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# Health for some? The effects of user fees in the Volta Region of Ghana

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This paper reports key findings and conclusions from a 1996 study of user fees and exemptions in the Volta Region of Ghana. A variety of data sources and methods were used, including interviews with patients and managers, community-based focus group discussions, analysis of facility records and analyses of previous household survey data.

Official fee levels and exemption categories were established in 1985. While this legislation made provision for drug fees to be 'at cost' and thus to be revised in line with inflation, other official fees have not been adjusted since 1985. In the face of declining real levels of budget allocations and decreased supplies of essential consumables from the Central medical stores, facility managers have established their own pricing and fee collection systems. This has been allowed by the Ministry of Health, but the decentralized nature of fee setting and collection practices has made it very difficult for the Ministry to monitor the effects of fees.

The study found that facility managers have been very active in setting and collecting fees and using the revenues to purchase essential inputs. The level of revenues being mobilized accounts for between two-thirds and four-fifths of the non-salary operating budget of government health facilities, and virtually all of the resources for non-salary operating expenses in mission hospitals.

Official exemptions are largely non-functional. Less than one in 1000 patient contacts were granted exemption in 1995. With estimates that between 15 and 30% of the population lives in poverty, the failure of exemptions to function means that fees are preventing access for the poor, or are imposing significant financial hardships on this part of the population.

Health facilities in the Volta Region have achieved a kind of 'sustainable inequity', with fees enabling service provision to continue, while concurrently preventing part of the population from using these services.



## Introduction

The discussion of the role and effects of user fees for publicly provided health services in developing countries has evolved during the past 10 years. Early proponents (Akin et al. 1987) believed that fees could be designed to improve efficiency (through appropriate price signals), financial sustainability (through significant resource mobilization) and equity (through targeted prices and exemptions). The early definition of 'community cost-sharing' in the Bamako Initiative included fees and community participation in the management of locally generated resources in order to create sustainable primary health care at the district level (Parker and Knippenberg 1991).

The belief in the beneficial effects of user fee policies has been challenged, particularly with respect to equity (Gilson 1988; Creese 1991). Analyses of household survey data (e.g. Gertler and van der Gaag 1990) have indicated that utilization by poorer persons was reduced to a greater extent than that by the rest of the population. Moreover, there has been no evidence that countries can implement effective exemption mechanisms to ensure access and income protection for the poor. Frequently, the poor are unable to benefit from exemption, while nonpoor persons (e.g. civil servants) can and do (Gilson et al. 1995).

The capacity of fees, in and of themselves, to enhance financial sustainability has also been questioned. Cost recovery ratios (fee revenues as a percentage of recurrent government health expenditures) in 16 African countries from the early to mid-1980s ranged from less than 1% to about 12%, averaging about 5% (Vogel 1991). The amount of additional resources this would make available as supplemental funding is actually less than this, given the additional resources needed to administer the fee collection system (Creese 1991). At the level of the health facility, however, fee revenues can make a significant contribution to non-salary operating budgets

(Parker and Knippenberg 1991; McPake et al. 1993; Bennett and Ngalande-Banda 1994), and the impact on productivity of even a small amount of funding for non-salary inputs may be greater than implied by cost-recovery 'averages' in contexts where such inputs are severely underfunded (Kutzin 1995; Creese and Kutzin 1997).

Despite the variety of positions on the potential benefits and potential harm to health system objectives from user fees, there appears to be some convergence on several key issues. In practical terms, there is a growing recognition that, while user fees have clear drawbacks, countries that are unable to provide sufficient public revenues for health services will need other sources of funds. Moreover, in the absence of policy on user fees, people will be forced to pay anyway as health facilities and health workers in both the public and private sectors charge patients as a means of supplementing meagre salaries and ensuring the availability of essential inputs. There is also a recognition that even a well-organized system of user fees will entail a tradeoff between increased financial sustainability and reduced access for the poor, given the lack of effective exemption mechanisms. However, the evidence also suggests that some of the harmful effects on access to care can be mitigated if fee income is used effectively to improve the quality of care as perceived by the population (Litvack and Bodart 1993; Lavy and Germain 1995). Recognizable improvements in quality are also essential for the political acceptability of fee increases, as shown by Kenya's experience (Collins et al. 1996).

Empirical analyses of user fee experience in African countries and elsewhere have led, over time, to a greater specification of the conditions and other policy measures that need to be associated with user fees for this policy to have desirable effects (and to minimize the undesirable effects). As categorized and described by Gilson (1997), these conditions relate to:

- the design of fee policies themselves, including such factors as 'affordable' price levels, mechanisms for prices to keep pace with inflation, coordination of prices across facility levels, publicity about fee levels, procedures for the appropriate use of retained revenues by health facility managers, etc.;
- complementary policies, including the overall policy framework for health financing (e.g. maintaining levels of public funding, development of complementary risk-sharing and community solidarity mechanisms, etc.) and policies to enhance sustainability of the health system (e.g. measures to improve efficiency in the pharmaceutical subsector, financial management and audit systems, monitoring through management information systems, etc.); and
- broader contextual factors (e.g. managerial capacity, rural banks, willingness and ability of population to pay fees, strength of professional ethics, etc.).

## User fees and exemptions in Ghana

At Ghana's independence in 1957, existing user charges in government health facilities were abolished. Fees were reintroduced with the enactment of the Hospital Fees Decree 1969, which was later amended into the Hospital Fees Act 1971. The Hospital Fees Regulations 1985 (L.I.1313) specified fees to be charged for consultation, laboratory and other diagnostic procedures, medical, surgical and dental services, medical examinations and hospital accommodation. L.I.1313 also specified that drug fee levels should be set to recover the full cost of drugs. During the past decade, this legislative framework has permitted drug fees to be continuously revised to keep pace with inflation. Other fees, however, have remained at the levels specified in 1985. Adjusting by the consumer price index, the real value of official non-drug fee levels has dropped by more than 90% over the 10 years since their introduction.

Government health spending has fallen during the 1990s, both in real terms and as a percentage of total public spending. Ministry of Health (MOH) recurrent expenditure represented 11.1% of total (excluding interest payments) government recurrent expenditure in 1991 but only 6.9% in 1995. In *nominal* terms, government health expenditure per capita did not change much during this period, although if foreign aid is excluded, the levels for 1994 and '95 are substantially lower than in previous years. Given the high inflation experienced during this period (especially since 1992), this points to a real decline in resources provided by government to health services. The decline is greater when considering a longer time period. Government spent about $10 per capita on health in the late 1970s, but only between $5 and $6 per capita (including donor funding) during the first half of the 1990s (World Bank 1997a).

The combination of continued budgetary pressures and obsolete official charges has resulted in increasingly widespread 'local charging practices' by health facilities and 'under-the-table' payments to health service providers. Currently, there are four identifiable categories of user fees in public facilities (Adams 1996).

