

HEALTH SEEKING BEHAVIOUR AND HOUSEHOLD HEALTH EXPENDITURES IN BENIN AND GUINEA: THE EQUITY IMPLICATIONS OF THE BAMAKO INITIATIVE

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SUMMARY

Curative and preventive care utilization in Bamako Initiative health centres in Guinea and Benin increased significantly. Service based data and household survey results are compared and interpreted to evaluate the equity aspects of the Bamako Initiative programmes in these settings. Improvements in the use of preventive services are shared by the richer and poorer groups of the population. Inequities are more apparent regarding curative care. An important part of the population is not using Bamako Initiative Health Centres for financial reasons. However, the poor were found to use these Health Centres relatively more than richer socio-economic groups. Challenges of the future are identified and recommendations made as to how to tackle the problem of true indigence. ©1997 by John Wiley & Sons, Ltd.

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INTRODUCTION

Peripheral health centres have been revitalized in two West African countries, Benin and Guinea since 1986 following strategies subsequently called the Bamako Initiative (BI). This initiative launched in 1987 by the African Ministries of Health aims to improve effectiveness, optimize efficiency, ensure sustainability and promote equity within primary health care (PHC) systems.¹ A minimum package of services is provided and the availability of low cost generic essential drugs maintained. Further strategies include the introduction of user fees in conjunction with community participation in the management of health centres and their budgets.

Prior to the health centre reorganization, public health services were supposed to be provided free of charge at the point of delivery. However, the

disproportionate allocation of funds to urban areas and shortfalls in government funding seriously undermined the ability of peripheral health centres to provide services. Before the inception of the BI programme in both countries, peripheral health centres experienced persistent drug shortages. Lack of funds for outreach limited geographical access. Perceived quality of public health services was poor, and utilization low.

Since the implementation of the BI strategies in Benin and Guinea, curative care utilization, immunization coverage and antenatal care coverage have dramatically improved.² On the whole, health centres cover a large proportion of their local operating costs (not including salaries) with funds from community financing generated through user fees.³ Funds are retained at health centre level and managed locally.

However, the introduction of payment for care in the previously theoretically free systems (but where permanent availability of drugs was not ensured) raised fears about access to care by the population, particularly for the poorest. Opponents of community financing strongly contend that introducing fees will reduce utilization of health services, especially by the poor.⁴⁻¹⁰ On the other hand, proponents claim that fees provide the resources needed to improve the availability of essential resources at the periphery, re-establish functional health services, and offer accessible and attractive quality care to a majority of the population.¹¹⁻²⁰

This article aims to clarify this debate by providing some information on health seeking behaviour of the population living in areas where BI programmes have been implemented. It will examine the impact of revitalizing the PHC system on equitable health care, where user fees are key to improving availability, accessibility, continuity and quality of health care. Empirical information from Benin and Guinea is analysed and a short review of the literature regarding other experiences of PHC programmes in Africa conducted.

METHODOLOGY AND DATA

This study includes data from three household surveys, two carried out in Benin (1989, 1991)^{21,22} and one in Guinea (1990).²³ These surveys assessed health care utilization and expenditure as well as reasons for non-utilization of the health centre for the main interventions first included in the essential health care package, namely expanded programme of immunizations (EPI), ante and peri-natal care and essential curative care. For this latter intervention, in all studies, a two weeks illness recall was used, as this period has been shown to be the limit for reliable recall for events like minor illnesses.²⁴ Results were then extrapolated to one year. Where an illness episode was identified, questions relating to the key symptoms, the type and source of treatment, the reason for not using the public facilities, as well as expenses for travel, consultation fees and drug procurement were asked.

The 1989 survey in Benin included an in depth study of all illness episodes identified in the entire population of a subset of six sentinel (one in each of the

6 regions of the country) communes out of the 200 communes where BI strategies were already implemented. Over 2600 episodes were included in the study. In Guinea in 1990 and in Benin in 1991, the same questions regarding illness episodes were “piggy-backed” on to a series of 6 regional cluster sample surveys for EPI coverage. Each of these surveys involved around 210 households with at least one child between one and two years old and a similar number of households with a delivery in the past 12 months. Additional questions were added concerning childbirth, sources of maternal care (i.e. antenatal care and delivery), expenses and reasons for not using the public health centres.

The 1989 survey in Benin also allowed for the collection of households’ socio-economic characteristics. A score composed of 50 socio-economic indicators, developed within the framework of the Pahou Health Development Project in Benin was used.²⁵ This family socio-economic score combines information on four variables: possession and type of means of transportation, type of housing (walls and roofs), monthly contribution to a *tontine* and number of different types of economic activities carried out in the family.* The last two variables were controlled for family size by dividing their value by the number of adults in the family. Each of the four components of the socio-economic score was rated on a scale of 0 to 6. The family score was computed as the sum of the four components. The composite score was normally distributed. For the analysis, the population was divided into three socio-economic groups corresponding to the lower quartiles, the two middle quartiles and the upper quartile of the distribution of the socio-economic score. This score had been tested in two surveys by comparison with family income and showed a good agreement.²⁷

The data obtained in the above mentioned surveys were analysed either in SPSS-PC or Epi-Info. The Benin 1989 survey provided detailed information on sources of care, reasons of non utilization, health care expenditures at different sources and socio-economic characteristics for between 2337 and 2627 illness episodes. The Benin 1991 survey provided information on sources of care, reasons of non use and household expenditure for 287 illness episodes, 795 cases of antenatal care and 1031 deliveries. Combined information for curative, antenatal and delivery care was available for 216 households. In Guinea, the analysis was limited to a random sample of 30 clusters, corresponding to sub-districts involved in the BI programme, out of the 120 clusters resulting from the four regional samplings. This resulted in a sample size of around 200 cases per issue.

The data collected by these surveys were associated with routine monitoring data available from revitalized health centres, as analysed in previous articles, which provided valuable insight on user fees, their impact and possible exemption mechanisms.

*This last variable has been shown to be associated with year-round resource availability in the PAHOU project.²⁶

Analyses conducted

To examine the impact of the implementation of BI strategies in Benin and Guinea on health seeking behaviour, three main analyses were conducted.

First, the pattern of utilization of health services in BI areas is examined among the first centres included in the BI programmes in Benin (44 centres) and Guinea (18 centres). The impact of introducing users fee on utilization of health services is examined, comparing routine indicators of coverage before and after BI implementation. Utilization of health care is measured for three interventions: curative care (number of first curative visits per person), antenatal care utilization (proportion of pregnant women benefiting from one antenatal visit) and EPI coverage (proportion of children under one fully immunized). This analysis has been based only on service data because no household based data on health care utilization in general and BI health centres in particular are available for the pre-programme situation.

Using survey data, the health seeking behaviour of the population in the context of services revitalized through BI strategies is subsequently studied. The proportion of illnesses treated by the different providers including the health centre staff is examined. For curative care, although the choice of available providers varies, the studies distinguish between the public health centre, home treatment (with herbals or black market medicine), the modern private sector (doctors or nurses in private practice), traditional healer, other (hospital, missions, employees in private pharmacies) and no treatment.

A similar analysis looking at the various sources of care was performed for antenatal and delivery services.

For the different interventions, the proportion of the population not using revitalized health centres and the reasons for non-utilization are studied, to assess the extent of exclusion from health services. The answers to this last question have been classified into four categories: financial reasons, distance, low perceived quality and other (time, costs, personal choice or unknown).

In the same surveys, households out of pocket expenditures for health care are looked at to assess the extent of user contributions to health services and their willingness to pay. User contributions are measured as an overall average per year, as an average for the different categories of preventive and curative care, and as an average per provider. Out of pocket expenditures and user fee levels are also compared to the cost of different types of services (curative and preventive) in order to assess the importance of household contributions in direct financing of these services. Total household expenditure for health is compared between users of the public BI health centres and non-users for different reasons, to verify whether non-use of BI health centres for financial reasons actually results in smaller household expenditure.

Finally, the impact of the introduction of user fees on the members of the poorest socio-economic group is examined. For this purpose, health care utilization, non-utilization for financial reasons and financial contributions for care are studied by socio-economic group.

