

The Equity Initiative in Mali (IPE)



Reducing Barriers to
the Use of Basic
Health Services:
Findings on Demand,
Supply, and Quality
of Care in Sikasso
and Bla

February 2001

Allison Gamble Kelley
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2. Executive summary

2.1 Context, objectives and methodology

In a context of cost recovery in the health sector, it is widely assumed that the poor may have restricted access to health services. The Equity Initiative in Mali (*L'Initiative pour l'Équité au Mali* – IPE) set out to investigate this hypothesis by carrying out surveys of the supply of and demand for basic health services in two pilot sites. With the findings from this study, the IPE¹ organized workshops with providers, communities, and civil society to identify priority problems from the data. The IPE then worked with these groups to design locally feasible strategies to address the priorities identified. This concluded the first phase of the IPE. In its second phase, the IPE is helping to implement several of the proposed strategies in pilot sites. In the final phase, an evaluation will be carried out to determine how effective these strategies were in improving access to and utilization of quality health care services, especially for poor and vulnerable groups. This report summarizes key findings the data collection and analysis part of the IPE's first phase.

Using a scientific survey methodology to collect data from households and providers, the IPE looked at both the demand for health services and the supply of basic health services in two pilot sites in Mali, the rural district of Bla and the urban commune of Sikasso.

¹ The IPE is part of the Partnerships for Health Reform (PHR) Project's regional program of activities to expand access to higher quality health services and to strengthen health care financing in the region. The IPE is staffed by a team of professionals in Mali, Cheick H.T. Simpara and Ousmane Sidibé, with assistance from Oumou Traoré Ba and Bréma Ba. The international team is led by Allison Gamble Kelley, technical director of the IPE and manager of PHR's work in West Africa, Dr. Marty Makinen, PHR health economist and senior technical advisor to IPE, and Dr. Edward Kelley, senior quality assurance advisor at the Quality Assurance Project.

2.2 Key findings

2.2.1 Household characteristics

Data gathered on household characteristics included: size and composition of the household, the population's age and gender breakdown, demographic characteristics of households, information about lodging and household goods and the education level of the population. The IPE chose to use a consumption-based approximation for income². Household heads were surveyed³ about consumption expenditures for the following main categories: food (including consumption of their own production), transport, lodging, utilities (water, fuel, electricity, etc.), school fees, health, and clothing. Quintiles of socioeconomic status were then calculated for the entire household sample based upon this consumption expenditure data where households were classified as being in one of five quintiles from poorest (quintile 1) to richest (quintile 5). Some of the key findings related to household characteristics are listed below.

- The IPE household survey gathered information from a random sample in 30 sections d'énumération of 779 households and 6,955 individuals in Sikasso and in 50 sections d'énumération of 822 households and 6,061 individuals in Bla. This provided a total survey sample of 13,016 individuals. Overall, household characteristics data closely correspond to other data sources such as the most recent Demographic and Health Survey for Mali conducted in 1995-1996.
- Food expenses continue to be the major outlay for Malian households. The richest quintile in Sikasso spends 46% of total household spending on food, while the poorest spend as much as 67%. In Bla, the richest spend 34% on food while the poorest spend 79%.
- After food, the two largest expenses are on household utilities and fuel and on health. Importantly, the poorest quintile spends significantly less on health than all other quintiles. The poorest quintile, across both sites, spends 6.5% of their household consumption on health while the richest quintile spends 35%.

2.2.2 Need for health services

The IPE gathered information on need for services to treat fever⁴, delivery-related services and services for sexually transmitted infections (STIs) and family planning. The major findings are listed below.

² To measure inequality in terms of either illness or the use of health services across different socioeconomic groups, it is clearly necessary to establish a definition of economic status. The level of *consumption* is generally recognized as a measure that is superior to point measures of income, since at a single point in time income does not reflect longer-term income, nor permanent wealth, and can be seasonally variable (Atkinson, 1985). Further, consumption data gathered in household surveys is considered more reliable than self-declared income. Consumption is equal to the total value of household expenditures measured over a specific period of time. Thus, consumption is used in this analysis as an estimate of long-term "income." The IPE study uses self-reported consumption expenditures as the main indicator for measuring the "income" level of the household relative to other households in the survey sample. Households sampled are divided into five equal-sized groups (quintiles) based on their reported level of per capita consumption.

³ Household heads were encouraged to consult with other household members responsible for certain expenditures in order to get as accurate a picture as possible of actual consumption expenditures.

⁴ Fever is the most common cause of morbidity in Mali. Many fevers are from malaria, and malaria is the most important cause of mortality in Mali.

- Need for fever services: Approximately 7% of the household sample reported having suffered from a fever in the 15 days preceding the survey. The data show no significant differences in the incidence of fever by income quintile.
- Need for delivery-related services: The crude birth rate varies widely between the two sites; 29 births per 1,000 population in Sikasso versus 54 in Bla (overall 48.5 per 1,000 population). The rural/urban split is the most prominent determinant in need for delivery services. The percentage of women (from 15-49) pregnant in the two sites varies from 12% in Bla to 6% in Sikasso. Income quintile, however, is not significantly related to need for pregnancy services.
- Need for STI services: As expected, self-reported incidence of STIs is low in both sites⁵, with just 2.8 percent of men and women in both sites stating they had had an STI in the 12 months preceding the survey. Women are significantly more likely to self-report STI incidence than men across the sites ($p = .019$). Across the two sites, youth aged 20-24 were significantly more likely to have had an STI in the 12 months preceding the survey than youth aged 15-19 ($p = .057$).

2.2.3 Care seeking for fever

When interviewing the household head of each sampled household, the survey asked for the names of household members who had suffered from fever in the 15 days preceding the survey. Information was gathered on whether the household member sought care for the fever, the first and second/last visit to a health provider for the fever and the self-reported severity of the fever. The principal findings are listed below:

- Setting is important in care seeking. Individuals are more likely to seek care for fever in an urban setting (Sikasso) than in a rural setting (Bla) (47% versus 33%; $p < 0.001$).
- Not surprisingly, severity plays a significant role in terms of whether an individual will seek care for fever. When utilization of fever services was analyzed in relation to severity, it appears that individuals are more likely to seek care with very severe fever (“très grave”) in both sites ($p < .001$).
- Educational attainment of the individual reporting a fever and of the household head can be important in decisions to seek care. In general, across sites and gender, individuals with higher educational attainment seek care for fever more often (47% versus 37%; $p = .002$). In rural areas, education of household head is also a significant factor in whether family members seek care for fever.
- Charges for care are not cited as a reason for choosing a health care provider, but overall lack of money is still an important barrier to those ill with fevers. Among those not seeking care, the most often cited reasons were lack of money and preference for home treatment (73% of those who did not seek care cited these two reasons). The poorest quintile tends to use traditional providers and private providers significantly more frequently than other quintiles ($p < 0.01$) and to use hospitals less frequently than other quintiles. For all individuals who did not seek care, 89% of them self-medicated.

⁵ Low self-reporting of STIs was expected because of the cultural reluctance to talk about sexual matters.

2.2.4 Care seeking for pregnancy and delivery services

All women in the IPE sample aged 15-49 who had given birth in the calendar year preceding the survey or who were pregnant at the time of the survey were interviewed. Questions were asked about their use of prenatal and postnatal care, as well as about the delivery of their child. The principal findings are listed below.

- Use of prenatal services was high, with 70.9% of women stating that they had sought prenatal care. Educational attainment is a key factor, particularly in rural settings, in whether women seek prenatal services. Women who had some formal education in Bla were two and a half times more likely to seek prenatal services than women who did not.
- Site is again an important factor in whether women have assisted deliveries⁶. Women living in Bla are significantly less likely than women in Sikasso to have an assisted delivery ($p<0.001$). More than 30% of women in Bla have unassisted deliveries, compared to 5% in Sikasso. In addition, poor women in the lowest income quintile are significantly less likely to have assistance with their deliveries.
- Whether a woman uses postnatal care is most dependent on the educational attainment of the household head, rather than education of the mother. Household head education was positively associated with use of postnatal services ($p<0.01$). However, overall, use of postnatal care is very low (36%) of all women surveyed. The most commonly cited reason by women for not seeking postnatal care is that women believe that it is not necessary if they or their baby are not experiencing any visible problems.

2.2.5 Utilization of family planning and STI services

The study team interviewed young people ages 15 to 24 years concerning their knowledge and use of family planning, knowledge of sexually transmitted infections (STIs) and care seeking for STIs. Overall, the study team interviewed 740 youths in Sikasso (346 men and 375 women) and 525 youths in Bla (227 men and 298 women). The principal findings are presented below.

- Site is an important factor in knowledge and use of family planning. Youth in Bla were significantly less likely to know about a family planning methods (54% had knowledge of condoms versus 71% in Sikasso, $p<0.001$). Youth in Bla were also less likely to have used a family planning method in the past than youth in Sikasso ($p=0.003$). However, utilization of family planning was universally low, 15% of youth in Sikasso had used family planning, while only 9% in Bla had.
- Site is also an important factor in knowledge of STIs. Youth in Bla were much less likely to know about STIs than youth in Sikasso ($p<0.001$). Very few clients reported having had an STI in the past 12 months, however, 67% who had an STI sought care. In general, young clients prefer to seek care at modern public providers and traditional providers for the treatment of STIs.

⁶ Assisted delivery in this analysis includes deliveries assisted by a doctor, midwife, obstetric nurse, nurse's aide, *matrône*, traditional birth attendant. It says nothing, however, about the place of delivery.

2.2.6 Prices paid

The IPE household survey included questions about the prices those seeking care paid for services received, including consultation fees, diagnostic or laboratory fees, medicines, referral or evacuation, hospitalization, and other fees. Key findings relative to prices paid and solidarity mechanisms are presented below.

- Fully 80% of those interviewed who visited a health care provider paid for the services they received. A majority of the 20% of clients who did not pay claim to have received free care because a friend, relative, or neighbor was the health care provider.
- When asked whether they had benefited from a protection or solidarity mechanism at the point of paying for the services received, less than 4% had. Of this 4%, most had received some type of reduced price.
- When asked how much they paid for services at the point of health care delivery, clients reported a set of prices that were higher than those stated by providers. Public providers were described by clients as the most expensive in Sikasso for most services, contrary to findings from the provider survey.

2.2.7 Client satisfaction

Overall, clients stated that they were relatively satisfied (80%) with the health services they receive when asked about both curative care (treatment for fever) and maternal care services. Some key findings on client satisfaction are presented below.

- In general, clients were most satisfied with pharmacies and with private sector providers in the provision of services for fever and with traditional healers and private providers for the provision of assisted delivery services. Public providers rated somewhat lower than other providers for both fever and delivery services.
- For fever services across all providers, the most important reason for choosing a provider was perceived technical competence of staff (34%). Next most important was the provider's geographic proximity to the client's home (28%).
- In terms of delivery-related services, the most important reason cited by clients in choosing a provider was proximity, followed by the presence of competent personnel.

2.2.8 Provider characteristics

The IPE surveyed all health care providers cited in the household survey in the two sites. Key findings related to provider characteristics are presented below.

- Data were collected from 592 providers, including 85 modern providers (public, private, communal, communautaire⁷ and parapublic), 48 pharmacies, 214 traditional providers, 129 drug resellers and 31 social action agents.

⁷ The program of health sector reform in Mali in the 1990s saw the creation of community health centers (CSCOMs) and the revitalization of other health centers (CSARs) to improve ownership and geographic coverage of the health needs of Malian communities.

- Overall, medical staff-to-population ratios are much lower in Bla than in Sikasso, in some cases by over 10 times. Of particular concern is the ratio of trained personnel associated with delivery services, especially in Bla.
- In terms of volume of services provided, public providers generally offered both the broadest array of services and the highest volume per provider.

2.2.9 Structural quality and drug availability

What is termed “structural quality” was assessed based on availability of basic materials, such as a stethoscope, a thermometer, chairs or benches for clients to use while waiting, a place for washing hands, etc., as well as the general level of cleanliness of the facility. The principal findings on structural quality are listed below:

- Public providers rated significantly better than private providers ($p < 0.05$) across both sites in terms of structural quality. However, public providers did not compare so favorably on overall cleanliness of the facility, where only 58% of public and communautaire providers were rated as “clean” versus 67% of private providers.
- Drug availability is relatively good in public sector, with some exceptions. Less than a fifth (19.4%) of health centers had aspirin or paracetamol at the time of the data collection. Approximately 48% of health centers had chloroquine in stock at the time of the data collection.

2.2.10 Quality of care

Quality of care was assessed in terms of compliance with Malian standards⁸ for care of febrile illness. Indices using local standards were created on assessment tasks, communication tasks and overall compliance with fever care standards. Direct observations of modern providers (public and private) led to the following principal findings on quality of care.

- In general, compliance with standards of care for febrile illness was relatively good across all providers and across both sites. There was no difference in overall compliance with fever care standards between provider types.
- Public providers, however, performed poorly compared to private providers on several areas of fever care, including compliance with assessment standards and in interpersonal communication between providers and clients.

2.2.11 Pricing and protection/solidarity mechanisms

The IPE collected information on the percentage of providers who state that they charge for services and their average prices for services as well as the presence of protection mechanisms. The principal findings are presented below.

- Public providers are more likely to have a formal system of pricing for services and therefore are more likely to charge for services.

⁸ The specific process of review of the standards of care for care of febrile illness and creation of the data collection instrument is described in detail in section 5.11 of this report.

- Overall, however, private providers' average charges are the most expensive of the provider types, followed by informal providers. Public providers, according to data gathered from all providers, have the lowest prices.
- Protection mechanisms are most commonly offered in the informal sector. The most common mechanisms cited were fee waivers (75%), post payment (17%) and solidarity funds (17%).

by the World Health Organization at Alma Ata in 1978. Reform elements included a renewed emphasis on activity planning, resource management, training of personnel, and research on cost recovery and community participation.

The biggest reforms, however, started in 1989 and continued through the 1990s with the adoption of the Bamako Initiative (BI). The BI was intended to revitalize the primary health care strategy and to reinvent the very basis of the development of the health care sector. These reforms also led to the mobilization of significant resources from development partners. The health sector became a major contributor to the economic and social development of the country by improving the quality and productivity of human resources.

This new strategy, implemented through the Projet Santé, Population Hydraulique Rurale among other programs, led to much broader collaboration among the State and development partners, NGOs, associations, communities, and individuals.

By instituting democratic management of health problems through community health committees (ASACOs), communities became intricately involved in the health sector. Simultaneously, community health centers were built (CSCOMs) or revitalized (CSARs) to improve ownership and geographic coverage of the health needs of Malian communities. The private sector also grew substantially - private clinics, birthing centers, surgery centers, dental clinics, laboratories, and

pharmacies sprang up. As a result, geographical health care coverage⁹ by government providers in Mali rose to about 40% of the population.

Despite this remarkable progress, utilization of curative services offered by government facilities remains surprisingly low; between 0.24 and 0.30 new visits per person per year to government health facilities. That means that less than 30% of the population uses available government services. Moreover, preventive services such as the expanded program on immunizations shows that an inadequate number of children are fully immunized, about 36%.

One of the major priorities of this strategy has been to make health services more accessible to the population, especially to poor and vulnerable groups and to rural and peri-urban populations. In order to ensure the financial viability and sustainability of health services, cost recovery and community participation in health care financing are integral parts of this strategy.

In the forty years since independence, private provision of health services has grown, probably at an accelerating pace. However, the scale and scope of private provision of health and how consumers use it is only weakly documented. Further, it is believed that traditional healers play an important role in meeting consumer demand. This sub-sector also is only weakly documented.

It is in this context that the IPE provides critical information to decision-makers and stakeholders by evaluating the status of the population's access to and utilization of health care services. The Malian government's "new" five and ten year development plans¹⁰ (initiated in 1999) for the health sector specifically target:

- increasing utilization of services, and
- promoting protection mechanisms.

For the MOH in Mali, the IPE is helping to analyze the impact of its health and social welfare strategy on the most vulnerable populations. With this information, the IPE is helping to develop strategies to address these inequities and to improve utilization of health services by these populations.

The IPE also responds to a larger mandate for sub-Saharan Africa as a whole. In June 1997, the Economic Commission for Africa, the United Nations, several governments, and the World Bank organized a conference to study cost recovery in the social sectors. Government representatives from 17 sub-Saharan African countries, non-governmental organizations, and bilateral and multilateral organizations participated. The conference culminated in the signing of the "Addis Ababa Consensus" that stated that while cost recovery is necessary, it may have an impact on equity, quality, and access, especially for the poor. The consensus outlined 15 principles, several calling for community participation in cost recovery systems and improved access and solidarity mechanisms to protect the poor.

The IPE took this consensus statement as a hypothesis to be verified and studied to learn its dimensions. With this information in hand for a sample drawn in Mali, the IPE now is in the process of developing, implementing, and evaluating strategies to address the equity problems uncovered. Lessons from this IPE experience will inform future work across the continent on how communities can effectively address equity concerns and improve the utilization of quality health care services by their populations.

⁹ The goal of this strategy was for all Malians to be within 15 kilometers of a health facility.
¹⁰ "Plan décennal de développement sanitaire et social 1998-2007", Ministère de la santé des personnes âgées et de la solidarité, République du Mali.

3.2 Partners

The IPE is supported by USAID through the Partnerships for Health Reform Project (PHR). PHR works in partnership with the Ministry of Health (MOH), the Ministry of Social Action and Solidarity, UNICEF, and the Quality Assurance Project in Mali. The IPE is guided by a steering committee, presided by the Cellule de Planification et des Statistiques (CPS) at the MOH that includes key stakeholders (government, civil society, development partners) from the health sector in Mali. Members of this steering committee include l'Union Technique des Mutualités Maliennes (UTM), FENASCOM, USAID, UNICEF, WHO, Ministry of Health, Ministry of Action sociale, DAF, DNSI, INRSP, Ministry of Youth and Sports.

3.3 Objectives

The IPE has three main objectives:

1. To help the government formulate strategies to improve (financial) access to health services in a context of cost recovery;
2. To help bring about a **higher utilization** of available health services, especially by poor and vulnerable populations;
3. To provide health care providers with data on quality to help them plan and improve services in the health sector.

3.4 Current issues from equity literature

To mitigate inequities that may result from charging fees directly to users of health services, a number of modifications often are made to cost-recovery programs. Annex 7.2 discusses current issues from equity literature. It sets the context for the IPE equity initiative by briefly reviewing the literature on the equity implications of user payments, and in particular, of the protection mechanisms that often accompany user payments.

The relationship between cost recovery and equity remains ambiguous. The World Bank, among others, has argued that charging for services that benefit only the recipient will result in a more efficient consumption of those services while increasing the availability of public resources for services with positive externalities, such as immunizations, prenatal and maternal care (Shaw and Ainsworth 1996, Waters). In practice, however, the introduction of user payments without effective protection mechanisms may have a negative impact on the poor. Evidence demonstrates that the impact of cost recovery on access and equity depends on how the initiatives are designed and implemented (Leighton 1995).

3.5 Principal questions addressed by the Initiative

The analysis of IPE household and provider survey data investigates three sets of questions concerning need, use and choice of provider:

1. Need for health services: Are there groups who are in greater need for basic health services than others?
2. Utilization of health services: What is the magnitude of the problem of low use for health services? Are there groups with greater need who use services less? To what extent is low use of government-organized services compensated by use of alternative sources?

3. Choice of provider: Is there a difference in the types of care providers used by different groups?

Of particular, but not exclusive, interest are income-related differences in need, use, and type of provider used. The survey also investigated other aspects affecting the decision to seek care (or not), such as the client's perspective on the health providers they used, user expenditures on services received, as well as the role of protection mechanisms in service provision.

The IPE also addresses to answer the following questions about service provision:

1. What is the range of health care services available to the population, both in the formal, modern sector as well as in the informal and traditional sectors?
2. What are the main reasons people choose to seek care where they do?
3. How do these health care providers compare in terms of the range, quality, and prices of the services they offer?

4. Methodology

The methodology used by the IPE to answer these questions was to carry out two surveys, a household survey and a provider survey. While the survey methodologies used are described briefly below and in Annexes 7.3 and 7.4, they are available in more detail in electronic format from PHR.

4.1 Household survey

The household survey collected data in 840 households per site. The study methodology for the household survey called for a two-stage sampling design. In the first stage, a sampling frame was constructed of all of the “sections d’énumération” or census sections in the two sites. This information included the number of households and the population in each census section and was obtained from the National Department of Statistics and Information of Mali (Direction Nationale des Statistiques et de l’Information du Mali.) From this frame, a list of census sections was randomly selected. The sampling frame for the second stage of sampling consisted of all households in each of the selected census sections, from which a set of households were randomly sampled. A detailed presentation of the study methodology and sampling design for the household survey is included in Annex 7.3.