- **'Cash-and-Carry' programme for drugs.** This is essentially a revolving drug fund that was introduced nationwide in 1992. The fee per drug item charged to users is related to the procurement cost of the item, marked up with fixed percentages by central and regional medical stores.
- **Other nationally authorized charges.** These are the prices defined in the national fee schedule that was instituted in 1985.
- **Locally authorized charges.** These are fees established and sanctioned by individual health facilities. The practice is legal, but the fee levels are not grounded in national legislation. This approach has, in many places, rendered the official fee schedule non-operative, since locally authorized fees are adjusted regularly to keep pace with inflation.
- **Illegal or unauthorized charges.** These are the charges levied by individual providers in public facilities, including fees charged by health professionals for their services and by 'contractors' and 'frontmen' for a variety of services (e.g. disposal of placenta), and 'commissions' on sales of drugs and other consumables.

Government policies on fees also defined entitlements to full or partial exemption from payment. Persons qualifying for full exemption include 'paupers', health workers, patients

with tuberculosis and leprosy, psychiatric patients and some services including immunization. Antenatal and postnatal services and treatment at child welfare clinics are to be provided free of charge, except for hospital accommodation and catering charges. L.I.1313 also provides for exemption from all charges except those for prescribed drugs for a wide range of (mostly) communicable diseases. The objectives of these regulations appear to have been to ensure financial access to care for poor people and persons with communicable diseases, encourage use of preventive services, and to provide a benefit to health workers.

## Study objectives, setting and methods

As a result of concerns about the effects of user fees and because implementation of fees and exemptions is difficult to monitor through routine systems, the MOH, through the Volta Regional Health Administration, defined and undertook a study to provide evidence as a basis for reforming fee/exemption policies and practices.

### Objectives of the study

Specific objectives were to:

(1) describe prevailing charging and exemption practices in the Volta Region's health facilities;
(2) analyse the effects of these practices on facility financing and service utilization,
   (a) determine sources and levels of financing of the various institutions,
   (b) determine the utilization patterns of each facility;
(3) assess community perceptions on prevailing charging practices and the health system;
(4) make recommendations for the revision of policies and practices with respect to user fees and exemptions.

This research was designed as a baseline study to inform the appraisal of options by the MOH. If changes to policy and practice are implemented based on the recommendations arising from this baseline study, it is anticipated that a follow-up study would be implemented to assess the effects of these changes.

### Study setting: the Volta Region

This study was conducted in the Volta Region – one of the 10 administrative regions in Ghana. The region has an estimated population of 1.8 million (based on the 1984 national population census), with an annual growth rate of 1.8%. Population density is 72 inhabitants per square kilometre. About 70% of the population live in rural areas, with agriculture being the main economic activity (Ghana Statistical Service 1995). Average living standards in Volta are very similar to those of Ghana as a whole (World Bank 1997b).[1]

Each of Volta's 12 districts has a functional District Health Management Team (DHMT) that is headed by a District Director of Health Services (DDHS) and supported by heads of technical programmes. There are 172 health facilities consisting of six government hospitals, five mission hospitals (acting as district hospitals), 161 health centres and posts, and a few privately owned clinics available to the 5282 towns/villages in the region. There is an insufficient number of qualified staff to cover all the facilities, and so services in most of the health centres/posts are delivered by auxiliary staff. Traditional herbal medicine is also practised in the region, and Traditional Birth Attendants are available in many of the rural communities (especially those without access to health facilities).

Malaria and diarrhoeal diseases are the most common endemic diseases reported at health facilities in the region. Waterborne diseases like guinea worm and schistosomiasis are prevalent because access to potable water is difficult for most people. Environmental sanitation is also quite poor in many of the communities. The main services provided at the health centres (especially those in the rural communities) are treatments of minor ailments, preventive services (i.e. immunization against childhood killer diseases), family planning and maternity services.

### Methods and data sources

A variety of methods and information sources was used for the study, involving both primary and secondary data. Facility-based data collected for this study involved all of the 11 hospitals (one regional and 10 district) in the region and 13 health centres, for a total of 24 sites. The following information was collected using questionnaires and checklists:

- actual charging practices, for both official and unofficial fees (using exit poll interviews with outpatients and inpatients, plus interviews with facility 'in-charges');
- financial data of health facilities (revenues and expenditures);
- service utilization data (patient registers) of health facilities;
- facility records on the number and category of persons exempted.

Twenty-three community-based Focus Group Discussions (FGDs) were also conducted as part of the study. The FGDs elicited opinions from community members (not necessarily recent users of health facilities) about the health system in general and user charges in particular.

In addition to the above instruments used for the collection of primary data, use was made of several other studies and sources of data in order to make a more thorough analysis. These included analyses of the most recent national household survey, the Ghana Living Standards Survey (GLSS), 1991–92,[2] and studies of quality of care and prescribing patterns in Volta's health facilities that were undertaken by the Regional Health Administration.

## Findings

### Pricing practices

There is no legal regulation authorizing institutions to fix fees other than the stipulated fees prescribed in L.I.1313. While it is known that facility managers are levying locally authorized

**Table 1.** Comparison of registration/consultation fees paid with official rates

| Facility | Fee/payment | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1985 fee schedule | Median payment reported by users (n = 266) | Amount of increase | % increase | 1996 value of 1985 fees | Amount of increase (decrease) | % increase (decrease) |
| Regional hospital | ¢75 | ¢600 (13) | ¢525 | 700 | ¢1258 | –¢658 | –52 |
| District hospitals | ¢50 | ¢400 (196) | ¢350 | 700 | ¢839 | –¢439 | –52 |

[a] Fees defined in L.I.1313 for adult consultations in (1) regional hospitals and (2) district hospitals and urban health centres. The unit of currency is the cedi (¢). In 1985, US$1 = 54 cedis, and in 1996, US$1 = 1637 cedis.

charges to provide revenues to meet operating expenses, the MOH does not have information on the amounts actually being charged. Table 1 compares official fees with the amounts that users reported paying. Registration/consultation fees are used for this comparison because the amount paid by patients for this service reflects a pure price effect (i.e. for drugs or laboratory tests, the expenditure reflects the quantity of services in addition to the price, whereas there can only be one registration/consultation per outpatient contact). The average amount paid for consultation in Ho Regional Hospital, other government district hospitals and health centres reflected an increase of about 700% in nominal terms over the approved rates in L.I.1313.[3]

Inflation in Ghana has been increasing at an average annual rate of about 30% since 1985. Adjusting the official fee levels by the CPI each year to the first quarter of 1996 yields an estimate of the value of the 1985 fee levels at the time the patient interviews were conducted. A comparison of the inflation-adjusted fees for registration/consultation with reported expenditures on this service (shown in Table 1) reveals that in real terms, patients were paying about half in 1996 for this service than they were in 1985. This does not mean, however, that consumers are spending less in health facilities now than they were after official fees were introduced, because we do not know if fees other than registration/consultation have in fact risen faster than the rate of inflation.

