Reducing financial barriers to obstetric care in low-income countries

Edited by Fabienne Richard, Sophie Witter and Vincent De Brouwere
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Acknowledgements

We sincerely thank the authors of the different articles compiled in this book. Notwithstanding time pressure, they shared their knowledge of systems developed to reduce financial barriers to obstetric care. For some very recent initiatives, which started in 2007, these are the first results published. This explains why certain evaluations show only intermediary results, but lessons can be drawn from the process of starting up.

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Fabienne Richard, Sophie Witter and Vincent De Brouwere, editors.
"We know what works" is one of the most common statements currently featuring in the diverse and expansive discourse on maternal health in developing countries. There is a strong evidence-base behind this claim in terms of specific clinical interventions and packages of care to prevent maternal and indeed perinatal deaths. But as the poor progress towards achieving the two Millennium Development Goals (MDGs) related to these outcomes - respectively MDG5 & a significant part of MDG4 - has become clearly apparent in many low-income countries, so has the weakness of a different type of evidence-base behind a different question - "how to make proven interventions work". It is this question - broadly referred to as the implementation bottleneck - which is now widely regarded as the new and urgent frontier needing robust evidence. This book helps to push this frontier forward in the specific area of the financial barriers which obstruct timely access to quality obstetric care. Reducing such barriers is an essential part of tackling the implementation bottleneck - of enabling proven interventions to work. But why focus on financial barriers to obstetric care, why now, and how does this book advance the field?

Financial barriers have been shown to affect the uptake of health care almost universally - across developed and developing countries, for many patient groups, and for most preventive and curative care areas. This is reflected in the substantial published literature and there is much that can be learnt by reviewing and pooling such diversity of experience. But there are also benefits from focusing on care areas presenting specific and sometimes unique challenges. In the case of obstetric care, effective strategies for reducing financial barriers to access must grapple with knotty issues on the demand and supply sides of the health system as well as the specific epidemiology of pregnancy and childbirth. The unpredictability and rapid fatality of many obstetric complications, for example, present major challenges for families in terms both of planning for possible costs and rapidly mobilising cash. Similarly, the comparatively high formal and informal charges for life-saving obstetric interventions, especially surgical, are significant contributors to health-related debt and thus household poverty in many countries. On the supply side, the technical skills, infrastructure,
equipment and supplies to manage life-threatening obstetric complications and prevent deaths are often in short supply and highly concentrated geographically. Inequities in timely access to obstetric care, in turn, reflect deeper disparities between population sub-groups and gender. These and other aspects of obstetric cases and care present a convincing argument for financing mechanisms targeted specifically to this clinical area, as well as wider health system strengthening. The eight case-studies and the synthesis presented in this book provide timely and significant insights into alternative mechanisms across a range of health system settings.

Learning from country experiences is essential at this moment in history. The midpoint in the fifteen year period for achieving the MDGs has just passed. The recent review of progress by the United Nations General Assembly on September 25th 2008 has brought unprecedented and explicit recognition for MDG5 as the most “off track” target. Existing initiatives, such as the International Health Partnership, together with new calls from the Global Campaign for Health MDGs, are seeking to mobilise additional finance and ensure better use of existing budgetary and human resources in low-income countries, both to strengthen health systems as the essential bedrock of quality obstetric services and to improve equity of access to care. A variety of innovative financing mechanisms, such as Voluntary Service Contributions, results-based financing and public-private partnerships to reach underserved populations, are being proposed to help address the resources gaps and support equitable health systems. Some of these schemes are being proposed on the basis of fairly limited experiences at scale and thus it is essential that robust monitoring and evaluation is put in place not only to track progress but also perverse effects. This scenario of “building a ship whilst sailing it” - of implementing what is known as “best” at the time whilst also seeking to strengthen the evidence-base, is very familiar to those in the field of maternal mortality reduction. It depends fundamentally upon the willingness of those implementing novel initiatives to embrace independent and transparent evaluation, and to share openly the positive and the negative lessons learnt.