RESULTS

Health seeking behaviour in the BI areas

Coverage in BI health centres compared to pre-programme situation. Available routine data provides information on the evolution of health care utilization from before to after the implementation of the programme in 1989 in the initial group of centres. Following the implementation of BI strategies including user fees, utilization of curative care increased in these centres both in Benin and in Guinea in comparison with the pre-programme situation (Table 1). Utilization of antenatal care and EPI coverages had increased even more in the 1989–1993 period. All of these increases are statistically highly significant.

Sources of curative and preventive care. In all three studies analysed, the number of illness episodes was found to be around one per person per year. In Benin (Figure 1) in 1989, a quarter of 2608 illness episodes analysed were treated in the health centre, half were treated at home, and the remaining 25% were treated by other service providers. The 1991 survey found that the health centre captured a third of illness episodes, a quarter were treated at home and the remainder used other sources of care. The difference between the results of the 1989 and the 1991 surveys is statistically significant (χ^2 , $p < 0.05$). The increase in the use of BI health centres is moderate and can be attributed to the improved availability of drugs in government sector. The increase in use of private modern care may be related to the development of the private health

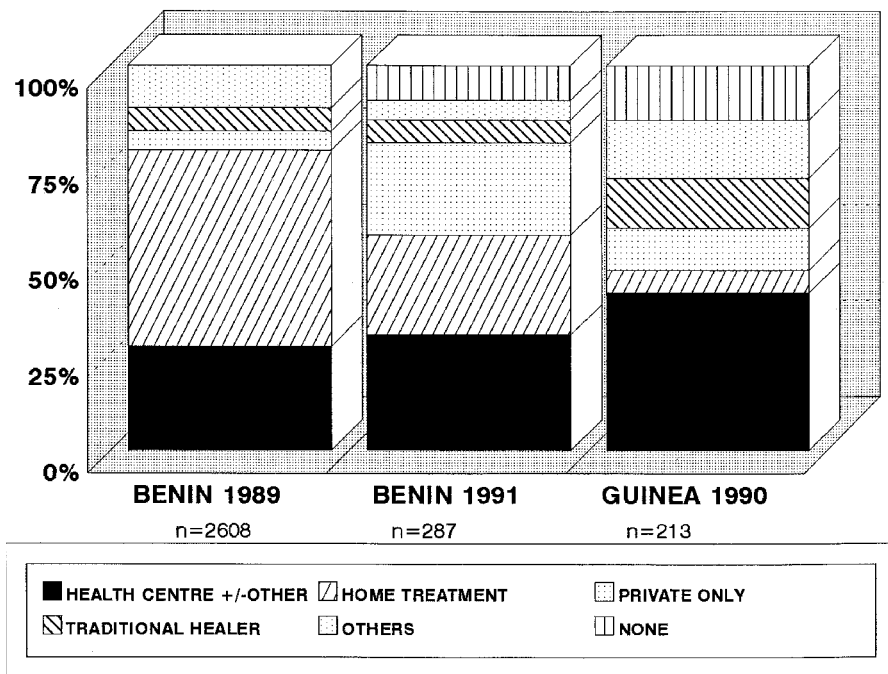
Table 1: Comparison of utilization of three main interventions before and after programme implementation.

Country	Activity	1987–1988					Pre-programme 1993	
		Pre-programme	1989	1990	1991	1992		
Benin (44 initial centres having started in 1988–1989)	EPI coverage	9%	32%	68%	62%	62%	70%	+ 61%
	ANC utilization	36%	53%	57%	48%	60%	65%	+ 29%
	Curative care utilization	0.09	0.26	0.23	0.25	0.24	0.31	+ 0.22
Guinea (18 rural health centres having started in 1989)	EPI coverage	5%	14%	32%	56%	54%	61%	56%
	ANC utilization	< 5%	49%	60%	59%	56%	63%	+ 60%
	Curative care utilization	< 0.05	0.19	0.20	0.23	0.30	0.28	+ 0.23

ANC, antenatal care; EPI, expanded programme of immunizations.

N.B. p values for χ^2 test of difference between preprogramme situation and 1993.

Curative care: number of first curative visits per capita per year.



Include hospital, multiple sources excluding health centre and missions

Fig. 1. Source of curative care in Benin and Guinea ('Others' = hospital, multiple sources excluding health centre and missions).

sector. The 1989 and 1991 surveys found the use of traditional healers to be limited, at less than 10%. The 1990 Guinea survey of 213 illness episodes reveals similar figures. Slightly more than one-third of people with illness episodes visited the health centre, one-third used home medication or did nothing, and one-third used other sources of care. Antenatal care utilization (Figure 2), was comparable in the two countries at around 60% of pregnant women benefiting from at least one antenatal visit, most of the others benefiting from no antenatal services. In both countries, half of all deliveries took place in the home, unattended by a professional midwife. In Benin, the other half took place in the health centres whereas in Guinea around one-quarter took place in hospital, one-quarter at home assisted by village health workers (VHW) and a few in health centres.

Public health centres are the virtually exclusive source for EPI, as since the start of the BI programmes, EPI has been fully integrated, and replaced mobile and campaign strategies.¹

Reasons for not using public facilities, and alternative sources of care for the financially excluded. Figure 3 shows the reasons for non utilization of curative services for 1845 cases in 1989 and 149 in 1991 (out of respectively 2527 and 216 illness episodes) for which this information was available. In Benin, in 1989

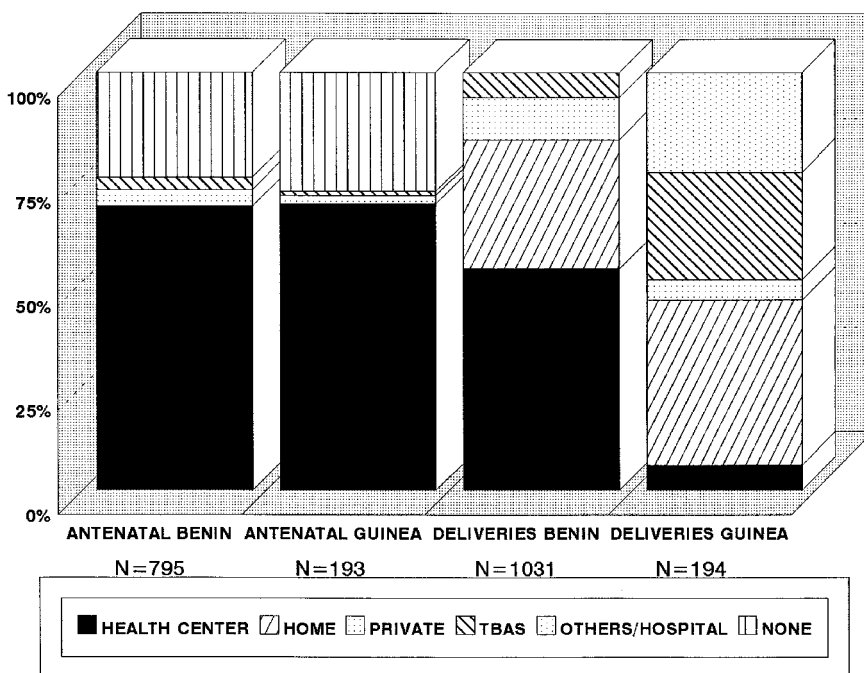


Fig. 2. Sources of maternal care in Benin (1991) and Guinea (1990) (TBA = traditional birth attendant).

half and in 1991 one-third of those who suffered illness episodes and failed to use a BI health centre, said they did not use curative services for financial reasons. The remainder of non users gave other reasons (distance, quality, other).

Figure 4 shows reasons for non utilization of maternal services for 251 out of 795 antenatal cases and 481 out of 1031 deliveries in Benin and for 55 out of 193 antenatal cases and 173 out of 194 deliveries in Guinea. Among reasons for non-utilization of maternal services, financial reasons were minimal in Guinea at less than 10%. In Benin however, financial reasons accounted for non use of around 20% for antenatal care and 13% for deliveries (Figure 4).

The 1989 data from Benin show that among 1845 patients not using the BI health centres for curative care, those not using either for financial reasons or for accessibility reasons (and thus having high transport costs) essentially used self-medication. Among patients who did not use the health centre for other reasons (quality of services, other), only half used self-medication. The remaining patients used more expensive alternative sources of care in the private sector (Figure 5).

