
National fee exemption schemes for deliveries: comparing the recent experiences of Ghana and Senegal

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Abstract

Continuing high maternal mortality ratios, especially in Africa, and high discrepancies between richer and poorer households in relation to access to maternal health care and maternal health status have focussed attention on the importance of reducing financial barriers to skilled care.

This article compares the findings of two studies on national policies exempting women from user fees for deliveries, conducted in Ghana in 2005-6 and in Senegal in 2006-7. The evaluations used a combination of research methods, including key informant interviews, household surveys, financial flows tracking, health worker incentive surveys, confidential enquiry, clinical case note record extraction, community level interviews and focus group discussions.

The detailed findings from each evaluation are presented, followed by the broad lessons learnt from these similar (but not identical) policies. The policies shared goals, and both were implemented in poorer regions initially but then scaled up, using national resources. They demonstrate the potential of fee exemption policies to increase utilisation. The cost per *additional* assisted delivery was \$62 (average) in Ghana and \$21 (normal delivery) and \$467 (caesarean section) in Senegal. There was also some evidence of reductions in inequalities of access.

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However, despite reducing direct costs for women (from \$195 to \$153 for caesareans and from \$42 to \$34 for normal deliveries in Ghana), in neither country were delivery fees costs reduced to zero. This was linked to a number of important factors, including inadequate budgets (in Ghana) and failure to adequately reimburse lower level providers (in Senegal). The studies also highlight the need to address quality of care and geographical access issues alongside fee exemption.

A number of implementation lessons can be learnt, including the need for more robust analysis of bottlenecks; less haste in scaling up; establishing a better policy consensus; more detailed planning of implementation; thinking through the impact of a policy on incentives at facility and individual health worker level; and ensuring strong institutional leadership.

Keywords: Maternal health, deliveries, fee exemption, Ghana, Senegal.

Introduction

Millennium Development Goal 5 (MDG 5) set a target of reducing maternal mortality ratios (MMR) by three-quarters between 1990 and 2015 (UN 2005). So far, relatively little progress has been made. A recent study of trends in MMR from 1990 to 2005 found a significant decrease of 2.5% globally, but that of sub-Saharan Africa fell by only 1.8% from 921 per 100,000 to 905 per 100,000 in the same reference period (Hill *et al.* 2007).

In addition to MMR, the main indicator for monitoring MDG 5 is the proportion of women receiving skilled care (generally defined as provided by a doctor, midwife or nurse) at their delivery. This indicator is tracked more closely as reliable data on maternal mortality is scarce. The average for all developing countries was 42% in 1990, rising to 52% in 2000. However, the average for sub-Saharan Africa was 40% in 1990, rising to just 43% in 2000 (WHO 2006). Some countries, like Ethiopia, have rates as low as 10%.

There are also marked inequalities between rural and urban areas and between richer and poorer households, both in terms of utilisation and outcomes (Kunst & Houweling 2001). Analysis of Demographic and Health Survey (DHS) data from more than 50 developing countries showed that an average of 34% of deliveries in the lowest quintile households were attended by skilled personnel, as compared to 84% of the highest quintile. This discrepancy was greater than for any other basic maternal and child health

interventions (Gwatkin *et al.* 2005).

Access to delivery by caesarean section is also directly affected by household wealth. In a recent study in Indonesia, less than 1% of the poor deliver by caesarean section, compared to 4% of the rich (Impact 2007). Another study of DHS data for 42 developing countries showed that caesarean section rates were extremely low among the very poor: they were below 1% for the poorest 20% of the population in 20 countries and below 1% for 80% of the population in six countries (Ronsmans *et al.* 2006). Only in five countries did the caesarean section rate exceed 5% amongst the very poor.

In this context of continuing high maternal mortality rates, slow progress on raising the proportion of women receiving skilled attendance at delivery and documented inequalities in access to care, a number of countries have been experimenting with fee exemption as a strategy to address financial barriers, particularly for the poor. In addition to maternal health and equity goals, these policies can potentially contribute to poverty reduction strategies by eliminating the need for catastrophically high payments at household level. This chapter discusses the recent experience of Ghana and Senegal in introducing such delivery fee exemption schemes. They are described in turn, followed by a discussion section which assesses their overall contribution to increasing access to care and provides a synthesis of themes emerging from the two case studies.

Methods

The data for the case studies are drawn from evaluations conducted by Impact in the two countries (Table 1). The evaluation in Ghana included a number of components, including key informant interviews for managers; a health worker incentive survey; financial flows tracking; two household surveys looking at utilisation and costs changes; focus group discussions and in-depth interviews amongst providers and communities; clinical case notes extraction in health centres and hospitals; and confidential enquiry techniques to look at the quality of care changes (Impact 2005). These tools were applied in 12 focal districts of two regions (Central and Volta).

In Senegal, a more limited set of research tools was applied. This included key informant interviews; community focus group discussions; financial flows tracking; and analysis of changes in clinical indicators (MSPM

et al. 2006). In Senegal, data was gathered from all of the five regions which had implemented the policy.