L.I.1313 states that input costs should be used as the basis for setting drug fees, and the government has defined standard markups for drugs to operationalize this policy. Central medical stores (CMS) set a 37.5% mark-up for locally produced drugs and 57.55% for imported drugs under the Cash-and-Carry system. Individual facilities have a 5% mark-up over this. Because of confusion about the levels of mark-ups, and in order to streamline the system, the Regional medical stores (RMS) of the Volta Regional Health Administration set the levels of mark-ups for the RMS and the facilities as follows:

- The RMS Unit Price has a 20% mark-up on the procurement price from the CMS.
- The facility price is set with a 13% mark-up on the procurement price from the RMS, rounded to the nearest whole number.

Thus, the total mark-up on the procurement price from CMS to patients of Volta Region health facilities should be 33%. A rapid assessment of the Cash-and-Carry system in the Volta Region (VRHA 1996) showed that in practice, however, the fee per drug item charged to users varies by district and by level of operation. Drug fees are related to the procurement cost of the item, but mark-ups are not standard. As a result, patients are paying drug fees in the range of 11–275% over the facility approved prices.

A number of problems arise from the way services are priced within and across facilities. They are difficult for potential patients to assess in advance of treatment – charges are levied for registration, individual drugs, laboratory tests and other procedures, and payments actually have to be made on several occasions in the course of a single visit. Since fee levels are determined by individual facilities, there may be no differential between health centre and hospital charges for the same service, giving the patient no incentive to use the health centres. Indeed, given the dependence of all facilities on user fee income (as is shown below), hospitals have a strong incentive to compete for primary care patients, and they are in a strong position to do so, given the difference in human resources (i.e. the presence of doctors at hospitals) between the facilities. For the MOH, the very decentralized nature of fee setting makes monitoring very difficult. While the Regional Hospital has documented (Ho Government Hospital 1995) its comprehensive system of user fees for consumables (in addition to drugs), there is very weak monitoring of fee levels for the region as a whole. Hence, it is impossible for routine monitoring systems to provide clear information on the impact of fees.

### Fee collection practices

The study revealed several aspects of collection practices with consequences for the efficiency, equity, and acceptability of user fees. These aspects include the number of points within a facility at which fees are collected, the extent to which deposits are required for hospitalization, the issuing of receipts for amounts paid, and the provision of clear information on price levels at fee collection points. Each of these is discussed in turn below.

### Payment points

Currently charges are levied for registration/consultation, drugs, laboratory services and other procedures. Payments for these services are made at the point of service provision. Thus, clients make several payments in the course of a single visit. This is time consuming and an added burden to the tasks of nurses (especially in the case of inpatients) who spend a considerable amount of time ensuring fee collection, which diverts them from their main patient care responsibilities. This practice is also likely to be subjected to abuse (i.e. a demand for under-the-table payments), since the introduction of fees for health has more or less conferred a certain legitimacy on charging patients, especially in the face of loosened controls on local practices. The focus group discussions revealed the strong perception that multiple payment points provide a means for health workers to 'cheat' patients by requiring additional payment for services. Therefore, most people favoured reducing the number of payment points, with the following explanation being typical:

> 'They collect bribe from us at the various payment points but when it's a single point payment that collection bribe would be avoided.'

### Deposit system

Due to the high cost of services and the enthusiasm of facility heads to recover these costs, it is common practice for facility heads to insist on the payment of deposits (advance payment in partial fulfillment of the projected total cost of treatment) for inpatient services, especially in mission hospitals. While it is fair to say that deposits help to promote cost recovery, they also pose a serious threat to accessibility, given the absence of clear-cut guidelines regarding service provision for emergencies and 'paupers', and of public information on the level of deposit that is required. The FGDs contain numerous instances of people indicating that the high deposit that they believe they would have to pay has kept them or others from seeking or obtaining care in government facilities, especially hospitals. For example:

> 'The demand for the deposit is too much. Since the money is not there to pay the deposit, he will go out looking for herbs to use.'

> 'I go to the health centre because of the low charge, I do not go to the hospital because for them they demand deposit.'

> 'Previously, a patient is operated upon before fees are calculated but now, you have to pay a deposit.'

> '. . . we all need health care but when you go, you are asked to pay deposit before treatment and you do not have, so you will not have treatment.'

### Receipting

One way of promoting transparency in the cost recovery system and to limit 'leakage' in fee collection is to keep accurate records of amounts charged. Receipts are supposed to be issued for both nationally authorized and locally authorized charges, as well as for drugs under the Cash-and-Carry system. This is, currently, the only proof that fees have been collected. With a national adult literacy rate of 49%, however, many clients are not in a position to verify if the receipts issued to them tally with the amounts paid. Table 2 shows (1) the number and percentage of outpatients who were given receipts for all, some or none of the payments that they made, and (2) the extent to which the receipts corresponded to the amounts that the respondents reported paying (for those services for which receipts were received). This table shows that 57% of the outpatients interviewed were given receipts on all monies paid, but many of those who received receipts for some or all of the services for which they paid were not given accurate receipts.

All situations other than that of the 128 persons (just over half of the respondents) who were given receipts on all monies paid and whose receipts tallied with the total reported as paid represent a lack of transparency and a potential loss of money (totally or partially) to the health system. Of the respondents who reported receiving at least some receipts, the amount indicated on the receipts tallied with the amount reported paid for specific services in about 62% of cases. While there are a few specific categories of charges for which receipts are not normally issued (e.g. processing of police forms), it is likely that some of this 'under-receipting' reflects under-the-table payments requested of patients. The FGD responses suggest that the issues of under-receipting, multiple payment points, and under-the-table payments are closely linked in people's minds. For example,

> '. . . when you get to the hospital, you pay differently for registration, when you get to the Doctor you pay again, and it is named "Doctors' money".'

**Table 2.** 'Receipting' behaviour and accuracy as reported by outpatients

| Tallies with reported amount spent? | Receipts given | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | All payments | | Some payments | | None | | Total | |
| | n | % | n | % | n | % | n | % |
| Yes | 128 | 89.5 | 22 | 22.0 | – | – | 150 | 61.7 |
| No | 15 | 10.5 | 78 | 78.0 | – | – | 93 | 38.3 |
| Total | 143 | 57.0 | 100 | 39.8 | 8 | 3.2 | 243 | 100.0 |

'. . . sometimes the midwife prescribes and collects money and after that directs you to go and see the medical assistant who also gives injection and collects money without receipts.'