Data from the 1991 national survey in Benin confirms the findings of the earlier study. Table 2 displays the pattern of overall health care behaviour of a group of 216 households for which information was available for curative, antenatal and delivery care. The model presented divides patients by category

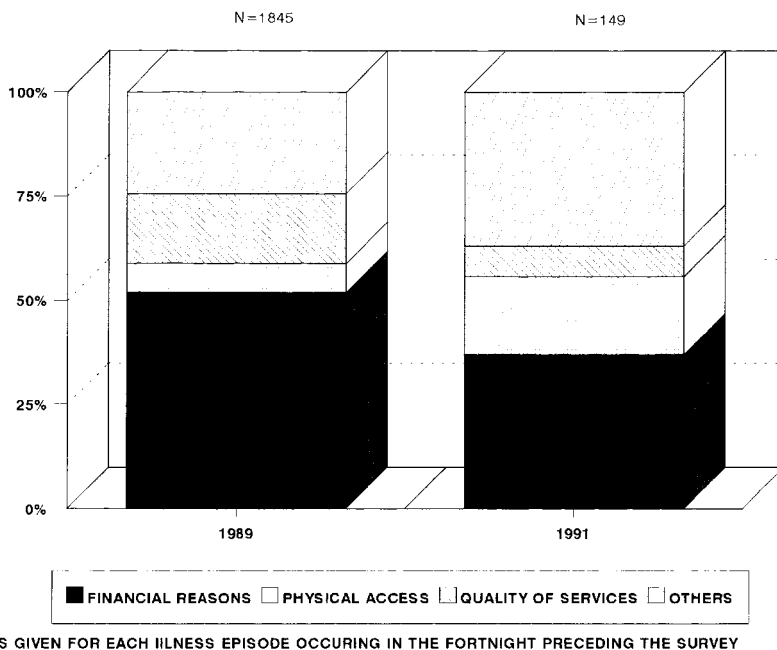


Fig. 3. Reasons for non-utilization of curative health services of the health centres in Benin (reasons given for each illness episode occurring in the fortnight preceding the survey).

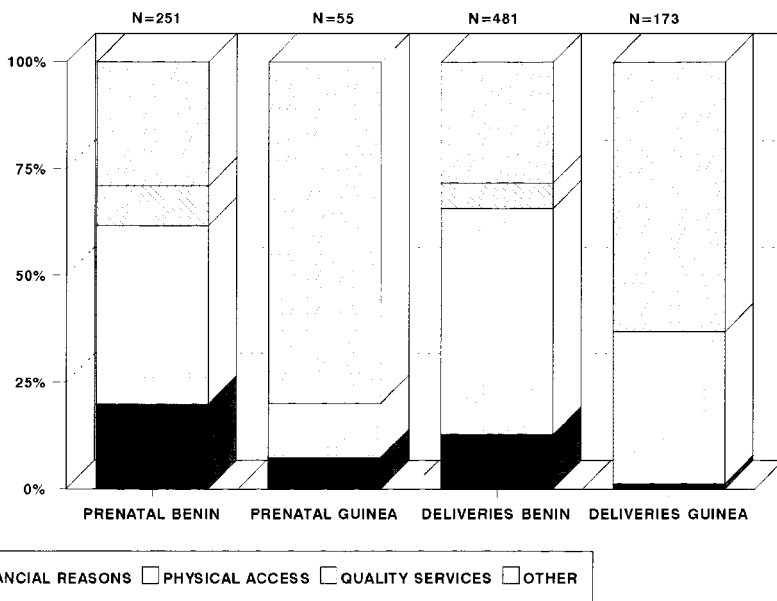


Fig. 4. Reasons of non-utilization of maternal services Benin (1991) and Guinea (1990) (NU = non-users).

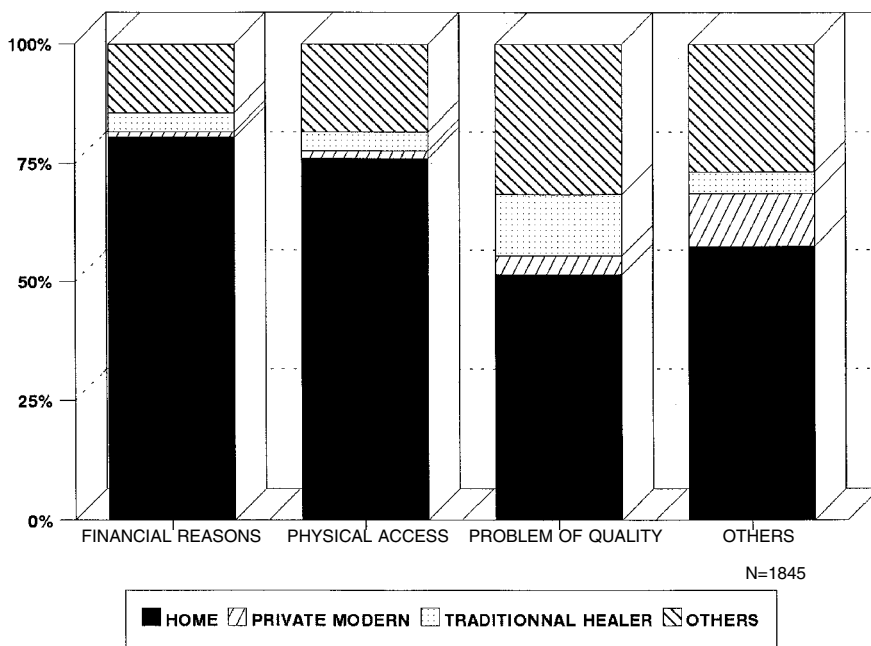


Fig. 5. Sources of curative care among groups with different reasons for non-utilization, Benin—1989.

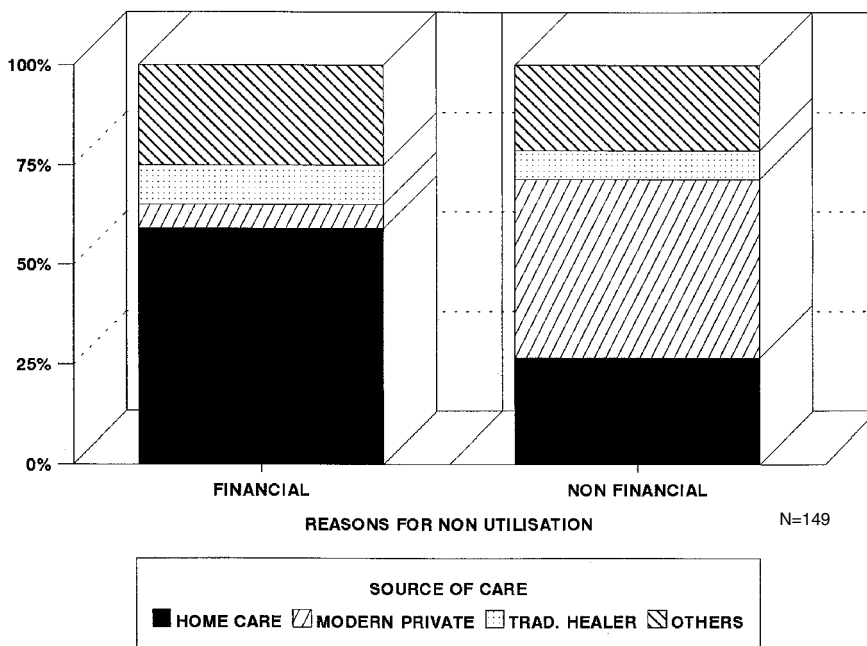


Fig. 6. Sources of curative health in function of reasons of non-use for curative services EPI/PHC, Benin—1991.