The current volume provides a clear example of the power and benefit from such sharing of lessons. Collectively the eight case-studies highlight many of the challenges in conducting real-world evaluations, where the interventions and the implementation context are not static, and in drawing relevant and generalisable conclusions. The diverse health system contexts
represented by the case-studies nevertheless highlight several common themes, such as the need to address financial barriers alongside other obstacles to timely, effective and equitable care. This rich array of experiences enables the book to appeal to a wide array of audiences - policy decision-makers, programme and service managers, technical advisers, and researchers, and from multiple disciplines and professions. In achieving such broad appeal, this book also helps to foster greater awareness of the multiple perspectives needed to fully understand how some women can and do have access obstetric care and to enable all women to have this basic human right.

Professor Wendy J Graham
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Introduction
Reducing financial barriers to obstetric care in low-income countries: the need for action

Fabienne Richard¹, Sophie Witter² & Vincent De Brouwere ¹-³

Background

The Millennium Development Goals (MDG) set a target of reducing maternal mortality ratios (MMR) by three-quarters between 1990 and 2015 (UN 2005). This is a global health challenge of the highest importance for many reasons.

CONTINUING HIGH AND PREVENTABLE MORTALITY AND MORBIDITY

The World Health Organization (WHO) estimates that 536,000 women die in 2005 from pregnancy-related causes, and almost all of these deaths occur in developing countries (WHO 2007). In Niger, the lifetime risk of death is estimated at one in seven (WHO 2007). Maternal causes are responsible for 18% of deaths in women in less developed countries (World Bank 1993). 75% of these are estimated to be preventable with a basic package of maternity care delivered by the primary health care system (health centres and hospital). However, 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% per year globally, but with no significant decrease in sub-Saharan Africa, which fell by 1.8% from 921 per 100,000 in 1990 to 905 per 100,000 in 2005 (Hill et al. 2007).

MATERNAL AND NEWBORN HEALTH INTRICATELY LINKED

Of the 130 million babies born worldwide each year, about 4 million die in their first month of life and 98% of those deaths are in developing countries.

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(Women Deliver 2007). Lack of skilled care at delivery and maternal mortality and morbidity are key factors in these deaths. A long-term study in Matlab, Bangladesh, found a strong correlation between maternal survival and child survival to age ten. Increases in child mortality of 50 per 1,000 in sons and 144 per 1,000 in daughters were found to be associated with a mother's death (Over et al. 1992).

WIDE INEQUALITIES, GLOBALLY AND LOCALLY

Nearly all maternal deaths (99%) occur in the developing world, making maternal mortality the health statistic with the largest disparity between developed and developing countries (Safe Motherhood Initiative 2002). The high MMR, combined with high fertility rates, lead to a lifetime risk of dying in pregnancy of one in 16 in developing countries, compared to one in 2,800 in developed countries (WHO 2005). However, internal inequalities are a huge challenge too. Using an adaptation of the sisterhood method, one study found a strong correlation between maternal deaths and poverty in ten countries (Graham et al. 2004). In some datasets, the risk of dying of maternal causes was four times higher for the poorest quintile, compared to the richest. By contrast, non-maternal deaths were less strongly correlated with poverty.

This concern is reflected in inequalities of access to services too. Analysis of Demographic and Health Survey (DHS) data from more than 50 developing countries found 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 intervention (Gwatkin et al. 2005).

CATASTROPHIC IMPACT ON HOUSEHOLDS AND COMMUNITIES

There is increasing recognition of the risks of high out-of-pocket expenditure forcing households into, or deeper into, poverty (Xu et al. 2003). Maternal costs, especially when complications occur, can be very expensive and are the kind of catastrophic cost which can plunge a household into poverty or force it to rely on risky coping strategies (Ensor & Ronoh 2005). A recent review by WHO found that the direct costs of maternal health care range between one and five percent of total annual household expenditures, rising to between five and 34% if the woman suffers a maternal complication (WHO 2006a). At the national level, the WHO estimates totals of $95 million and
$85 million are lost each year by Ethiopia and Uganda respectively due to poor maternal health (WHO 2006a). Globally, $15 billion is estimated to be lost every year due to reduced productivity related to the death of mothers and neonates (Gill et al. 2007). Country estimates range from $1.50 per person per year in Ethiopia to almost $5 in Senegal.