4.1.1 Site selection

Two pilot sites were selected, one rural (Cercle de Bla, région de Ségou) and one secondary urban (commune de Sikasso, région de Sikasso). The IPE and its steering committee agreed that selecting an urban and rural site would make lessons more generalizable. The steering committee agreed that issues affecting utilization of health services were likely different in urban settings from rural, with more private providers, closer geographic access to health facilities, higher incidence of HIV/AIDS and other sexually transmitted infections (of particular interest to USAID/Bamako), and potentially a different manifestation of solidarity. Only sites where user charges were applied to consultations, drugs, and deliveries were considered. Other site selection criteria were the presence a functioning community health association, reasonable quality services, and an interest in collaborating with this Initiative by the local “équipe socio-sanitaire” and the community. The steering committee also agreed that pilot sites should exhibit some reflection about solidarity mechanisms, for example, through an existing emergency referral system.

In order to study care-seeking behavior of the populations in two pilot sites, the IPE selected two primary indicators to investigate – the use of services for fever and the use of delivery-related services (prenatal, delivery, and postnatal care). Questionnaires about utilization of delivery-related services, prenatal, delivery, and postnatal care were administered to women of child bearing age (15-49). In addition, a separate questionnaire was administered to youth (ages 15-24) that investigated knowledge of STIs, utilization of health services for STIs, and family planning. The indicators chosen to represent basic health services were household utilization of care for:

1. fever and

2. delivery-related services.

4.1.2 Sample – methodology and size

The sampling methodology investigated the reasons for use of services for fever¹¹, sexually transmitted infections (STIs), family planning, and delivery-related services. The sample size was calculated to allow for statistically significant data analysis and was based on the expected incidence of fever in the 15 days preceding the survey and the number of women either pregnant or having delivered a baby in the 12 months preceding the survey. In total, 13,016 individuals were surveyed (6,955 in Sikasso and 6,061 in Bla). Of this number, 899 individuals had suffered from fever in the specified time period, the prevalence equaling 7%. Of the 2,903 women between the ages of 15 and 49, 769 women met the eligibility criteria for the delivery-related services (crude birth rate = 41 births per 1,000 population in 1999). In addition, 1,379 youth were surveyed.

Table 1: Household Sample Summary

	Sikasso	Bla	Total
Total no. sections d'énumération	30	50	80
Total no. households	779	822	1,601
Total no. individuals	6,955	6,061	13,016
Men	3,594	3,128	6,722
Women	3,361	2,933	6,294
15-49	1,644	1,262	2,906
Youth (ages 15-24)	814	565	1,379
Infants (less than 1 year)	140	106	246

4.1.3 Comparisons

This analysis report uses the quintiles method to examine income-related differences in need and use of health services. Comparisons are also drawn between urban and rural populations, men and women, age groups, and levels of education (individual interviewed and/or household head).

4.1.4 Data collected

The IPE household survey gathered extensive information on clients as described in the sections below. It should be noted that all data analyzed from this survey is based upon what those interviewed stated, and is therefore necessarily subjective. This methodology is widely used to understand population behaviors and perceptions.

¹¹ Fever is the most common cause of morbidity in Mali. Many fevers are from malaria, and malaria is the most important cause of mortality in Mali.

4.1.4.1 Household characteristics gathered

IPE enumerators interviewed household heads in all households selected by the sampling methodology to gather socioeconomic information about the household overall. The enumerators also asked the household heads questions¹² that determined the eligibility of other household members for specific modules of the survey.

Data gathered on household characteristics included: the household's age and sex breakdown, number of members in the household, information about lodging and household goods and educational attainment of household members.

Income quintiles

Income quintiles are calculations of consumption spending adjusted for the number of household members. Income quintiles divide all of the households in the sample into five equal groups. The quintile with the lowest consumption expenditure per household member is quintile one. Consumption expenditures increase for each successive quintile until the fifth quintile, which has the highest consumption expenditure per household member. The creation of these groups allows us to compare need for health services, utilization of health services and spending on health in these quintiles characterized as: poorest, poor, middle income, rich and richest.

4.1.4.2 Socioeconomic status calculations

The IPE chose to use a consumption-based approximation of income.¹³ Household heads were asked about consumption expenditures for the following main categories: food, transport, lodging, utilities (water, fuel, electricity, etc.), school fees, health, and clothing. In order to get as complete information as possible, IPE enumerators asked household heads to direct them to the household member primarily responsible for each expenditure. Questions were tailored to the appropriate interval for each type of expenditure: for example, expenditures on lodging were estimated for the last month, school fees for the past year, food stuffs for the past week. All estimates were then

annualized and summarized by household to generate socioeconomic status (SSE) of households¹⁴. Average adjusted socioeconomic status per capita was calculated by dividing the SSE by the number of adults in the household (>14 years of age) and then adding 75% of this amount per child (<14) living in the household.

4.1.4.3 Utilization and satisfaction information

Each module on the use of the indicator services asked respondents about the following subjects:

- Health seeking behavior (whether sought care, where, if not – why not and whether and what other measures were taken, such as self-medication)

¹² Such as, "Are any of the women aged 15-49 currently pregnant" or "Has anyone in the household had a fever in the past 15 days?"

¹³ This method has certain advantages in relation to the direct method of revenue calculation, which can be subject to under-estimations of real resource use by households. The method used by the IPE is used also in a number of standard economic surveys, including the Living Standards Monitoring Surveys (LSMS) of the World Bank. The realisation by economists working in developing country settings was, based on the experience of such surveys as the LSMS, that the vast majority of household resources were used for spending on consumption and that this indicator could be used as a valid proxy for revenue.

¹⁴ See "Module Chef de Ménage"

$$SSE=(Q202*12)+(Q204*12)+Q206+(Q207*12)+(Q208*4)+(Q209*12)+MONTANT\ TOTAL\ PAR\ SEMAINE\ DE\ Q211*52+(Q213*12)$$

- Satisfaction regarding the use of services
- Payment for services received (travel, and fees) plus how much time was needed for travel and the visit
- Use of protection/solidarity mechanisms
- Referrals

The survey measured satisfaction with fever care, maternal care and treatment for STIs. Specific questions asked of clients included their overall satisfaction, their reasons for choosing a provider and their satisfaction with specific aspects of their visit to the provider, namely:

- Technical competence of staff (the client’s perception)
- Interpersonal communication issues, including how well the provider welcomes clients and how well they ask questions and communicate key information regarding treatment
- Amenities, including the physical space of the facility and the adequacy of waiting areas
- Access issues, including how convenient the hours of operation are and the availability of drugs

4.2 Provider study

The IPE set out to survey all health care providers in each site in order to understand the full range of services available to populations, as well as to benchmark their prices, quality, and supplies and equipment. As with the household survey, all data comes from interviews with providers (with the exception of the “technical quality module” which employed the technique of direct observation).

4.2.1 Sample – methodology and size

Providers surveyed included not only “modern” health care providers, be they public, private, non-governmental organizations (NGOs), or mission, but also providers in the informal sector, including traditional healers and drug re-sellers in market places. The IPE team worked with health officials in both sites to be absolutely sure to inventory as many health care providers as possible. These lists were further completed by adding all providers cited by households during the course of the household survey. While it is impossible to inventory drug re-sellers exhaustively, as they are often itinerant, IPE surveyors attempted to survey as many as possible. Table 2 presents the numbers and categories of providers interviewed.

Table 2: Provider Sample Summary

	Number of providers		
	Sikasso	Bla	Total
Modern providers	35	50	85
Public	8	3	11
Communautaire	1	15	16
Communal	1	1	2
Private, for-profit	14	12	26
Private, not-for-profit ¹⁵	8	19	27
Parapublic ¹⁶	3	0	3
Pharmacies	19	29	48
Traditional healers	69	145	214
Drug resellers	72	57	129
Social Action	21	10	<u>31</u>
			592

The “market” of health care providers differs fairly significantly between the commune of Sikasso and the district of Bla. No hospital exists in Bla like in Sikasso. Moreover, at the time of the IPE surveys, Sikasso did not have any “communautaire” facilities created as a result of the most recent health system reform efforts by the Ministry of Health. Bla, on the other hand, has been a pilot district for community health centers (CSCOM). This distinction allows for interesting analysis of both the use of hospital care (in Sikasso) for basic health services, as well as the results of the most recent health sector policy (in Bla). As a result of these differences, however, some comparisons between sites are not possible.

Our analysis considers modern providers as the groups presented below plus pharmacies. The distinctions made below define the categories of providers used in the data analysis.

- **Public** (centres de santé de cercle-CSC, hospitals, centres de santé d’arrondissement -
- **Communautaire** (centres de santé communautaire-CSCOM, centres de santé d’arrondissement révisité-CSAR)
- **Communal**
- **Private for-profit**
- **Private not-for-profit**
- **Para-public (social insurance)**

¹⁵ Health provider sites put in place and managed by NGOs or denominational associations or groups that do not have the creation of profit as an objective.

¹⁶ Health facilities managed by a social institution such as the Institut National de Protection Sociale (INPS). This includes le Centre Medico-Interentreprise (CMIE), maternities and maternal and infant protection services.

During data analysis, the IPE team often grouped traditional healers and drug re-sellers into a category entitled “Informal.”

4.2.2 Data collected

IPE surveyors administered questionnaires¹⁷ to the primary person in charge at each provider site. These interviews were completed by consulting providers’ data sources, where available, to obtain precise information about service volume, etc. Separate survey modules were adapted for modern providers, social action providers, pharmacies, traditional healers, and drug re-sellers. All of the questionnaires posed a series of questions (modified for each type of provider on the following topic areas:

- Staffing breakdown
- Financing of personnel
- Services offered (range)
- Drug availability
- Structural quality (conformity of facilities, equipment, water source, waste disposal, etc.)
- Utilization of services (volume)
- Pricing of services
- Presence of protection mechanisms
- Referrals and supervision processes

A separate module to evaluate technical quality of care was developed and applied to all modern providers, public and private. This module was applied by observing three consultations per provider for both fever patients and family planning visits using locally defined standards for care and counseling for fever and family planning consultations.

¹⁷ Copies of the data collection questionnaires used for the IPE are available from PHR in electronic format on request.

5. Findings

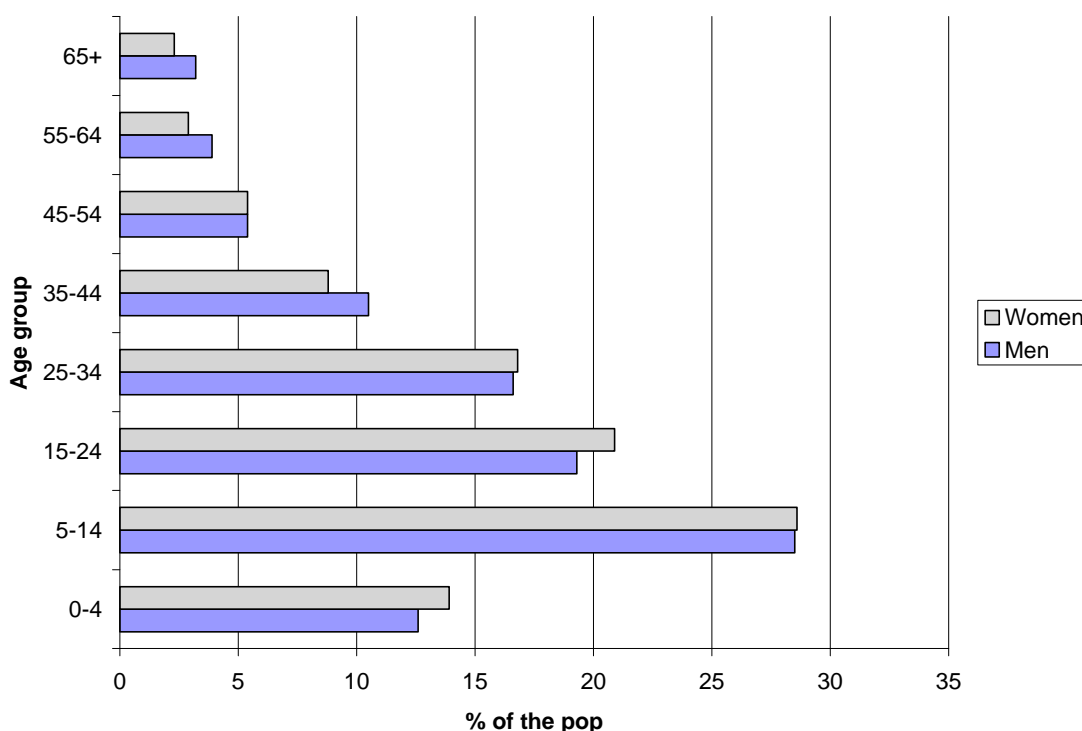
While the IPE surveys yielded rich information on many aspects of health care in Sikasso and Bla, this report focuses on the significant findings that specifically relate to the mandate of the IPE. Many further analyses are possible from this data set, and readers are encouraged to communicate specific requests to the authors of this report. Sections 5.1-5.7 present findings from the household survey on household characteristics, care seeking for fever, delivery-related services, family planning and sexually transmitted infections. It also presents data on payment for services, solidarity mechanisms, and client satisfaction. From the provider survey, Sections 5.8-5.12 present data on provider characteristics, structural quality, drug availability, quality of care, and pricing and protection/solidarity mechanisms.

5.1 Household characteristics

5.1.1 Age and sex distribution of population

As Figure 1 demonstrates, the sample's demographic profile is dominated by children, with 41% of the population under the age of 15 in both sites. Overall, approximately 52% of the population is male and 48% female.

Figure 1: Age summary by sex



5.1.2 Presence of handicaps

In Sikasso, fully 98% of individuals were reported to be without a handicap among the households surveyed. Of those reporting handicapped household members, a majority were physically handicapped (1%). Similarly, in Bla, less than 2% of the population surveyed was handicapped, with physical handicaps being the most common. This data is presented in Table 3 below.

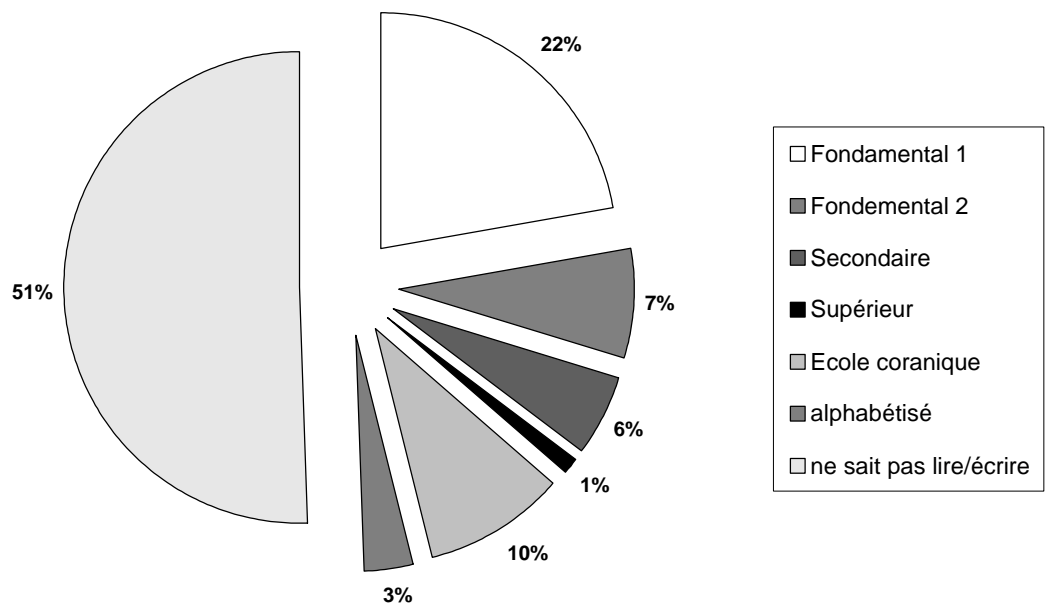
Table 3: Type of handicap per 1,000 population

Type of handicap	Sikasso	Bla
Mental	3.1	1.8
Physical	10.9	6.6
Visual	5.1	4.5
No handicap	980	987

5.1.3 Educational attainment

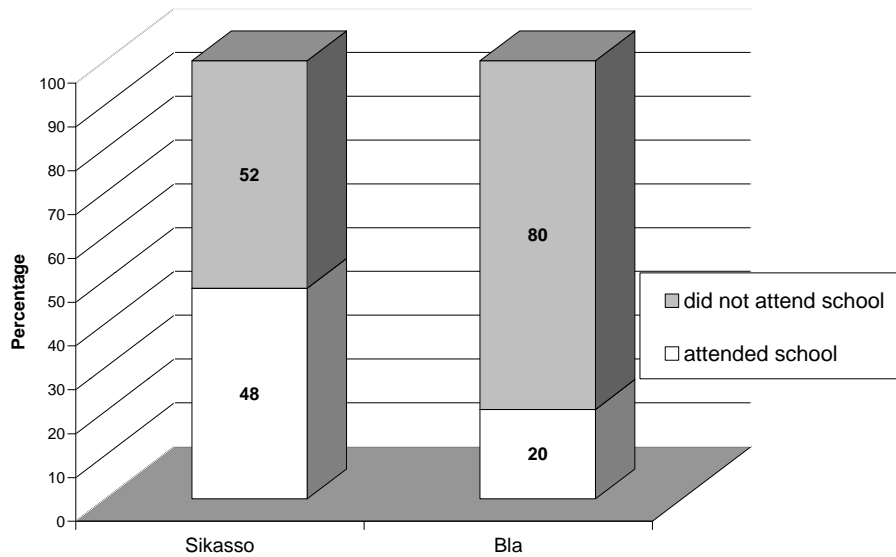
Figure 2 below shows the level of educational attainment of all individuals surveyed in Sikasso and Bla, male and female. Individuals living in Sikasso are significantly more likely to have some level of schooling those living in Bla ($p < 0.001$). Fully 77% of those surveyed in Bla did not read or write compared to 42% in Sikasso. Similarly, 1% of those surveyed in Bla had attended secondary school, while 7% had in Sikasso.

Figure 2: Education Summary



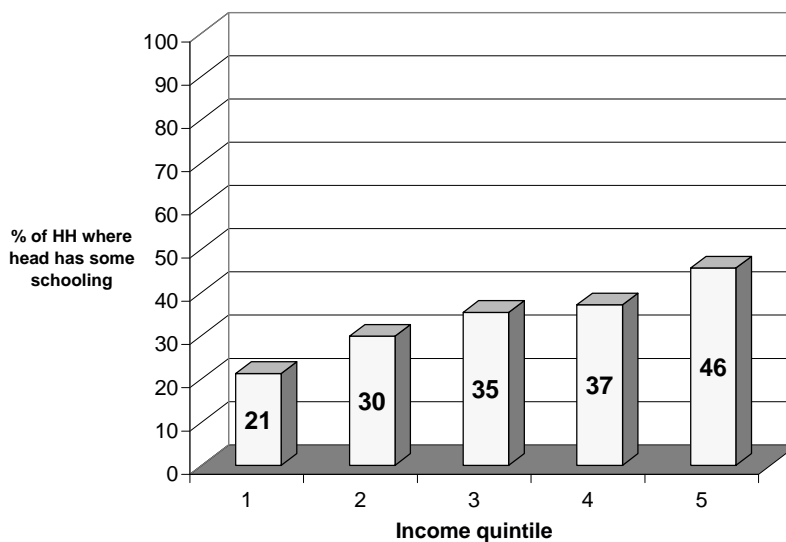
Across both sites, 34% of heads of households had attended school, although those in Sikasso were again significantly more likely to be educated than those in Bla ($p < 0.001$), as Figure 3 shows.

Figure 3: Education of heads of households



Education is also significantly related to a household's income quintile. Households whose head is educated are much more likely to be in higher income quintiles than those where the head is not educated ($p < 0.001$), as depicted in Figure 4 below.

Figure 4: Education and Income quintile



5.1.4 Socioeconomic situation

While each income quintile has the same number of households in it, the table below shows that they do not have the same numbers of individuals. The poorest quintile has the largest share of the population, and the richest, the smallest.

Table 4: Denominators by Quintile

Denominator (N)	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Total of individuals in households surveyed	3,130	3,038	2,479	2,205	1,788
Average size of households	9.8	9.5	7.7	6.9	5.6

The IPE compared the socioeconomic findings from its surveys with other available data sources, specifically the *Rapport annuel sur le développement humaine durable au Mali*.¹⁸ This report established a poverty line based on data from a 1988/89 survey on household consumption (l'enquête budget consommation – EBC) and l'enquête malienne de conjecture économique sociale (EMCES 1994). The poverty line was defined as “the level at which an individual or household cannot satisfy its minimum nutritional requirements.” This study used 102,971 FCFA per person per year as the poverty line to determine the incidence of poverty in 1996. This amounts to 282 FCFA per day per person.