Table 2: Pattern of health seeking behaviour for Benin 1991

	Curative Care Sources					Antenatal Care Sources			Deliveries			
	Health Centre	Home Care	Modern Private	Traditional healer	Other	Total	Health Centre	Other	Total	Health Centre	Other	Total
Curative Care Users	67 100%					67 (31%)	50 74%	17 26%	67 (31%)	48 72%	19 28%	67 (31%)
Non Users of Curative Care for Financial Reasons		32 59%	3 6%	6 10%	14 25%	55 (25.5%)	41 75%	14 26%	55 (25%)	30 55%	25 45%	55 (25.5%)
Non Users of Curative Care for other reasons		24 26%	42 45%	8 8%	20 21%	94 (43.5%)	69 73%	25 27%	94 (43.5%)	60 64%	34 36%	94 (43.5%)
Total	67 31%	56 25%	45 21%	14 6%	34 16%	216 100% (100%)	160 74%	56 26%	216 100% (100%)	138 64%	78 36%	216 100% (100%)
	$\chi^2 p < 0.01$						χ^2 NS			χ^2 NS		

n = 216 (households for which information is available for all types of care)

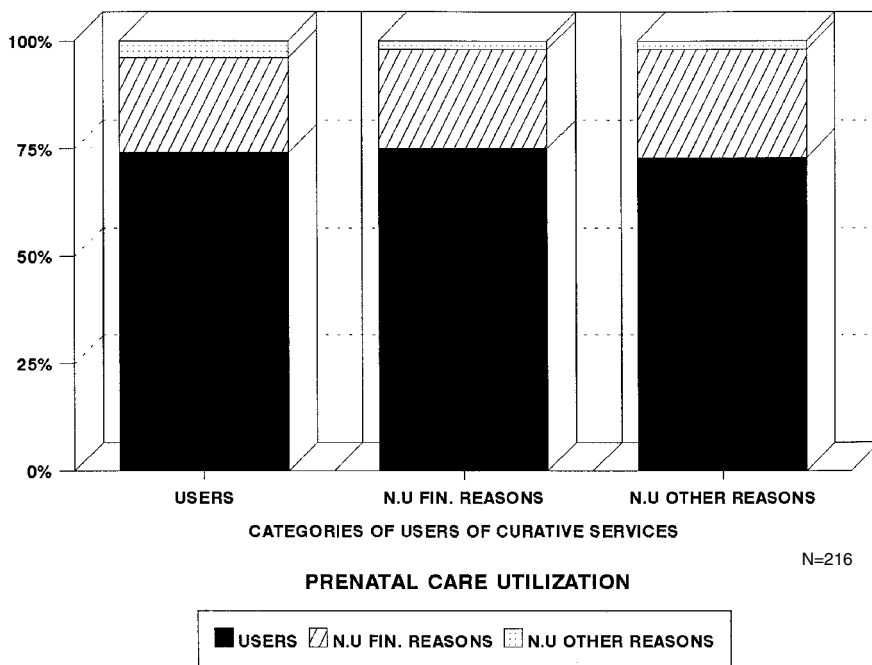


Fig. 7. Utilization of prenatal services by categories of users of curative services, Benin—1991 (NU = non users of the health centre).

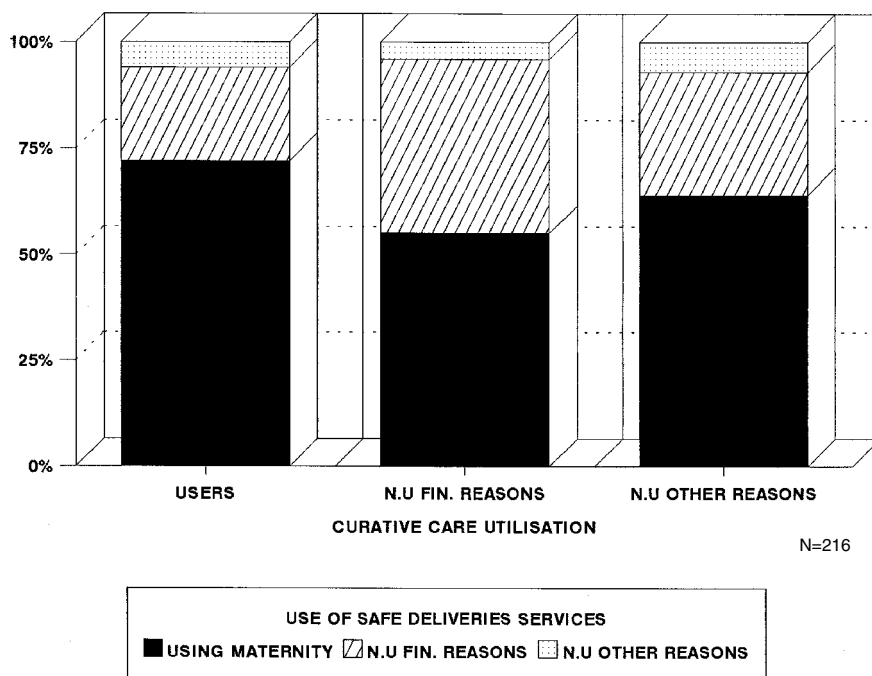


Fig. 8. Utilization of safe deliveries services among households using different sources for curative services, Benin—1991.

of use of curative care: users, non users for financial reasons, non users for other reasons. Sixty per cent of those people who did not use curative services provided by BI centres for financial reasons, relied on self treatment in the home in case of illness. Of those who did not use the services for other reasons, one-half used modern private care, one-quarter other sources and one-quarter self-medication only (Figure 6).

A similar proportion of non-users of curative care for financial reasons, users of curative care and non-users for access or quality reasons did not use antenatal (around 75%) and obstetric care (between 50 and 70%) (Figures 7 and 8). Families financially excluded from curative care therefore did not appear to be excluded from antenatal care or childbirth services more than other families.

Household health expenditure

Figures 9 to 14 show household health expenditure for different types of care in the same sample as in the above analysis.

Annual household health expenditure. Our surveys showed a median direct out-of-pocket expenditure per illness episode (for consultation, including all sources of care but excluding transport and opportunity cost) of US\$2.0 in Benin and US\$0.7 in Guinea (Figure 9). The average expenditure for antenatal care per pregnancy regardless of type of provider, intensity, or quality was US\$1.8 in Benin and US\$1.0 in Guinea, and the average total expenditure per pregnancy including delivery was US\$4.0 in both countries. Direct household expenditure on EPI was very low as it consisted essentially in the payment of an immunization card.

Expenditure by source of care. Examination of the median household expenditure for curative care per illness episode for different sources of care shows how expenditure at the health centre only amounted in both countries to about half the expenditure at other modern private sources (mainly private pharmacies) (Figure 10). The types and severity of illness were not found to be significantly different between sources of care. The association of the two sources of treatment substantially increased household expenditure, from US\$2.0 to US\$8.3 in Benin and from US\$1.6 to US\$3.3 in Guinea.

As expected, home treatments (implying either herbal medicines or black-market drugs) implied very low expenditure. According to the 1989 survey, traditional healers in Benin appear to be a significantly more expensive (ANOVA $p < 0.01$) (and prestigious) source of care than health centre services. This is however, not confirmed in the 1991 survey. In Guinea, expenditure on traditional healers was comparable to home treatments.

In Benin, expenditure per antenatal care in the BI health centres was US\$1.8 compared to US\$7.6 in the private sector (Figure 11). Similarly expenditure per delivery care in the BI health centres was US\$5 compared to US\$16.6 in the private sector. One dollar was spent on the services of a trained traditional

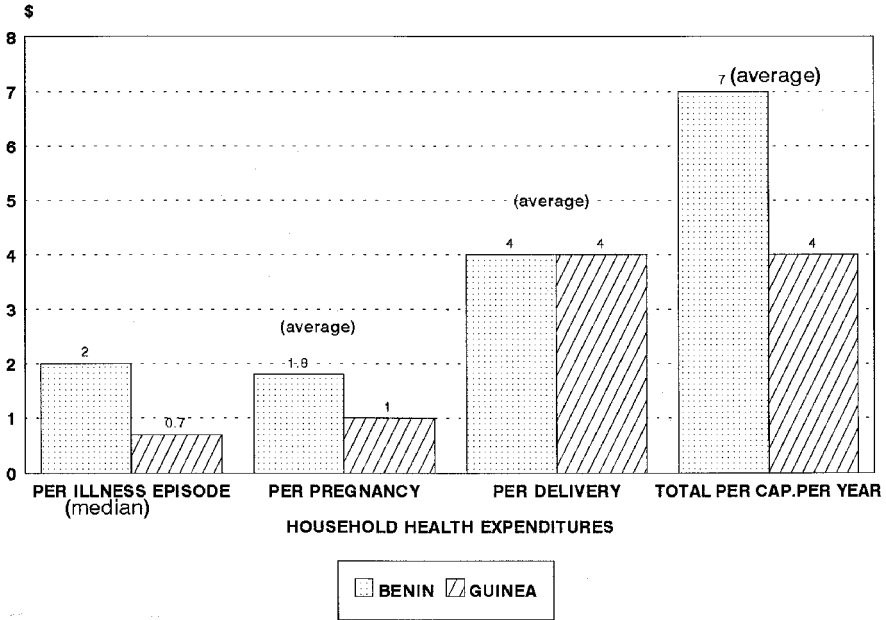


Fig. 9. Household health expenditures per episode of illness, per pregnancy, per delivery, and per capita per year Benin 1989–1991, Guinea 1990 (Benin: curative $N=2627$ prenatal/delivery: $N=291$. Guinea: curative $N=216$ prenatal/delivery: $N=193$).