COST-EFFECTIVENESS OF MATERNAL HEALTH CARE INTERVENTIONS

The World Development Report 1993 estimates a cost of $60 per disability-adjusted life year (DALY) for maternal services (ante-, intra-, and post-partum), which could avert 3% of the global burden of disease. This estimate makes it one of the five most cost-effective health interventions in low income countries (World Bank 1993). A recent analysis of maternal and child health strategies suggests that preventive interventions at the community level for newborn babies and at the primary care level for mothers and newborn babies are extremely cost effective (Adam et al. 2005). Skilled attendance at all births is considered to be the single most critical intervention for safe motherhood, as it allows a timely response to potentially fatal emergencies (UNFPA 2007).

Why is progress so slow? Challenges to providing access to appropriate care

Lack of access to quality care is the main obstacle to reducing maternal mortality in low and middle income countries (Paxton et al. 2005). The average of skilled attendance at delivery 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 2006b). Some countries, like Ethiopia, have rates as low as 10%.

Two types of barrier are critical: physical and financial. In poor countries, the density of health infrastructures equipped and staffed with competent, available and committed personnel is low (Koblinski 2006). For women this often means they are ‘too far to walk’ (Thaddeus & Maine 1994) and they prefer to deliver at home rather than embarking on a long and difficult journey to under-equipped health centres or poorly staffed district hospitals. When women or the family decision-makers decide to attend an appropriate health service, the next obstacle is money. In many settings,
patients have to pay out-of-pocket for everything, including a tip for the personnel, and this may result in delay, which can sometimes be fatal, and in catastrophic expenditure for the household (Borghi 2008).

Access to a caesarean is also directly affected by household wealth. In a recent evaluation in Indonesia, less than 1% of the poor delivered by caesarean, compared to 4% of the rich (Immpact 2007). In a study of DHS data for 42 developing countries, caesarean rates were extremely low among the very poor: they were below 1% for the poorest 20% of the population in 20 countries and were below 1% for 80% of the population in six countries (Ronsmans et al. 2006). Only in five countries did the very poor have caesarean rates exceeding 5%.

Some countries have been classified as having ‘marginal exclusion’ (with only the poorest lacking access), while others have ‘massive deprivation’ (meaning that all but the richest lack access) (Koblinsky et al. 2006). Donors and governments are looking for cost-effective and sustainable approaches which can reduce persistently high maternal mortality and reduce inequalities in access and health.

**Approaches to reducing financial barriers to maternal care**

Physical barriers, quality of care barriers and financial barriers are often interlinked. Distance increases household access costs. Health facilities which lack basic supplies create knock-on costs for households which have to purchase items externally. Long-term investment in the health system is therefore urgent in many contexts both to increase effective coverage and to reduce the real out-of-pocket costs faced by households in accessing obstetric care. Reducing financial barriers makes no sense in the absence of the availability of services of adequate quality.

A multivariate analysis of 40 low-income countries found that government health expenditure as a percentage of total health expenditure was significantly associated with utilisation of skilled birth attendants and caesarean section rates, but not antenatal care, allowing for factors such as per capita health expenditure (Kruk et al. 2007). This supports the view that public subsidies of various sorts are likely to be necessary to improve access and skilled attendance.

Approaches to reducing financial barriers also require sensitivity to cultural barriers and gender relations. In many areas, women have less
decision-making power and less control over household financial resources than men (Witter et al. 2008a). Some studies have found that distance and user fees deterred women from seeking care to a greater extent than they deterred men (Mwabu et al. 1993). They should therefore benefit disproportionately from measures which reduce the costs that they face (Kutzin 2000; Nanda 2004). The UN Millennium Project has called for the elimination of user fees for basic health services as a “quick win” that can diminish health inequities related to poverty and gender discrimination (UN 2005).

Implementation of strategies to reduce financial barriers requires a careful balancing of ‘depth’ (the reduction of costs of various kinds) and ‘width’ (the range of beneficiaries). The extent to which such a strategy should focus only on the poorest or be implemented universally varies by context.

**Aims and structure of this volume**

The aim of this book is to contribute to a better knowledge of current experiments at national and sub-national level in reducing financial barriers to skilled maternal care. Many of these are not yet formally documented, and the quality of evidence available varies, but it is crucial that early innovations, successful or otherwise, are made public. It is important that policy-makers can have access to these experiences at a time when investment in the MDGs is intensifying.

