Misiones and Central. Prevalence was higher among children in the wealthiest quintile (56%) than in the poorest one (39%). Children in the wealthiest households also had the highest proportion of cases that were severe (19%).

- Not surprisingly, care-seeking behavior was associated with symptom severity: almost

70% of moderate and severe cases sought care outside of the home compared to 35% of mild cases.

- Overall, private medical facilities and commercial outlets were the source of care for 50% of all ARI cases, while 34% of cases were treated in MSPBS facilities. Roughly 54% of cases in Cordillera and Misiones were treated in public facilities compared to only 28% of cases in Central, where the private sector plays a more substantial role in ARI management (56% of ARI cases).

- The most important reasons for choosing a provider were distance to the source of care (28%), past experience (24%) and service cost (22%). Among the poorest individuals, distance to the source of care was cited by 46% compared to 20% among the wealthiest.

- Indirect costs of treating ARI were higher for the poorest individuals than for the wealthiest. Though the direct cost to treat ARI cases from the wealthiest households was higher than from the poorest-a median cost of 40,000 Guaraníes (US$14.21) versus 18,000 Guaraníes (US$6.39)-19% of those in the wealthiest households received free care compared to 18% in the poorest households.

Family Planning

- The overall contraceptive prevalence in the three departments was 46%: 36% for modern methods and 10% for traditional methods. Modern method prevalence rates ranged from a high of 45% in Misiones to 35% in Cordillera. There was little variation in the use of traditional methods by department or level of wealth.

- In general, modern method prevalence increased with wealth, though the relationship was not strictly linear. Modern method prevalence was highest among the second wealthiest quintile (39%) and only moderately lower (35%) among the poorest. Traditional method prevalence was higher in Cordillera (11%) and in the poorest households (11%), but there was little variation across economic groups.

- Overall, IUDs were the method of choice for 20% of all methods users, while pills, condoms and injections each accounted for 16% of modern method use. Norplant and vaginal methods were used by less than 1% of contraceptive users; 9% of users reported that they were sterilized, and no respondents reported a reliance on vasectomy.

- Roughly the same proportions of users in Cordillera used pills (20%), IUDs (19%) and injections (20%), and only 10% used condoms. In Misiones, however, there was greater variation in use by method: pills were used by the highest proportion of women (27%), followed by IUDs (17%); and injections and pills each accounted for approximately 11% of users in that department.

- Overall, 17% of modern method users expressed dissatisfaction with their current method. Among dissatisfied users, 62% expressed a desire to switch to the IUD, 11% to pills, 9% to injections and 7% to female sterilization. Method preference among dissatisfied users varies by income level and department.

- Overall, private medical facilities and commercial outlets served a majority (62%) of modern method users, while 24% obtained their methods at an MSPBS facility. In Cordillera and Misiones, however, between 44 and 48% obtained their method at an MSPBS facility, and between 42 and 48% obtained their method at a private facility or commercial outlet. In Central, the private sector played a far greater role in modern method service delivery by meeting the needs of 68% of modern method users.

- MSPBS provision varied from a high of 55% in the poorest quintile to a low of 6% in the wealthiest one. Only 38% of users in the poorest group obtained modern contraceptives

at a private facility or commercial outlet, whereas over 71% of the clients in the two wealthiest groups obtained their contraceptives from these sources.

- Overall, more than 90% of public facility clients reported satisfaction with the appearance of the facility and the level of privacy during the consultation, but only three of every four reported that they received information and counseling about their selected method.

- Users reported a median travel expense of 835 Guaraníes (US$0.30) in Cordillera, the highest expense reported, whereas the lowest expense was in Central, at 361 Guaraníes (US$0.13). The longest travel time (30 minutes) and the highest travel expense (616 Guaraníes, US$0.22) were reported by the poorest quintile, and both the shortest travel time (10 minutes) and lowest travel expense (151 Guaraníes, US$0.05) were reported by the wealthiest.

- Overall, almost 14% of modern users were charged no fee for contraception. By department, this proportion ranged from a high of 23% in Misiones to a low of 11% in Central. By level of wealth, 15% of the wealthiest individuals paid no charge for contraceptive services compared to 27% of the poorest.