Table 1. Summary of research methods (Ghana and Senegal delivery exemption evaluations)

Research component	Description of tool	Variables examined	Sample size
Ghana evaluation			
Key informant interviews	Semi-structured interviews with stakeholders ranging from national level decision-makers and donors down to facility managers	Perceptions of policy, its implementation, successes, failures and recommendations for improvements	65 key informants, at national level, in two regions and 12 districts
Health worker incentive survey	Structured questionnaire (with some open questions at the end on motivation and views on policy)	Self-reported income, working hours, number of clients, and changes to these variables over the period of policy implementation, along with views on impact of policy	374 respondents in 12 districts (21 doctors; 11 medical assistants; 117 public midwives; 16 private midwives; 50 nurses; 108 trained TBAs; 51 untrained TBAs)
Financial flows tracking	Set of forms used to extract financial information from national down to facility level	Total expenditure; unit costs; adequacy of financing; allocation by area and facility type; timeliness of transfers; impact on facilities	National; two regions; 12 districts; 11 facilities (covering different types and sectors)
Utilisation survey	Structured questionnaire administered to women of reproductive age (15 - 49 years)	Personal characteristics, place of delivery, person attending delivery	2,922 respondents from 100 enumeration areas in 12 districts in 2 regions

Research component	Description of tool	Variables examined	Sample size
Household cost survey	Structured questionnaire administered to women who had had 1) vaginal delivery at a health facility; 2) vaginal delivery at home with a traditional birth attendant (TBA); 3) caesarean section	Out-of-pocket payment for delivery care: a) payment to delivery service provider (drugs, supplies, inpatient stay; b) items purchased outside health facility; c) transportation costs; d) amount spent on gifts e) other costs incurred in the course of the delivery	1,500 respondents from Volta (750 before and 750 after the introduction of the exemption); 750 respondents from Central (all from the period of implementation)
Focus group discussions/ Provider and community in-depth interviews	Unstructured discussions at community level	Views of policy, and its impact on barriers to utilisation, and on costs and quality of care	100 interviews and group discussions in 8 communities in 2 regions
Clinical case note extraction	Structured data extraction from clinical records	1) Quality of clinical care in hospitals: best practice, timing and vigilance for management of haemorrhage, pregnancy-induced hypertension and emergency caesarean sections 2) Quality of care in health centres: scoring for selected activities of labour and delivery care	1) 2 regions; 2 regional hospitals; 12 district hospitals 2) 49 health centres; 12 districts
Confidential enquiry	Review of records/case notes and completion of maternal death assessment form by 8-member panel	Panel opinion of adverse and favourable events for the following: woman/patient and community factors; administrative/health system factors; clinical care provided; degree of availability of information	2 regional hospitals; 12 district hospitals; 20 cases of maternal deaths

Senegal evaluation			
Key informant interviews	Semi-structured interviews with stakeholders ranging from national level decision-makers and donors down to facility managers	Perceptions of policy, its implementation, successes, failures and recommendations for improvements	54 key informants from five regions (10 national; 12 regional; 17 district; 15 facilities)
Financial flows tracking	Set of forms used to extract financial and activity information from national down to facility level	Total expenditure; unit costs; adequacy of financing; allocation by area and facility type; timeliness of transfers; impact on facilities; costing of services; changes to activities and staffing at facility level	National; five regions; 6 districts; 10 health posts (all public)
Focus group discussions/in-depth interviews	Unstructured discussions at community level	Views of policy, and its impact on barriers to utilisation, and on costs and quality of care	Qualitative research conducted in 4 districts. Included 4 in-depth interviews on policy with young women; 4 in-depth interviews on gender; and 10 focus group discussions with young women, elderly women and men. Total of 106 participants
Clinical record extraction	Structured questionnaire applied to clinical records	Changes in indicators of absolute need for emergency obstetric interventions	761 major obstetric interventions

The policy in Ghana

CONTEXT

Although community-based survey data is lacking, institutional data indicates that Ghana has persistent unacceptably high maternal mortality ratios, estimated to range from 214 to 800 per 100,000 live births (Ministry of Health 2004). Furthermore, data by poverty quintile on deliveries with health professionals indicates that while the trend has been for increasing

utilisation in the two richest groups (84, 87 and 91% for 1993, 1998 and 2003, respectively), it has been decreasing or stagnant in the poorest group throughout the 10-year period (24, 18 and 17-18% for 1993, 1998 and 2003, respectively) (Graham 2004).

Health financing in Ghana has relied heavily on user fees to cover recurrent costs at health facility level (salaries and investment costs are financed from the public budget, along with small subsidies towards administrative and services delivery costs). User fees constitute 12% of total health sector funding (public sector), but the proportion is much more significant at facility level (Dubbledam *et al.* 2007). However, there is a long history of exempting certain categories of users or services. Typically, these exemption categories have been poorly funded and implemented (Garshong *et al.* 2001; Nyongator *et al.* 1997).

While costing studies have been carried out for delivery services in Ghana (Levin 1999), there is no research showing specific affordability problems for users of maternal or delivery services. However, general situation analyses indicate that financial barriers are important bars to service uptake (along with distance, transport, cultural barriers and other factors) (UNFPA & Ministry of Health 2004).

PROCESS OF IMPLEMENTATION

The Government of Ghana introduced the policy of exempting users from delivery fees in September 2003 in the four most deprived regions of the country (Northern, Upper East, Upper West and Central), and in April 2005 it was extended to Ghana's remaining six regions. The aim of the policy of free delivery care was to reduce the financial barriers to using maternity services. It was expected that this would lead to a reduction in maternal and perinatal mortality, as well as contribute to poverty reduction (Ministry of Health 2004). In 2008 the delivery exemptions policy was formally ended, with the intention of providing cover in future for pregnant women through the National Health Insurance System.

Description of the scheme

The exemptions policy was funded through Highly Indebted Poor Country (HIPC) debt relief funds, which were channelled to the districts to reimburse both private and public facilities according to the number of deliveries performed each month. A tariff was approved by the Ministry of Health

which set reimbursement rates according to the type of delivery (such as 'normal', 'assisted delivery', or 'caesarean section') and the facility type, with mission and private facilities being reimbursed at a higher rate, in recognition of the fact that they received fewer public subsidies (Ministry of Health 2004). The tariff presented upper limits, with mission facilities being reimbursed at 20%-50% over the public rate (depending on the procedure) and private facilities at 50-88% higher rates.