The volume starts with an article setting the context, which gives an overview of the costs of obstetric care and their economic and social consequences for households (Borghi et al. 2008). The subsequent chapters present a variety of recent experiments in reducing financial barriers. In selecting these case studies, we aimed to reflect a variety of approaches and settings, ranging from fee exemption to cash assistance, from district-based to national, from Africa to Asia and Latin America, and from universal to targeted.

The policies and programmes include:
- a district-based obstetric cost-sharing scheme in Burkina Faso (Ouédraogo et al. 2008);
- an essential obstetric care insurance programme in Mauritania (Renaudin et al. 2008);
a community health insurance (CHI) scheme for obstetric care in Guinea (Ndiaye et al. 2008);

- an overview of the application of CHI for obstetric care throughout Africa (Soors et al. 2008);

- national policies for user fee abolition for deliveries in Ghana and Senegal (Witter et al. 2008b);

- the development of a national social health insurance policy covering mother and child health in Bolivia (Pooley et al. 2008);

- the use of targeted vouchers and health equity funds for delivery of care in selected districts in Cambodia (Por et al. 2008);

- a national delivery incentive payment scheme targeted at poor women in India (Devadasan et al. 2008).

The concluding chapter looks at lessons learned and policy implications of these case studies (Witter et al. 2008c).

The lessons they generate are important, as part of a wider picture. It is now widely recognised that ‘functioning, responsive health systems are an essential prerequisite for addressing maternal and child health at scale and in a sustainable way’ (UN Millennium Project 2005). This in turn implies tackling the political, social and economic environments in which those systems are embedded, which are national and international in nature. If we look at the successes stories of Sri Lanka and Malaysia in reducing maternal mortality, financing is only one of the pillars in all the interdependent strategies needed to decrease maternal deaths (Pathmanathan et al. 2003). It is however a core component for ‘functioning, responsive health systems’ and for healthy women and healthy communities.

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Immpact (2007) Indonesia: resident midwives help avert maternal deaths when financial barriers are removed - evaluation factsheet, Immpact, Aberdeen.


Chapter 1: Context
Overview of the costs of obstetric care and the economic and social consequences for households

Josephine Borghi1, Katerini Tagmatarchi Storeng2 & Véronique Filippi3

Abstract

Childbirth can be a costly process for households in countries where financing arrangements are fragmented and fail to provide universal coverage. Seeking obstetric care results in immediate financial outlays as well as longer term economic and social consequences in terms of debt repayment and potential ongoing complications. This chapter reviews the evidence on the obstetric care costs faced by households and seeks to demonstrate both to what extent these costs mitigate access to facility-based care for certain groups, and the impact of resulting expenditures on the household economy for those who do reach the facility. The chapter further highlights the consequences of these expenditures for a woman’s health, as well as the economic and social consequences for the household.

Obstetric care costs in hospitals are shown to be significant. The official user charges interact with unofficial costs, transport costs and time costs resulting in catastrophic expenditures and debt, particularly in the event of complications. Finding a source of financial protection for poor women is essential as they suffer the greatest impact of payments, and are more likely to be deterred from seeking care. Women’s work and everyday poverty must be addressed alongside clinical factors in public health efforts, either by helping them plan for their delivery, providing free or less costly delivery or emergency obstetric care, or by targeting poor women through exemptions or

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Greater government participation in the financing of obstetric care would contribute towards reducing the economic impact on households and is hence likely to increase rates of skilled attendance at delivery.

**Keywords:** household cost, childbirth, affordability, access, inequality, consequences.

**Introduction**

In the absence of complications, pregnancy should be a simple and natural process culminating in childbirth, and requiring little external intervention. In practice, however, due to the unpredictability of birth outcome, skilled attendance at delivery is recommended, in or within easy access to a health facility, to enable appropriate management of complications in case of need (Campbell *et al.* 2006).

Indeed, uncertainty in birth outcome engenders uncertainty in intervention need, ranging from low intensity support (normal pregnancy) to high intensity surgical intervention in the event of complications. Uncertainty in intervention need results in uncertainty of associated resource requirements and cost, which has implications for the provision and financing of obstetric care.