The table below shows the average consumption per capita per day using the IPE’s income quintile methodology.

Table 5 : Average consumption per capita per day* (FCFA)

Income quintile	Sikasso	Bla
Q1 (poorest)	166	93
Q2	300	155
Q3	426	215
Q4	646	301
Q5 (richest)	1,504	1,101

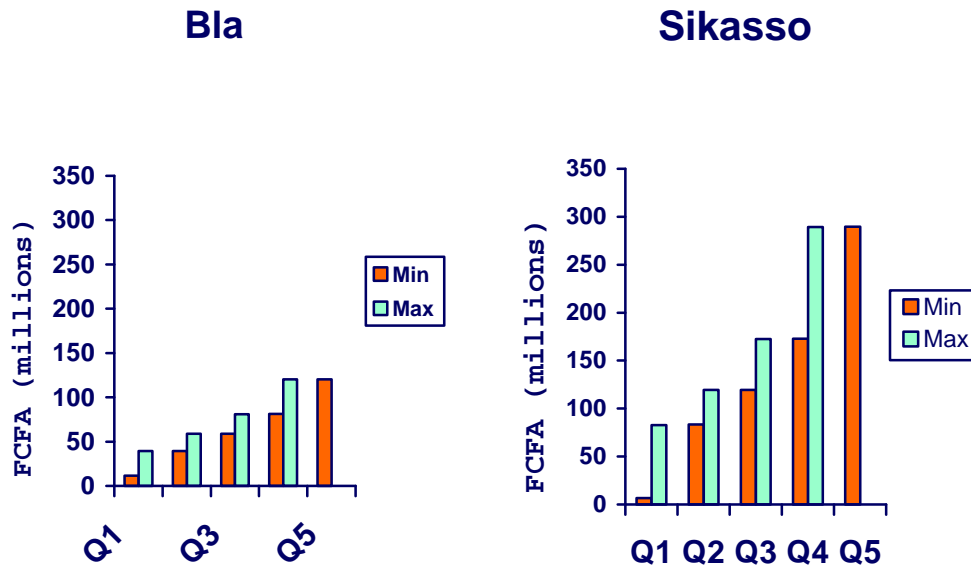
*Note that average consumption in the figures above is total consumption and not simply nutrition.

Because the IPE’s determination of income quintiles is specific to two sites, only a broad comparison can be made with the national poverty line discussed above. That said, the comparison provides consistent results. In the commune of Sikasso, the IPE’s poorest quintile (Q1) is the only one to fall below the 299 FCFA per person per day poverty line established in the *Rapport annuel sur le développement humaine durable au Mali*. In the rural district of Bla, quintiles 1-3 all fall below this same poverty line. Thus, the IPE’s determination is consistent with existing indicators of poverty, but provides a more detailed picture of the economic sub-structure within the two particular sites.

¹⁸ *Rapport annuel sur le développement humaine durable au Mali: synthèse*. July 1998. Bamako: Observatoire du développement humaine durable et de lutte contre la pauvreté au Mali

Figure 5 shows the minimum and maximum levels of consumption spending by household member by quintile in Sikasso and Bla.

Figure 5: Revenue quintiles



Certain indicators, such as education and access to potable water, are frequently correlated with socioeconomic status. Table 6 demonstrates that the income quintile method of evaluating socioeconomic status in the IPE is also consistent with these alternative proxy measures, used, for example, by the Demographic and Health Surveys. The fourth indicator presented – “household has radio” – shows the pervasiveness of radio ownership in Mali and points to an effective medium for reaching poor and rich household alike with information, education, communication (IEC) campaigns.

Table 6: Household socioeconomic summary

Indicator	% poorest quintile			% richest quintile		
	Sikasso	Bla	Total	Sikasso	Bla	Total
Access to potable water (robinet public ou privé, puits privé, forage/pompe, camion citerne, eau de bouteille) ^a	85	37	60	96	52	73
Household head attended school ^b	28	15	21	64	29	46
Household has electricity ^c	6	1	3	40	2	21
Household has radio ^d	81	75	78	92	86	89

^a significant differences between income quintiles for Sikasso, Bla, and Total at $p < 0.01$

^b significant differences between income quintiles for Sikasso, Bla, and Total at $p < 0.05$

^c significant differences between income quintiles for Sikasso at $p < 0.001$

^d significant differences between income quintiles for Sikasso at $p < 0.01$

5.1.5 Household spending

Food expenses continue to be the major outlay for Malian households. The richest quintile in Sikasso spends 46% of household revenue on food, while the poorest spend as much as 67%. In Bla, the richest spend 34% on food while the poorest spend 79%. A 1993 study from the Direction Nationale de la Statistique et de l'Information (DNSI) found that in 1988, on average urban households spent 47% on food while rural households spent 57%. After food, the two largest expenses are on household utilities and fuel (charcoal, wood, electricity, water, etc.) and on health. Spending on utilities ranges from 13% of total spending in rural poor households to 3% in urban rich households.

5.1.6 Spending on health

In Bla, health is the second most important expenditure for households, accounting for between 5% of total spending in the poorest households to 53% in the richest households in Bla and between 8% and 30% in Sikasso. The fact that the share of total spending going to health grows with income indicates that health is like a luxury good to Sikasso and Bla households.

Table 7: Percentage of household expenses for health by quintile

Category of Expense	Poorest		Richest	
	Sikasso	Bla	Sikasso	Bla
Health ^a	8	5	30	53
All other expenses	92	95	70	60

^a $p < 0.01$

The socioeconomic indicators collected indicate that the Sikasso and Bla populations are similar to those described in other studies. Hence, the IPE survey results are valid in capturing a random sample of the populations and in being able to classify them into socioeconomic groups.

5.2 Health need

This section presents analysis results from data from the two sites on the need for the chosen indicator services: fever services; delivery-related services; and sexually transmitted infections (STIs). The analysis reports results across the sites, then concentrates on the differences between the sites, among income quintiles, etc., regarding the need for health services for serious febrile illness, for pregnancy-related services and for reproductive health services, specifically curative care for STIs.

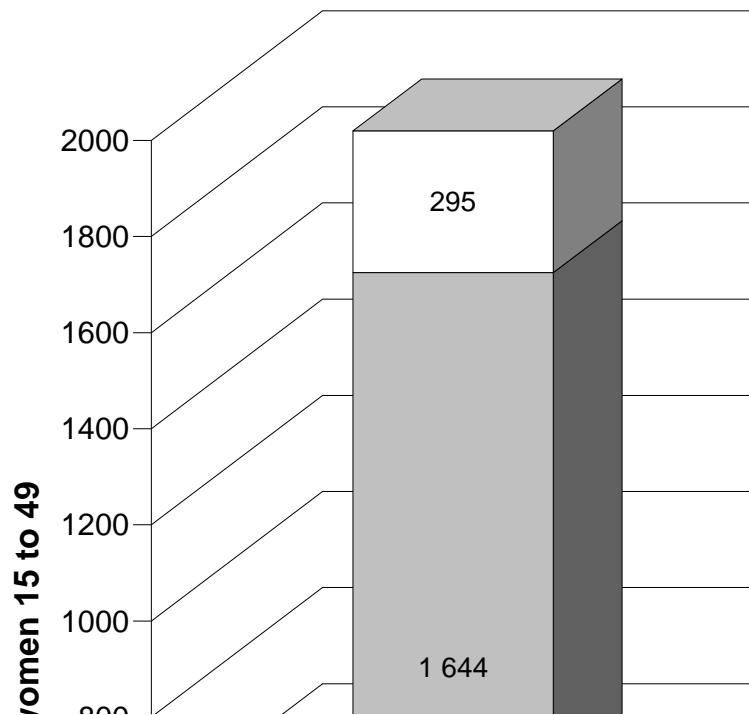
5.2.1 Fever

Approximately 7% of the household sample reported having suffered from a fever in the 15 days preceding the survey. The survey asked a series of questions to confirm the incidence of fever and to determine the relative severity of the episode according to the person interviewed. In general, the data show no significant difference in the incidence of fever by income quintile. Across sites and genders, the need for fever services was remarkably uniform. Moreover, there was no statistically significant relationship between severity of the episode of fever and income quintile across the two sites. Very severe and severe fever incidence was spread evenly across quintiles. A series of analyses were conducted to compare the sites and income quintiles within the sites for statistical differences. There are no statistically significant differences between the sites in need for care for febrile illness.

5.2.2 Delivery-related services

The questionnaire surveyed women who were either currently pregnant or had given birth in the twelve months prior to the survey. The crude birth rate varies widely between the two sites; 29 births per 1,000 population in Sikasso versus 54 in Bla (overall 48.5 per 1,000 population). There is a significant difference between the two sites in need for pregnancy-related services.

Figure 6: Need for delivery-related services



The percentage of women of reproductive age pregnant in the two sites varies from 6% in Sikasso to 12% in Bla. For purposes of comparison, the percentages of women pregnant during the 1996 DHS survey were 12% in secondary urban areas and 15% in rural areas. There is also a significant difference between the sites in terms of the number of women having given birth in the 12 months preceding the survey (12% in Sikasso and 26% in Bla). Both of these relationships were highly significant ($p < 0.001$). Income quintile, however, is not significantly related to need for pregnancy-related services.

5.2.3 Sexually transmitted infections

The survey interviewed all youth aged 15-24 in sampled households regarding their knowledge and practices on STIs and family planning. As expected, self-reported incidence of STIs is low in both sites, with just 2.8 percent of men and women in both sites having had an STI in the 12 months preceding the survey. This figure is slightly lower than the reported incidence of STIs in the 1995/96 Demographic and Health Survey (DHS) in Mali (3.4%). This difference could be explained by the limited age range interviewed by the IPE survey (15-24), whereas the DHS survey included ages 15 and up. Men had a higher admitted incidence of STIs in the DHS than women did, which is the reverse of findings from the IPE survey. This may be because young women are more likely to be sexually active than young men in this age group.

Women are significantly more likely to self-report STI incidence than men across the sites ($p = 0.019$). Across the two sites, youth aged 20-24 were significantly more likely to have had an STI in the 12 months preceding the survey than youth aged 15-19 ($p = 0.057$).

5.3 Utilization of services for fever

The IPE sought to understand the patterns of service utilization. This section summarizes findings about use of services. When interviewing the household head of each sampled household, the survey asked for the names of household members who had suffered from fever in the 15 days preceding the survey. Subsequently, enumerators asked eligible individuals to confirm that they had indeed suffered from fever in the 15 days preceding the survey (100% replied that they had). Individuals were then asked if they sought care for their fever. Enumerators collected data on the first and last fever consultations (if there was more than one) that each respondent sought for the fever and the total number of providers seen. The IPE questionnaire also included a question asking respondents to evaluate the severity of their fever. Respondents were asked to categorize their fever as “very severe,” “severe,” or “mild.”

5.3.1 Overall and by severity, quintile, sex, education, age

Overall, 40% of people suffering from fever sought care in Sikasso and Bla. Individuals are more likely to seek care for fever in Sikasso than in Bla (47% versus 33%; $p < 0.001$). When utilization of fever services was analyzed in relation to severity, it appears that individuals are more likely to seek care with very severe fever (“très grave”) in both sites (63% of clients with very severe fever sought care in Sikasso versus 55% in Bla.) However, for severe or mild fever, clients are less likely to seek care (only 42% and 28% respectively sought care). The differences in probability to seek care based on fever severity are significant at $p < 0.001$.

The data show a correlation between non-utilization of services for fever and income quintile for women but not men. Across sites only 31% of women in the poorest income quintile seek care when ill with fever, compared to 47% of women in other income quintiles. Further analysis by site shows that this relationship is statistically significant in Sikasso but not in Bla ($p < 0.05$)

In general, across sites and gender, educated individuals seek care for fever more often than those who are not educated (47% versus 37%). This relationship is statistically significant ($p = 0.002$).

When men and women are analyzed separately, education level remains a positive determinant of care seeking. Among women, 53% of educated women sought care versus 41% of uneducated women ($p = 0.03$), although the relationship is stronger in Sikasso than in Bla.

When utilization patterns are examined in relationship to the education of the household head, we found a statistically significant relationship ($p < 0.001$). However, when broken down by site, the relationship between care seeking and education of the household head was only significant in Bla. There, 47% of individuals sought care when the household head was educated as opposed to 27% who sought care when the household head was not educated ($p < 0.001$).

Across both sites, utilization of fever services does vary according to age group¹⁹ ($p = 0.02$). The age group using fever services most was 25-39 year olds (47% used services when ill), while the oldest population age group used services the least (36%). All other age groups used services fairly uniformly (between 43% and 44% used services when ill with fever).

¹⁹ For the purposes of this analysis, age groups were broken down as follows: 0-5, 6-14, 15-24, 25-39, 40-54, and 55 and older.

Table 8: Summary of care seeking for fever

	Percentage of clients who sought care		
	Sikasso	Bla	Total
Patient educated ^a	49	42	47
Patient not educated	45	30	37
Women ^b	48	38	44
Men	45	30	37
Very severe fever ^c	63	55	60
Severe to mild fever	43	30	37

^a Significant differences in care seeking between educated and uneducated at $p < 0.01$

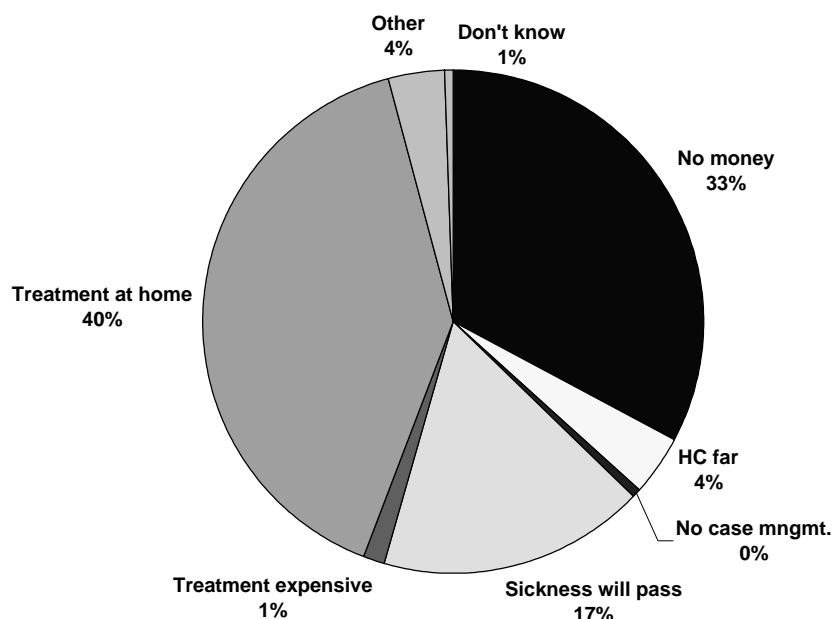
^b Significant differences between women and men at $p < 0.05$

^c Significant differences between clients with very severe fever versus severe to mild at $p < 0.01$

5.3.2 Reasons for non-care seeking

The majority (60%) of persons interviewed in Sikasso and Bla who had had a fever did not seek care at a provider. Those who reported a fever, but did not report seeking care, were asked why they did not seek care. As demonstrated in Figure 7, the primary reasons cited for not seeking care are “treatment at home,” “general lack of money,” and “illness will pass.” These reasons accounted for 90% of all responses.

Figure 7: Reasons cited for not seeking care



Of those who did not seek care, 89% took some kind of medication (100% of those who treated themselves at home). When asked where this medication was obtained, the primary sources were the pharmacy (dominant in Sikasso), drugs available at home, drug re-seller (“revendeur,” dominant in Bla) and the traditional healer, accounting for 83% of sources cited. These data are presented in Table 9 below.

Table 9: Sources for self-medication for fever

	Source ^a (%)		
	Sikasso	Bla	Total
Pharmacy	53	14	33
Drugs available at home	18	18	18
Drug reseller	13	41	27
Traditional healer	12	17	15

^a Significant differences in sources between Sikasso and Bla at $p < 0.001$

5.3.3 Choice of provider

Of those interviewed who sought care for fever, the most common choices for providers were “modern public” and “modern private,²⁰” as presented in Table 10.

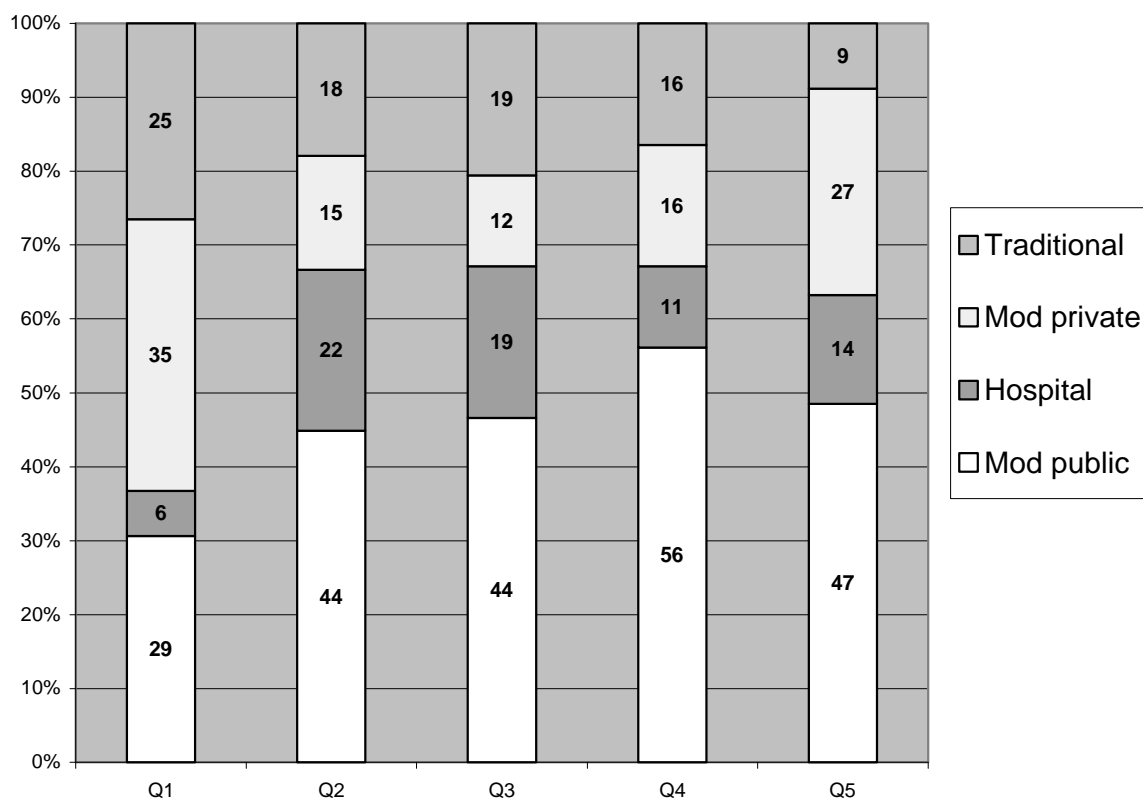
²⁰ Modern public providers include all centres de santé, hôpitaux, centres de santé d’arrondissement non-révitallisés, all communautaire facilities (CSCOMS and CSAR) and all communal facilities. Modern private providers include all for-profit and not-for-profit facilities, as well as trained individuals practicing privately for their own profit, such as retired nurses.

Table 10: Care seeking for fever by provider type

	Provider (%)		
	Sikasso	Bla	Total
Modern public	35	61	45
Hospital	24	0	15
Modern private	19	23	20
Traditional healer	18	16	17
Pharmacy	4	0	3
Drug reseller/market	0	0	0

Provider choice is significantly related ($p < 0.01$) to income quintile, as Figure 8 below illustrates. The poorest are least likely to use hospitals and most likely to visit traditional healers. They are also the largest users of private providers.

Figure 8: Provider choice and income quintile



5.3.4 Use of multiple providers for fever services

While 363 individuals sought treatment for fever across sites, only 5 of the 105 who reported not getting better were referred to a second provider. Of these 5, only 3 went to the referral provider. A mere 12 individuals sought care at a second provider without a referral. Although there are too few observations to be conclusive, income quintile does not seem to be a determining factor in the decision to seek care at a second provider. It is striking to note that in Bla, of 36 individuals who did not get better following their initial treatment, only 1 sought care at a second provider.

5.3.5 Regression analysis of care seeking for fever

In conducting multivariate analysis, we created a model to understand the relative importance of a number of variables in the decision to use fever services. The model used for the analyses presented below included the following variables: rural/urban, income quintile, sex, severity of fever, education of household head and education of the person ill with fever.