'If you pay ¢14 000, you are given receipt covering ¢8000.'

Although the outpatient exit poll shows that non-receipting occurred frequently, this practice was not distributed evenly across all services. In government hospitals, only 39% of those who paid registration fees and 41% of those who paid for laboratory services were given receipts compared with 93% of those who paid for drugs. The same trend was observed in health centres, i.e. 28, 47 and 92% respectively. This suggests, perhaps, that the management systems in place for Cash-and-Carry drugs should be extended to locally authorized fees for other services and consumables as well.

**Advertisement of fee schedules at fee collection points**

One way of clearing doubt and avoiding suspicion with respect to fee collection is through advertisement of fees within the premises of the facility, preferably at the point of fee collection. Regrettably, none of the facilities sampled had advertised fees. Indeed, virtually all of the focus group participants said that they had no idea whatsoever about the level of fees chargeable for services received in health facilities, implying that there is a great deal of uncertainty about what a visit to a health facility is likely to cost. This uncertainty is itself a 'cost' that may act as a barrier to utilization.

**Exemption practices**

While government regulations clearly indicate the categories of patients that qualify for exemption, five (22%) of the 23 in-charges interviewed said that no group of patients was exempted in their facilities. Interestingly, all hospital in-charges said that they did have exemptions, so it was only health centre in-charges (five of 13, 38%) that said they had no exemptions. While most said that they did grant exemptions, there does not appear to be a good understanding of the official exemption categories. For example, only one in-charge said that they gave exemptions for 'paupers/disabled', eight and two said that they gave exemptions for tuberculosis and leprosy respectively.

The total number of exemptions in 1995 in the Volta Region (1895) was less than 1% of the total number of recorded patient contacts. Based on data collected from 24 health facilities on the number and type of exemptions granted in 1995, the most common reason for exemption (71% of the total exemptions recorded) was for health staff. However, three mission hospitals accounted for 95% of these health workers' exemptions, so this cannot be said to reflect the usual practice of health facilities in the region. Twelve of the 24 facilities recorded exemptions for paupers, but of these, only two recorded more than 20 patients exempted for this reason for all of 1995. Seven of the facilities recorded no exemptions, and another nine recorded 20 or fewer total exemptions for the year. In Ho Regional Hospital, only two out of a total client load of 41 881 were identified as paupers. In 12 health centres, only 224 exemptions were granted in 1995, compared to a total of 62 755 OPD visits. These findings appear to confirm the suspicion that the official exemption rules are functioning very poorly and are clearly not meeting the objectives of the policy.

Evidence from the outpatient exit poll interviews confirms that exemptions for low income persons are almost completely non-functional. Of the 313 outpatients selected at random, only five (1.6%) did not pay anything for their care, and one of these five was a TB patient. Thus, even if the other four were indeed exempted on grounds of poverty, this remains a tiny proportion of the overall patient population, far below any reasonable estimate of the extent of poverty in the population.[4] The implications of finding that, for the most part, exemptions have not been implemented, are that either (1) poor people are paying a substantial amount of their incomes on health care when they become sick, or (2) poor people are not seeking care at health facilities when they become sick. In all likelihood, both are true, to varying degrees. This conclusion is supported strongly by the FGDs, which indicate that many people are delaying and often refusing to seek medical attention even when it is clearly needed because of the high payments required, and that for those who do obtain care, payment can be a severe financial burden.

'Because of poverty some will stay home and die.'

'. . . you can also not stay home when you are sick to die. You must look for a loan somewhere to go and pay.'

'One could use all his yearly income on a single sickness.'

This array of evidence on the failure to implement exemptions and the barrier and financial burden imposed by fees indicates that, in practice, the statutory exemption for low income persons protects neither their access to care nor their incomes.

Analysis of the small number of outpatients and inpatients interviewed who indicated they received a diagnosis from their provider allows for some assessment of the functioning of the full and partial exemptions for persons with particular diseases and conditions. Table 3 summarizes the fee payment experience of persons whose conditions entitled them to either full or partial exemption.

Overall, the findings suggest that both the full and partial exemptions to which patients with these conditions were entitled were rarely granted. The most striking example is antenatal care, for which all of the 16 outpatients who reported this as the reason for their visit had to pay. According to L.I.1313, the only fees that should apply to antenatal and postnatal services are those for hospital accommodation and catering. Responses to the outpatient questionnaire revealed, however, that all 16 antenatal patients paid both registration and drug fees. Five of the remaining 15 statutorily exempt (fully or partially) patients were, in fact, exempted according to the regulations, while ten were not. This reveals a very uneven pattern of exemption practices for specified diseases and conditions, albeit one that works more as originally

**Table 3.** Did people in exempt categories have to pay?

| Condition | No. of patients | Appropriately fully exempted | Appropriately partially exempted | Inappropriately not exempted |
|---|---|---|---|---|
| Tuberculosis | 5 | 2 | | 3 |
| outpatients | 2 | 1 | | 1 |
| inpatients | 3 | 1 | | 2 |
| Sickling | 3 | | 1 | 2 |
| outpatients | 2 | | 0 | 2 |
| inpatients | 1 | | 1 | 0 |
| Antenatal care | 16 | 0 | | 16 |
| Postnatal care | 1 | 0 | | 1 |
| Malnutrition | 1 | | 1 | 0 |
| Typhoid | 2 | | 1 | 1 |
| Measles | 3 | | 0 | 3 |
| TOTAL | 31 | 2 of 22 | 3 of 9 | 26 |

intended than does the exemption for paupers. Nevertheless, the main purpose of granting exemption on the basis of disease/condition is to ensure access to treatment or prevention, and this limited evidence on the uneven nature of the implementation of these exemptions suggests that this objective is also not being fulfilled effectively.

### Implications of user fees for facility financing

The 1995 distribution of recurrent revenue sources for 15 facilities in the Volta Region for which complete data are available is shown in Table 4. As shown in the table, user fee revenue (referred to in Ghana's accounting system as Internally Generated Funds, or IGFs) accounted for about two-thirds of health centre non-salary revenues and more than 80% of hospital non-salary revenues in public sector facilities in the Volta Region during the period under review. Most fee income is generated by the Cash-and-Carry drug fund. In 1995, drug fees represented about 78% of health centre IGFs and just over 50% of public hospital revenue (mission hospital records did not allow for a consistent measure of this). Donations in cash or kind were generally insignificant within the public sector during the period under review.

The most striking feature of health financing in the Volta Region revealed by Table 4 is the significant role of user fee revenue in facility financing, especially as a source of funds for non-salary operating costs. Clearly, both government and mission health facilities depend on user fees in order to sustain service delivery. This has become increasingly true in recent years. Budget allocations for non-salary operating expenses (referred to as Financial Encumbrances, or FEs) dropped by 60% in real terms between 1992 and 1995, a period when overall government allocations for non-staff expenditures were rising. Thus, the important role of user fees as a source of funds reflects, in part, the consequences of government's withdrawal of financial support for the health sector, especially for non-staff inputs.