In most high income settings, arrangements for financing health care ensure universal coverage of health care through general taxation or social health insurance, thus protecting households from the costs of care at the time of need and care seeking. In low-income settings, limited government resources mean that households often contribute to health care financing directly through out-of-pocket payments at the point of service use (user fees). Pregnancy and childbirth have been typically no exception, with households bearing a varying proportion of the actual cost of associated service provision, in addition to the costs of reaching care (Borghi *et al.* 2006).

These payments can have a significant and, potentially, long lasting effect on women and their families (Goudge *et al.* 2007). Figure 1 provides an overview of the economic and social consequences of such payments. The cost of obstetric care, in the absence of complications, will deter women from accessing skilled care in health facilities, especially women who are poor and live in geographically remote areas (Ensor & Cooper 2004). The...
costs of obstetric care in the presence of complications, can force poor households into deeper economic hardship and poverty (Borghi et al. 2006). Failure to reach appropriate care in a timely manner can also result in the death or serious disability of a woman, her foetus or newborn or both. The affordability of obstetric care thus has implications for the survival and well-being of women and newborns, as well as for the household economy.

Figure 1. Flow chart of issues relating to the economic consequences of childbirth and their health and social outcomes (adapted from McIntyre et al. (2006))

Payment for obstetric care also has important social dimensions. Social norms around the payment of pregnancy-related care vary between contexts. In many low-income settings women do not have easy access to or control over household resources and must rely on men to meet the costs of obstetric care. This lack of financial autonomy can result in profound anxiety for women in the event of health care need, and can cumulate in social tension, conflict, and even marital breakdown, when costly health interventions such as caesarean section are required (Gruénaïs & Ouattara 2006; Storeng et al. 2008).

Over recent years, a number of studies have sought to quantify the
household costs of obstetric care and to measure the affordability of such care. There is also growing interest in the economic, health and social consequences for the household of a complicated delivery.

This chapter will provide an overview of some of this literature, illustrating the extent and impact of costs faced by households for obstetric care in different settings. Furthermore, the chapter will seek to demonstrate both to what extent these costs mitigate access to facility-based care for certain groups, and the impact of resulting expenditures on the household economy for those who do reach the facility. The chapter will further highlight the consequences of obstetric care expenditures for a woman’s health, as well as the economic and social consequences for the household.

The chapter places particular emphasis on the impact of costs incurred during childbirth as this is the single most costly event during pregnancy and childbirth. The costs of terminating pregnancy, whilst clearly significant (Walker et al. 2007), are not considered explicitly due to the lack of evidence of the costs to households.

**Methods**

In order to identify studies on the cost of obstetric care and affordability, a review of the PubMed database was carried out using the search terms cost AND (delivery OR maternal OR obstetric) and limited to studies in Africa and South Asia. Published and unpublished studies known to the authors were also included. Studies on the impact of different financing methods on obstetric care use were derived from a previous review of the literature (Borghi & Lissner 2004). The evidence base for the social consequences of childbirth was compiled from previous work two of the authors were involved with.

**Costs of obstetric care to households**

The cost of childbirth is largely determined by the place of delivery and the type of delivery and extent of complications. Costs usually span beyond the medical costs associated with service delivery, to include transport (in the case of facility-based care) and time costs as well as unofficial payments associated with care. They can also include costs of neonatal hospital referral in the case of neonatal complications following delivery. Table 1 provides a
framework for considering the costs of care depending on where delivery takes place.

Table 1. Classification of household costs by place of delivery

<table>
<thead>
<tr>
<th>Type of cost</th>
<th>Delivery in a Health Facility</th>
<th>Delivery at Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility-based fees</td>
<td>Registration, delivery fee, bed charge, laboratory tests, laundry, food, drugs and medical supplies for mother and newborn. Surgical charges in the case of complicated delivery.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Additional charges</td>
<td>Gifts to staff and medicines and other items purchased by patients together with the value of food and washing materials brought in from outside the facility.</td>
<td>Gifts to attendant and medicines, food and washing materials and a safe delivery kit where relevant.</td>
</tr>
<tr>
<td>Transport fees</td>
<td>To and from the facility for mother and newborn.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Opportunity cost of time</td>
<td>Valuation of the time of those accompanying the woman to the facility.</td>
<td>Assumed to be zero since attendants can generally continue with other activities.</td>
</tr>
</tbody>
</table>