When we conducted multivariate analysis to investigate **use of fever services in general** we found that individuals living in rural areas are only .64 times as likely as urban dwellers to seek care for fever. While there is some relationship between use of fever services and quintile, it is not completely clear. However, individuals in the richest income quintile are 1.95 times more likely than those in the poorest quintile to use fever services. Women are not significantly more likely than men to use fever services. Individuals with more severe fevers are much more likely to use services than those with less severe fevers. Finally, individuals are more likely to use services if the head of household has been educated (odds ratio = 1.36, $p=0.049$). Education of the ill individual was not associated with utilization of services. Overall, this regression had low explanatory power²¹ ($r^2=.06$). This information is summarized in Table 11.

²¹ Explanatory power measures the degree to which the “model” or group of variables explains the variation in the indicator of interest (in this case, utilization of care for fever). The r^2 is the specific statistical measure of explanatory power.

Table 11: Regression analysis of fever utilization

Indepen. Variables	Odds Ratio ^a	z	P>z	Significance level ^b
Rural/urban	0.64	-2.81	0.005	Highly sign.
Quintile 2 (versus Quintile 1)	1.87	2.59	0.010	Highly sign.
Quintile 3	1.76	2.37	0.018	Sign.
Quintile 4	1.60	1.96	0.050	Sign.
Quintile 5	1.96	2.71	0.007	Highly sign.
Women/men	1.25	1.53	0.126	Not sign.
Serious fever (versus “very serious”)	0.49	-3.28	0.001	Highly sign.
Mild fever	0.25	-5.82	0.000	Highly sign.
HH head educated	1.37	1.97	0.049	Sign.
Ill individual educated	1.20	1.09	0.275	Not sign.

^a In this table, the odds ratio explains the changes that a person ill with fever will use services given that they possess a certain characteristic. For example, the odds ratio for “rural/urban” means that a person in a rural setting is .64 times less likely to use services than a person in an urban setting.

^b Highly sign. = $p < 0.01$, Sign. = $p \leq 0.05$, Not significant = $p > 0.05$

In terms of utilization of **public providers** for fever services, inhabitants of Bla are significantly more likely to use a public provider than those in Sikasso (odds ratio = 4.02, $p < 0.001$). Income quintile, however, does not seem to be a determining factor for seeking care at a public provider. Women are slightly more likely than men to use public providers for fever services (odds ratio = 1.55, $p = 0.06$). When individuals have a “very severe” fever (as compared to a “severe” fever), they are less likely to use public providers (odds ratio = 2.24, $p = 0.01$). This regression analysis resulted in $r^2 = .11$.

This model is only moderately useful to look specifically at use of fever services at **private providers** ($r^2 = .08$). By this we mean that other, non-measured factors, seem to account for the variation in utilization for fever services with this type of provider. Individuals living in Sikasso are much more likely to use private services (odds ratio = 0.307, $p < 0.001$). Income quintile and sex do not seem to be determining factors in whether an individual uses a private provider. Individuals with very severe fever are more likely to use private providers than those with “severe” fever (odds ratio = 0.49, $p = 0.001$) or “not severe” fever (odds ratio = 0.37, $p = 0.009$).

Concerning the use of **traditional healers** for fever services, this model again is only moderately useful ($r^2 = 0.03$). While urban and rural use of traditional healers do not differ significantly, income quintile does make a difference. Individuals in the richest quintile are significantly less likely to use a traditional healer for fever services than those in the poorest quintile (odds ratio = 0.24, $p = 0.012$). Women are significantly less likely than men to seek care for fever at a traditional healer (odds ratio = 0.479, $p = 0.015$). Neither the relative severity of the fever nor whether the household head was educated affect utilization of traditional healers in this model.

5.4 Utilization of delivery-related services

All women in the IPE sample population aged 15-49 who had given birth in the calendar year preceding the survey or who were pregnant at the time of the survey were interviewed. Questions were asked about their use of prenatal and postnatal care, as well as about the delivery of their child.

5.4.1 Overall and by education, socioeconomic group

Overall, the use of prenatal care by the sample for this study has increased compared to data gathered for all of Mali in the 1995-1996 DHS Survey. In 1996, 48.9% of women surveyed stated that they sought prenatal care. In the data gathered by the IPE, 70.9% of women stated that they had used prenatal care.

Table 12: Summary of care seeking for delivery-related services

	Prenatal care % utilization			Assisted delivery ²² % utilization			Postnatal care % utilization		
	Sikasso	Bla	Total	Sikasso	Bla	Total	Sikasso	Bla	Total
Richest income quintile	90	62	71	96	68	77	58	29	38
Poorest income quintile	83	54	63	94	58	69	23	24	24
Woman educated	87	79	84	95	76	89	39	55	45
Woman not educated	87	60	68	94	68	76	38	32	34

In Bla, utilization of prenatal services is significantly correlated with whether the mother was educated or not. Women who were educated were more likely to use prenatal services versus women who were not ($p < 0.01$). In Sikasso, utilization of prenatal services was high across all educational levels: approximately 87% of all women had used prenatal services.

Women living in Bla are significantly less likely than women in Sikasso to have an assisted delivery ($p < 0.001$). More than 30% of women in Bla have unassisted deliveries, compared to 5% in Sikasso. There is also a statistically significant relationship between income quintile and assisted delivery. Women in the poorest quintile are significantly less likely to have an assisted delivery ($p < 0.05$) than women in other quintiles, particularly in Bla. Finally, education is an important factor in whether women has an assisted delivery or not. Educated women are significantly more likely to have an assisted delivery than uneducated women ($p < 0.01$), while the education level of the household head is not a significant factor.

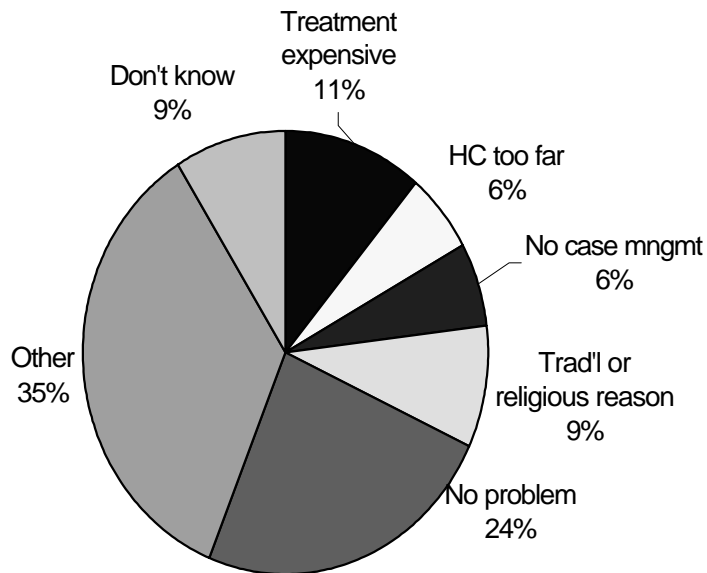
²² Assisted delivery here means that a doctor, midwife, obstetric nurse, nurse's aid, matrone, or traditional birth attendant was present during delivery. It says nothing, however, about the place of delivery.

The IPE study found that only 36% of women surveyed had sought postnatal care (40% in Sikasso and 35% in Bla). Education of the mother was not significantly correlated with use of post-natal services. Whether a household head was educated or not, however, was positively correlated with using postnatal services at $p < 0.01$.

5.4.2 Reasons for non-utilization of postnatal care

As use of prenatal care is relatively widespread, the IPE investigated why utilization for postnatal care is so low. As depicted in Figure 9, the primary reason for not seeking postnatal services was not financial, geographic, or traditional or religious. Rather, of the women shown below in “no problem”, a majority cited that they did not seek postnatal services because they themselves nor their baby had a problem necessitating care.

Figure 9: Reasons cited for not seeking postnatal care



5.4.3 Choice of provider: Where women give birth

In addition to investigating whether women had an attended delivery, the IPE survey asked where women delivered. Table 13 presents this information.

Table 13: Delivery by provider type

Type of provider ^a	Poorest quintile			Richest quintile		
	Sikasso	Bla	Total	Sikasso	Bla	Total
Modern public ^b	79	23	40	96	40	58
Modern private	0	9	7	0	18	12
Traditional provider	6	9	8	0	4	2
At home	15	57	44	0	39	27

^a Significant differences between income quintiles and type of provider used for delivery for Sikasso and Total at $p < 0.05$

^b Modern public includes hospital

5.4.4 Regression analysis of care seeking for delivery services

We carried out multivariate analysis of utilization of delivery-related services. The analysis of the decision to seek assistance at each type of provider for delivery included the following variables: urban/rural site, income quintile, the decision to use prenatal services, education of household head, and her level of education. The analysis used to investigate use of prenatal and postnatal care was similar but without the prenatal care variable.

Table 14 : Regression analysis for assisted deliveries

Independent variables	Odds ratio ^a	z	P>z	Significance ^b
Rural/urban	0.18	-4.59	0.000	Very sign.
Quintile 2 (versus Quintile 1)	2.21	2.07	0.04	Sign.
Quintile 3	1.55	1.18	0.24	Not sign.
Quintile 4	1.46	1.03	0.31	Not sign.
Quintile 5	1.36	0.81	0.42	Not sign.
Use of prenatal care	3.52	4.64	0.000	Very
HH head educated	.86	-0.55	0.59	Not sign.
Woman educated	1.34	0.72	0.47	Not sign.

^a In this table, the odds ratio explains the changes that a person ill with fever will use services given that they possess a certain characteristic. For example, the odds ration for "rural/urban" means that a person in a rural setting is .18 times less likely to have an assisted delivery than a person in an urban setting.

^b Highly sign. = $p < 0.01$, Sign. = $p \leq 0.05$, Not significant = $p > 0.05$

The analysis reinforced the conclusions that women who live in rural areas are much less likely to have an assisted delivery, as are women who are in the poorest quintile. On the other hand, women who receive prenatal care are much more likely to have an assisted delivery.

This model was effective in investigating the use of **public providers for delivery** ($r^2 = 0.258$). In rural areas, women are significantly more likely to deliver in a public facility (odds ratio = 1.54, $p < 0.001$). Similarly, when women have used a public provider for prenatal care, they are significantly more likely to deliver at a public facility (odds ratio = 7.10, $p < 0.001$). While income quintile is positively correlated with use of public providers for delivery (richer income quintiles are more likely to use public providers), this relationship is particularly significant for the 4th and 5th quintiles (the two richest). For the richest quintile, the odds ratio is 2.01 and $p = 0.05$.

In the multivariate analysis of **delivery at private providers**, the model was fairly useful ($r^2 = 0.105$). Not surprisingly, use of a private provider for delivery is highly correlated with the urban site (odds ratio = 6.87, $p < 0.001$). There was also a positive relationship (although not a strong one) between income quintile and use of a private provider for delivery. Having used prenatal care does not seem to influence use of a private provider in this model. While the relationship between education and delivery at a private provider is not statistically significant, it is interesting to note that the education of the household head is negatively related to the use of a private provider.

This model does not illuminate the reasons for seeking **prenatal care** ($r^2 = 0.08$). Whether a woman lives in an urban or rural site is significantly related to her use of prenatal care (urban dwellers being more likely to use, odds ratio = 0.280, $p < 0.001$). Again, there is a positive correlation between income quintile and use of prenatal services, but it is not significant (except for the 4th quintile). While the level of education (of both the household head and the woman) are positively correlated with use of prenatal services, the relationship is not statistically significant.

Again, this model only weakly explains use of **postnatal care** ($r^2 = 0.02$). None of the selected variables is significantly related to use of postnatal services, although education of household head and the woman, income quintile, and urban location are all positively correlated.

5.5 Family planning and care seeking for STIs

The study team interviewed young people ages 15 to 24 years concerning their knowledge and use of family planning, knowledge of sexually transmitted infections (STIs) and care seeking for STIs. Overall, the study team interviewed 740 youths in Sikasso (346 men and 375 men) and 525 youths in Bla (227 men and 298 women).

5.5.1 Knowledge and use of family planning

The survey asked youth (ages 15-24) about knowledge of various family planning methods. There appears to be a significant difference between the sites in knowledge of family planning, with youth in Bla being significantly less likely to have heard of various methods, 71% in Sikasso versus 54% in Bla had heard of condoms, 75% in Sikasso versus 70% in Bla had heard of oral contraceptives. These differences were significant ($p = .0000$ for concerning knowledge of condoms, $p = .040$ for knowledge of birth control pills). The data are relatively consistent when compared to 1995/96 DHS figures (overall 65.9% had heard of condoms according to the DHS compared to 62.5% of youth in the IPE survey).

The survey then asked whether youth had ever used a family planning method to avoid a pregnancy (for individual or for their partner). Again, youth in Bla were significantly less likely to have reported using a family planning method in the past than youth in Sikasso ($p=0.003$). However, reported utilization of family planning was low, 15% of youth in Sikasso had used family planning, while only 9% in Bla had. Compared to the DHS, these figures are lower; 12% of youth overall had used contraception in the IPE survey, whereas the DHS figures hover around 20%²³.

When asked whether they were currently using a family planning method to avoid a pregnancy (for individual or for their partner), youth in Bla were significantly less likely to report using one ($p<0.001$) than youth in Sikasso. In Sikasso, 24% of youth report that they are currently using a FP method, while only 8% report that they are in Bla. Interestingly, this figure is higher than the DHS, where only 8.2% of women aged 15-24 and 18.4% of all men report that they are currently using contraception.

Table 15: Summary of knowledge and use for family planning

	Sikasso	Bla	Total
% of youth who know about			
Condoms	71%	54%	62.5%
Oral contraceptives	75%	70%	72.5%
% of youth who have ever used any FP method ^a			
	15 (n=726)	9 (n=495)	12 (n=1221)
% of youth currently using a FP method ^b			
	24 (n=348)	8 (n=284)	17 (n=632)

^aDifferences between Sikasso and Bla significant at $p<0.01$

^bDifferences between Sikasso and Bla significant at $p<0.001$

5.5.2 Knowledge and prevalence of STIs

There is a significant difference in youth's knowledge of STIs between Sikasso and Bla. Youth in Bla are much less likely to know about them than youth in Sikasso ($p<0.001$). However, 86% of youth across sites said they knew about STIs. Levels of knowledge were different for different STIs, with more than 98% knowing about HIV/AIDS but only 29% knowing about genital warts. Table 16 summarizes this information.

²³ The 1995/96 DHS base population for this calculation is married women ages 15-49 and married men ages 15-59, compared to the IPE base of men and women ages 15-24.

Table 16: Summary of knowledge about STIs

	Sikasso	Bla	Total
% of youth having heard of STIs	90%	80%	86%
	(n=736)	(n=494)	(n=1230)
% of youth with knowledge of :			
	(n=666)	(n=396)	(n=1062)
Syphilis	57%	65%	60%
Gonorrhea	64%	59%	62%
HIV/AIDS	99%	98%	99%
Genital warts	28%	32%	29%

As expected, self-reported incidence of STIs is low in both sites, with just 2.8 percent of men and women in both sites stating they had an STI in the 12 months preceding the survey. This figure is slightly lower than the reported incidence of STIs in the 1995/96 Demographic and Health Survey (DHS) in Mali, which was 3.4. This difference could be explained by the limited age range interviewed by the IPE survey (15-24), whereas the DHS survey included ages 15 and up. Men had a higher admitted incidence of STIs in the DHS than women did, which is the reverse of findings from the IPE survey.

In general, in part due to the small numbers of youths who stated that they had had an STI, there were no significant differences in care seeking for educated youths versus uneducated or for women versus men.

Table 17: Percentage of clients who sought care for STIs

	% who sought care for STIs		
	Sikasso (n=36) ²⁴	Bla (n=50)	Total (n=86)
Educated	61	100	65
Not educated	69	70	69
Women	50	67	57
Men	71	74	72

²⁴Note that the "n" in this table refers to the total number of youth clients responding for Sikasso and Bla who stated that they had had an STI. The number of clients differs for each category (who were educated, were women, etc.).

After having determined the need for STI services in youth, data collectors asked youth respondents “The last time that you had this STI (named in the previous question), did you seek treatment?” The majority of persons interviewed responded “yes” (69%). Respondents were as likely to seek treatment in Sikasso as in Bla. We also did not see a statistical difference between men and women concerning the reported decision to seek care, even if the simple percentage of women who sought care was higher than men (72% of women versus 55% of men sought care for their STI.)

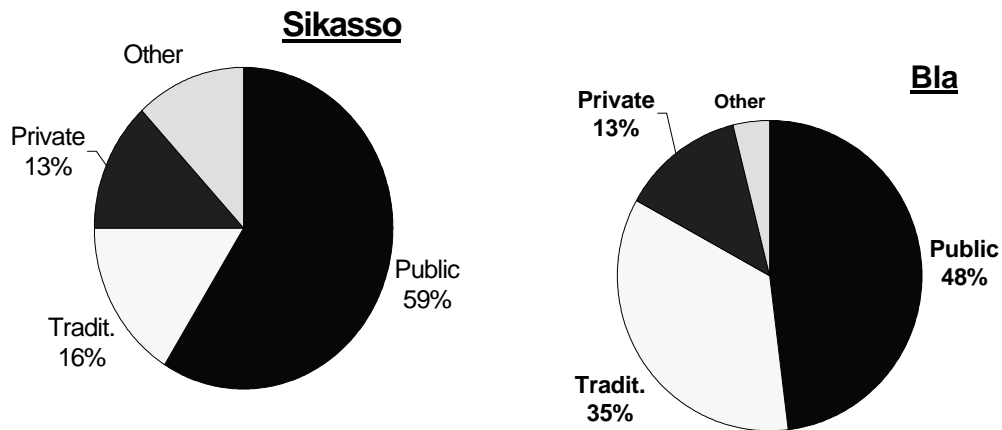
The probability of seeking care for an STI appears to be linked to quintile, however ($p=0.017$). Only 40% of youth in the poorest quintile sought care for an STI versus 67 to 87% of youth in higher quintiles. When one breaks this analysis down further by site, the relationship between quintile and care seeking for STIs is significant in Sikasso, but not in Bla. In Bla, youth in all quintiles are likely to seek care for an STI, while in Sikasso, only 33% of youth in the poorest quintile sought care. In addition, men in the poorest quintile were significantly less likely to seek care than men in all other quintiles. There is no similar relationship between quintile and care seeking for women.

5.5.3 Provider choice for family planning and STIs

In general, young people with STIs prefer to seek care at modern public providers and traditional providers for STIs. Patterns of care seeking differed somewhat for the two sites, with 59% of clients in Sikasso seeking care at modern public providers, including the hospital, 16% of clients in Sikasso seeking care at traditional providers and 13% of clients in Sikasso sought care at modern private providers. In Bla, 48% of clients sought care at modern public providers, 35% sought care at traditional providers and 13% sought care at modern private providers. In both sites, clients stated that the most important reason for choosing a provider when seeking care for STI treatment was the presence of competent personnel (31% of all clients) followed by proximity to the client’s home (28% of all clients). Proximity, however, seems to be slightly more important in Bla than in Sikasso. Clients in Bla stated that proximity was slightly more important than competent personnel (35% of clients versus 27%).

In choosing a family planning provider, there are some differences in provider choice between the two sites. In both sites, clients seek family planning services from modern public providers (23% of clients in Sikasso and 37% in Bla). However, clients are more likely to seek family planning services from pharmacies in Sikasso (31%) versus Bla (5%) ($p<0.01$). In Bla, clients are more likely to seek family planning from traditional providers (26%) versus Sikasso (4%) ($p<0.01$). In terms of reasons for choosing providers, the most important reasons across both sites were proximity to the clients home (25% of all clients) and the presence of competent personnel (21%). There were different reasons for choosing clients between sites, with Sikasso clients stating that competent personnel (26% of clients) and proximity (22%) were most important. In Bla, clients stated that proximity was most important (40% of clients) followed by the availability of family planning methods at the provider (15%). These differences in reasons were significant at $p<0.05$.

Figure 10: Choice of provider for STI treatment



5.6 Prices paid and solidarity mechanisms

The IPE household survey included questions about the prices clients paid for services received, including consultation fees, diagnostic or laboratory fees, medicines, referral or evacuation, hospitalization, and other fees. Clients were also asked if they paid transport to get to the health care provider and, if so, how much. The table below presents the **average total price** paid by clients according to the type of provider visited.

Table 18: Average prices paid by provider type

Type visit	Average price paid by type of provider (FCFA)							
	Sikasso				Bla			
	Modern public	Modern private	Traditional	Pharmacy	Modern public	Modern private	Traditional	Pharmacy
Prenatal visit	6,558	3,507	-	-	3,497	4,188	-	-
Delivery	7,800	7,333	5,500	-	3,389	3,496	5,625	-
Postnatal visit	2,959	3,050	-	-	1,652	594	1,800	-
Fever visit	6,768	5,997	3,001	3,408	3,880	3,228	2,608	-
STI visit	8,545	5,625	4,750	7,250	3,890	4,000	-	-

Fully 80% of those interviewed who visited a health care provider paid for the services they received. A majority of the 20% of clients who did not pay stated that they to have received free care because a friend, relative, or neighbor was the health agent.