Data on expenditures by health facilities (Table 5) confirm the important contribution that user fee revenues make to the financial sustainability of service provision. As might be

**Table 4.** Distribution of revenue sources for selected Volta Region health facilities, 1995 ('000 cedis)

| Source | Facility | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 5 health centres[a] | | | 6 MOH hospitals[b] | | | 4 mission hospitals[c] | | |
| | total | % | % non-salary | total | % | % non-salary | total | % | % non-salary |
| GOG[d] salaries | 726 374 | 87.7 | | 1 653 715 | 67.3 | | 655 733 | 45.9 | |
| GOG FEs[e] | 34 496 | 4.2 | 33.7 | 137 028 | 5.6 | 17.1 | 11 511 | 0.8 | 1.5 |
| IGFs | 67 722 | 8.2 | 66.3 | 665 028 | 27.1 | 82.8 | 761 951 | 53.3 | 98.5 |
| Donations | 0 | 0.0 | 0.0 | 1 202 | 0.0 | 0.1 | 0 | 0.0 | |
| TOTAL | 828 592 | | | 2 456 974 | | | 1 429 195 | | |

[a] Includes only those health centres with their own pay rolls which have complete salary data.
[b] Figures not adjusted for missing salary data for three months for one MOH hospital and one month for another. Three MOH hospitals received in-kind donations of equipment (not valued in the table).
[c] Excludes one mission hospital for which there were no data on IGFs in 1995. This hospital received significant cash donations. Only one mission hospital received FEs from government. Receipt of external donor funding by mission hospitals is not reflected in the table.
[d] GOG = Government of Ghana.
[e] FEs = Financial Encumbrances (non-salary recurrent budget allocations).

**Table 5.** Non-salary expenditure sources in selected Volta Region health facilities, 1995 ('000 cedis)

| Source | Facility | | | | | |
|---|---|---|---|---|---|---|
| | 6 health centres | | 6 MOH hospitals[a] | | 4 mission hospitals[b] | |
| | total | % | total | % | total | % |
| GOG FEs | 45 090 | 43.3 | 132 583 | 17.6 | 11 984 | 2.0 |
| IGFs | 59 092 | 56.7 | 619 041 | 82.2 | 579 925 | 94.7 |
| Donations | 0 | 0.0 | 1 202 | 0.2 | 20 434 | 3.3 |
| TOTAL | 104 182 | 100.0 | 752 826 | 100.0 | 612 343 | 100.0 |

[a] Three MOH hospitals received in-kind donations of equipment which are not valued in the table.
[b] Excludes one mission hospital for which there were no data on expenditures out of IGFs for the first half of 1995.

expected, IGFs were used primarily to purchase drugs as part of the Cash-and-Carry system. Based on 1995 data from facilities with complete information, drug purchases accounted for about 79% of IGF expenditures by health centres and 52% of IGF expenditures by the public hospitals. The records of mission hospitals do not allow for a comparable calculation, but the likelihood is that they spend less on drugs as a percentage of their total IGF expenditures because of their greater need to purchase other inputs (given the near-absence of any FEs to these facilities).

### Utilization trends and patterns

Utilization data were collected from the 25 largest facilities in the region, including the 11 hospitals (six public and five mission). Table 6 shows the annual number of total and per capita visits to these facilities from 1989 to 1996. No figures are presented for 1991 and 1992 because of missing data. The table indicates that total utilization during the period 1993–96 is higher than in previous years, but only in 1993 was population coverage as high as it was in 1989. While the figures understate total utilization rates for the region somewhat (because only 14 health centres are included), absolute levels of facility utilization are low, consistent with the pattern generally found throughout Ghana.

The data reveal interesting changes in the pattern of utilization. In particular, by decomposing utilization among the three different types of facilities (i.e. mission hospitals, government hospitals and health centres) as in Figure 1, it becomes apparent that the higher absolute levels of utilization in the 1993–96 period were a consequence of growth in the use of health centres. For these 25 facilities, the share of health centres in total outpatient (OPD) utilization rose from 19% in 1989 to 33% in 1996. During this period, the level of utilization in mission hospitals held roughly constant. Use of government hospitals fell substantially in 1990 and fluctuated at a higher level between 1993 and 1996, though never reaching as high as the 1989 level.

## Discussion

### Fees and exemptions in the broader framework of health care financing

To make an appropriate interpretation of the above findings, it is necessary to place the role of user fees within the broader context of health service financing at the regional level in Ghana. Figure 2, which is representative of all regions of the country, illustrates the flow of funds to health care providers from various public and private sources and shows the role of intermediary institutions with different responsibilities for resource allocation to the providers. The figure also illustrates the different paths by which funds that are earmarked for different purposes (e.g. salaries) flow either directly to providers or are mediated through intermediary institutions. A critical issue in health care financing in Ghana highlighted by this figure is that resources in the system are not fully fungible. The source of funds and the purpose for which the funds are to be used matters, from a managerial perspective. This has several key implications that are relevant for understanding some of the reasons for the above-reported findings on fee and exemption practices:

- There is no legal source of payments to government health workers other than the MOH salary budget.
- Public sector hospital managers can control the use of both

**Table 6.** Annual OPD utilization in 25 health facilities, 1989–96, Volta Region

| Visits | 1989 | 1990 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|
| Total | 286 797 | 255 440 | 316 203 | 292 730 | 302 376 | 319 734 |
| per 1000 population | 180.5 | 157.9 | 185.3 | 168.5 | 171.0 | 177.6 |

Visits per 1000 population are calculated based on a regional population figure of 1.8 million in 1996 and an average annual growth rate of 1.8% for the entire period.