All women were eligible for free delivery services and the exemption package covered the following:

- all normal deliveries;
- management of all assisted deliveries, including caesarean section; and
- management of medical and surgical complications arising out of deliveries, including the repair of vesico-vaginal and recto-vaginal fistulae.

The guidelines did not specify which household costs were to be covered by the exemptions but the general interpretation was that all facility-based costs should be included.

Management and monitoring

The institutional arrangements stipulated that both the funds and the implementation of the policy were decentralised to the district level and involved close collaboration between the health sector and the District Assembly, which would act as the fund manager. The health institution granted the exemption, and the District Health Administration collected claims from the facilities to present to the District Assembly.

With regard to monitoring and evaluation, the District Health Directorates were asked to prepare and submit quarterly technical and financial reports on implementation through the Regional Directorate to the Ghana Health Service (GHS) headquarters, with copies sent to the Ministry of Health (MOH) headquarters (Ministry of Health 2004).

EVALUATION FINDINGS

Utilisation of delivery services

The household survey showed a significant increase in facility deliveries and in deliveries with a skilled attendant (Penfold *et al.* 2007). In Central Region, the increase in facility deliveries during the period of policy implementation

was 12%, compared to 5% in Volta Region. The odds ratio was 1.83 for Central ($p < 0.001$) and 1.34 for Volta ($p < 0.05$). The lesser effect in Volta can be attributed to the shorter period of implementation at the time of the survey and the more rural nature of the population (which tends to increase non-facility costs of accessing care).

The increase in Central occurred mainly in health centres (increasing from 13.7% to 22.3% of deliveries), and deliveries were mainly attended by midwives (increasing from 49.0% to 59.7%). However, both before and after the policy, hospitals were the most commonly used health facility in both regions.

Quality of care

The study of the effects of the policy on institutional maternal deaths found decreases in delivery-related MMR in both regions, but these were not significant (Bosu *et al.* 2007). No significant changes in the duration of admission and cause of death were found. It concluded that institutional mortality had not been affected by the policy during its first phase of implementation.

At health centre level, the study found that quality of care (QOC) assessment scores were generally sub-optimal and well below the maximum attainable score of 44 (Deganus *et al.* 2006). Higher mean QOC scores were recorded in the Central region when compared with the Volta region for before and after the policy intervention. In the Central region, there was no significant change in the mean QOC scores recorded after the intervention, whilst Volta Region had a significant decrease in mean QOC scores. In terms of foetal outcomes, no significant changes occurred in stillbirth rates after the implementation of the policy in the two regions for the selected one-month period of records reviewed. Comparison of quality of care by type of facility indicated a generally higher quality of care in government-owned facilities as compared to privately owned facilities in both regions. A look at scores obtained for the five care components of labour and delivery care revealed that, when compared with their respective maximum expected scores, the lowest scores were obtained for first stage labour, monitoring with partograph, and for immediate post partum monitoring of mother and baby in both regions.

The concurrent study of quality of care in hospitals using a confidential

enquiry technique (Tornui *et al.* 2007) found that the level of clinical care provided after the introduction of the fee exemption policy was unchanged but poor, although women with complications were arriving at hospital earlier since the introduction of the policy.

Health systems factors, such as the availability of consumables, basic equipment and midwifery staff for providing comprehensive emergency obstetric care were found to be generally good, and there was no evidence of referral delays contributing to deaths. The study concluded that the competence and ability of doctors to deal with obstetric emergencies required attention.

Benefits for households

The household survey found a significant decrease in mean delivery fees for caesarean sections and normal deliveries after the policy was introduced (Asante *et al.* 2007). The decrease was highest for caesarean sections (28%), compared to normal deliveries (26%). Home or traditional birth attendant-assisted delivery costs also fell, though by a smaller proportion (14%), which was not significant.

Delivery fees as a proportion of total OOP payments fell after the policy was implemented. They varied from 26% (for home/TBA deliveries in Volta after policy implementation) to 81% (for caesarean sections in Volta, prior to implementation).

Qualitative research at community level found that there was high general awareness but a lack of detailed understanding of which cost components were covered by the policy (Arhinful *et al.* 2006). General support was high, but there were concerns amongst TBAs, whose business had been affected by the policy.

Impact on providers

The financial flows analysis estimated that the funding was more or less adequate during the first year, when the policy was restricted to four regions, but that when it was expanded nationally, during the second year, it was severely under-funded (by nearly two-thirds) (Witter *et al.* 2006). Consequently, the scheme's coverage was only partial and in many areas the scheme had to be suspended, pending further release of funds. Facility revenue increased while funds were available to pay for the scheme. However

many facilities later built up debts, having provided free delivery services for which they had yet to be reimbursed.

The health worker incentives survey found that workload had increased for health workers over the period of policy implementation, but that this had been roughly matched by pay and allowance increases (which were unrelated to the policy, but happened concurrently) (Witter *et al.* 2007)). Attitudes of health workers to the policy were broadly positive, but with concerns over its sustainability. Similar observations were made by managers.

Equity

Both regions showed trends towards increased use of health facilities with increasing education levels amongst mothers or rising household wealth, and these were found to be significant ($p < 0.001$) (Penfold *et al.* 2007). However there was some evidence of decreased inequalities over the period. The greatest increase in Central was found amongst women of no education (16%), and from the second poorest quintile (20%). In Volta Region, the largest increase was among the poorest fifth of the population, where the proportion of deliveries in health facilities nearly doubled from 12% to 24% after the implementation of fee exemption. Stratified by education, women with primary schooling in Volta increased the most (10%).

The relative difference in the level of delivery service use between the most and least educated women decreased in Central region after fee exemption implementation (-11%) yet increased in Volta region (9%). The difference in the level of delivery service use between the poorest and richest women was unchanged in Central region after fee exemption implementation but decreased in Volta region (-7%).