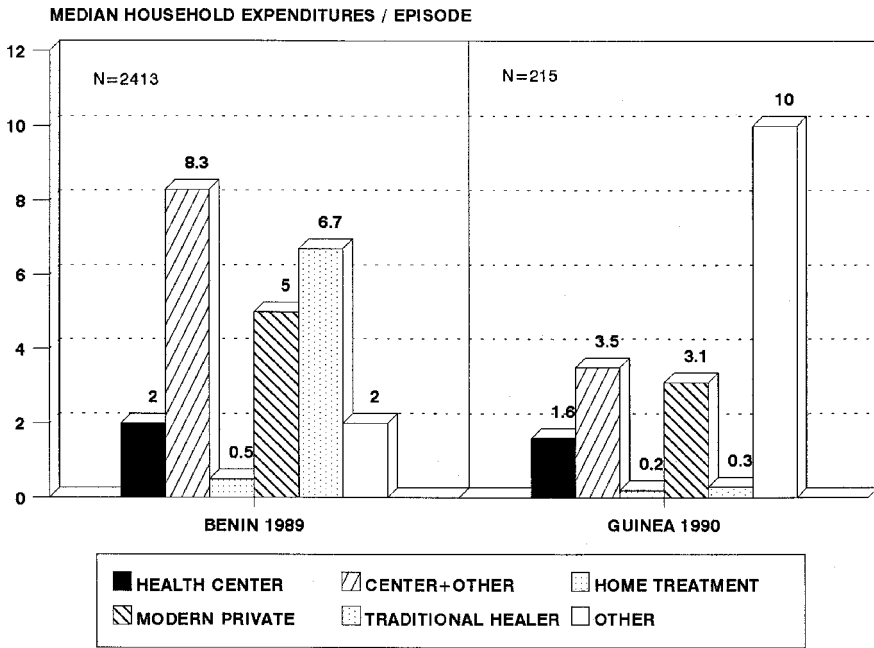


Fig. 10. Median household expenditures per illness episode per source of care, in US Dollars ('Others' = hospital, multiple sources (centre excluded) and various sources).

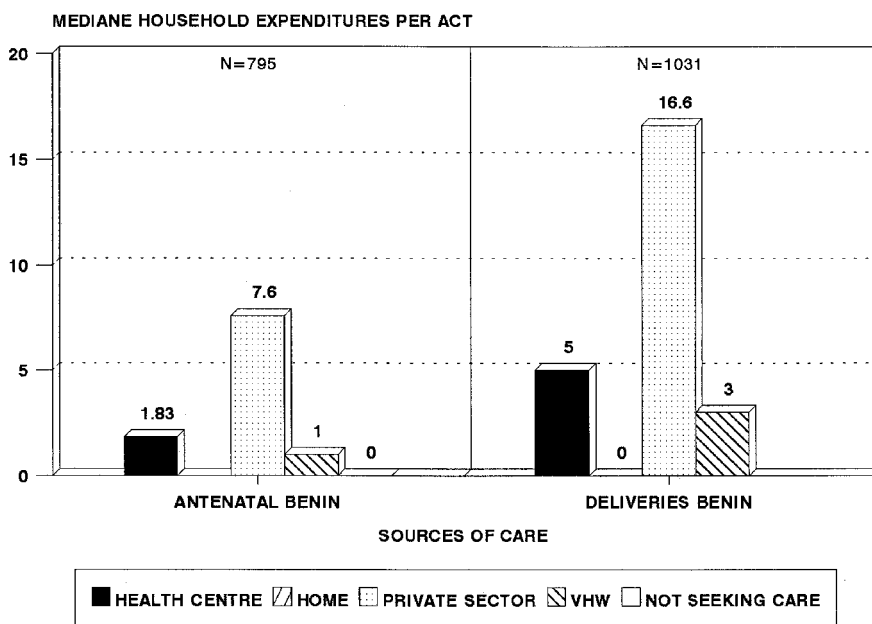


Fig. 11. Median household expenditures for maternal care in Benin (1991), in US Dollars (prenatal care: expenditures regardless of number of visits: 3 for the health centre, variable for other sources. VHW = village health worker).

birth attendant or a village health worker to assist for home delivery. In Guinea, alternative sources of antenatal and delivery care were fewer and less well defined, making interpretation of the results more difficult.

Household expenditure and fee levels in public health centres in relation to cost to the health centre. As shown in a previous paper, direct household expenditure (through the user fee/community financing system) contributes on the average about 25% of the health centres local operating costs in Benin and around 40% in Guinea.³ As illustrated in Box 1, the pricing systems in Benin and Guinea were designed to cross-subsidize preventive care from curative care revenue.

To assess the effectiveness of these cross-subsidies, in Benin and Guinea

BOX 1

Curative care fees in revitalized health centres in Benin and Guinea include a full treatment of drugs. The mark up on the drugs, differs by treatment. This allows for the cross subsidization of expensive or long term treatments, by less expensive but highly demanded care. Preventive care is priced lower than cost. It is in fact subsidized by curative care, to compensate for unwillingness to pay for preventive care and to promote the delivery of an integrated care package.

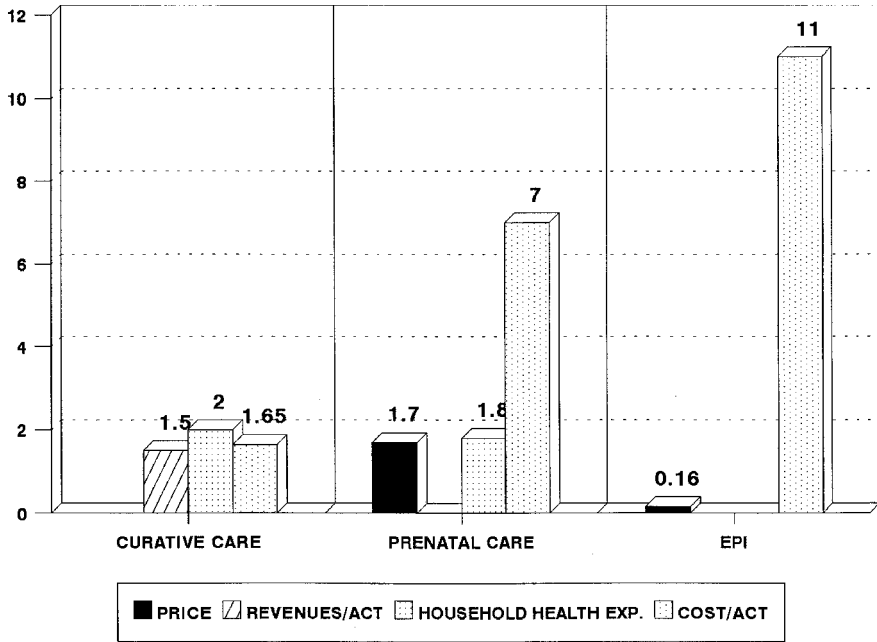


Fig. 12. Comparison of median household expenditures, price, costs and revenues per act, Benin—1991.