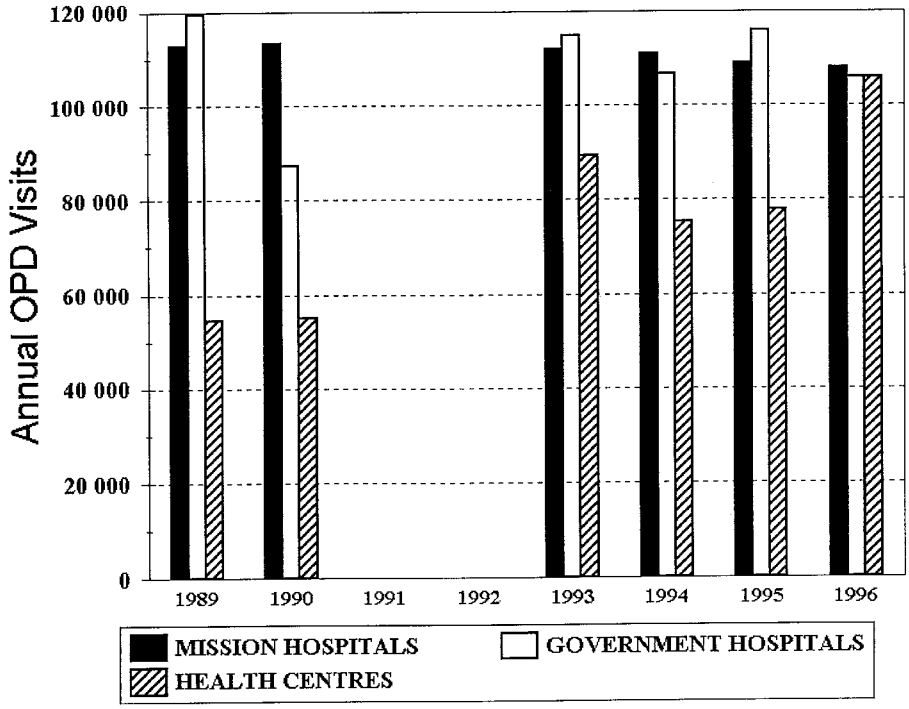


**Figure 1.** Annual utilization by type of facility, 1989–96, Volta Region

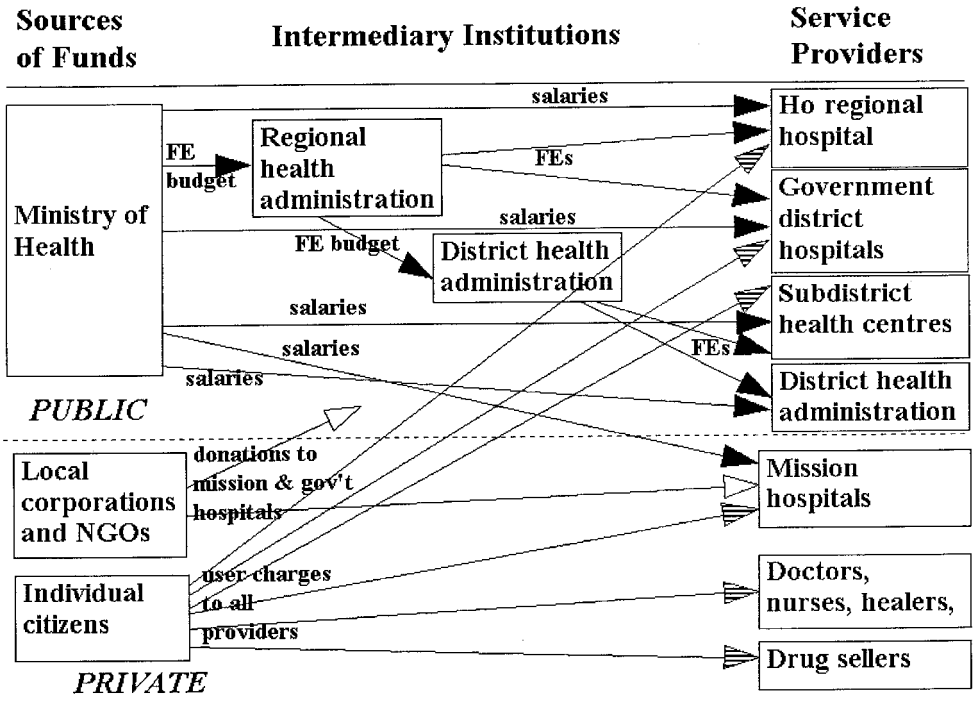


**Figure 2.** Flow of funds to health care providers in the Volta Region, Ghana

their non-salary budget allocations (FEs) and their drug and non-drug legal user fee revenues, but they cannot directly control the magnitude of their FE budget.

- While the DDHS is responsible for allocating the FE budget of health centres, the in-charges of these facilities have the primary authority to allocate user fee revenues.

For facility managers, therefore, user fee revenues are more attractive than FE revenues because (1) managers have greater control over user fees, and (2) as shown above, the magnitude of user fee revenues is far greater. For health workers in the government service, illegal under-the-counter payments are the only option available for supplementing

their incomes. This combination of circumstances has raised concerns that mobilizing fee revenues has become so important to managers and providers that they are not adequately pursuing other objectives, especially equity. The findings of this study suggest that these concerns are justified.

**Fees and utilization: price and quality effects**

Studies from Ghana (Lavy and Germain 1995) and elsewhere (Litvack and Bodart 1993) suggest that the negative utilization effects of user fees can be mitigated (or even turned into positive gains) if the fee revenues are used effectively to purchase perceptible improvements in the quality of care, most typically by increasing the availability of drugs in health facilities. The extent to which the price effect can be mitigated by the quality effect depends, therefore, on the ability of facility managers to use these resources to improve quality and the responsiveness of the population to these quality improvements.

An earlier analysis of user fees in the Volta Region (Waddington and Enyimayew 1990) found that many managers were reluctant to spend these funds (half of the facilities studied had not spent anything from this source) because they believed the mechanisms for doing so were too complicated. Evidence from 1995 suggests that this is no longer a problem, both for IGFs and FE funds over which in-charges have considerable autonomy. Table 7 shows that, in general, the rate at which these revenues were spent was high in 1995. Thus, one might conclude that the willingness, and probably the ability, of managers to make spending decisions has improved considerably during the 1990s.

Unlike Waddington and Enyimayew's previous study of the effects of user fees in the Volta Region (Waddington and Enyimayew 1990), we cannot make a clear link between utilization patterns and trends in the 1989–96 period and changes in user fee policy. The reason is, simply, that there was no discrete point in time at which a policy change was introduced and implemented. Several things did occur, however, which might serve as *possible* explanations of *some* of the changes in utilization that were observed. These include:

- introduction of Cash-and-Carry on a pilot basis in the region during the second and third quarters of 1990 and nationally during 1992;
- Hospital Management Training Initiative, beginning in late 1992;
- increase in the availability of drugs in health facilities.

The introduction of Cash-and-Carry probably had a mixed effect on service use. Utilization may have been reduced as charges for drugs increased and became more widespread. This effect should have been minimal since L.I.1313, introduced in 1985, already indicated that drugs should be sold 'at cost'. However, the Cash-and-Carry system allowed for explicit markups which may have raised prices somewhat more. On the positive side, the availability of drugs has increased. Before the introduction of Cash-and-Carry, most government facilities did not have drugs on a regular basis, and patients were often given prescriptions to go and buy their drugs on the open market. In combination with the Hospital Management Training Initiative, which emphasized quality of care issues, Cash-and-Carry contributed to an improvement in drug availability in government hospitals, from 22% in 1987 to 85% at the end of 1996. In health centres, drug availability was up to 90% in 1996 (VRHA 1996).