Clients were also asked if they had difficulty in paying for their care. While 80% responded that they had not, 58% of clients in Sikasso and 41% in Bla said that in general, they found the prices “expensive” (as opposed to “reasonable” or “inexpensive”).

When asked whether they had benefited from a solidarity mechanism at the point of paying for the services received, less than 4% stated that they had. Of this 4%, most had received some type of reduced price.

5.7 Client satisfaction

Overall, clients stated that they were relatively satisfied with the health services they received when asked about both curative care (treatment for fever) and maternal care services. This section presents information on satisfaction with overall service delivery as well as satisfaction with specific aspects of care and reasons clients chose providers.

5.7.1 Overall and by provider type (public, private and communautaire)

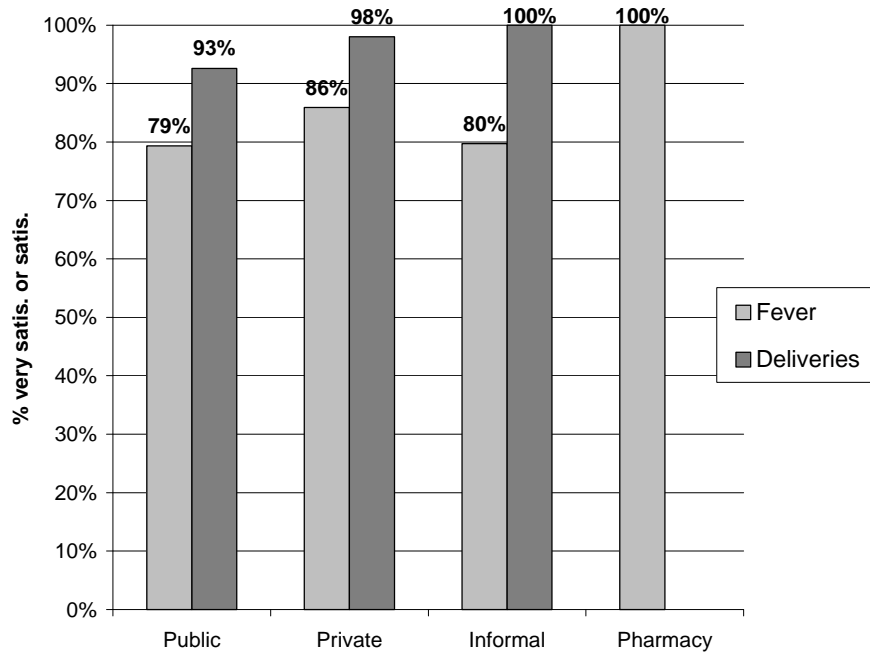
Across all provider types, for fever services, 80% of clients were either “very satisfied” or “satisfied”. Only 28% of clients were “very satisfied” with their first visit for fever and 18% were “very satisfied” with their second visit for fever care.

Satisfaction levels were similar for maternal care services, with approximately 30% of respondents stating that they were “very satisfied” with services and approximately 60% of respondents stating that they were “satisfied” with prenatal services. Satisfaction was slightly higher for delivery services, with 35% of respondents stating that they were “very satisfied” with services and 58% stating that they were “satisfied”. Satisfaction was the highest for postnatal care, with 26% of respondents stating that they were “very satisfied” and 65% of respondents

Satisfaction for care received for STI services is much lower relative to satisfaction for other services. Less than 70% of all clients stated that they were either “very satisfied” or “satisfied” with services, versus greater than 90% for other service delivery areas. In addition, over 29% of clients stated that either services “needed improvement” or that they were “very dissatisfied” with services.

In general, clients were most satisfied with pharmacies and with private sector providers in the provision of services for fever, and with traditional healers and private providers for the provision of assisted delivery services. Public providers rated somewhat lower than other providers for both fever and delivery services. This difference between public providers and other provider types is significant if one measures the percentage of clients stating that they were “very satisfied” with services. Less than 22% of clients who sought care at a public provider for fever were “very satisfied” compared with 36% of clients who sought care at private providers, traditional providers or pharmacies ($p < 0.01$).

Figure 11: Satisfaction by provider type



In terms of specific dimensions of care, public providers rated poorly in terms of drug availability, but were seen as having adequate facilities to welcome and serve clients (in terms of seating, space, etc.). Public providers also rated relatively low in terms of perceived technical competence and interpersonal communication skills (only 62% of fever patients stated that public providers always did “quality” work and only 66% stated public providers always welcomed and communicated well with patients.) Table 19 summarizes this information.

Table 19: Satisfaction by dimension of quality and provider type

Dimensions of quality	Rating	Public		Private		Informal		Pharmacy	
		Fever	Deliver	Fever	Deliver	Fever	Deliver	Fever	Deliver
Tech Comp	Always	62	76	67	84	70	90	78	
	Often	26	19	23	17	25	0	11	
	Sometimes	8	2	3	0	5	10	0	
	Rarely	1	0	0	0	0	0	0	
	Never	0	2	1	0	0	0	0	
	Don't know	3	1	6	0	5	0	11	
Interpersonal Communication	Always done well	66	73	76	74	75	89	88	
	Often	27	23	22	22	14	11	12	
	Sometimes	3	3	0	4	5	0	0	
	Rarely	2	0	0	0	2	0	0	
	Never	0	1	1	0	0	0	0	
	Don't know	2	0	1	0	4	1	1	
Amenities ^a	Adequate	92	97	93	96	73	89	78	
	Don't know	1	0	1	0	0	1	11	
Access ^a	Services available	93	98	96	98	92	100	89	
	Services not available	5	2	3	2	7	0	11	
	Don't know	2	0	1	0	1	0	1	
Drugs ^a	Always available	39	46	48	51	61	67	89	
	Often	24	25	18	22	20	0	11	
	Sometimes	15	13	3	14	10	0	0	
	Rarely	7	4	7	2	3	22	0	
	Never	14	12	21	8	5	11	0	
	Don't know	1	0	3	3	1	0	0	

^a Differences between categories of responses significant at p<0.05 across different provider types

5.7.2 Choice of provider

For fever services across all providers, the most important reason for choosing a provider was perceived technical competence of staff (34%). Next most important was the geographic access of the provider in terms of their proximity to the client's home (28%). While these two reasons were basically equally important reasons for choosing a modern public provider for fever services, other providers, including modern private providers and traditional healers, were chosen significantly more often for the perception of competent personnel than modern public providers ($p<0.05$). Relatively few clients cited amenities such as cleanliness and comfort or a good welcome and interpersonal communication as the main reasons for choosing a provider. This information is summarized in the table below.

Table 20: Reasons for choosing a provider for fever services

Reason	Percentage of clients				Total (n=353)
	Modern public (n=211)	Modern private (n=73)	Traditional healer (n=60)	Pharmacy (n=9)	
Competent personnel	32	37	40	33	34
Provider proximity	31	29	12	44	28
Perceived effectiveness	20	12	22	0	18
Services more affordable	1	5	10	0	4
Interpersonal communication	0	3	0	0	1
Medications available	1	4	0	0	1
Religious reasons	0	0	3	0	1
Amenities	0	1	0	0	0
Other	14	8	13	22	13

Differences across categories significant at $p<0.05$ for different provider types. Drug reseller category omitted because of small numbers ($n<5$).

It appears that proximity is more important to clients for delivery services than for fever services, being the most important reason for choosing a provider at 27%. This was true for all providers. Perceived effectiveness, however, as passed on by word of mouth from client to client seemed to be a more important reason for choosing a modern public provider for delivery services (24% of responses) versus other providers (2%-14%).

5.8 Provider characteristics

We collected information on all staffing and their source of revenue from providers. Information on provider staffing and staffing ratios for the two sites is presented in the following table.

Table 21: Provider Staffing Ratios

	Percentage of total medical staff		Ratio / Population	
	Sikasso	Bla	Sikasso	Bla
Doctor	16.0	6.3	1/2,529	1/23,164
Senior nurse (Infirmier d'Etat)	14.4	5.5	1/2,918	1/26,060
Nurse (Infirmier 1 ^{er} Cycle)	14.0	10.3	1/3,347	1/14,891
Midwife (Sage Femme)	5.5	3.5	1/3,739 women	1/21,264 women
Pharmacist	1.5	4.2	1/22,762	1/34,746
Laboratory worker	3.3	1.4	1/12,645	1/104,240
Obstetric nurse	3.3	0.0	1/6,233 women	0/106,321 women

Overall, medical staff to population ratios are much lower in Bla than in Sikasso, in some cases by over 10 times. Of particular concern is the ratio of trained personnel associated with delivery services, particularly in Bla.

In terms of volume of services provided, public providers generally reported that they offered both the broadest array of services and the highest volume per provider. A notable exception to this is in the provision of immunization services, where private, not-for-profit providers reported that they offered significantly more immunizations than public providers during 1999.

Table 22: Annual service volume²⁵

	Sikasso				Bla				Total						
	Public	Private		Comm	Public	Private		Comm	Public	Private		Comm	Inform		
		FP ²⁶	NFP			FP	NFP			FP	NFP				
	(n=12)	(14)	(8)		(4)	(12)	(19)	(15)	(16)	(26)	(27)	(15)			
External consultations	4,645	2,115	1,574		62 ²⁷	16,150	323	4,271	2,047	22	6,946	1,550	3,234	1,962	35
Prenatal consultations	1,528	57	71			3,403	64	604	818		1,997	58	497	798	
PEV															
DTCP	898	1	1,400			2,563	8	351	745		1,352	3	4,901	678	
Measles	572	4	6,000			2,475	0	339	705		1,091	4	2,227	637	
Family planning															
All methods	6,671	38	3,491		27 ²⁸	460	21	293	124	6	9,890	144	8,968	212	14
Condoms	14,568	107	1,153			100	49	940	64		9,143	74	6,234	67	
Assisted deliveries	590	30	NA			679	76	82	2,223		616	43	81	210	

Note – Public in the above table includes public providers as well as para-public and “communal” providers. Figures in the above table are mean service volume for providers who offer the services.

²⁵ Table presents service volume from 1/1/99 to 12/31/99

²⁶ FP – for-profit; NFP- not-for-profit

²⁷ Listed as “medecine générale” in traditional healer data collection questionnaire

²⁸ Listed as “santé reproductive chez les jeunes” in traditional healer data collection questionnaire.

We also analyzed provider staffing for certain key services, such as assisted deliveries. In all modern providers (public and private), a majority of deliveries are assisted by either a matrone (39%) or a midwife (36%). Doctors assist in approximately 17% of deliveries and traditional birth attendants assist in approximately 8% of deliveries at modern facilities.

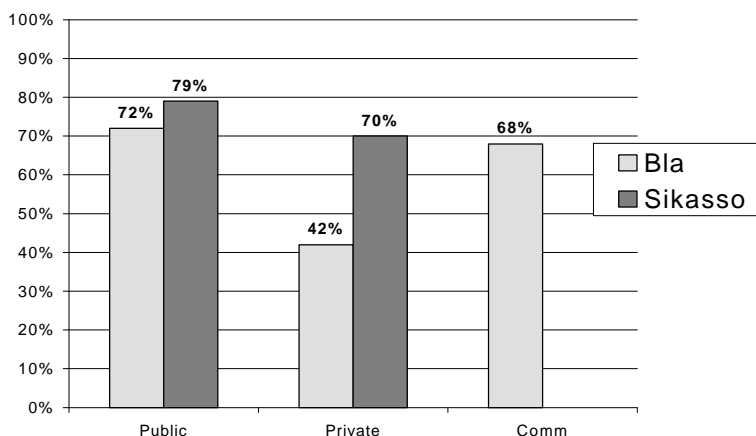
Additional information on numbers of references provided and supervision received was also gathered from providers. Public providers received the most references annually, approximately 185 per provider, versus an average of 21 for private, for-profit providers, 66 for private, not-for-profit providers and 21 for “communautaire” providers. In terms of overall service volume, referral patients represented a higher percentage for private, for-profit providers (13.5% of annual service volume) in comparison with public providers (2.6%), private, not-for-profit providers (2%) and communautaires (1.1%). Supervision also varied somewhat by type of provider. Approximately 96% of public providers stated that they regularly receive supervision visits, while only 28% of private providers and 29% of pharmacies stated that they receive supervision visits. However, 37% of pharmacies also stated that they received inspection visits as well.

5.9 Structural quality

Some variation in structural quality was found among providers when compared on an overall index. As cited in the Methodology section, we assessed providers based on availability of basic materials, such as a stethoscope, a thermometer, chairs or benches for clients to use while waiting, a place for washing hands, etc., as well as the general level of cleanliness of the facility. Public providers rated significantly better than private providers ($p < 0.05$) across both sites in terms of structural quality. In both sites, however, public providers rated highly on structural quality with an average score of greater than 70%. Approximately 100% of public providers and approximately 93% of communautaires had adequate seating for clients, compared to less than 83% of private providers. However, public providers did not compare so favorably on overall cleanliness of the facility, where only 58% of public and communautaire providers were rated as “clean” versus 67% of private providers²⁹. Overall structural quality is summarized in Figure 12 below.

²⁹ The IPE provider survey modules asked enumerators to assess the relative cleanliness of the facilities using the scale, “clean”, “relatively clean”, and “not clean.” While this assessment is by definition subjective, consistent standards for making this assessment were established during the intensive training of enumerators prior to the survey.

Figure 12: Structural Quality by Provider Type



Certain problems did exist within the entire group of modern providers in both sites, some of which are listed below:

- Only 50% of all providers surveyed had a thermometer at the health center.
- Only 64% of all providers surveyed had a stethoscope at the health center. Public providers were more likely to have a stethoscope than private providers ($p < 0.001$).
- Over 20% of all providers surveyed did not have a source of potable water at their health center.
- Over 38% of all providers surveyed did not have a place for hand washing at the health center.

5.10 Drug availability

During the IPE, the data collection team gathered information necessary in order to evaluate the proportion of provider institutions with essential drugs available. The information on availability of drugs was gathered through interviewing the responsible staff member of the pharmacy and through systematic observation by the data collection team. Table 23 presents the information on the availability of drugs in the two sites.

Less than half (49%) of the provider institutions surveyed has aspirin/paracetamol available at the time of the data collection. In addition, 48% of providers institutions had chloroquine available. In general, less than 50% of provider institutions were able to furnish the basic medications enumerated in Mali's list of essential drugs.

Regarding vaccination, less than a fifth of provider institutions had the necessary vaccines available. The availability rate varied depending upon the type of vaccine: 17.5% for diphtheria, pertussis and tetanus, 17.5% for polio, 19% for BCG, 17.5% for measles and 20% for tetanus toxoid

The module on drug and vaccine availability also asked information from providers regarding stock outs during the month preceding the data collection in essential drugs, vaccines and

contraceptives. The data show that nearly a fifth of provider institutions had a stock out in the month preceding the data collection. While less than 15% of providers had experienced a stock out of essential drugs during the preceding month, less than 5% of providers had experienced a stock out of vaccines. The numbers were higher for providers who had experienced a stock out of amoxicillin (17%) or vitamin A (17%).

Table 23: Summary of essential drugs and vaccine availability

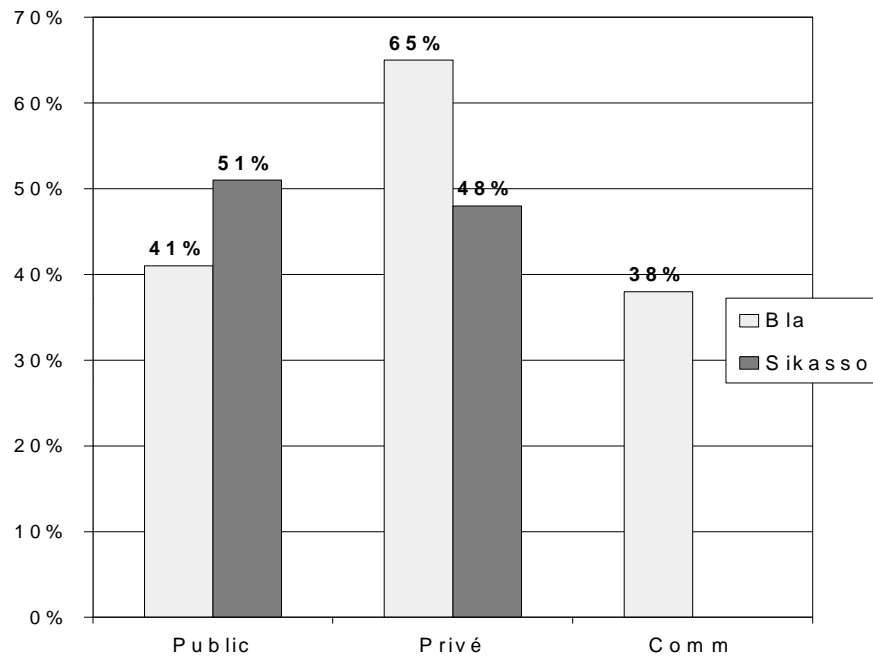
Drug/vaccination	Percentage of providers who regularly stock			Percentage of providers who had stockout in last 6 months		
	Sikasso (n=35)	Bla (n=50)	Total (n=85)	Sikasso (n=35)	Bla (n=50)	Total (n=85)
Aspirin/paracetamol	31	63	49	7	9	8
ORS	27	50	41	3	11	8
Ampicillin	24	50	39	7	11	9
Amoxicillin	27	56	44	10	13	12
Cotrimoxazole	30	58	47	10	11	11
Cholorquine	27	63	48	7	9	8
Vitamin A	12	44	31	11	17	15
DTCP	6	26	18	4	2	3
Polio	6	26	18	4	2	3
BCG	7	28	19	4	2	3
VAR	6	26	18	4	2	3
VAT2	9	28	20	4	2	3
Oral contraceptives				4	2	3
Condom				7	4	5

Note – Questionnaire did not ask whether providers regularly stock vaccinations or contraceptives (DTCP, Polio, VAT2, oral contraceptives or condoms).

5.11 Quality of Care

Quality of care, as cited in the methodology section, was assessed in terms of compliance with Malian standards for care of febrile illness. Indices were created on assessment tasks, communication tasks and overall compliance with fever care standards. In general, compliance with standards of care for febrile illness was relatively good across all providers and across both sites. However, considerable variation existed between the two sites. Combining both sites, private providers performed slightly better than public providers in compliance with clinical standards for care of febrile illness, however this difference is not statistically significant. However, in Bla, private providers performed significantly better than public providers, performing 65% of tasks correctly when assessing and treating clients with fever as compared to 41% for public providers ($p < 0.05$). In Sikasso there was no difference between public and private providers in quality of fever care. This information is summarized in the figure below.

Figure 13: Quality of Fever Consultations by Provider Type



In terms of specific tasks on evaluation of fever cases and communication regarding medication and when to return to the health center, there was, in general, no difference between provider types. In addition, the data collection illustrated serious deficiencies in terms of compliance with standards in terms of assessing fever with the use of a thermometer (41% comply across both sites) and in checking for signs of measles (36% comply across both sites). Communication overall was relatively good, especially in the area of welcoming the client. However, very few providers, of any type, ask clients if they have questions regarding the diagnosis or medication. This information is summarized in Table 24.

Table 24: Compliance with Fever Care Standards

	% of cases where Provider complied with standard								
	Public			Private			Communautaire		
	Sikasso (n=30)	Bla (6)	Total (36)	Sikasso (27)	Bla (7)	Total (34)	Sikasso (0)	Bla (18)	Total (18)
Provider asks start/duration of fever	72	83	74	77	100	82		78	78
Provider uses thermometer to assess ^{a,b}	47	67	50	56	14	47		11	11
Provider checks for signs of measles	47	33	22	42	50	44		18	18
Provider welcomes client ^{a,b}	90	100	92	96	71	92		67	67
Provider explains how to take medicine									
Pills	68	67	68	59	86	66		75	75
Syrup	52	50	52	55	67	59		83	83
Provider asks client if he/she has any questions	3	0	3	4	14	6		0	0

^a Difference for “total” percentage between provider types significant at p<0.05

^b Difference between Sikasso and Bla among private providers p<0.05

5.12 Pricing and presence of protection/solidarity mechanisms

We collected information on the percentage of providers who state that they charge for services and their average prices for services as well as the presence of protection mechanisms. Interestingly, the data indicate that public providers charge more frequently than private providers, possibly because of their more formal systems of pricing. Overall, however, private providers’ average charges are the most expensive out of any of the provider types, with informal providers as the second most expensive provider type. Pharmacies, who charge virtually every client, have the lowest average charge structure, most likely because of the lower intensity level of the types of services they offer. This information is summarized in Table 25 below.