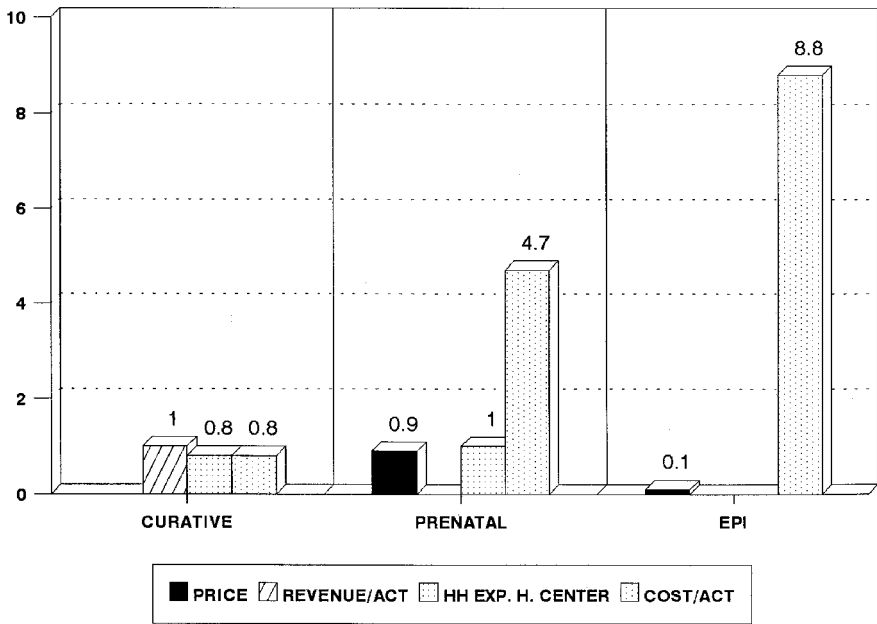


Fig. 13. Comparison of median household expenditures, costs, revenues per act, Guinea 1990 (HH = Household).

(Figures 12 and 13) the out of pocket household expenditure for different types of services in BI health centres was related to the monetary value (i.e. cost to the system) of the services received. The out of pocket household expenditure was measured through both the median price (i.e. official fee) and the median revenue per case at health centre level,²⁸ as well as through the median household health expenditure per episode as measured through the surveys.

In order to better understand the financial reasons behind household health seeking behaviour these expenditures, fee and cost figures for the public health centres were in turn compared to the expenditure for other sources of care.

Figures 12 and 13 reveal how in both countries the user payment per curative case (whether measured as the formal price, the average revenue case or the average household health expenditure per case) was similar to the average cost per case. In other words, users receive a like monetary value of services for their payment, regardless of which measure of expenditure is taken.

For antenatal care and EPI, on the other hand, the out of pocket expenditures represented only a fraction of the cost to the system of the services provided, in both countries.

The high cost of providing antenatal/delivery care also explains the much higher household expenditure for this intervention at other (mostly private) sources, which usually do not benefit from (cross)-subsidies and thus charge at least the full cost of offering this service.

These observations could explain at least part of the observed household “care-seeking” behaviour. With the goal of maximizing their limited household budget, people purchase health care from sources where they receive most value for their money.

Comparison of expenditures of users and non-users. The 1989 survey from Benin revealed that spending on curative care, by non-users of the public health centre for financial reasons, was US\$0.5 per episode (Figure 14). Users of curative care in BI health centres spent on the average a total of US\$5.5 and non-users for other reasons spent US\$1.7 per curative care episode. The 1991 survey showed similar trends. The reasons for not using curative services cited by families therefore seem to be a valid measure of exclusion, related to level of spending. In the same way, spending on childbirth was significantly less among the financially excluded (US\$3.9) than among the two other groups (US\$6.5 for users and US\$4.7 for non-users for other reasons) despite similar utilization of delivery services. However, the excluded spent on antenatal care amounts comparable to the other two groups.

Health seeking behaviour and household expenditures of the poorest socio-economic group

According to Figures 15 and 16 presenting the results of the 1989 survey in Benin by socio-economic groups, some differences can be noted between the groups in their utilization of different sources of health care or in the cited reasons for non-utilization. The poorest group uses significantly more the

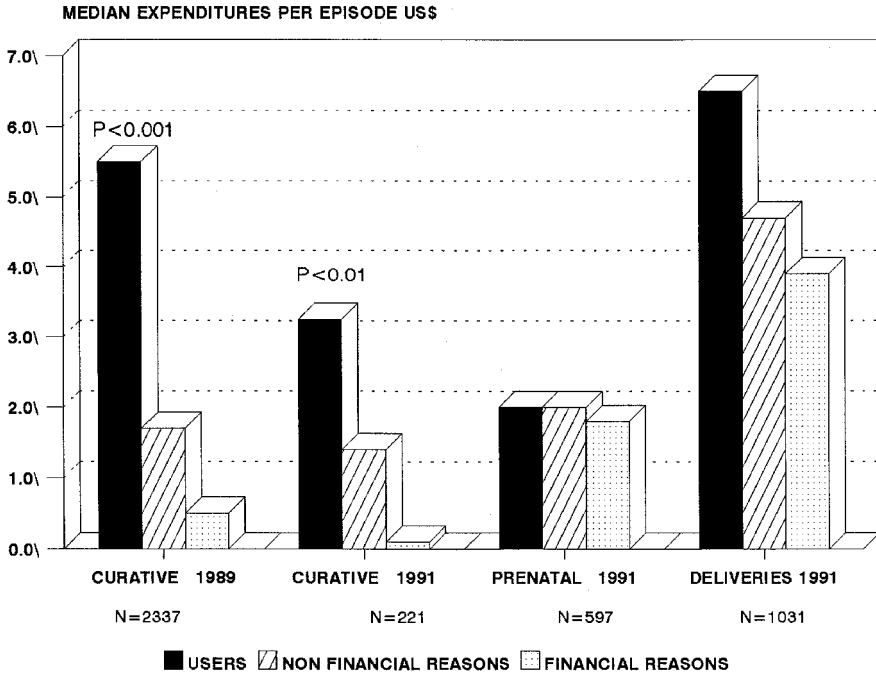


Fig. 14. Median expenditures per episode for curative and maternal care among groups giving different reasons for non-utilization of curative care.

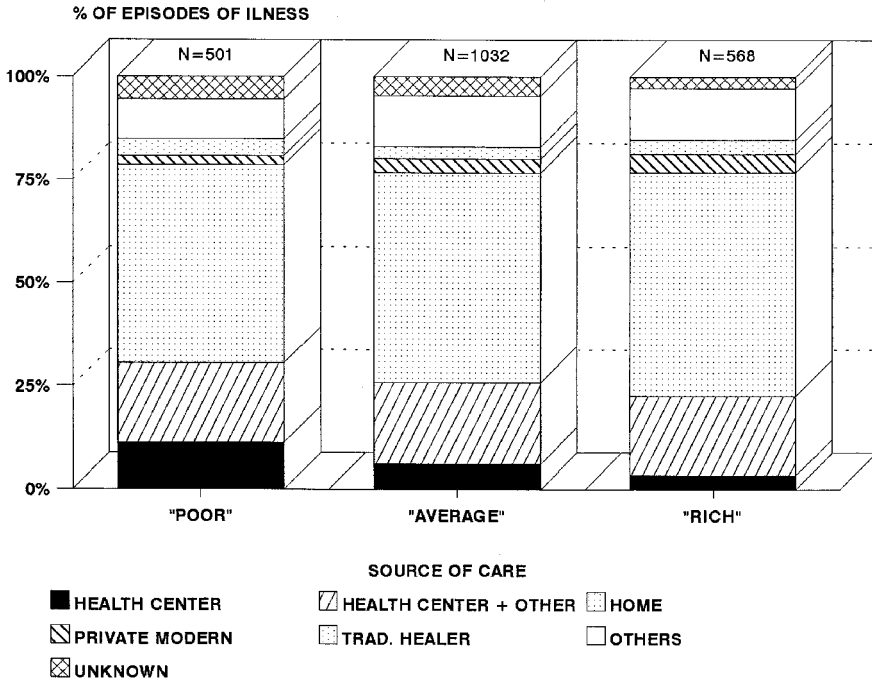


Fig. 15. Sources of care per socio-economic group, Benin—1989.