The contribution that user fee revenues have made to improved drug availability at health facilities has undoubtedly mitigated the negative utilization effects of the fees themselves, at least in terms of average levels of per capita utilization since 1990. This may have encouraged some 'near-poor' persons to seek care in health facilities that they otherwise might not have sought. Available drugs in public and mission facilities also act as a check upon rises in the price of drugs sold by private chemists. Without more detailed information, however, it is not possible to say how far down the income scale of the population these benefits have reached. We believe that upper and middle income persons are better off because they have access to care that they perceive to be of good quality as a result of the fee system, and that the poor are all but excluded from using health facilities by formal and informal charges. When asked where they believed that upper, middle and lower income persons sought care when they were ill, the main responses in the FGDs could be summarized as follows: the rich usually sought care in hospitals or private clinics, either locally or externally; the middle class either go to the local hospital or health centre, or self-medicate through drugs bought from chemical shops; the poor make do with quacks or herbalists. Despite this, if prices have not been increasing in real terms while the availability of drugs has improved, then there may have been some improvements during the 1990s in the relative access to services provided by the system. This positive conclusion is of little benefit to those living in poverty (perhaps 15–30% of the population), for whom the absolute level of prices is probably sufficient to exclude them from the formal health care system.

**Table 7.** Expenditure of IGF and FE revenues, 1995

| Facility | IGFs | | | FEs | | |
|---|---|---|---|---|---|---|
| | Revenue | Expenditure | % spent | Revenue | Expenditure | % spent |
| 6 health centres | 78 851 967 | 59 091 806 | 74.9 | 39 545 834 | 45 089 948 | 114.0 |
| 6 govt hospitals | 665 027 735 | 619 041 140 | 93.1 | 137 028 462 | 132 582 602 | 96.8 |
| 3 mission hospitals | 484 235 605 | 493 335 377 | 101.9 | 11 511 075 | 11 984 250 | 104.1 |

### An unintended quality effect

The importance of drugs for both attracting patients and generating income for health facilities may be having an unintended negative effect on service quality. As part of this user fee study, an investigation was made into prescribing practices in Volta Region's health facilities. On average, 4.3 drugs are included on each prescription. This is considered to be too high, especially when many prescriptions are for malaria, and the appropriate treatment for this would be two items – an anti-malarial and an analgesic. Indeed, the study found that when malaria alone was the diagnosis, most (86%) of the prescriptions contained between three and five drugs.

The figure of 4.3 drugs per prescription is identical to that found in a study in 1992 shortly after Cash-and-Carry was introduced, and only slightly lower than a figure of 4.5 in a study that took place prior to the introduction of Cash-and-Carry in Volta. While this suggests that the user fee system in Ghana has not increased excess prescribing practices in recent years, it has also not mitigated them.

### Fees and the efficiency of facility utilization patterns

Since fee levels are determined by individual facilities, there may be no differential between health centre and hospital charges for the same service, giving the patient no financial incentive to use the health centre as the point of first contact. The rising share of health centres in total OPD utilization, however, suggests that this potential efficiency problem has not been realized, and addressing the fee structure across types of facilities may not be a priority concern at this time.

### Fees and community perceptions of the health system

The variety of information collected as part of this study, in addition to other sources of information, points to a disturbing situation in Volta that may be representative of Ghana as a whole. This can be summarized in the following, admittedly over-simplified manner. The way that user fees are being implemented has exacerbated the differences between users and non-users of health facilities. The dividing line between the two groups is largely economic; those who use services are those who can afford them, including their ability to accommodate uncertainty in knowing how much a visit or hospitalization will cost. This part of the population is reaping the benefits of increased drug availability in the health facilities and tends to view the system favourably. The rest of the population is largely outside the formal health system. They are very resentful of the way fees have been implemented, in part because of the high prices charged, but more because they believe that increased prices have not been accompanied by improvements in service quality and staff behaviour. Their view of health workers can be described as 'them vs. us'. They view the health system as harsh and unfair. The following statements from the FGDs were typical and reflect this:

> 'Health workers insult us, and when we reply we are sacked from attending the facility.'

> 'You, the poor, is not attended to because of: (1) whom you know/favour; and (2) payment to people to help you receive treatment which the poor person cannot afford.'

> 'Preferential treatment is given to the rich while little or no attention is given to the poor and needy.'

While this is an over-simplification, the problems are real. Despite this, however, virtually everyone believes that user fees are necessary to support the operations of the health system. The problem that people have is that the way user fees have been implemented has undermined their trust in the system and contributed to these negative perceptions. The fundamental issue appears to be transparency. People do not know the amount that they will be charged before they come to facilities. They are made to pay at multiple points of service delivery, often without receiving receipts, raising questions in their minds as to whether their money is just going into private pockets rather than to the maintenance of the services. There appears to be little flexibility in the requirements for deposits and the need to pay in full rather than in installments. And there is virtually no functioning system of exemptions for the poor, effectively excluding them from the use of modern, supervised health care. Thus, user fee policy is likely to continue to be a politically volatile issue for the MOH.

## Conclusions

The findings of this study suggest that the user fee system, as it operates in the Volta Region, has (1) made an essential contribution to the operating revenues of health facilities, and (2) failed to protect access and income for poorer members of the community. Fees have clearly contributed to financial sustainability, but at the expense of equity considerations, as reflected in largely non-functional exemption mechanisms.

Although the current study was not planned as a follow-up to Waddington and Enyimayew's 1990 study (analyzing the effects of fees through 1988), it is interesting to note what seems to have changed, and not changed, in the years since that time. Among their key findings and conclusions were:

(1) Fees were generating significant additional revenues.
(2) Managers were having difficulties using fee revenues to improve quality.
(3) Exemptions did not function very well, and largely benefited health workers. There was a risk that managers' attention was becoming increasingly focused on revenue-raising, at the expense of health, and especially the needs of the population who were non-users of the services.

With respect to each of these issues, the findings of our study lead us to conclude that:

(1) Fees are generating even more revenues than in the earlier period.
(2) The systems and management skills for using fee revenues effectively have greatly improved.
(3) Revenue-raising through fee collections is dominating other concerns of facility managers and health workers, at the expense of the health and health care needs of the poor.

Some changes in the way the system operates are clearly needed to simplify fee collection practices, promote access and income protection for the poor, and make the system more transparent to the population. In terms of policy, this does not necessarily entail creating a new national fee schedule, but it does suggest that the MOH should state publicly whether fees and exemptions are to be determined nationally or locally and what criteria are to be used for defining exemptions. A revised policy should also state the key principles of the system and establish mechanisms for routine monitoring and periodic evaluation of implementation to assess conformity with these principles.