Source: Borghi et al. (2006b)

We have collated available data on the household costs of delivery care in the hospital (Table 2). We differentiate between normal and complicated deliveries and the payments associated with delivery care in facilities; the transport costs of reaching the facility and time costs of companions.
Table 2. Expenditures incurred by households (Mean) giving birth in a government hospital in USD 2006

<table>
<thead>
<tr>
<th>Country</th>
<th>Year of costs</th>
<th>Type of facility</th>
<th>Financing system</th>
<th>Source</th>
<th>Normal Delivery</th>
<th>Delivery-Related Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Transport costs</td>
<td>Drugs</td>
</tr>
<tr>
<td>Benin</td>
<td>2002</td>
<td>1 urban teaching hospital</td>
<td>General taxation plus user and unofficial fees</td>
<td>Borghi et al. 2003</td>
<td>1.88</td>
<td>21.12</td>
</tr>
<tr>
<td>Ghana</td>
<td>2002</td>
<td>1 urban teaching hospital</td>
<td>General taxation plus user and unofficial fees</td>
<td>Borghi et al. 2002</td>
<td>2.35</td>
<td>9.27</td>
</tr>
<tr>
<td>Ghana</td>
<td>2004</td>
<td>Unspecified health facility/hospital</td>
<td>General taxation, official exemptions for MCH care</td>
<td>Asante et al. 2007</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tanzania</td>
<td>1997</td>
<td>1 urban hospital</td>
<td>General taxation, official exemptions for MCH care</td>
<td>Kowaleski et al. 2002</td>
<td>6.98**</td>
<td>3.86</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>2002</td>
<td>1 rural hospital</td>
<td>General taxation plus user fees and unofficial charges</td>
<td>Borghi et al. 2006a</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>1995</td>
<td>4 urban hospitals</td>
<td>General taxation plus user fees and unofficial charges</td>
<td>Nahar &amp; Costello, 1998</td>
<td>8.51</td>
<td>16.28</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>1994</td>
<td>4 urban hospitals</td>
<td>General taxation plus user fees and unofficial charges</td>
<td>Khan 2000</td>
<td>42.26</td>
<td>24.26</td>
</tr>
<tr>
<td>Nepal</td>
<td>2003</td>
<td>8 rural hospitals</td>
<td>General taxation plus user fees</td>
<td>Borghi et al. 2006</td>
<td>37.22</td>
<td>26.90</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>1990*</td>
<td>12 referral hospitals</td>
<td>General taxation plus user fees</td>
<td>Sondo et al. 1997</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pakistan</td>
<td>1994 (Pakistani Rupees)</td>
<td>3 urban hospitals</td>
<td>General taxation plus nominal user charges in facilities, and unofficial payments for drugs and medical supplies</td>
<td>Kadir et al. 2000</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* Assuming 490 FCFA to the Dollar in 1995
**Assume one companion

Of those studies identified, most were from South Asia, especially Bangladesh (n=4) (Nahar & Costello 1998; Khan 2005; Afsana 2004; Borghi et al. 2006a), with a number of results from West Africa (n=3) (Borghi et al. 2006a).

2003; Sondo et al. 1997; Asante et al. 2007) and one study from East Africa (n=1) (Kowaleski et al. 2002). All of the studies considered the costs of deliveries in health facilities. Three studies also considered the costs of care at home (Borghi et al. 2006a; Borghi et al. 2006b; Asante et al. 2007).

The methods used to evaluate costs varied across studies. Most of the studies followed women and tracked expenditures during their stay in hospital, which is the most reliable method of estimating costs (Kadir et al. 2000; Borghi et al. 2003; Afsana, 2004; Khan 2005; Nahar & Costello 1998; Sondo et al. 1997). This has the advantage of being able to compare reported expenditures with hospital bills, and of being able to identify and talk to all those involved in making payments. The remaining studies carried out retrospective surveys with households. This method has the risk of recall error. The risk of recall error increases as the time between the delivery and the interview increases, due to memory constraints and the reduced likelihood of all those involved during the delivery being present at the time of interview. However, validation of reported costs against hospital bills can correct for the impact of recall bias (Borghi et al. 2006a).