In terms of household payments, the incidence of catastrophic OOP was found to fall (Asante *et al.* 2007). For the poorest quintile, the proportion paying more than 2.5% of their income dropped from 55% before the policy to 46% after. Using the poverty head count, the proportion of households falling into extreme poverty as a result of their delivery payments reduced from 2.5% before the policy to 1.3% after (although this pattern did not hold for the poor). However, the proportionate decrease in OOP payments was greater for the richest households (22%), compared to the poorest (13%).

COSTS OF POLICY

Monitoring of the scheme was found to be particularly poor, so that estimating average costs for different regions and for different types of delivery was not possible. However, the financial analysis found that the average cost paid by the scheme per delivery for Central Region for 2005 was \$22 (Witter *et al.* 2006).

IMPLEMENTATION LESSONS LEARNED

The Ghana case study suggests a number of lessons in relation to implementation of exemption schemes. Many of these will be relevant as the shift towards coverage by national health insurance takes place. These include:

- The need for careful evaluation before scaling up - the policy was scaled up nationally, within one year, without careful consideration of the results of the first stage, and without ensuring adequate resources for the scale-up.
- The importance of clear institutional ownership - the poor management and monitoring of the scheme may well reflect the many bodies involved in implementation and the lack of clear leadership by any one unit (Witter & Adjei 2007).
- The importance of clear guidelines and good communication. Even though the policy in Ghana was relatively simple to explain, there were still differences of interpretation across regions and at community level.
- The need to identify a sustainable source of funding. By definition, exemption schemes require an external funding source, which should be reliable for the expected lifetime of the policy. In the case of Ghana, the HIPC funds, while available nationally, were subject to annual bids by sectoral ministries. Problems were caused by the failure of the MoH to secure any HIPC funding in 2005.
- The importance of implementing monitoring and evaluation guidelines. In Ghana, clear guidelines were issued but never followed up.

The policy in Senegal

CONTEXT

The latest Demographic and Health Survey (DHS) estimates for MMR in Senegal were 401 women per 100,000 births (MSPM 2005), with considerable internal disparities, from 123 per 100,000 births in Dakar to 743 per 100,000 in Tambacounda. However, WHO estimates were higher, with an MMR of 980 (range: 590-1,400) (WHO *et al.* 2007). This gives a lifetime risk of dying of maternal causes of 1 in 21, which is worse than the African average of 1 in 22.

Skilled attendance was 52% nationally (Ndiaye & Ayad 2006). This was an increase from 47% in the last DHS, but remained below the target of 60% for 2005 (and 90% for 2015). In rural areas, 33% received skilled attendance, while in urban areas it was 85%. Disaggregated by quintile, only 20% of the poorest delivered with a skilled attendant, compared to 89% of the richest.

Caesarean section rates were 3.3% nationally, according to the latest DHS figures, but with wide regional and socio-economic variations. In Dakar, more than 10% of deliveries were caesarean sections (MSPM 2005; Ndiaye & Ayad 2006), while in Matam the figure was 0.5%. Urban areas overall reported 6.6%, compared to 1.4% for rural areas. Rates rose with economic status and educational level. Only 0.7% of deliveries to households in the poorest quintile were by caesarean section, while the figure rose to 7% for the top quintile. Caesarean section rates based on institutional calculations at public facilities were much lower than the DHS figures (1.5% nationally, based on numbers reported relative to expected deliveries (Hygea & Acodeess 2005)).

Senegal relies heavily on private contributions to health care costs, with public sources contributing an estimated 40% of the total (World Health Organization 2007). User fees at health facility level are paid to the Health Committees and used to pay for community staff, running costs and medicines. Some community health insurance funds exist to protect households against health care costs, but most private payments (94.5%) are out-of-pocket. Low ability to pay for deliveries is believed to be one factor restricting access to care; others include long distances to facilities, lack of trained staff, lack of equipment, concentration of infrastructure in urban

areas, poor roads and lack of transport (Hygea & Acodess 2005).

PROCESS OF IMPLEMENTATION

The policy of free deliveries and caesarean sections (PFDC) was introduced at the start of 2005 in five regions of Senegal, chosen on the basis of being relatively more deprived. The PFDC was intended to reduce the financial barriers to using maternity services and to increase the number of facility-based deliveries. This was assumed to lead to a reduction in maternal and perinatal mortality. One year later, the policy was extended to the regional hospitals in all regions of the country, with the exception of Dakar.

Description of the scheme

The package covers all women for normal deliveries at health post (HP) and health centre (HC1) level and all caesarean sections at district hospital (HCII) and regional hospital (RH) level. However, no official guidelines were made available to evaluators specifying which cost components were included or excluded from the package.

The funding mechanism for normal deliveries took the form of kits with basic supplies, which were delivered via the National Medical Stores. These replaced the user payments at point of delivery, at least in theory. For the regional hospitals, 55,000 FCFA (\$110 at the time of evaluation) was paid per caesarean section - some in advance, according to expected numbers, but if that is exceeded, the difference is repaid retrospectively. For the caesarean sections carried out in HCII, kits, rather than money, were provided.

The participating institutions were all in the public sector, but did not include the *Cases de Santé*, which are grassroots level structures providing normal deliveries by *Matrones*⁴. The private and traditional sectors were not included.

Management and monitoring

At the national level, a coordinating committee was established to oversee the policy in the Ministry of Health, including representatives from the directorates of primary health care, planning, finance, reproductive health, hospitals and districts structures. Initially, the directorate of primary health

⁴ *Matrones* are assistants to midwives, recruited through the community and given 3-6 months' training.

care was leading the implementation process, but that role passed to the reproductive health directorate at the beginning of 2006. Forms were developed and sensitisation of stakeholders carried out at the local level, working through Health Committees and Development Committees at regional and local levels. Districts and hospitals were meant to fill in monthly records and provide partographs as evidence of services provided.