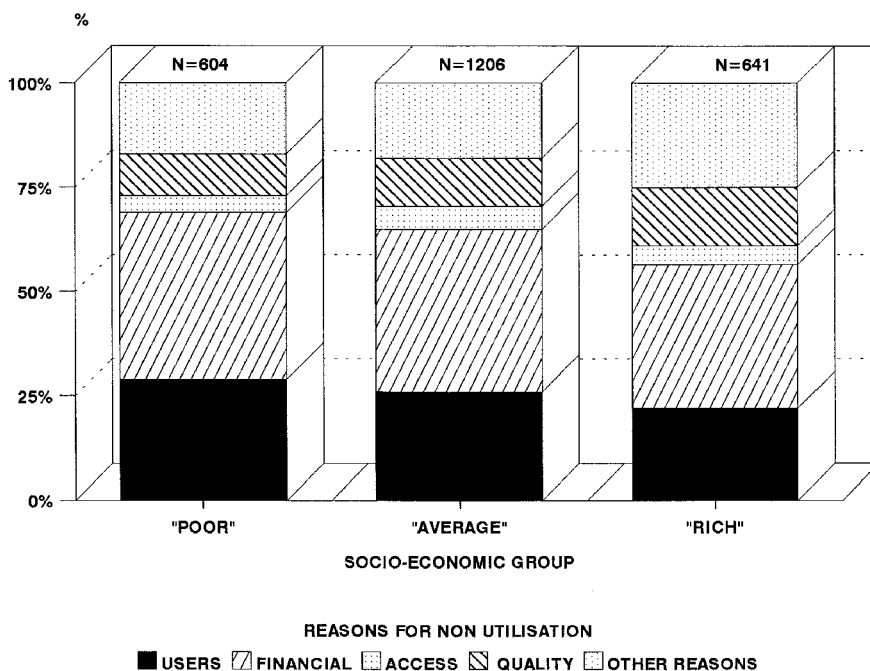


Fig. 16. Utilization of services and reasons of non-use per socio-economic group, Benin 1989.

curative services of the health centre than other groups ($\chi^2 p < 0.01$). Globally one-third of the population of the three groups feels excluded from curative care for financial reasons. The poor use the health centre slightly more than the rich, yet cite financial reasons slightly more often for not using services. These differences, although statistically significant, are however, not strongly pronounced.

Figures for the median expenditure by socio-economic group for curative care show that the poor spent significantly less than the other groups (US\$1.2 for the poor and US\$1.7 for the two other groups), all sources of curative care included. Further investigation is warranted to check for possible explanations such as differences in type and severity of illness episodes between socio-economic groups.

DISCUSSION

The findings

Utilization of health care in BI programmes. The introduction of user fees, with revenue kept at health centre level, associated with availability of low cost

generic essential drugs, improved quality of services, and local management has radically improved access to a minimum package of health services in Benin and Guinea. This has resulted in substantial increases in curative care and dramatic increases in preventive care coverage in both countries (Table 1). The household surveys carried out in Benin and Guinea especially highlight the improvements in preventive care coverage obtained, an information not always available in other studies.

Utilization of preventive care services in the BI centres does not appear to be hindered by the cost recovery component. Financial motives did not emerge as a barrier to the use of preventive care. Those respondents who did not use curative care in revitalized health centres for financial reasons use preventive services in the same high proportion as users of curative care. Both groups spent comparable amounts on antenatal care within the system. Non-users of curative care for reasons other than financial also spent a similar amount for antenatal care in public health centres. This seems to confirm that antenatal care charges were affordable, or at least that the majority of the population was willing to pay those charges. For EPI, services were almost free (with the exception of the immunization card) and financial reasons for not using EPI were almost never mentioned in any of the EPI surveys conducted between 1989 and 1995.

Preventive care users obtained good value for money, due to the cross-subsidies between curative and preventive care. Users of the health services use their budgets rationally, and spend them where they get maximum value.

Concerning the use of the system by vulnerable groups such as children, a recent study conducted in Benin showed a high utilization of BI health services, in cases of illness among children under five years old, at more than 0.55 first visit per child per year as compared to less than 0.30 first visit per person per year for the total of all ages population.²⁹ Use of curative care was found to be a good predictor of immunization coverage. The data from the SNIGS (National Information and Management System of Benin) shows even higher figures for use of PHC public services: 0.90 first visit per year per person for infants less than 5 years of age. Care must be taken in interpreting these data in light of the different levels of needs of different age groups.³⁰

The results of the analysis of data obtained from the Benin and Guinea household based studies indicate that despite the increase in curative care utilization, a large part of the population does not use the BI centres. Utilization of the health centre and the proportion of people not seeking any care at all was greater in Guinea than in Benin. This can be explained by the existence of a large illegal drug market in Benin (coming from neighbouring Nigeria) at low cost, a source of drugs for the poorest group. In Guinea, this group has fewer alternative sources of care and probably opts not to seek care. The Benin surveys in 1989 and 1991 show that geographical access to care and the quality of services were just as great a barrier as price when families needed curative care.

Fee levels and household willingness to pay. Although the BI instituted user fees in the public health services in Benin and Guinea, users of the system were previously subject to significant out of pocket costs for health care, either due to under the table payments, or from the cost of drugs bought in private pharmacies. The available information indicates that people already spend substantial amounts on health care from the public and private, formal and informal sectors. Current out of pocket health expenditures per person per year would have allowed for multiple full curative treatments in the revitalized health centres in Benin and Guinea.

In fact, revitalized health centres provide subsidized care. Health personnel salaries are paid by the government and investment and vaccines costs are paid by donors. Revenues from user fees are targeted at covering drug costs, outreach, local maintenance and replacing supplies. Preventive care is subsidized to a greater degree than curative care to promote its utilization.

In both Benin and in Guinea, maternal health services operate without much competition, and private sector alternatives are relatively expensive. Spending on maternal health care within the public health system is relatively low compared to maternal care from the private sector.

Curative services, on the other hand, must compete with the black market, the private sector and the traditional sector. The less expensive and more accessible sources, such as home medication with drugs from the black market or traditional medicine, are used most frequently. In Guinea, traditional healers (who are inexpensive) are often consulted. In Benin, expensive sources of care such as the modern private sector and traditional healers, seem less used. The extent of under-reporting the use of the non public services during surveys on health seeking behaviour still needs to be assessed. Price levels of curative services provided by revitalized health centres fall between those of home medication at one end and the private sector at the other.

Health care for the most vulnerable. The Benin and Guinea BI programmes (and projects in Benin supported by other partners which implement very similar strategies) are national in scope and cover over 90% of the sub-districts of each country including remote rural populations, which tend to be among the lowest economic earners. Thus the BI has strongly improved the geographic equity in access to quality primary health care in both countries.

The analysis of curative care use by socio-economic group, "poor", "middle" and "rich" in Benin revealed that the "poor" have a tendency to use public health centres to a larger extent than the other two groups. Although the "poor" spend less on health centre care alone, when it is combined with spending on other sources, they spend more than the "middle" or "rich" groups. The reasons for not using health centre curative services (financial reasons, distance, quality, or others) are approximately the same for the three economic groups. It is worth noting that the 1989 survey in Benin did not include large cities where more important existing socio-economic heterogeneity could have led to more pronounced differences in profiles of utilization. Those who do not use services for other than financial reasons are

Table 3: Review of 17 studies on the impact on utilization of introducing fees, when services are improved or remain the same³⁵.

Number of studies where service utilization	Number of studies where quality, access and availability		Average fee
	Increases	Remains similar	
Increases	8	0	US\$1.20
Remains similar	0	2	US\$1.00
Decreases	0	7	US\$0.70

more likely to turn to the modern private sector, while non-users for financial reasons use mainly home treatment. While it is obvious that financial barriers to access exist, the revitalized health centre is to a greater extent the provider of choice for the lower income groups than for the higher, possibly because of greater need.

Validity of the data

Accurate data on household attitude and past experience regarding health services utilization is difficult to collect. Quality of information coming from community based surveys performed by health staff using directive methods of interviewing may be questioned. However, the excellent agreement between use of services measured by these surveys and through service based data is in favour of data of good enough quality to allow for at least qualitative conclusions leading to action. The finding that in the three surveys, out of around one episode per year per person between one-quarter and one-third leads to seeking care at public health centres is consistent with a stable utilization rate measured during monitoring session around 0.25 to 0.3 first curative visit per person per year. For prenatal services, the surveys show a utilization rate of 68% for the 1991 Benin survey as compared to monitoring indicator values of 59% and 61% for 1990 and 1991. In Guinea the surveys

Table 4: Level of charges in community cost-sharing programmes compared with household health expenditures for modern care selected study results (in US Dollars).