The health financing arrangements varied across settings. Official user fees were being charged in most settings. Unofficial charges were recorded in Bangladesh, and there were maternal and child health exemptions aimed at minimising out-of-pocket costs for households in Tanzania.

The cost of normal deliveries in a hospital ranged from a low of $3.86 in Tanzania (Kowaleski et al. 2002) to $47.28 in Benin (Borghi et al. 2003). Drug costs were the most significant expenditure item, representing on average 43% of the total treatment cost, ranging from 35% in Pakistan (Kadir et al. 2000) to 55% in Bangladesh (Khan 2005).

The cost of complicated deliveries ranged from $7.35 in Tanzania (Kowaleski et al. 2002) to $355.20 in Bangladesh (Afsana 2004). Drug costs represented an even greater proportion of total cost, at an average 59% of the total treatment cost, ranging from 22% in Benin (Borghi et al. 2003) to 71% in Bangladesh (Khan 2005).

The cost of a complicated delivery is significantly greater than that of a normal delivery, by an average factor of 6, ranging from 2 (Kowaleski et al. 2002) to 16 (Afsana 2004), depending on the method of financing care, case mix and the type of treatment provided. The existence of exemptions in Tanzania minimized the cost differential between normal and complicated deliveries in hospital.
deliveries and protected households from uncertainty in terms of resource requirements.

In addition to the formal charges within health facilities women are often forced to purchase drugs and medical supplies such as bleach to sterilize the materials, bed sheets, gauze, gloves and sanitary pads due to the lack of available drugs and supplies in facilities. This can delay access to timely care as well as significantly inflating the costs of care (Sondo et al. 1997; Borghi et al. 2003; Kowaleski et al. 2002).

Furthermore, relatives often bring in food for patients in the case where such food is unavailable in facilities (Afsana 2004), expensive, or considered of poor quality (Khan 2005; Borghi et al. 2006a; Borghi et al. 2006b).

Unofficial gifts or tips may also be made to staff, either because women and their families are pleased with the care they received (Belli et al. 2004) or because of corruption. For example, in Bangladesh ayahs (nurse maids) sometimes demand payment for routine services such as pushing the patient's trolley to and from the labour/operation room, shaving the patient before delivery/surgery, giving enemas, and cleaning the room after delivery (Khan 2005; Afsana 2004). Overcharging of patients by health staff was also observed, with profits being shared among the staff responsible (Afsana 2004). There was more limited evidence of such practices from other settings.

The costs of delivery at home were only measured in three studies (Asante et al. 2007; Borghi et al. 2006a; Borghi et al. 2006b). The costs of a normal delivery at home, when attended by a midwife were similar to the costs in a hospital; however, the costs of a delivery with a traditional birth attendant were significantly lower. These studies found that while there was no significant difference in the amount paid for a normal delivery in hospital by wealth group, the poor paid significantly less than the least poor to a traditional birth attendant during home delivery. They had greater control over the nature of treatment provided and the amount of money they spent (Borghi et al. 2006a; Borghi et al. 2006b). The study by Asante et al. (2007) did not assess payments by wealth group, but showed that the cost of a home delivery with a TBA was about half that of a normal delivery in a health facility. In Bangladesh, Moran et al. (2007) also reported a much lower cost of home-based care (US $1) compared to care in health facilities (US $11) with householders preferring self treatment as they could purchase partial
amounts of medications, reducing the financial cost.

Distance from a facility adds to the financial burden facing households through transport charges and time spent away from productive activity (Kowalewski et al. 2002). Transport costs were found to vary between $1.88 (Borghi et al. 2003) and $40.2 (Khan 2005) for a normal delivery and $2.23 and $59.94 for a complicated delivery (ibid), the higher costs for complications reflecting the additional distance to reach a referral facility. In areas with difficult geographical access, transport can be especially significant. For example, in Nepal, transport costs represented over 50% of the costs of a normal delivery, and 25% of a complicated delivery (Borghi et al. 2006b). In settings where user charges are nominal or absent, transport costs will also represent a larger proportion of the total, deterring geographically remote households from seeking care. For example, in the United Republic of Tanzania, where exemptions for mother and child health were in effect, out-of-pocket payments for care represented only 6% of the cost of a normal delivery and 1% of a surgical delivery, with transport accounting for almost half of the total expenditure (Kowalewski et al. 2002).