Many of the fee setting and collection practices by health facilities also need to change. At the facility level, there was a desire among the majority of all categories of persons interviewed (patients, in-charges, FGD participants) for a reduction in the number of fee collection points to a single point. The main reasons were that this will reduce uncertainty in the minds of clients, improve transparency and also reduce delays in receiving services. Accurate receipts should also be provided for all payments made. To reduce the effects of uncertainty about prices on care-seeking behaviour, fee levels should be publicized, not only in health facilities but also in communities.

Given the burden that the cost of a health facility visit can place on the finances of a household and the evidence of unnecessary excess prescribing practices, a priority for the attention of decision-makers at all levels of the health system should be the improvement of prescribing practices in order to improve both the health and the economic situation of the population. This requires working on the supply side, in order to change prescribing behaviour, and working on the demand side, in order to change popular perceptions about what constitutes good health care.

Finally, there is a case to be made for increasing public funding of the health facilities, so long as this is done in a targeted way that promotes access and income protection for the poor. This recommendation is made in the light of international experience about the limited value of exemptions in protecting the poor. While exemption mechanisms in Volta could clearly function *less badly*, there is no reason to think that they could function *well*, especially if the requirement to grant exemptions is an 'unfunded mandate' placed on facility managers. New approaches are needed to promote active 'purchasing' of services on behalf of poorer persons. The possibility of establishing small-scale risk-pooling mechanisms could be explored, with government funds used to subsidize the participation of poor persons.

## Endnotes

[1] Between September 1991 and September 1992, the mean annual household expenditure (a close proxy for income and standard of living) and mean annual per capita expenditure for the Volta region were 956 464 cedis and 215 060 cedis respectively, the closest of any region in Ghana to the national averages which were 963 038 and 214 992 cedis (World Bank 1997b). In 1992, US$1.00 = ¢437 (¢ = cedis).

[2] We are grateful to Ms Shiyan Chao and colleagues at the World Bank who supported the study by disaggregating the national expenditure data by region and by relative standard of living categories.

[3] The amounts that facility in-charges reported as their registration/consultation fees were similarly high (¢500 at the regional hospital and a median of ¢400 for the other government facilities).

[4] According to a World Bank study (1995), the percentage of Ghana's total population living in poverty in 1992 was either about 31% or 15%, depending on the definition of the poverty line.

## References


Adams I. 1996. Hospital Charges Available to Patients in Public Health Facilities. Ghana, Ministry of Health (Unpublished).

Akin J, Birdsall N, de Ferranti D. 1987. *Financing Health Services in Developing Countries: An Agenda for Reform*. A World Bank Policy Study. Washington, DC: World Bank.

Bennett S, Ngalande-Banda E. 1994. Public and Private Roles in Health: A Review and Analysis of Experience in Sub-Saharan Africa. SHS Paper Number 6, *Current Concerns* Series. WHO/SHS/CC/94.1. Geneva: World Health Organization, Division of Analysis, Research and Assessment.

Collins DH, Quick JD, Musau SN, Kraushaar DL. 1996. *Health Financing Reform in Kenya: The Fall and Rise of Cost Sharing, 1989–94*. Stubbs Monograph Series Number 1. Boston: Management Sciences for Health.

Creese A, Kutzin J. 1997. Lessons from Cost-Recovery in Health. In: Colclough C (ed). *Marketizing Education and Health in Developing Countries*. Oxford: Clarendon Press. Also available as Discussion Paper No.2. (1995), Forum on Health Sector Reform. Geneva: World Health Organization, Division of Analysis, Research and Assessment.

Creese AL. 1991. User Charges for Health Care: A Review of Recent Experience. *Health Policy and Planning* **6**(4): 309–19. Also available as SHS Paper 1, *Current Concerns* Series. Geneva: World Health Organization, Division of Analysis, Research and Assessment.

Gertler P, van der Gaag J. 1990. *The Willingness to Pay for Medical Care*. Baltimore and London: Johns Hopkins University Press.

Ghana Statistical Service. 1995. *The Pattern of Poverty in Ghana: 1988–1992*. A study based on the Ghana Living Standards Survey. November. Accra.

Gilson L. 1997. The Lessons of User Fee Experience in Africa. *Health Policy and Planning* **12**(4): 273–85.

Gilson L. 1988. *Government Health Care Charges: Is Equity Being Abandoned?* EPC Publication 15. London School of Hygiene and Tropical Medicine.

Gilson L, Russell S, Buse K. 1995. The Political Economy of User Fees with Targeting: Developing Equitable Health Financing Policy. *Journal of International Development* **7**(3): 369–401.

Ho Government Hospital. 1995. Revenue Mobilisation, Ho Government Hospital. Ho, Ghana.

Kutzin J. 1995. Experience with Organizational and Financing Reform of the Health Sector. SHS Paper Number 8, *Current Concerns* Series. WHO/SHS/CC/94.3. Geneva: World Health Organization, Division of Analysis, Research and Assessment.

Lavy V, Germain J-M. 1995. Tradeoffs in Cost, Quality and Accessibility in Utilization of Health Facilities: Insights from Ghana. In: Shaw RP, Ainsworth M (eds). *Financing Health Services through User Fees and Insurance: Case Studies from Sub-Saharan Africa*. World Bank Discussion Paper 294. Washington, DC.

Litvack JI, Bodart C. 1993. User Fees and Improved Quality of Health Care Equals Improved Access: Results of a Field Experiment in Cameroon. *Social Science and Medicine* **37**(3): 369–83.

McPake B, Hanson K, Mills A. 1993. Community Financing of Health Care in Africa: An Evaluation of the Bamako Initiative. *Social Science and Medicine* **36**(11): 1383–95.

Parker D, Knippenberg R. 1991. Community Cost-Sharing and

Participation: A Review of the Issues. Bamako Initiative Technical Report Series Number 9. New York: UNICEF.
Vogel RJ. 1991. Cost Recovery in the Health-Care Sector in Sub-Saharan Africa. *International Journal of Health Planning and Management* **6**: 167–91.
VRHA (Volta Regional Health Administration). 1996. Annual Report. Ho, Ghana.
Waddington C, Enyimayew KA. 1990. A Price to Pay, Part 2: The Impact of User Charges in the Volta Region of Ghana. *International Journal of Health Planning and Management* **5**(4): 287–312.
World Bank. 1995. *Ghana: Poverty Past, Present and Future*. Report No. 14504-GH. Population and Human Resources Division, West Central Africa Department. Washington, DC.
World Bank. 1997a. *Staff Appraisal Report: Republic of Ghana, Health Sector Support Program*. Report No. 16467-GH. Human Development III Division, Ghana Country Department, Africa Region. Washington, DC.
World Bank. 1997b. Re-analysis of the 1991–92 Ghana Living Standards Survey. Unpublished.

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