Table 25: Charging for services and prices by provider type

	% Who Charge for Services			Prices – OP ^a Adult Consultation (CFA)		
	Sikasso	Bla	Total	Sikasso	Bla	Total
Public	92	95	94	428	225	327
Communautaire		93	93		181	181
Private	67	55	61	1,424	645	1,035
Informal	47	37	42	362	350	356
Pharmacies	100	100	100			

^a OP = outpatient

In general, informal providers are the most likely to report to be offering some form of protection mechanism in the two sites (74% of providers). Next most likely to offer such a mechanism are public providers, followed by private providers and communautaire providers. This information is summarized in Table 26.

Table 26: Presence of protection mechanisms

	Public	Commun	Private	Informal	Pharmacies
Bla	50%	20%	32%	64%	17%
Sikasso	69%	na	36%	84%	26%
Avg	60%	20%	34%	74%	22%

The different types of protection/solidarity mechanisms reportedly offered by providers in the two sites are:

- Differential pricing
- Prepayment or “mutuelles”
- Post-payment
- Fee waivers
- Solidarity funds

There was some difference between provider types in terms of types of protection mechanisms offered. For modern public and private providers who offered any mechanism, the most frequently cited mechanisms were fee waivers (75%), post-payment (17%) and solidarity funds (17%). Very few providers stated that they offered prepayment or mutuelle schemes to cover clients who were unable to pay for services. Traditional providers offered these same three types of mechanisms, although fee waivers were employed slightly more frequently (82%). Pharmacies most often offered post-payment mechanisms (60%) and differential pricing (30%).

The most frequently cited services that these protection mechanisms covered for modern public and private providers were adult and child consultations (52% of responses). For traditional providers and pharmacies, the most frequent service covered was payment for medications (100% of pharmacy responses and 82% of traditional provider responses.) In terms of problems with the operation of the protection mechanisms cited, most providers (70%) believe that there are “no problems.” Between 10% and 25% of providers across all types believe that the mechanisms that they cited were “over-utilized”. Finally, we asked providers to state who made the decisions about when to apply a protection mechanism at their facility. In general, nurses seem to decide most frequently. The responses are listed below:

- Modern providers
 - Doctor - 25%
 - Nurse - 32%
 - Community association - 7%
 - Other (nurse’s aide, “matrone”) - 35%
- Pharmacies
 - Chief pharmacist - 100%

6. Discussion

The data presented in this report summarize the themes we found in studying health care need, utilization and provision in Mali. What emerges from this data is a complex picture of health care supply and demand, one in which cost of care, quality, geographic location and knowledge of good health care practices by clients are all important factors. This section summarizes the key themes from the IPE baseline data collection and presents recommendations for possible interventions to improve the provision and utilization of health care in Mali.

This report presents key findings regarding need for and utilization of health services, prices paid for services, client satisfaction with care, structural quality and quality of care, charges for health services and the role of protection mechanisms. The principal conclusions are summarized below.

- **Need for health services** – The data do not show any significant relationship between need for health services and income quintile. The need for fever services is uniform. The rural/urban split is the determinant factor in need for delivery-related services. Women are much more likely to report needing care for the treatment of STIs than men ($p=0.019$). Across the two sites, youth ages 20-24 are more likely to report having had an STI during the month preceding the data collection than youth ages 15-19 ($p=0.057$).
- **Utilization of services for fever** – Utilization of health care for fever is much higher in urban areas (Sikasso) than in rural areas (Bla). The educational level of persons ill with fever and of household heads appears to have an important influence on the decision to seek care for fever. Cost of care is not cited as a principal reason for choosing a provider, however, it figures into clients decision-making process in important other ways as a general lack of money is frequently cited.
- **Utilization of delivery-related services** – The educational attainment of women is the key factor, in particular in rural settings, in determining whether or not women seek prenatal care services. Site is an important factor in determining whether women have an assisted delivery or not. Women in Bla are much less likely to have an assisted delivery than women in Sikasso. In addition, women in the poorest quintile are much less likely to have an assisted delivery than women in other quintiles. The decision to seek postnatal care depends more on the level of educational attainment of the household head than on that of the mother. In both sites, however, utilization of postnatal services was very low, (less than 36%) despite uniformly high use of prenatal care.
- **Family planning and utilization of services for STIs** – Site is the important factor in terms of knowledge and utilization of family planning. However, the utilization of family planning is generally low. Site is also an important factor in whether youth know about STIs. Fully 98% of youth interviewed knew about HIV/AIDS. In general, young clients prefer to seek care for STIs at modern public and traditional providers.

- **Prices paid** – Over 80% of persons interviewed who sought care at a provider paid for the services they received. Less than 4% of the persons interviewed stated that they had benefited from any protection/solidarity mechanism at the time of payment. In general, clients described a price structure that was higher than that described by providers for the same services.
- **Client satisfaction** – In general, clients state that they are satisfied with the services they receive for fever from pharmacies and the private sector, and traditional providers and private providers for delivery-related services. Public providers are classified lowest by clients in terms of satisfaction for both fever-related and delivery-related services. For care for fever, clients state that the principal reason for which they chose their provider was the perceived presence of competent personnel (34% of clients).
- **Structural quality and quality of care** – Public providers complied with standards for structural quality at a higher level than private providers ($p < 0.05$) in both sites. Less than 50% of providers were able to furnish basic medicines on the essential drug list at the time of the survey. In general, the compliance with fever care standards is somewhat troublesome in the two sites. Of particular note is that public providers comply with standards at a level lower than private providers, especially in the areas of interpersonal communication between provider and client on important items such as how to take the prescribed medicine.
- **Pricing levels and presence of protection/solidarity mechanisms** – Public providers are more likely to have an official list of prices for services and, consequently, they are more likely to charge for services in general. However, the overall level of prices are higher at private providers versus all other types of providers, followed by the informal sector. Protection mechanisms are most likely to be offered by informal providers.

Principal among the themes from the IPE data is that low utilization of health services in Mali is not the result of any one factor alone. While this may seem self-evident, the conclusion that economic means is not the determinant factor in health care utilization is an important one. It differs from the conclusions of much of the literature reviewed in this report's Annex 7.2. Overall, we cannot conclude that the poor systematically use services less than other income groups, nor can we state that the primary reason for overall low utilization is necessarily financial barriers.

However, for certain services, income is an important determinant of care seeking; for example, poor women are significantly less likely to have an assisted delivery than women in higher income groups. It is possible that the utilization of curative services may be less income elastic than utilization of preventive services. This is supported by the IPE analysis that uncovered no relationship between income quintile and use of fever services, while income quintile was positively correlated with the use of postnatal care. However, use of prenatal care was not related to income and so further analysis is needed to determine whether and when poverty is linked to lower levels of utilization. It is clear from the IPE study that the poorest tend to use different types of providers than other income quintiles. Even if they are equally likely to visit a provider, they are more likely to select traditional healers and private providers and appear to use hospitals less often. As a result, it is possible that the care the poor receive is not of the same standards as that used by the non-poor.

If the relative importance of income in patterns of care seeking is unclear, one factor's importance is exceedingly clear: rural inhabitants are systematically less likely to use health services than those living in urban areas. Those living in rural areas have unfavorable indicators in terms of education and poverty. IPE socioeconomic findings confirm that households living in Bla are much poorer than those in Sikasso. The rural district of Bla has significantly lower levels of educational attainment than the commune of Sikasso. Since education of both the client and/or the household head proved to be important determinants of utilization of almost all services included in the IPE surveys, inhabitants of Bla are much more vulnerable compared to those in Sikasso. Obviously, rural inhabitants also have reduced geographic access to health care providers than urban dwellers, especially to those in the modern sector. Finally, the staff to population ratios in the rural district of Bla are inferior to the ratio in urban Sikasso, making access to trained personnel less assured in rural settings.

The issue of trained personnel is also important as IPE findings demonstrate that clients evaluate the quality of service providers in selecting where to seek care. Contrary to traditional wisdom that states that clients look primarily for amenities and a warm welcome in choosing a provider, clients cite perceived technical competence of personnel as the primary reason to explain their choice of provider for curative services in this study. Certainly, the lack of availability of certain basic medical equipment documented by the IPE study may hamper many providers' ability to effectively deliver services.

Moreover, IPE survey findings show that it is important to move beyond only measuring the availability of basic inputs when evaluating the market for health care provision. Rather, providers and their supervisors must address the process of care as well. Bridging performance gaps in how clinicians assess, diagnose, and (not the least) communicate with patients is a clear priority that emerges from the IPE data. Support to these improvements must be simple, practical, and feasible so that practitioners and their supervisors can attempt to address these performance gaps in a regular, ongoing fashion. Traditional methods for monitoring quality of care depend upon external assessments and costly surveys that may not be sustained. Self-assessment is a method that can be used at a local level by providers to improve their own performance in treating patients and managing their clinics. A combination of training in basic quality assurance techniques and ongoing self-assessment of performance could be the basis for improving how patients are cared for as well as the structural elements of care delivery.

In addition to quality improvements, there is an obvious need to mobilize populations, especially in rural settings, to use health services. Mutuelles are one such strategy proposed by key stakeholders in both Sikasso and Bla. Several characteristics of mutuelles make them an appropriate solution to some of the key problems of utilization uncovered by the IPE study. First, mutuelles can reduce the price of health care at the point of service. A general lack of money was often cited in the IPE study as a reason for non-utilization (though it was not often related to income quintile). Members buy into mutuelles at a time when they have resources available (harvest time, for example), and then receive a package of services they participate in defining throughout the year with a small co-payment at the time of service. Mutuelles can serve as vehicles for tackling specific health problems. For example, the IPE study showed that very few women use postnatal services. By including such care in a benefits package, mutuelles encourage their members to take advantage of these services. Moreover, mutuelles provide a forum where members can meet and discuss their health needs and demands. These meetings can also be constructive occasions for the dissemination of educational messages about STIs, why postnatal care is important, etc.

These conclusions and recommendations have been summarized by the authors of this report. However, it was the IPE partners in the two pilot sites that did the work of examining the data during local workshops and making recommendations of how the data could be used. Testing the strategies developed with local partners in these sites will be the future work of the IPE followed by a detailed evaluation that will examine the effectiveness of the chosen strategies. In this way, this report represents just the first step toward improving health care provision and utilization in the commune of Sikasso and the cercle de Bla.

7. Annexes

7.1 Staff of the Equity Initiative in Mali

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7.2 Current issues from equity literature

To mitigate inequities that may result from charging fees directly to users of health services, a number of modifications often are made to cost-recovery programs. Annex 6.2 intends to set the context for the IPE equity initiative by briefly reviewing the existing literature on the equity implications of user payments, and in particular, of the protection mechanisms that often accompany user payments.

7.2.1 User payments and equity

The relationship between cost recovery and equity remains ambiguous. The World Bank, among others, has argued that charging for services that benefit only the recipient will result in a more efficient consumption of those services while increasing public resources for services with positive externalities, such as immunizations, prenatal and maternal care (Shaw and Ainsworth 1996, Waters). In practice, however, the introduction of user payments without effective protection mechanisms may have a negative impact on the poor. Evidence demonstrates that the impact of cost recovery on access and equity depends on how the initiatives are designed and implemented (Leighton 1995)

The following chart summarizes some of the ways user payments can impact the poor.

Potential positive and negative impacts of user payments on the poor

Positive	Negative
<ul style="list-style-type: none"> ◆ Improvement of access in rural areas - using revenues from user payments to expand services in rural areas; ◆ Improvement of service quality - quality improvements have been shown to more than offset price effects in some cost recovery settings; ◆ Price discrimination - those who can afford to pay do thereby subsidizing those who cannot and are granted exemption or waivers; ◆ Higher time elasticity of demand for the poor – reducing travel or waiting time for the poor (by expanding services in rural areas) raises utilization of the poor more than the non-poor. 	<ul style="list-style-type: none"> ◆ The effect of price on demand - user fees, without concomitant quality improvements, restrict access of all populations; ◆ Higher price elasticity of the poor - the poor appear to be more sensitive to price increases than the non-poor, and children more sensitive than adults; ◆ Selective application of user fees - free care given to better off patients, such as military, civil servants, or friends of health personnel.

Excerpted from *Means Testing in Cost Recovery of Health Services in Developing Countries* (Willis 1993)

A well-designed cost recovery program will try to minimize the negative impacts on equity and maximize the positive. Yet, in order to meet the goals of cost recovery and equity, equity policies need to be designed not only to protect the poor, but to enforce collection of fees from those able to pay (Willis and Leighton 1995).

7.2.2 Common equity policies

A critical element to an effective equity policy is the approach to identifying the destitute. The questions of who is responsible for identifying the poor and who decides eligibility for exemption benefit schemes are often not clearly posed or answered (Kaddar et al., 1997). Kaddar et al. describe two common African approaches to this question: (1) the centralized approach where the administration or health staff identifies the poor and grants exemptions, and (2) the decentralized approach, derived from the Bamako Initiative, where communities identify the poor and grant exemptions through health or management committees. Both approaches suffer from “paternalistic considerations” (Kaddar, et al., 1997).

A majority of the work designed to examine equity has focused on targeting and more specifically, on means testing and characteristic targeting. Means testing (sometimes called direct targeting) uses income or wealth measures to identify people to be exempted or charged less for services. Characteristic targeting uses non-income/wealth characteristics to identify people for exemptions or lower charges. Means testing intends to exempt from payment those less able to pay user fees on an individual basis by granting them waivers. Characteristic targeting aims to exempt an entire group from payment, such as exempting all pregnant women from paying for prenatal care. Characteristic targeting can also be used to exempt people living in a known poor geographic location. There has been a great deal written of the tradeoffs associated with different methods of targeting (Willis and Leighton 1995, Waters, Willis 1993, Makinen and Raney 1994), centering on accuracy versus cost³⁰. It is generally accepted that while greater levels of accuracy in targeting the poor leaves less room for leakage of benefits to the non-poor, it requires more information and therefore is more costly than characteristic targeting.

Many factors constitute obstacles to means testing in African countries. Institutional weakness has meant that means testing is decentralized, informally carried out at the point of service and is largely ineffective in Africa (Willis 1993, Waters, Willis and Leighton 1995). A variety of informal mechanisms are employed to administer means tests; some communities get involved in means testing through health committees or community leaders, health facility personnel conduct means testing in other places. Both systems have drawbacks, including social pressures to waive fees for friends or family, subjective administration depending on point of contact, and diminished time for treating patients (Willis 1993). Governments, health facilities, and technical advisors have not placed sufficient emphasis on defining criteria for designating beneficiaries, training means test administrators to use the criteria, and communicating the criteria for eligibility to communities.

Makinen and Raney (1994) discuss the use of proxy means testing, whereby characteristics such as nutritional indicators, sex of household head, and land holding, are used in place of, or in combination with, income to determine eligibility for waivers. While proxy means testing may give a more accurate picture of ability to pay in the African context, it requires a similarly high level of administration and costs as means testing. Experience from Malawi indicates that community participation in proxy means testing based on land holding had a positive impact on the appropriate distribution of waivers (Waters).

It is important to note that the scope of the phenomenon of inequity differs according to the measurement technique used and to the specific country. As Kaddar et al. point out, the scope of

30

For a more in-depth discussion of this issue, see Willis, pp. 28-37 (1993). For the purposes of this paper, accuracy may result in undercoverage, one measure of which is to divide the number of poor wrongly denied benefits by the total number of poor. Leakage, or non-poor receiving benefits, can be measured by dividing the number of non-poor beneficiaries by the total number of beneficiaries.

the problem must be known in order to develop efficient policies aimed at fighting social inequity. Data is scarce, and available data on health service utilization suggests that between 5% and 25% of populations in countries like Benin, Togo, Niger, Guinea, and Rwanda are destitute.

There is a range of macro-level equity policies that should be considered and evaluated, but that are beyond the scope of a facility-level intervention, and thus mentioned here only briefly. Some of these policies have particular relevance for African countries.

General price subsidies do not discriminate among beneficiaries of services, and thus do not specifically target the poor, but may be advisable for certain services with positive externalities or for a basic package of services. De Ferranti also proposes that non-patient-related preventive care (including disease control, sanitation, health education, and monitoring of disease patterns) should also be free or have a negative cost (de Ferranti 1985).

Allocative efficiency gains can result from user payments and can promote equity. Fee setting is critical to harnessing these gains. If fees are set too high, utilization may decline in general and more waivers will have to be granted. If fees are set too low, revenue generation will be insufficient to maintain service quality and the poor will also suffer. Pricing and allocation policies should be designed to increase access and quality at the first point of service (an opportunity for self-selection), thereby encouraging a more efficient use of resources at each level of the health system (Collins et al. 1996).

Finally, there is increasing evidence that risk sharing and prepayment can improve equity, particularly by mitigating the impact of user fees on the poor in user payments contexts (Diop et al. 1995). In Zambia, data analysis from the *Living Conditions and Monitoring Survey* indicates that large sectors of the population are participating in voluntary prepayment schemes, and especially at the hospital level. Data from two provinces where prepayment pilot schemes have been operational (Copperbelt and Lusaka) suggest that voluntary prepayment schemes organized at government health institutions could change the social polarization at the national level. An average of 27% of consultations in private institutions, government hospitals, and government health centers and clinics are covered by voluntary prepayment schemes of employer-based arrangements (Diop, 1997).

Further investigation into promoting equity through risk sharing and prepayment would be an important contribution to this subject. For example, poverty can be seasonal for communities reliant on agriculture and subsistence farming. If small farmers were allowed to prepay at harvest time for partial coverage of health services for the year, perhaps even using payment in-kind, a lower user fee at the point of service would be less of a disincentive to seek care. Moreover, such a system mobilizes resources from those who may be unable to pay at the point of service. Niger piloted a version of partial prepayment that significantly improved the utilization of health services by women, children, and the poorest 25% that is discussed in Section 7.2.3.3.

7.2.3 African experience with protection mechanisms

Despite the difficulties associated with means testing, it is the most common iteration of targeting the poor in most African countries with user payments in place. Two major USAID projects undertaken in the past 8 years provide insight on the African experience with equity and protection mechanisms in the context of user payments. The Health Financing and Sustainability Project (HFS) was carried out by Abt Associates and the Study on Equity and Coverage of Health Care Provision was carried out by BASICS. In its mission statement, the BASICS study intended to “develop a practical methodology for assessing the effectiveness of means testing systems and use that methodology to carry out five country case studies” (Newbrander and Collins 1995). Three of the case studies took place in sub-Saharan African countries – Guinea, Kenya, and Tanzania. The HFS project produced interesting studies of health financing reforms in Africa, and, in particular, in Niger. The Niger work draws out some of the key issues related to user payments and equity. Some of the experience from these studies is presented in this section.

7.2.3.1 Means testing and waivers

The BASICS case study of Kenya intended to examine the functionality of the safety mechanisms introduced to ensure that the poor had access to health services after the introduction of user fees (Newbrander 1995). Data was gathered from a number of sources, including patient exit interviews at health facilities and household surveys. The findings from this study were that, particularly in government health facilities, the waiver system did not adequately protect the poor. The Kenyan experience highlights a common set of problems most African countries have faced in implementing targeting mechanisms in the health sector. Some of the key obstacles to a functional system of protection mechanisms are presented below.

Obstacles to Functional Protection Mechanisms in Kenya

POOR INFORMATION	<ul style="list-style-type: none"> ◆ A lack of knowledge about waivers and eligibility was reported among the poor ◆ Information about waivers was obtained informally, through friends, relatives or health staff
LACK OF TRAINING	<ul style="list-style-type: none"> ◆ Staff received no training on the policies and procedures for granting waivers and exemptions
EMPHASIS ON REVENUE GENERATION	<ul style="list-style-type: none"> ◆ Emphasis on revenue generation prompted a resistance to grant exemptions and thus led to higher levels of undercoverage from the waiver system
INADEQUATE RECORD KEEPING	<ul style="list-style-type: none"> ◆ Records and monitoring of the waiver and exemption system were non-existent

In the Kenya case study, it was also found that rural institutions made wider use of waivers than large government hospitals. One tactic used by a rural non-governmental hospital was to grant partial waivers and invoice patients for the balance. This system resulted in full payment within six months by 38% of the patients who were invoiced. Moreover, on average, these repayments accounted for between 23% and 50% of the value of new waivers granted by the hospital each month. On average, the hospital recouped 40% of the total value of all waivers granted (Newbrander 1995). This experience could prove important to health staff whose incentive is revenue generation and who are resistant to grant waivers. For the Kenyan hospital in this example, revenue generation and waivers are not mutually exclusive.