EVALUATION FINDINGS

Utilisation

Analysis of utilisation changes in Senegal was hampered by (1) lack of resources to conduct a household survey and (2) a strike affecting the collection of national health statistics, which meant that prior trends and trends in non-implementing regions were not available to compare with the findings from facilities which were visited. However, facility data from the five research regions showed an increase in facility deliveries from 40 to 44% over 2004-5 (which is highly significant - $p < 0.0001$), and an increase in caesarean section rates from 4.2% in 2004 to 5.6% in 2005 (which is highly significant - $p < 0.0001$). These indicate that the policy may have had some positive impact on utilisation, though larger data sets and more comparative national data are needed to strengthen this analysis.

Quality of care

There was no tool specifically to measure changes in the quality of care in Senegal, but fresh stillbirth rates give some indication as to treatment of obstetric emergencies. The increase in deliveries following the PFDC was not coupled with deterioration in quality, which is reflected in the fact that the fresh stillborn rate did not increase (3.3% in 2004; 3.1% in 2005). In addition, follow up of fresh stillbirths to women having caesarean sections found significant reductions in those districts for which data was available.

Focus group discussions and in-depth interviews found that perceived quality of care had not changed on the whole, although there were divergent views about how acceptable it had been before the policy (MSPM 2007). These views are consistent with management key informants: six out of seven key informants at district level thought that quality of care was unaffected. It did not suffer a reduction, but nor did the policy guarantee it, given the shortages of kits and also of staff.

Benefits for households

The focus group discussions and in-depth interviews with a range of participants in four regions highlighted not only the degree to which financial problems are barriers to accessing skilled care at delivery, but also the challenges faced by policies to reduce them. Awareness of the PFDC was patchy, and there was little clarity of understanding of what the policy meant in practice. This mirrors inconsistencies between facilities, where different components appeared to be charged for, either because of genuine shortages (e.g. of kits) or because facilities are being opportunistic about protecting their income. Consequently, the real cost of care had not reduced significantly for most. Although the accounts are mixed, in general people reported still paying for many cost items which should be included, such as gloves, drugs, accommodation, and ticket costs, as well as those known to be excluded, such as transport and payments for complications.

An exception to this was caesarean sections in some areas, where fully free services were reported to have been received. This may reflect the reimbursement structure of the policy. However, there were regional variations. Lower levels of funding to Ziguinchor, at least initially, meant that the free caesarean section component was implemented selectively in that region, with staff allocating it to women judged unable to pay (as opposed to universally, as intended in the policy).

It was clear that for households the major care costs were transport for referral (for emergencies) and drug costs, neither of which was adequately covered. Where costs were waived for normal deliveries, this often only indicated the ticket cost, which was worth \$2-\$4. Meanwhile, participants reported increases in other costs, notably drugs. Whether these rises were incidental or linked to the policy (facilities recouping costs by increasing drug prices) was not clear, but the net effect may have negated the benefits of the policy or even exacerbated pre-existing problems of affordability.

Impact on providers

Comparison of the value of the transfers to providers suggested that the regional hospitals had gained from the policy. They now received, in cash, some \$61 more than it cost them to provide a caesarean section and \$77 more than they used to charge for them before the scheme (Witter & Mbengue 2007). The value of these transfers may however have been eroded

if reimbursements were made late in the financial year, as appears to have been the case.

For the HCI and the HP, however, no financial transfers were made - kits were supplied which provided some of the materials needed for normal deliveries. Although the value of the kit (the cost of supplying it) was similar to the cost of providing an average normal delivery, the health facilities were supposed to provide services for free and lost the ticket revenue which used to cover labour costs. In addition, there were shortfalls and delays in the arrival of kits, particularly in the first year, and some areas received far less support than others.

In relation to actual numbers of deliveries carried out nationally, there were 26,000 too few normal delivery kits distributed in 2005 (full-year figures for 2006 are not available, but partial data suggests a continuing but smaller deficit for that year). For the caesarean sections, however, more funds were sent out than were needed - an over-coverage of 18% for 2005 and 30% for 2006.

At district and sub-district facilities (HCI and HP), 4-15% of user fee revenue was estimated to have been lost as a result of this policy. However, year-end financial balances remained positive for this group, or even improved in some cases, and there was no evidence that payments to community staff had reduced. It would seem then that facilities had been able to offset or manage the losses - in some cases there was evidence that this was done by increasing charges for other services. Records suggested that some HP continued to charge for delivery services, either throughout the period or during those months when they had run out of or not yet received kits. Key informants at district and sub-district level reported that they coped by increasing tariffs for other services, cross-subsidising from other sources, reducing investment, and soliciting more local government support.

In relation to individual health workers, those most threatened financially were the community staff, including the *matrones*, who were paid a proportion of delivery fee revenues. However, key informant interviews indicated that facilities had been able to compensate them from general revenues.

The increase in deliveries in the two regions for which data was available led to a 12% increase in workload per midwife, but much of the impact in terms of workload may have been on the *matrones*, for whom we have no figures. The productivity of staff was very varied between facilities, even of

the same type. Within the regional hospitals, one saw increases in average workloads from 27 to 31 deliveries per midwife per month, while the other saw a decline from 11 to 8.

At district level, the range in deliveries per midwife per month was from 12 to 125. The average increased from 53 per month in 2004 to 73 in 2005 (an increase of 33%). Midwives at the district level faced the highest workload, in terms of deliveries, but average deliveries per midwife per month were higher for all levels of facility in Senegal, compared to Ghana (Witter *et al.* 2007).