Country	Average level of charges per treatment	Mean household health expenditures per capita per year
Benin ^{20,36}	1.5	7 (median 2)
Guinea Conakry ^{5,37}	1.1	4 (median 0.7)
Guinea-Bissau ³⁸	0.4	–
Mali ³⁹	2.0	3.5
Senegal ⁴⁰	0.7	7
Zaire ^{41,42}	1.0	1.7

show a utilization rate of 70% as compared to monitoring indicator values of 63% and 68% for 1990 and 1991.²

Comparison with other African countries

Utilization of health services. In Swaziland, Mozambique, Ghana, The Gambia and Zambia user charges varying from US\$0.15 to US\$1 were introduced or abruptly increased in routine government services without a concurrent improvement of the availability of drugs, access to services and/or quality of care. Subsequent studies show a decline in attendance rates, often by as much as 50%.^{5,7,10} Even in Zaire, where the quality of the services had been of long-standing good quality, an increase of the fees without further improvement in the quality of the services offered, led to a decrease in utilization rates.³¹

In Rwanda, Guinea-Bissau and Liberia, utilization increased (often doubling or more) when fees varying from US\$0.40–US\$1.70 were introduced. User fees were combined with improved access, availability of drugs, quality of care and community control.

In Mali, Ghana and Cameroon, comparisons between different districts or different types of health facilities in the same country have revealed both increases and decreases in utilization rates following price changes. The critical elements determining utilization rates are the size of the price increase, the targeting and timing of improvements in the services offered, and the improvement of availability of drugs.^{11,18,32–34}

Other reasons for non-utilization of PHC, in addition to the payment mechanism, have also been studied. Most surveys reveal that travel cost and time, waiting time, availability of drugs, perception of the severity of the disease and anticipated effectiveness of treatment, of quality of care and attitudes of personnel are important factors.

These examples demonstrate that people act rationally and are only willing to pay more if the product is otherwise not available, if access becomes easier or if the perceived quality improves (Table 3).

Fee levels and household willingness to pay. The information obtained from the Benin and Guinea surveys is consistent with studies carried out in other countries. Studies of fee levels of BI type programmes and projects in Africa which recover a significant proportion of health centre local operating costs revealed fee levels of, on average, US\$1.5 per illness episode, or US\$0.19–0.56 per person per year. Table 4 compares these fees to the mean annual household expenditure on health obtained during household surveys in a series of countries. Household surveys from Benin and Guinea show that on average households spend US\$7 per person per year in Benin and US\$4 per person per year in Guinea. With fee levels respectively at US\$1.5 and US\$1.1 in Benin and Guinea, this would permit 4.6 and 3.6 full treatments per person per year in the revitalized health centres. Even if the median household expenditure levels calculated in Benin and Guinea (respectively \$2 and \$0.7) are used instead of the mean as a basis for comparison, the fee levels still appear reasonable

compared to what people already spend on health. However, it should be kept in mind that actual out of pocket expenditure on care from health centres may be higher because of travel costs, and under the table payments, demanded by health personnel to complement their often meagre salaries.⁴⁵

Health care for the most vulnerable. Assessments of changes in the socio-economic characteristics of health centre attenders for preventive and curative care following the introduction of user fees have been carried out in other countries. A study conducted in Cameroon confirms the findings of the Benin and Guinean programmes. In a before and after study based on household surveys, it was shown that use of health services increased in lower socio-economic groups in BI health centres when fees were introduced as part of the revitalization package.³² More recently a study comparing different services and pricing schemes in Niger showed that introduction of user fees with improvements of quality led to increased utilization even in the lowest socio-economic group.⁴⁴

On the contrary, studies in Swaziland⁷ and Ghana^{5,9} reveal that the proportion of attenders with lower socio-economic occupations diminished relatively more after introduction of user fees. However, these results were obtained through service-based studies through which assessment of household characteristics and health behaviour are uncertain.

In Burkina Faso, a recent study found that on the whole, demand for health care is inelastic.⁴⁵ However, the elasticity of demand for the lowest income quartile, and for infants and children were greater, meaning that infants and children were less likely to receive treatment when it was expensive. This study was conducted at a time where the system had not yet been revitalized and where drug costs were extremely high, surpassing US\$9 per treatment.

CONCLUSION

The household surveys conducted in Benin and Guinea reveal that health care utilization has increased since the revitalization of health centres following BI strategies. Utilization by vulnerable groups (low socio-economic groups, women, children) has also improved. However, a problem of exclusion for financial reasons exists, especially with respect to curative care.

Other studies from programmes similar to those in Benin and Guinea, show that although price is a determinant in choosing a care provider, quality of services and geographical access are also important. This underlines the importance of drug availability, reduced waiting time and attentive health care personnel.

The BI strategies combine a series of changes that address these determinants. Quality of services is improved at the very moment that fees are introduced. Low cost generic drugs are made available which drastically improve perceived quality of services. Community participation in the monitoring of the health centre and its budget allow for a degree of transparency, and user fees remain at local level, rather than return to the

central treasury. This reinforces the sense of ownership over the health centre by communities and makes health centre employees more accountable to the clients who are paying for their services, thus improving their attitudes. Finally, retention of community financing revenue at the source and its use to cover local costs allows for a measure of autonomy and fosters appropriate and timely responses in the face of unplanned expenses, such as repairs of motorbikes and cold chain equipment which facilitate geographical access and improve quality of care.

The fact that on average yearly household expenditure could permit around four curative care visits per person per year in revitalized health centres illustrates how on average there is no problem of capacity to pay the curative care fees practised in the BI health centres.

In a study conducted in the Region Forestière of Guinea, the proportion of real indigence was estimated to be between 3 and 10% in both urban and rural settings.⁴⁶ True indigence was measured by the proportion of the total population which had no health care expenditure at all. Temporary or season related incapacity to pay was common, arising in about 40% to 50% of the households. This stresses equity problems linked to weak capacities to pay user fees in certain socio-economic groups, geographic zones or time of the year. BI strategies however have on the whole improved the access by poor to the public health system as compared to the pre-programme situation. Improvements in coverage with preventive care for all socio-economic groups is especially significant. The above analysis reveals that although the lowest income group spends less on curative care, they are using to a large extent the public health centres, and also benefit as much as the "richer" groups from antenatal and child birth services. Comparable data on household health seeking behaviour disaggregated by socio-economic group are not available from the preprogramme situations. For that reason, we cannot show whether the poorest have benefited more than the richest group. However, the very low coverage with services before BI implementation makes it likely that the poor have benefited in absolute terms and receive more quality care than before.

The present challenge is to design exemption mechanisms to limit the negative effects of local cost recovery on the most vulnerable, especially their financial exclusion from using essential curative care, while maintaining the positive aspects of local cost recovery. Exemption mechanisms for the truly indigent can be designed at local, central or donor level. These mechanisms may include services on credit, lists of indigents not required to pay, or reduced fees for certain clients. A large proportion of centres in Benin and Guinea generate a margin of revenue which could be used to subsidize the treatments of identified indigents. An indigent fund managed by the health committee could also be created. In Guinea a social fund has been created at communal level with revenue from local taxes. This fund can be used to provide financial help for instance for hospitalizations. The amounts in those funds are however usually very limited and beneficiaries are not always the most needy.

Major inequalities in geographic access exist between regions linked to population density, geographical access and economic development. These

regional inequalities could be reduced through selective subsidies from the government. Health centres in especially poor regions could be attributed special solidarity funds. The central level might also focus support on excluded groups (building construction, staff allocation), targeted on remote areas or helping to implement a monitoring system directed at the excluded. Donors can finance additional support in terms of drugs and equipment to absorb part of the additional cost of treating the exempted.

In Benin and Guinea, the decision on whom to treat for free or at reduced fees is taken on a common-sense, case-by-case basis. The decision is made based on some sort of interview and visual inspection of the patient, backed up by the staff's knowledge of the community. Sometimes advice is solicited from community leaders and possibly approved by the health committee. Especially in smaller health facilities in rural areas, communities and health staff appear to build on existing informal solidarity mechanisms, such as extended family networks.

It needs to be kept in mind that incapacity to pay is very differently appreciated depending on who is questioned. For example, the 1991 EPI coverage survey in Guinea also questioned different local decision makers on the extent of incapacity to pay. Seventy-five per cent of local heads of districts declared being contacted to help with the payment of fees in health centres against only 25% of the health staff. The solution most often proposed by the local authorities to address the issue of indigence was the use of community financing funds on a case-by-case basis. This illustrates that caution must be used to avoid unilateral exemption decisions by the health care provider, who may not fully perceive the real capacity or incapacity to pay and in addition may be torn between making money and providing favours.

Further operational research is presently underway with support from UNICEF and various research institutions to define appropriate mechanisms to further improve equity in BI programmes in West and Central Africa.

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