The BASICS' Tanzania case study found similar problems (as documented in Newbrander et al., February 1997). In general, there was a lack of knowledge among the poor about waivers, resulting in a waiver system that did not adequately protect the poor. Moreover, health staff deliberately sought not to publicize the waiver system for fear of abuse, even though the value of waivers granted amounted to less than 1% of all potential revenues. Records and monitoring of the waiver system were almost non-existent, and health staff received little to no training in how to administer the waiver system.

7.2.3.2 Characteristic targeting

Characteristic targeting is prevalent, but widely used to exempt non-poor population categories like the military and civil servants, and therefore regressive. In Mali, for instance, though civil servants and their families are supposed to pay 20% of the fee, they usually pay nothing, while accounting for 25% of all hospitalizations (Willis and Leighton 1995). Barnum and Kutzin (1993) argue that if it is politically unfeasible to do away with fee exemptions for civil servants, etc., that this subsidy should be handled, instead, as a direct intergovernmental transfer to the Ministry of Health or hospitals. Makinen suggests that this "benefit" could also be handled as a one-time increase in pay equal to the average use of services by the general public.

Still, until means testing systems are more effective, characteristic targeting is a low-cost equity tool to administer in communities with large poor populations. Conclusions from the BASIC's Kenya case study state that 33% of exemptions go to poor people and that, in the absence of a reliable waiver system, exemptions are a good safeguard for undercoverage (Newbrander 1995).

7.2.3.3 Risk-sharing and prepayment schemes

Pilot tests in Niger explored the impact of cost sharing on equity through three different schemes in three districts (Diop et al. 1995). One district maintained the status quo of free care, a second district implemented a fee-per-episode system of financing, and the third district included a type of social financing (local annual tax) and a smaller fee-per-episode. Both districts that implemented financing reforms also maintained an exemption system (national policy) that operated informally, but no changes were made to try and improve the operation of the exemption system. The results are presented in the following table.

Impact of Financing Reforms on Utilization in Niger

District that maintained free care	District that implemented fee-per-episode only	District using a tax plus fee-per-episode
Deterioration in utilization among all target groups and the general population, except for children, and particularly among villages with no health facility	No statistically significant changes in utilization among target groups or the poorest 25%	Significant improvement in utilization of public health facilities among women and children and residents of villages without a health facility, as well as a doubling in the rate of utilization among the poorest 25%. All of these positive changes were statistically significant

It is important to note that the pilot financing schemes were accompanied by quality improvements, specifically the improved availability of drugs. Diop et al. conclude that the Niger pilot test results demonstrate that a combination of cost recovery and quality improvements can increase access to quality health care for rural populations and particularly for the rural poor.

In Rwanda, the Partnerships for Health Reform Project (PHR) assisted the MOH to test prepayment schemes in 3 districts to: improve equity of access to quality care for rural populations, strengthen financial management in health centers, and increase community participation in health financing management. In Rwanda, utilization of primary health care services had dropped from 0.3 visits per person per year to 0.25 from 1996-1998. Findings show that about 90,000 individuals, or 7.5 percent of the target population, joined prepayment scheme (PPS) plans. Members sought care five times more often than non-members and contributed five times more per capita to health care than non-members. Moreover, data shows that members seek care sooner than non-members when ill, and therefore cost less in drugs and treatment than those not belonging to the prepayment schemes³¹.

³¹

Pia Schneider, François P. Diop, Sosthène Bucyana. March 2000. Development and Implementation of Prepayment Schemes in Rwanda. Technical Report 45. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates, Inc.

7.2.4 Evaluation of equity policies in Africa

There have been virtually no well-executed evaluations of impact of protection mechanisms on equity in Africa. As a result, it remains unclear whether the problems lie in the exemption models themselves, or in their implementation. Conducting an evaluation of exemptions systems is difficult for a number of very good reasons, but two primary reasons are particularly relevant to this activity. First, to be able to evaluate the impact of various protection mechanisms from user fees on the poor, it is necessary to have baseline data on financial access to health services. A general lack of data is a critical reason that conclusive evaluation experience is practically non-existent. Without baseline data, it is impossible to document the impact of protection mechanisms on equity, and therefore, their effectiveness. The BASICS case study on Tanzania highlights this common problem; no records of waivers (either number granted or value) are kept and there is no supervision or monitoring of the waiver system (Newbrander and Sacca 1996). At a March 1997 workshop on the implementation of cost recovery in Niger, health teams complained that they were given too many tools for management and monitoring, yet insufficient training to make use of any of them. Consensus was that monitoring tools should be simple and adequate training provided for their use. The forthcoming final evaluation of the prepayment scheme pilot experience in Rwanda under the PHR project will be a major contribution to this topic.

A more general obstacle to an evaluation of how well a protection mechanism targets those individuals unable to afford user fees is the definition of this target group. That is, it is important to distinguish between general societal inequity and inequity related to financial barriers from user payments. Most evaluations have been unsuccessful in defining the target population for protection mechanisms. For example, the BASICS methodology did not define who, specifically, the protection mechanisms were targeting in the country case studies. In order to measure the impact of a protection mechanism on the poor, the "poor" must be defined. Local determination of poverty is preferable in most communities, but criteria must be simple, clear, and consistent, both for implementation and evaluation. The recommendations from the March 1997 workshop in Niger advised that each community health committee should define its indicators of poverty. Determination of poverty is difficult and requires more attention from governments, health centers, and health management committees.

Kaddar et al. recommend further analysis on the effects of exemption schemes on the poor's behavior concerning utilization of health care services, as well as the influence of exemption criteria of the number of beneficiaries eligible and regarding the poor.

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Face aux impératifs de la mise en œuvre de la Stratégie des Soins de Santé Primaires et de l'objectif global de Santé pour Tous d'ici l'An 2000, adopté en 1978 à Alma Ata, plusieurs réformes ont caractérisé les années 1980, entre autres la restructuration du Ministère de la Santé pour la revalorisation de certaines fonctions importantes comme la planification des activités et la gestion des ressources, la formation du personnel et la recherche le recouvrement des coûts et la participation communautaire entre autres.

La vraie révolution dans le secteur de la santé , n'est intervenue qu'à la fin des années 1989 et au cours de l'année 1990 qui ont vu le Mali opté pour la conceptualisation et la mise en œuvre de l'initiative de Bamako qui apparaissait comme une stratégie de relance des soins de santé primaire. L'adoption le 15 décembre 1990 d'une déclaration de politique sectorielle de santé allait jeter les bases d'un véritable développement du secteur.

En effet, la clarté des objectifs de cette politique et la pertinence des choix stratégiques opérés avaient convaincu bon nombre de partenaires à mobiliser de ressources pour le financement des programmes. Le domaine sanitaire apparaissait comme un secteur contribuant au développement économique et au progrès social et l'état de santé était retenu comme une variable endogène qui contribuait à la croissance économique en améliorant la qualité et la productivité des ressources humaines.

L'instrumentalisation et la mise en œuvre de cette politique à travers le Projet Santé, Population Hydraulique Rurale et d'autres programmes ont permis d'élargir l'espace de partenariat et de collaboration entre l'état, les partenaires au développement, les collectivités, les ONG, les

L'instauration d'une gestion démocratique des problèmes de santé a permis une plus grande responsabilisation des populations à travers les associations de santé communautaires (ASACO) et fédérations locales, régionales et nationale d'ASACO qui sont les véritables agents de développement des soins de santé de base avec la mise en place des centres de santé communautaires (cscm) et les centres de santé d'arrondissement revitalisés (csar).

Par ailleurs, le secteur privé a aussi connu un essor important et l'on compte un nombre appréciable de cabinets médicaux, de cliniques médicales, d'accouchement, chirurgicales de cabinet dentaires, de soins infirmiers d'officines de pharmacie, de dépôts pharmaceutiques, d'établissement d'importation de médicaments et de laboratoires d'analyse.

Tout cela a contribué à une extension de la couverture sanitaire et à la disponibilité de soins de qualité pour 40% environ de la population malienne.

Malgré ce progrès fantastique, l'utilisation des services de consultation curative reste paradoxalement faible entre 0,24 à 0,30 nouveaux cas par habitant et par an. Ce qui signifie que moins de 30% des populations utilisent les services disponibles. Les résultats des services de prévention comme le Programme Elargi de Vaccination (PEV) montrent qu'un nombre limité d'enfants sont correctement immunisés environ 36%.

Il faut rappeler que l'un des objectifs prioritaires de cette politique est de rendre les services de santé accessibles aux couches défavorisées des zones rurales et péri-urbaines.

En raison de ce choix politique important et dans le but d'assurer une certaine viabilité des services de santé et la pérennisation des systèmes de santé mis en place, le recouvrement des coûts a été retenu parmi les principes qui régissent la participation des populations dans le

Il devenait dès lors primordial pour les décideurs et l'ensemble des parties prenantes de conduire une évaluation voir des études spécifiques pour apprécier le degré d'atteinte d'un tel objectif.

L'étude de la demande de soins de santé de base du Projet Initiative USAID-MSPAS-UNICEF

:

Aider le gouvernement à formuler des politiques et stratégies adaptées à mettre en œuvre pour l'amélioration de l'accessibilité financière dans un contexte de tarification des soins ;

Contribuer à une meilleure utilisation des services de santé disponibles notamment par les couches vulnérables dans un souci d'équité.

Fournir aux professionnels de la santé des données de qualité utiles à la planification du

Dans le but de mener cette étude, le Bureau d'Etudes ABT Associates Inc. dans le cadre de son Projet Partnerships For Health Reform (PHR) a élaboré un cadre conceptuel pour conduire les enquêtes relatives à la demande de soins des populations.

évaluation après l'intervention. [Il y aura aussi une enquête "témoin" auprès des ménages qui portera sur les femmes enceintes ou ayant récemment accouché. Les ménages de l'enquête témoin seront choisis en dehors des deux régions de l'intervention.] Nous voulons envisager de surdimensionner l'échantillon des individus ayant entre 15 et 24 ans pour être certains d'avoir un échantillon suffisamment important pour l'étude du comportement des jeunes. Des estimations à la fois du changement et du niveau seront nécessaires.

Dans cette partie, nous décrivons la conception de l'échantillonnage proposé pour l'enquête.

énumération. De ce fait, l'effet de conception est plus important. Si nous supposons qu'il est de 3,0, la précision des estimations en rapport avec les individus sera la même que la précision des estimations basées sur 1.000 individus. Cet échantillon nous permettra d'estimer les pourcentages de la population dans une fourchette de 3,1 points de pourcentage en plus ou en moins à l'intervalle de confiance de 95%.

7.3.3.4 Précision des estimations de changement

La précision des estimations de changement entre deux moments peut être améliorée par un chevauchement de l'échantillon entre deux moments, même si le chevauchement se produit au niveau de la Section d'énumération. Si le coefficient de corrélation intra-grappe entre les caractéristiques des ménages à l'intérieur d'une Section d'énumération est élevé, la variance de l'estimation du changement sera peut-être moindre que la variance des estimations aux deux moments. Si nous supposons un coefficient de corrélation de 0,6 entre les deux moments, un échantillon de 1.000 individus nous permettrait alors de détecter une différence de 4,4 points de pourcentage dans les pourcentages de la population avec une probabilité de 80% au niveau de signification de 5%. Cela signifie que s'il y a vraiment une différence de 4,4 points de pourcentage entre les deux pourcentages de la population, nous rejeterions alors l'hypothèse d'une absence de différence avec une probabilité de 0,80. Le niveau de signification indique la probabilité de rejeter l'hypothèse d'une absence de différence lorsqu'effectivement il n'y a pas de différence. S'il n'y a pas de chevauchement, nous serions en mesure de détecter une différence de 6,2 points de pourcentage avec une probabilité de 80%.

Tailles escomptées des échantillons pour divers domaines

Les tailles escomptées des échantillons pour différents domaines d'intérêt sont indiquées ci-dessous.

Tailles escomptées des échantillons

					Total (15-24)
	15-19		20-24		
	Homme	Femme	Homme	Femme	
Bla	119	118	65	106	408
Sikasso	165	197	128	140	630

Supposons que M représente le nombre total de ménages de Sikasso. Nous voulons retenir m ménages. Dans notre cas, $m = 600$. Supposons que M_i soit le nombre de ménages dans la i ème Section d'énumération. Nous avons alors $M = \sum_{i=1}^{81} M_i$ pour $i=1, \dots, 81$. Nous voulons retenir n Sections d'énumération dans l'échantillon. La probabilité de retenir la i ème section est:

$$p_i = n \cdot (M_i / M)$$

La méthode pour choisir un échantillon systématique avec une probabilité proportionnelle à la taille suit les étapes ci-dessous.

1. Faire une liste des Sections d'énumération ainsi que du nombre de ménages M_i .
2. Etablir une colonne pour les totaux cumulés des nombres M_i .
3. Attribuer une fourchette de nombres de taille M_i à la i ème Section d'énumération où $i = 1, 2, \dots, 81$. Par exemple, si la première Section d'énumération à Sikasso compte 76 ménages, la fourchette des nombres attribués à cette Section est 1-76. Si la deuxième Section d'énumération compte 153 ménages, la fourchette des nombres affectés à cette Section est 77-229, et ainsi de suite.
4. Déterminer l'intervalle d'échantillonnage qui est $I=(M/n)$.
5. Choisir un nombre au hasard entre 1 et I . Retenons en l'occurrence R .
6. Choisir n Sections d'énumération pour lesquelles la fourchette attribuée comprend les nombres $R, R+I, R+2I, R+3I, \dots, R+(n-1)I$.

Sélection des ménages:

Etablir une liste des ménages dans les Sections d'énumération retenues. Choisir un échantillon systématique de ménages après avoir organisé la liste par subdivisions ou en fonction d'une autre variable. La méthode pour la sélection d'un échantillon systématique avec un intervalle d'échantillonnage fractionnaire est décrite ci-dessous.

Nous voulons choisir m_i ménages à partir de M_i . La démarche est la suivante:

1. Calculer l'intervalle d'échantillonnage $I=(M_i/m_i)$. Ne pas arrondir cet intervalle à un nombre entier s'il n'est pas un nombre entier.
2. Choisir un chiffre au hasard entre 0 et I . Retenons en l'occurrence R .
3. Former les nombres R , soit $R+I, R+2I, R+3I, \dots, R+(n-1)I$.
4. Les arrondir au nombre entier suivant, si ce ne sont pas des nombres entiers.
5. Choisir les ménages dont les nombres sur la liste correspondent aux nombres formés ci-dessus.

Cette méthode donne la taille exacte de l'échantillon.

Pour choisir un sous-échantillon de 240 ménages à partir de 840, procéder comme suit. Calculer d'abord l'intervalle d'échantillonnage qui est $840/240= 3,5$.

Choisir ensuite un nombre au hasard entre 0 et 1,4. Retenons en l'occurrence U . Former les nombres

$U, U+3,5, U+7,0, U+10,5, U+14, \dots, U+836,5$

énumération de la même manière que pour la région de Sikasso. Choisir 17 ménages à partir de chaque section retenue en utilisant la méthode de sélection systématique donnée ci-dessus. Dans la sélection des ménages, classez la liste selon des critères géographiques ou autres pour obtenir une représentation proportionnelle aux sous-groupes qui vous intéressent. Utiliser la méthode décrite plus haut pour choisir un sous-échantillon de 600 ménages pour la collecte de données complètes.

Taille de l'échantillon pour l'échantillon témoin

Il est prévu de réaliser une enquête témoin auprès de ménages où des femmes ont récemment accouché ou sont actuellement enceintes. Les ménages seront sélectionnés en dehors des deux régions dans lesquelles les interventions sont prévues. Cet échantillon après la collecte de données durant les périodes avant et après les interventions donnera une estimation de l'évolution de l'utilisation des services tels que les accouchements assistés ou le nombre de visites pour des soins prénatals, etc. dans la zone témoin. Cette estimation du changement sera comparée avec une estimation semblable du changement obtenu dans les deux régions où se sont déroulées les interventions. La comparaison des deux estimations des changements aidera à déterminer l'influence de l'intervention sur l'utilisation des services pour les femmes qui ont récemment

Si nous supposons que la taille moyenne d'un ménage est de 5,6 personnes au Mali et que nous choisissons 1.000 ménages, nous obtiendrons un échantillon de 5.600 individus. Cette population sera constituée à 51,8% de femmes. Cela signifie que nous obtiendrons un échantillon de 2.900 femmes dans l'échantillon. 40% de ces femmes seront dans la tranche d'âge des 15-49 ans. Le taux de natalité qui est le nombre de naissance pour 1.000 personnes au Mali est de 45,1. Lorsqu'il est ajusté pour la population de femmes entre 15-49 ans, ce taux est alors de 214. Pendant une année, il y aura 214 naissances pour 1.000 femmes entre les âges de 15 et de 49.

En conséquence, si nous voulons un échantillon de 214 femmes qui ont récemment accouché ou qui sont actuellement enceintes, nous devons choisir et passer en revue 850 ménages. Cet échantillon de 214 femmes à deux moments, ainsi qu'un échantillon semblable à deux moments différents dans la région traitée, détectera une différence de 9 points de pourcentage dans les estimations de changement avec une probabilité de 80% au niveau de signification de 5%. Un échantillon de 400 femmes dans les régions témoins et traitées à deux moments détectera une différence de 7 points de pourcentage dans les estimations de changement avec une probabilité de 80%. Pour obtenir 400 femmes dans l'échantillon, nous devons passer en revue 2.000 ménages. Nous avons supposé une valeur de 0,6 pour le coefficient de corrélation entre les caractéristiques d'intérêt aux deux moments à la fois pour les régions témoins et les régions traitées.

7.3.3.6 Choix de l'échantillon

Le choix des ménages sera semblable à la procédure décrite pour la sélection des ménages à Bla et Sikasso.

L'opération de dénombrement a consisté à visiter les SE sélectionnées en vue d'établir le plan, d'enregistrer sur des fiches de ménages une description des chefs de ménages vivant dans la concession en vue du tirage des ménages qui devait faire l'objet de l'enquête ménage.

Notons que le travail de cartographie a débuté à Sikasso le 07 Septembre 1999. Compte tenu du fait que les cartographes et énumérateurs devaient jouer le rôle de chef d'équipe pendant l'enquête ménage, nous étés amenés à interrompre la cartographie à Sikasso pour venir rejoindre les enquêteurs et enquêtrices à Bamako qui devaient subir la formation sur les modules à partir du 14 Septembre 1999. A la fin de la formation, le 26 Septembre 1999, l'équipe est retournée à Sikasso le 28 Septembre 1999 pour achever la cartographie de cette ville le 06 Octobre 1999. Rappelons que, compte tenu de l'ampleur des travaux de cartographie et de dénombrement des ménages à Sikasso, et du calendrier très serré de cette activité spécifique, il était nécessaire d'ajouter une équipe supplémentaire aux trois équipes initialement prévues.

Quant à Bla, la cartographie a démarré le 08 Octobre 1999 pour prendre fin le 20 Octobre avec trois équipes. Les seules difficultés auxquelles les agents cartographes et énumérateurs ont été confrontés étaient essentiellement des difficultés liées à l'état des routes. La cartographie de cette zone s'est déroulée en fin d'hivernage et l'état des sentiers et des routes était très défectueux.

Concernant le recrutement des cartographes et des énumérateurs, un test a été organisé sous la responsabilité de la Direction Nationale de la Statistique et de l'Informatique (DNSI). A l'issue de cet test, six (6) candidats ont été retenus pour suivre la formation de cartographie et de dénombrement des ménages. La formation s'est déroulée du 22 au 26 Août 1999.

7.3.4.1 Responsabilité de l'équipe PHR des cartographes et des agents de dénombrement

Pour les besoins de la cartographie et le dénombrement des ménages, six (6) agents (dont 3 cartographes et 3 énumérateurs) ont travaillé sous la responsabilité du Site Manager et le Team

Les responsabilités des coordonnateurs étaient les suivantes :

1. distribuer les SE aux 3 équipes constituées ;
2. organiser les réceptions des fiches remplies par les équipes ;
3. vérifier la bonne qualité du travail des équipes.

Les responsabilités des cartographes – énumérateurs :

1. établir les plans de situation des SE ;
2. faire une carte de la SE ;
3. dénombrer tous les ménages de la SE d'une manière systématique ;
4. informer le Site Manager des problèmes rencontrés pour la bonne marche de l'activité.