Most HP did not have a midwife (deliveries were carried out by the nurse in charge - usually a man - with the assistance of *matrones*). Where a midwife was employed, the ratio of deliveries to midwife was low, compared with the health centres.

The *Cases de Santé* (community health centres) and TBAs are likely to have been negatively affected by the policy, as they were excluded from the subsidies, but in remote areas where they remained the main provider, their business may have been protected by the inaccessibility of public facilities.

Equity

In relation to geographical equity between regions and districts, the evaluation found that there were big variations in allocations per capita of funds and kits.

Focus group discussions in the five regions suggested that while the PFDC should in principle benefit the poor the most, in practice it relies on access to facilities, which many in more remote areas lack.

The majority of key informants at facility level reported that there was no change for the poor under the PFDC, as they had already been receiving free drugs previously, which did not change under the scheme. This suggests that both before and after, the poor were making some form of contribution. Only one key informant reported that they had benefited as now the benefits went beyond free drugs. Estimates at HP level of the proportion of indigents ranged from 0% to 25%, with most estimating that they represented around 5% of clients.

COSTS OF THE POLICY

The average payment by the PFDC per caesarean section at regional hospital level was \$137. For caesarean section kits, the cost was \$45. Normal delivery kits were planned at \$11, but in practice \$6 was spent on them. The surplus was to be transferred to the health facilities to compensate for some of the other costs (such as time and overheads), but this never occurred as there was no mechanism for this transfer of funds.

The overall expenditure on the policy in 2005 was equivalent to 10% of the national health budget for transfers to the regions (and 4% of national health expenditure from MoH to the regions) for the year. This is clearly a significant expenditure, and one which was funded from national resources. However, the national budget is only one component of public funding for health care in Senegal - public funding at district level was found to be significantly higher than the national budget per capita, indicating the importance of local sources, such as payments by local authorities, in addition to user contributions.

IMPLEMENTATION LESSONS LEARNED

- It is important to build consensus at national level about longer term financing approaches and cost-sharing policies in order to establish support for effective exemption policies for particular high-priority services.
- The support mechanism for the lower level facilities should be reviewed: it is not currently able to compensate for lost revenue, nor is it flexible to different circumstances.
- The package of care as originally designed failed to assist those with complicated deliveries (other than caesarean sections).
- An alternative approach, suggested by some key informants, is to offer increased state support to facilities in exchange for lower tariffs. If practical and explicitly defined, in terms of agreed national prices to users, that might solve some of the logistical problems (stock-outs, inadequate content of kits etc.).
- Clear guidelines for implementation are required and should be widely disseminated; there are genuine ambiguities about the content of the package currently on offer, which are reflected in uneven implementation.

- Improvements are needed in planning of subsidies - how much is needed, and where - and accounting for funds spent; this is an essential part of building confidence in the policy at all levels.
- The degree of subsidy to households should be re-evaluated; it is not currently high enough, at least for normal deliveries, to effect significant change. If providers are not being compensated, then costs will invariably be passed on to users.
- Emphasis should be laid on extending the real benefits of the policy, particularly in relation to drugs, which are a major cost component for users.
- Geographical and cultural barriers are even more intractable than financial ones, and long term investment will be needed to increase access for the most remote areas.

Discussion of themes emerging from case studies

The policies in Ghana and Senegal have many shared features: they are both focussed on delivery care alone; both universal, in terms of who can benefit; both initiated in poorer regions but rolled out quickly as a nationwide programme (though in Senegal this has only been applied to the regional hospital component); both funded from national sources; and both operating a system of reimbursing providers according to volume of work and at pre-arranged tariffs.

There are however differences too. In Ghana, all kinds of deliveries are covered, while in Senegal, support is restricted to caesarean sections and uncomplicated deliveries, and these can only be delivered at defined facility types. Whereas in Ghana, public, mission and private facilities can participate in the scheme, in Senegal, it is limited to public facilities. Senegal is also different in its use of kits to provide support to district and sub-district facilities - a feature linked to the fact that there are currently no channels for financial transfers from national to facility level.

Looking at the experiences of these closely related policies over 18 months (2003-5 in Ghana; 2004-6 in Senegal), what are the themes that emerge?

Potential to raise utilisation

Both countries indicate the potential of delivery fee exemptions to raise

skilled attendance rates. In Ghana, skilled attendance rose significantly in the two study regions, despite the patchy and under-funded implementation of the policy. In Senegal, facility figures indicated a smaller but significant increase in both facility deliveries and caesarean sections, though comparison with other regions was not possible. Again, this change, if it can be attributed to the policy, is impressive in the light of the very limited real reductions in costs which appear to have been passed on to users. The potential of a well-run scheme to raise utilisation would be greater. Price elasticity of demand⁵ for normal deliveries, based on the Ghana results, was in the range of -0.26 to -0.63, while for caesarean sections it was lower (-0.22), which is understandable given that caesarean sections are medical emergencies, rather than procedures selected voluntarily by women.

Unproven links with health benefits

The cost-effectiveness of exemptions relies not only on how far utilisation is increased, but also on whether the quality of care is such that this increase results in reduced mortality and morbidity. The evaluations were not able to show clear links with health outcomes, but the evidence on quality of care suggests that without additional investments in training and quality assurance, the health benefits will not be fully realised. In Ghana, poor practice was documented both before and after policy implementation, particularly in relation to emergency care. In Senegal, the majority of care is given by *matrones*, who have very little training, and access to trained health staff is more limited (and restricted by gender factors too, in the case of the Head Nurses, in charge of health posts, who are predominantly male). While it is reassuring that there was no evidence of a decline in quality of care as a result of exemption policies, a minimum standard of care has to be reached by the health system as a whole if the health goals of exemption policies are to be reached.