Health & Care-Seeking Behavior of Individuals Over 5 Years of Age

- Of the more than 1,300 (weight-adjusted) women who were interviewed, 39% reported that a member of their household who was over the age of five had been ill in the four weeks preceding the survey. The most common illness reported was respiratory illness (38%), followed by gastro-intestinal illnesses (11%), dental problems (7%) and "other" illnesses (18%). Though there were few trends by department or wealth group, the wealthiest individuals were more likely to suffer from respiratory (45%) and chronic illnesses (13%), while the leading causes of morbidity among the poorest group were respiratory (31%) and gastro-intestinal infections (18%).

- Fifty-three percent of those who were ill reported that the illness had interrupted their normal activity, and an average of 3.3 days of work were lost to illness.

- Overall, 49% of those who experienced an illness sought care outside of the home; 34% received in-home care; and 17% received no treatment. Public and semi-public facilities served 38% of those who sought outside care, and 35% received care in a private facility or through a commercial outlet. By level of wealth, there was no consistent trend in care-seeking behavior. The poorest were the most likely to receive in-home care (51%), and the wealthiest were the least likely to forgo care (14%).

- The leading reasons for source choice, overall, were distance (cited by 34% of those who sought outside care), experience with the facility (20%), and insurance status (19%). Prior experience-cited by 40% of those who sought outside care-was the most important reason for source choice among the poorest individuals. Distance was the second most important reason (20%).

- Though the poorest individuals traveled, on average, longer than the wealthiest individuals to reach their source of care - 30 minutes and 15 minutes, respectively - the wealthiest individuals had a higher median travel cost. There was no difference in median waiting time between the two income groups.

- In terms of direct costs of care, 47% of the wealthiest individuals received free care compared to only 19% of the poorest ones. Also, 8% of the wealthiest individuals received medication at no charge compared to 2% among the poorest ones.

- Insurance requirements (29%), the perceived quality of care at the facility (22%) and lack of familiarity with the personnel (19%) were the three most common reasons why individuals bypassed the facility closest to their homes. Wealthier individuals were more

likely to use private services and to choose a facility on the basis of their insurance status and requirements (45%). Perceived low quality (39%) and unfamiliarity with the health personnel (30%) were the main reasons why the poorest individuals bypassed the closest facility.

General Findings : Equity in the Utilization and Financing of Health Services

Table 1 summarizes the main findings with respect to the differences in the use of medical services among income groups for all individuals.

- The poorest households had the highest proportions of individuals who utilized MSPBS facilities. For vaccination, postnatal and prenatal care, roughly 80-90% of individuals in the poorest households used MSPBS facilities. For deliveries, family planning and ARI the proportions were lower, between 51 and 61%. Only one of every three individuals five years and older from the poorest households used public facilities for treatment of diarrhea or illness affecting

- The expectation that the wealthiest individuals would seek more private than public care was only partially met. Twenty to twenty-five percent of the wealthiest individuals used public facilities for prenatal, delivery and postnatal services, and 40-50% used these facilities for diarrhea and vaccination care.

- The proportion of the poorest households that received free care exceeded that of the wealthiest households for vaccination (92% versus 66%), diarrhea (32% versus 22%) and family planning (27% versus 15%) services. The proportions of the poorest and wealthiest individuals who received free care was similar for postnatal and ARI care: twenty-seven percent of the poorest and 24% of the wealthiest received free postnatal care; eighteen percent of the poorest and 19% of the wealthiest received free ARI care.

- In striking contrast to the expectation, the study found that, compared to the poorest individuals, a higher proportion of the wealthiest individuals received free prenatal (50% versus 25%), delivery (38% versus 18%) and other health services to treat illnesses affecting those five years and older (47% versus 19%).

- For all basic health services except ARI and family planning, the indirect costs of care (travel time and cost) were higher for the poorest individuals than for the wealthiest.

There is a sizeable discrepancy by level of wealth in the proportion of individuals who receive care from a physician. It suggests a difference in the quality of care among income groups. Among the poor, physicians attended 50% of deliveries, 33% of diarrhea cases and 70% of ARI cases. Among the wealthiest individuals, 75% of all deliveries were attended by a physician. A physician provided all diarrhea and ARI services for the wealthiest individuals.

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