Les agents des équipes (le cartographe et l'énumérateur) travaillaient sur une SE dont ils ont reconnue prioritairement les limites ensemble. Pendant que le cartographe établit le plan de la SE,

En fin de journée, une récapitulation a toujours été faite par les agents au Site Manager. C'est seulement après cette récapitulation que les discussions étaient ouvertes sur la programmation des SE à cartographier le lendemain. Rappelons qu'un itinéraire et un calendrier prévisionnel avaient été au préalable établis pour chaque équipe, afin de faciliter leurs déplacements et afin de permettre aux coordonnateurs de les retrouver plus facilement sur le terrain. Dans la mesure du possible, les équipes devaient suivre ces itinéraires. Toutes modifications ou tous retards étaient

7.3.4.2 Reperage des sections d'énumération

Chacune des équipes recevait une carte de base de la SE qui lui a été confiée. Une fois sur place, l'équipe obtenait auprès des responsables administratifs, techniques, communautaires et villageois, l'autorisation d'identifier les limites et d'y opérer.

Cela ne pouvait se faire sans difficultés. Mais l'Equipe PHR/Bamako avait pris des dispositions en vue de trouver des solutions aux problèmes de résistance des populations, pour faire accepter les agents, à travers des séances de sensibilisation au niveau des chefs de quartier et des chefs de village. Des émissions de sensibilisation ont été organisées et réalisées avec les spécialistes de la communication au niveau des radios régionales et locales pour faciliter l'introduction dans les ménages des agents cartographes et énumérateurs dans les deux sites. Malgré ces activités de sensibilisation, ces derniers ont souvent rencontré des problèmes surtout au niveau du site urbain (Sikasso) pour exécuter leur activité de cartographie. Devant de telles situations, les agents faisaient intervenir le Site Manager pour venir sensibiliser, soit le chef de quartier ou le chef de village, suivant qu'on était à Sikasso ou à Bla. Ce dernier venait exposer de façon détaillée les objectifs de l'étude et obtenait toujours des résultats favorables à l'issue des entretiens .

Dans la plus part des SE, les limites sont matérialisées par des caractéristiques naturelles faciles à reconnaître, comme des cours d'eau, mares, étangs ou ruisseaux et par des caractéristiques

Cependant, ces limites peuvent être imaginaires (surtout en milieu rural) dans de tels cas, l'aide des autorités dans l'identification de la SE était nécessaire. Cette aide n'a jamais fait défaut.

Avant le dénombrement, les agents faisaient toujours des tours de reconnaissance de la SE afin de déterminer le moyen le plus efficace pour dénombrer toutes les concessions. Dans certains cas, il n'a pas été facile de procéder à de telles opérations, car il avait été difficile, toutefois dans très peu de cas, de retrouver les limites de la SE tirée par le spécialiste de la DNSI sur le terrain. Pour pallier un tel problème, des procédures spéciales ont été mises en place. Elles ont visé, en fait, à recréer les limites de la SE de travail. Ces procédures ne sont, **normalement**, à mettre en œuvre sur le terrain que, **sous le contrôle du Site manager et/ou du superviseur de la cartographie**. Cependant, si pour une raison ou une autre, le Site Manager ou le superviseur n'est pas avec les agents au moment de la cartographie de ces zones, ces derniers devraient assurer seuls la mise en place des procédures spéciales. Cela n'était pas difficile, il suffisait d'être vigilant, de faire appel

:

Région : Ségou ; Cercle : Bla ; Arrondissement : Touna

N° SE 022

Sur la carte, on ne trouvera les limites que d'une grande SE, regroupant les SE 021, 022, 023, 024, 025.

: 021, 022, 023, 024, 025).

5. Lorsque la numérotation est terminée, nous avons choisi le morceau dont le numéro correspond à celui de la SE tirée au départ (c'est à dire la SE 022).
6. Sur le terrain, nous avons fait une évaluation rapide du nombre de ménages qui vivent dans le morceau tiré, et exclusivement dans le morceau tiré en veillant à ce que la taille en nombre de ménages soit acceptable (inférieur à 401 selon l'EDS-MII). Ainsi, on a procédé à la cartographie et au dénombrement des ménages, selon les procédures classiques. Ce morceau devient donc la SE 022. Aussi, le plan de situation et le plan détaillé correspondent évidemment à la seule zone cartographiée.
7. S'il arrivait (cela ne s'est jamais produit) que le nombre de ménage était supérieur à 400, alors, on allait exceptionnellement procéder à une segmentation classique. Et les agents allaient faire une segmentation classique. Cette technique de segmentation avait été apprise par les cartographes-énumérateurs lors de leur formation.

7.3.4.3 Etablissement des plans de la SE

L'équipe PHR/Mali a désigné deux agents par équipe. Chacune d'elle comprenait un cartographe et un énumérateur. Bien que les deux agents exécutaient des tâches différentes, il était préférable qu'ils se déplacent ensemble dans la SE ; le cartographe établissait les plans et l'énumérateur collectait des renseignements sur les concessions (et sur les ménages).

Les travaux de cartographie et de dénombrement des ménages devraient être exécutés de façon systématique pour éviter les omissions et les répétitions. Si la SE était composée d'un groupe de pâtés de maisons (cas de Sikasso), les agents finissaient chaque pâté de maisons avant d'aborder le suivant. A l'intérieur de chaque pâté de maisons, ils commençaient par un coin et circulaient dans le sens des aiguilles d'une montre. A Bla, par contre où les concessions sont regroupées en petits hameaux, les agents débutaient au centre du hameau (ou ils choisissaient un point de repère tel que le marché, l'école ou la mosquée comme «centre») et circulaient tout autour dans le sens

ensuite vérifiait l'exactitude de la carte et comparait la nouvelle liste des ménages à celle déjà établie par les agents.

Si l'on trouvait des erreurs dans 2 pour cent ou plus des cas, il fallait réexaminer la procédure de dénombrement avec les agents et les renvoyer dans les SE pour refaire le travail. Cela s'est produit une seule fois à Sikasso dans la SE 013 qui était la toute première SE dans laquelle les agents avaient commencé le travail. Si l'on trouvait des erreurs dans moins de 2 pour cent des cas, il n'était pas nécessaire de recommencer, mais il faut corriger les fiches de ménages.

Après toutes les vérifications de qualité sur le terrain, les dossiers étaient envoyés à la DNSI à Bamako pour un dernier contrôle qui consistait à comparer la taille des SE en nombre de ménages et en nombre d'habitants dénombrés dans l'enquête IPE/Mali et celle obtenue pendant le Recensement Général de la Population et de l'Habitat de 1998. Le constat a été qu'il y avait toujours eu une cohérence entre les données des deux études au niveau de toutes les SE qui ont fait l'objet de cartographie et de dénombrement des ménages.

Avant la conduite de l'enquête auprès des populations cibles, tous les ménages se trouvant dans les SE tirées au hasard suivant la méthodologie décrite, devaient être cartographiés et dénombrés. Le nombre exact de personnes à enquêter a été déterminé à partir de la liste des

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7.3.5 La collecte des données

7.3.5.1 Instrument de collecte

L'élaboration des instruments de collecte a fait l'objet d'un échange important de documents utilisés pour des études analogues effectués par le PHR à travers le monde et les responsables du bureau au Mali. L'élaboration des questionnaires a commencé en mi-mai 1999 avec des instruments destinés à l'enquête relative à l'offre de soins.

En raison d'une nouvelle programmation des activités du projet, la priorité a été accordée à l'étude sur la demande de soins et les premières moutures de questionnaire élaborées se sont avérées très lourdes à appliquer. Cela a conduit l'équipe à opter pour des questionnaires de type modulaire plus opérationnels et relativement faciles à administrer.

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Questionnaire Ménage :

Ce questionnaire constitue la clé de voûte de l'étude sur la demande des soins de santé de base car, cet instrument outre le fait qu'il soit le lien avec les autres questionnaires, apparaissait comme aussi l'outil qui permettait de parfaire l'échantillonnage. En effet, le Module chef de ménage permettait de collecter les données précises sur l'identité des ménages enquêtés, de disposer d'une liste complète des membres du ménage, un renseignement sur le niveau d'éducation, la résidence, l'occupation actuelle, la présence d'handicaps et l'éligibilité des membres à l'enquête suivant les critères de l'étude.

Par ailleurs, des données sur les caractéristiques démographiques et socio-économiques des enquêtés et des ménages sont aussi collectées comme l'ethnie, la religion etc. l'accès du ménage au logement, l'électricité, l'eau potable et la consommation de certains produits importants.

Questionnaires recours aux soins Homme et Femme :

Adressés aux personnes de tout âge ayant souffert d'une fièvre les 15 jours qui ont précédé l'enquête, le module permet d'évaluer les besoins de la population en matière de soins curatifs pour la prise en charge de la fièvre et le recours des malades aux services. Cet instrument permet donc de disposer des informations sur le comportement de la population, le degré de gravité de l'affection, le niveau de satisfaction aux différents contacts et les mécanismes de solidarité

Questionnaire Accouchement, Grossesses et Soins pré/postnataux :

Ce module tente de collecter les données relatives à la santé reproductive, notamment l'activité de procréation et l'utilisation des services disponibles en amont et en aval de cette activité. L'accent est mis aussi sur le niveau de satisfaction des parturientes et les paiements effectués par celles-ci

Questionnaires jeune Homme et jeune Femme :

Le module est axé sur les connaissances, attitudes et comportement des jeunes hommes et jeunes femmes en matière de maladies sexuellement transmissibles et VIH/Sida. Il comprend aussi une section sur les préférences et l'utilisation des services de planification familiale par les jeunes de 15 à 24 ans et les mécanismes de solidarité en leur disposition.

Les outils de collecte ci-dessus indiqués ont été constamment affinés pour tenir compte du contexte du Mali mais aussi pour disposer de données de qualité telles que requises par une telle étude. Pour ces raisons, la finalisation n'est intervenue qu'au terme de la formation et d'un test de terrain réalisé en milieu rural voir semi-urbain à Moribabougou où après une administration des modules à certains ménages, les remarques et suggestions des enquêteurs et enquêtrices et des formateurs ont permis la prise en charge des insuffisances constatées et d'améliorer

Enfin tous les modules ont été traduits en langue nationale bamanan par les agents de la Direction Nationale de l'Alphabétisation et de la Linguistique Appliquée (DNAFLA) pour une meilleure compréhension de certains concepts et une adhésion des populations à l'esprit de l'étude.

Production des questionnaires :

L'édition des questionnaires a été réalisée avec une imprimerie de la place après une évaluation sommaire des besoins sur la base de l'échantillon de ménages et des personnes susceptibles d'être enquêtées. Les deux premières semaines d'enquête ont vite démontré que les quantités devraient

La logistique :

Les moyens de transport ont été mis à disposition par l'UNICEF dont la contribution financière a permis de louer trois véhicules tout terrain. Ce parc fut complété par le véhicule Cherokee fourni au bureau PHR par l'USAID. En dépit de l'insuffisance de ces moyens quatre équipes ont été constituées dont trois pour l'enquête principale à Sikasso pendant qu'une autre faisait la cartographie du cercle de Bla.

L'enquête auprès des ménages :

En rapport avec les Directions Régionales de la Santé du Plan et de la Statistique, la Station Régionale de l'Office de la Radiodiffusion Télévision et les Radios locales KENE de Sikasso et BONDOUGOU de Bla un micro programme a été conçu et diffusé pour informer et sensibiliser les populations des deux sites.

Pour le sondage des ménages, trois équipes de 10 personnes dirigées chacune par un contrôleur ont été constituées. Au sein de chaque groupe des binômes (Homme-Femme) ont été constitués.

La liste des ménages échantillons a été fournie à chaque contrôleurs qui procédait à une répartition des ménages à enquêter entre les différents binômes.

En vue de faciliter les contacts, il a été demandé aux binômes de faire appliquer le questionnaire ménage par l'un d'entre eux suivant le sexe du chef de ménage. Une liste détaillée des personnes éligibles serait établie et les rendez-vous pris avec les personnes à enquêter en accord avec le chef

Les modules remplis étaient au fur et à mesure remis aux contrôleurs pour vérification et les erreurs constatées étaient corrigées par les enquêteurs avant de quitter la section d'énumération dans laquelle l'équipe évoluait. Au terme de la journée, les modules vérifiés par les contrôleurs étaient remis au superviseur pour les contrôles de qualité.

Des réunions techniques étaient tenues chaque matin avec les contrôleurs pour faire le point des problèmes avant de procéder à une nouvelle répartition des tâches de la journée. Des staffs de mise à niveau sont organisés périodiquement pour les enquêteurs/trices sur certains modules ou certaines questions en cas de besoins.

7.4 Methodologie de l'enquête prestataire

7.4.1 Cadre institutionnel

L'enquête de l'Initiative pour l'Equité (IPE/Mali) auprès des prestataires de soins et d'action sociale a été exécutée par le bureau Partnerships for Health Reform (PHR) du Mali, avec l'assistance technique de P.H.R Bethesda et du Projet Assurance Qualité (Washington DC).

Cette enquête entre dans le cadre de l'Initiative USAID – UNICEF sur l'équité au Mali en collaboration avec le Gouvernement de la République du Mali à travers les Ministères de la Santé, de la Promotion de la solidarité et des personnes âgées. Elle s'inscrit par ailleurs dans un vaste programme de développement (PRODESS) financé et soutenu par de nombreux partenaires. L'USAID a fourni l'appui technique national et international et le financement des coûts de l'initiative. L'appui logistique a été assuré par l'USAID et l'UNICEF.

7.4.2 Objectifs

L'un des objectifs principaux est d'assurer un accès équitable aux soins de santé et de développer des mécanismes de protection. Cette enquête représente un effort vers la réalisation de cet objectif.

Objectif spécifique : Recueillir, à l'échelle de la région et du cercle, des données de qualité sur l'offre des services de santé des différents prestataires permettant entre autres de :

- Connaître la disponibilité du personnel et les sources de financement ;
- Obtenir des informations sur le fonctionnement de la formation et sur la disponibilité des soins fournis ;
- Recueillir des données sur la disponibilité des médicaments essentiels ;
- Déterminer la qualité physique, le niveau de l'équipement, les moyens logistiques et les conditions d'hygiène de l'établissement ;
- Mesurer le niveau de fréquentation de l'établissement et la tarification ;
- Connaître les mécanismes de solidarité et de protection existants ;
- Déterminer la fréquence des références et supervisions

Enfin l'IPE/Mali a permis de développer les capacités nationales nécessaires à la réalisation périodique de la mesure de la qualité des soins

7.4.3 Outils de collecte

L'étude de l'offre des services de santé et d'action sociale a utilisé des questionnaires de types modulaires et des outils d'observation pour l'évaluation de la qualité des prestataires.

- Un module prestataire moderne
- Un module thérapeute

Module prestataire moderne

Ce module prestataire moderne comprend une page de couverture.

Les différents questionnaires utilisés sont disponible sur diskette du projet PHR sur laquelle sont enregistrées les informations d'identification et les résultats des interviews. Avec les neuf sections qui le composent, il sert à recueillir des informations sur les thèmes suivants :

- Disponibilité du personnel et source de financement : cette section porte sur le type de personnel, le nombre de personnel à plein temps et mi-temps et les sources de financement.
- Fonctionnement de la formation sanitaire et disponibilité des services fournis : cette deuxième section permet de collecter des informations sur l'emploi du temps de la formation, l'existence de service de garde, l'âge de la formation dans la prestation, les raisons éventuelles de l'interruption des services, les services fournis par la formation, la supervision, les problèmes rencontrés dans l'exercice de la fonction, les suggestions du prestataire par rapport au bon fonctionnement de l'établissement ;
- Disponibilité des médicaments essentiels : on collecte ici des informations sur la disponibilité des médicaments essentiels en DCI, les ruptures de stocks au cours du mois ayant précédé l'enquête, les causes de ces ruptures et la disponibilité de moyens de conservation des vaccins ;
- Qualité physique, niveau de l'équipement et les moyens logistiques de _____ : cette section vise à obtenir des informations sur salles adéquates pour les prestations, la disponibilité du siège pour l'accueil des patients, celle de l'équipement minimum, les moyens de communication, la fonctionnabilité de ces moyens et les moyens de transport.
- Conditions d'hygiène et d'assainissement de l'établissement : cette section est réservée à la collecte d'informations sur les conditions d'hygiène et d'assainissement de l'établissement. Il s'agit notamment de recueillir des informations sur la disponibilité d'une source potable, de toilettes ou latrine, de poubelles, d'un système d'évacuation des déchets, de l'électricité et d'évaluer de façon subjective la propreté de la formation ;
- Fréquentation de l'établissement et tarification : dans cette section, on enregistre les informations sur l'estimation de la population cible de la formation, le niveau de vie de cette population, le volume des consultations pendant les trois derniers mois, le nombre de la consultation des jeunes âgés de 14 à 25 ans pendant les trois derniers mois, la tarification pour les prestations telles que la consultation, le planning familial, les activités de laboratoire, l'hospitalisation, l'accouchement ;

- Mécanisme de solidarité et de protection des populations : A ce niveau, des questions ont été posées afin de connaître la disponibilité et le type de mécanismes de solidarité existant dans l'établissement. La section permet d'avoir des informations sur le fonctionnement de ces mécanismes, les soins et les personnes qu'ils prennent en charge et la date d'introduction de ces mécanismes. Enfin des possibilités sont données aux prestataires interviewés de faire des suggestions pour l'amélioration du mécanisme de solidarité utilisé dans son établissement ;
- Communication : cette section porte sur la disponibilité d'informations du patient affichées sur les tarifs et les mécanismes de solidarité.

En outre la section permet de savoir si le prestataire échange des informations avec les mères sur l'état de santé de leurs enfants et leur propre état de santé, s'il échange des informations avec les jeunes sur leur état de santé. Enfin des informations sont collectées sur le type d'informations ;

- Référence : cette section est réservée à toutes les informations relatives aux activités de référence effectuées et reçues par l'établissement.

Module thérapeute

Ce module a été élaboré sur la base du module prestataire moderne qui constitue le cœur de l'enquête auprès des prestataires. A l'image du module prestataire moderne, il comprend exactement les mêmes sections que ce dernier. Ainsi le module permet de recueillir des informations auprès des thérapeutes sur les mêmes thèmes.

Module prestataire social

Ce module a également été réalisé sur la base du module prestataire moderne. A l'exception des informations sur la disponibilité des médicaments, il comprend huit sections identiques à celles du module prestataire.

Module pharmacie

Tout comme le module thérapeute, prestataire social, le module pharmacie est également élaboré à l'image du module prestataire moderne. Il comporte toutes les sections de ce dernier à l'exception de la section relative à la référence qui ne fait pas partie de ses vocations.

Ce module a été différemment élaboré par rapport aux modules ci-dessus cités. Il a pour objectif de recueillir des informations sur la qualité de la prestation fournie par le prestataire moderne. L'enquêteur (trice) joue un rôle d'observateur lors des séances de consultation effectuées par les prestataires sur trois patients différents venus pour une consultation fièvre. Il note systématiquement sur son module les comportements du prestataire en relation avec les normes et procédures en vigueur définies par l'OMS et adaptées au contexte de la politique sectorielle de santé du Mali pour la prise en charge correcte de l'enfant malade par rapport à la qualité de la prestation. Ce module ne permet donc pas de poser directement des questions aux prestataires. Il a été administré généralement par des enquêteurs professionnels de la santé (notamment des médecins) bien que tous les enquêteurs aient reçu la formation requise pour l'administration de ce module.

Module observation, planification familiale :

Ce module est exactement à la planification familiale ce que le précédent module est à la fièvre. Il contient également des informations basées sur l'observation de trois séances de consultation, en planification familiale effectuée par le prestataire. Les critères de qualité sont mesurés à partir des normes et procédures retenues par le Mali en matière de SRPF telle que défini par la Division de la Santé Familiale et Communautaire (DSFC) de la Direction Nationale de la Santé Publique.

Pour l'exécution de l'enquête auprès des prestataires, 6 enquêteurs et 6 enquêtrices ont été retenus. Ils ont suivi une formation de cinq jours. Les travaux du pré-test des modules ont duré une journée. Tous les enquêteurs (trices) ont participé aux opérations de pré-test sur le terrain à Bamako.

7.4.6 Collecte des données

7.4.6.1 Organisation des équipes

En ce qui concerne les opérations de collecte de données, les équipes étaient réparties de la façon suivante :

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- Une équipe de quatre (4) personnes était chargée d'administrer les modules Prestataire moderne et observations (fièvre et planification familiale) ;
- Une autre équipe de deux personnes a été retenue pour l'administration des modules pharmacie et prestataire social ;

Tabulation :

Il s'agit du développement et de l'exploitation des programmes destinés à fournir les tableaux de base nécessaires à l'élaboration du rapport préliminaire et du rapport final. La tabulation a été conjointement réalisée par les bureaux PHR/Mali et PHR/Bethesda.

L'ensemble des opérations de contrôle, de test de nettoyage de fichier ainsi que la tabulation des données ont été réalisées au moyen du logiciel STATA au PHR à Bethesda (Maryland-USA).