Some success in relation to poverty-reduction and equity goals

Of course, health gains are only one of the goals for the delivery exemption

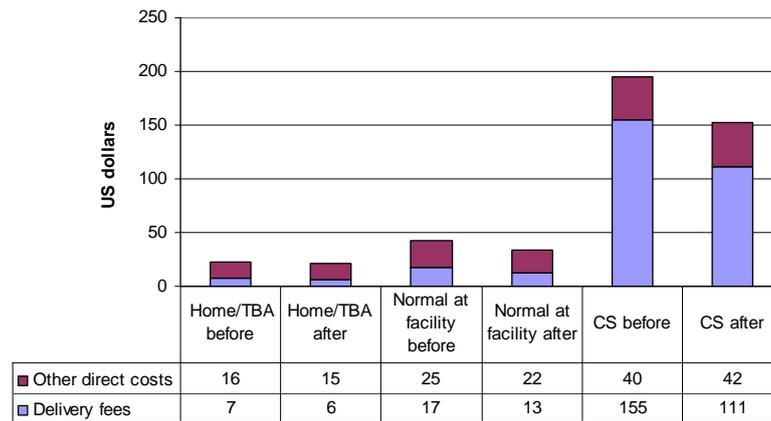
⁵ Defined as percentage change in quantity demanded resulting from a 1% change in price. Less than -1% is considered to be inelastic. The few previous studies examining price elasticity of demand for obstetric services in developing countries have generally found low elasticity, with varying effects of increasing income levels (Hotchkiss 1993; Li 1996).

policies. Others include poverty-reduction, reduction of inequalities in access and health, and increased social solidarity. The case studies suggest that there was some success in relation to these goals: in Ghana, a fall in catastrophic payments occurred, especially for caesarean sections, and this led to a reduction in households pushed under the absolute poverty line as a result of obstetric payments. Moreover, the increase in utilisation was greatest in Central region for those women with no education and for households in the second poorest quintile, suggesting a pro-poor distribution of benefits. In Volta, the proportion of households in the poorest quintile which delivered in a health facility doubled during the implementation of the policy. However, not all of the measurements were unambiguous in relation to equity: inequalities of use in relation to income quintiles increased in Central after implementation, but reduced in Volta; while in relation to education they reduced in Central and increased in Volta. Moreover, as a proportion of expenditure, the better-off benefited more than the poor from the cost reductions. In Senegal, while quantitative measures are lacking, geographical access emerged as a key theme: the poor in urban or peri-urban areas were thought to be beneficiaries, but more physically marginalised communities were unlikely to access the facilities where 'free' care was on offer.

Exemptions do not lead to fully free services

This leads to another important theme, which is that exemptions have not in either case resulted in free services. There is no expectation that removing official charges will address all of the important financial barriers, particularly for the poor (the costs of taking time off work, of travelling to facilities, or paying for family members to accompany them). However, in both countries, the direct costs of specified services were intended to be reduced to zero, and in neither case was this found to have been realised. In Ghana, the total average costs of having a caesarean section reduced by 22% (from \$195 to \$153), which is a benefit, but by no means equates to free services, while for normal deliveries, the average total costs declined by 19% (from \$42 to \$34) (see Figure 1). Even for the delivery fee component, the reduction in cost was not to zero (caesarean sections reduced from \$155 to \$111, and normal deliveries from \$17 to 13).

Figure 1. Household delivery costs, before and after exemption policy in Ghana



Source: Asante *et al.* 2007

Similarly, in Senegal, qualitative information on reductions in costs to users suggested that a lottery was being experienced in relation to caesarean sections - some reported fully free services, while others reported paying for the full cost (which ranged from \$100 to \$200). In relation to normal deliveries, the average reported reduction in cost was \$4 (in relation to previous costs of \$2-\$20). This is comparable in proportion to Ghana, and is reasonably correlated with the value of the kits which were provided to facilities. However, in Senegal, those with complications short of a caesarean section were exposed to the full risk of high delivery costs.

Improved implementation of the policy in both countries would have increased the cost reduction, no doubt, but bringing direct costs down to zero is very difficult in the face of funding shortfalls, stock-outs and the culture amongst providers of charging for all the different cost components.

Low expenditure on policies

Looking at the investment in these policies, it is clear why households are seeing only limited benefits - the average payment per case by government is also low (Table 2). In Ghana, for 2005, the government spent 16 cents per

capita, \$22 per delivery (all types) and \$62 per additional delivery⁶ (a crude measure of cost-effectiveness). In Senegal, the overall expenditure was 10 cents per capita, \$2.2 per normal delivery, and \$154 per caesarean section. In terms of 'value for money', based on the very limited estimates of utilisation changes, the estimated cost was roughly \$467 per additional caesarean section and \$21 per additional delivery.

Table 2. Summary figures on expenditure and cost of policies
(USD 2005)

	Ghana	Senegal
Total annual expenditure on policy (nationwide implementation for Ghana; five regions for Senegal)	2,999,944	308,389
Expenditure per capita per annum	0.16	0.10
Expenditure per normal delivery		2.2
Expenditure per caesarean section	22	154
Cost per additional normal delivery		21
Costs per additional caesarean section	62	467

Notes on table: total expenditure is based on national data; expenditure per normal delivery is based on national data in Senegal, but returns for Central region alone in Ghana, as national data was missing (costs shown are actual expenditures, not the official tariffs); similarly, no disaggregated data by delivery types was available in Ghana; cost per additional deliveries was based on the utilisation survey in Ghana (based in two regions), and on the facility data in Senegal (from five regions).

In Senegal, we have only qualitative information on the financial value of the benefits received by households with deliveries, but in Ghana, we can estimate the reduction in costs for clients from the household survey. The average public expenditure on the scheme of \$22 per delivery (in Central Region in 2005) compares with an average 'benefit' to clients of around \$10 per delivery. Clearly, some of the benefits are being captured by the providers.

⁶ Cost per additional delivery is the total cost divided by the increase in delivery numbers (making the assumption that these are attributable to the policy).

In terms of administrative overheads, there was no evidence from either country that these were burdensome or costly. Arguably, a greater investment should have been made in administrative systems, given the implementation problems encountered.

The need for a robust situation analysis

In both Ghana and Senegal, the process of policy development was rather unclear and does not appear to have arisen from a detailed situation analysis. All policies are to some extent opportunistic. However, one might have expected a policy of alleviating the cost of delivery care to have been linked to evidence that households were finding this care unaffordable, or that they had to make substantial sacrifices to access it. In neither context has this been proven (it may be true but the documented research is not there).

Although barriers to care are clear from the differential access by different groups and in different areas, it is not self-evident that the cost of user fees was the main barrier, especially in Senegal, where geographic access to services is recognised as a particular challenge. Average distances to health posts are more than 15 km in regions such as Tambacounda and Kolda (MSPM 2004). Two out of ten regions lack a hospital, and many facilities were in a poor state of repair. Moreover, staffing has been a greater constraint, with some existing facilities closed due to lack of nurses. In this context, demand-generation needs to be balanced with ensuring that supply is available to all and of adequate quality - otherwise the investment will have limited impact, in terms of health, and mainly benefit those living in proximity to functioning facilities.

Policy consensus

Evidence from key informant interviews in both countries suggested that there was a lack of consensus amongst key players that this policy was appropriate and high priority, and that it fitted with other national plans and directions. Ensuring consensus and synergy of actions is a key factor for policy success. The stakeholders interviewed were also implementers and, given competing demands for their time, the level of attention to detail required to make a policy work will depend in large part on their personal convictions. This suggests the need for greater investment in dialogue and communication with key players early in the policy development process.

Continuous leadership

Linked to this theme is the desirability of clear institutional ownership and championing. In Ghana, management roles were unclear and funding channels changed between the first and second phases. In Senegal, responsibility for the policy shifted between directorates in the Ministry. Without a clear line of responsibility for making a policy work, the policy is more likely to lose momentum, with emerging problems remaining unsolved, leading to a general loss of confidence in it at all levels.

Systems, systems, systems

Both case studies exhibit a fundamental lack of attention to establishing strong systems of implementation. In Ghana, the guidelines for the policy were clear, but the easily predictable level of budgeting was not provided for in expanding the policy, leading quickly to shortfalls in funding and suspension by providers. Poor monitoring compounded the problem. In Senegal, clear written guidelines for the operation of the policy were not available or circulated, and the basic issue of compensating lower level facilities for ticket costs was never resolved. Although monitoring was stronger in Senegal, some key issues such as providing registers for kits, and establishing systems for checking hospital returns, were neglected. Both commitment and capacity are needed to ensure that policies work in practice.

Resource allocation

For exemptions policies, success depends on resources arriving in a timely fashion at the place where services are being delivered. This requires a resource allocation formula linked to expected outputs of services. In Ghana, a system of allocating funds to districts on a per capita basis was used. In one region (Central) some variation took place to allow for differential distribution and type of facilities. In Volta, distribution was purely population-based. In Senegal, by contrast, transfers of kits and funds were unrelated to population or expected delivery numbers (a pattern which also held true for wider health financing), and can only have reinforced pre-existing inequalities in access to care.

Provider incentives must be considered

Reimbursements under an exemption policy should match average service costs and compensate providers for lost revenues. Where this is not done (as with Senegal's lower level facilities), providers will find ways of clawing back revenue, either by continuing to charge for that service or by increasing other charges. In this case, transparency is reduced, and patients may even end up paying more. Providers may also capture the subsidy without passing on cost reductions to patients. Over-payment (e.g. for the caesarean sections in Senegal) is also problematic, as it can provide an incentive to supply that service beyond its medically-indicated level (something increasingly documented in developing countries (Ronsmans *et al.* 2006)).

Policy-makers should also consider incentives at individual health worker level. What is the predicted effect of the policy on the workload of key clinical staff? How much capacity have they got to increase their outputs? How will the policy affect their morale (e.g. through improved supplies, or improved relationships with patients, or through increased tiredness and overload)? How can staff support be mobilised and incentives provided to operate the policy fairly and effectively? In most cases (as evidenced by our key informant interviews), staff felt ambivalent about exemption policies - happy to see people treated when they could not previously afford it, but also affronted if they felt that their services were being taken for granted.

Affordability

Last but not least of our themes is the need for a hard-headed assessment of affordability, and the need to adapt design according to the funds available. In both Ghana and Senegal, scale-up to national level took place quickly, and without an analysis of the first phase of operation. In Ghana, absolute resource shortfalls were more critical, but in both cases funding problems were exacerbated by scale-up. With hindsight, a more effective, geographically targeted scheme would have been preferable, at least in the medium term, pending proper evaluation and the development of greater stakeholder support.

Conclusion

Funded exemptions for deliveries are an egalitarian and relatively simple and potentially cost-effective tool for raising demand for and access to skilled care. However, they do have to be carefully planned and implemented. If cost reductions are too low or are captured by providers, then gains in terms of increased utilisation of facility services and/or of poverty reduction will be minimal. They will be most effective in a context where financial barriers are substantial, either for the majority or in easily identified areas of the country, and where supply of health care is accessible and of reasonable quality. Additional support for the poorest may be needed, as exemptions only address facility costs. It is also important to identify ways of building in accountability mechanisms for users to demand redress for poor implementation or gaps between rhetoric and reality.

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