Women seeking care in a health facility for delivery are usually accompanied by a family member or neighbour, who also sometimes participates actively in the provision of care (Behague et al. 2008). In Nepal, women were usually accompanied by more than one person, most frequently their husband (67%), followed by a neighbour (49%), their mother-in-law (40%), or their own mother (15%) (Borghi et al. 2006b). Fifty five percent of households reported the companion/s losing income as a result of accompanying the delivering woman (ibid). The opportunity cost of companion time is therefore also likely be factored into the decision-making process about seeking care.

An example of how men’s reluctance to give up productive time delayed care seeking is given by a woman in rural Bangladesh:

They tell their wives to let it be (ignore the illness) because it is already there and the family’s work is still getting done. Finally, when she is unable to work or to serve her husband’s [sexual] needs, then maybe the wife is treated. Or else she is sent to her parents’ home (Shuler et al. 2002: 198).
A few studies have investigated time costs for companions associated with travelling to a facility combined with the time spent in hospital (Table 3). The lost income incurred by companions, in the case of a complicated delivery (ranging from $4.13 (Borghi et al. 2006b) to $78.5 (Kowaleski et al. 2002)) was significantly higher than in the case of a normal delivery ($1.1 (Borghi et al. 2003) to $10.2 (Kowaleski et al. 2002)). The opportunity costs of time to companions are often inflated in the case of complications by the greater distance to travel to reach appropriate care and by the lengthier hospital stay.

<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Normal Delivery</th>
<th>Complicated Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ALOS*</td>
<td>Opp cost of time</td>
<td>Comments</td>
</tr>
<tr>
<td>Ghana</td>
<td>(Borghi et al. 2003)</td>
<td>1.2</td>
<td>1.1 (4% of total)</td>
</tr>
<tr>
<td>Tanzania</td>
<td>(Kowaleski et al. 2002)</td>
<td>1.1</td>
<td>10.2</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>(Borghi et al. 2006a)</td>
<td>0.17</td>
<td>1.48</td>
</tr>
<tr>
<td>Nepal</td>
<td>(Borghi et al. 2006b)</td>
<td>1.8</td>
<td>7.07</td>
</tr>
</tbody>
</table>

*ALOS: Average Length of Stay.

**Affordability of obstetric care**

The fact that women and their households pay for care does not mean that it is affordable. A consideration of out-of-pocket payments alone does not tell us about how these costs impact on the household economy.

A common framework for considering the economic impact of health expenditures is its relationship to household income. Health expenses are
often termed ‘catastrophic’ if they consume above a threshold level of income. Some authors have considered costs that consume more than 10% of household income to be catastrophic (Ranson 2002).

In low-income countries, household income is notoriously difficult to quantify, especially for those working in the informal sector and who are reliant on non-cash income. Consequently, few studies have estimated the impact of obstetric care costs on household income. Gross Domestic Product (GDP) per capita can be considered as a very crude measure of individual income. Despite the recognised limitations of such a measure, it does provide some indication of the relative affordability of care.

Using this threshold, the costs of care for uncomplicated deliveries represented around 10% of GDP, with the exception of Burkina Faso, 5.1% (Storeng et al. 2008) and Tanzania, 3% (Kowaleski et al. 2002). The cost of a complicated delivery ranged from a minimum of 11% of per capita annual GDP in Benin to over 100% in the case of Bangladesh (again excluding Tanzania) (ibid).

While such estimates suggest that delivery care is unaffordable, the affordability of such care can be more fully captured if we consider household ability to access funds, and the impact of expenditures on household’s minimum needs consumption, asset ownership and debt (Russell 2004).

Rural households reliant on subsistence farming are often unable to access cash at the time of need due to temporal or seasonal cash availability. This was reportedly a major constraint to paying for health care for between 40 and 50% of households in West Africa (Soucat et al. 1997). However, difficulty accumulating adequate resources for payment is not restricted to rural households.

In urban Bangladesh, 51% of families did not have enough cash for a normal delivery and 74% did not have enough for a caesarean-section and so had to borrow money from a money lender or relative (Nahar & Costello 1998). The economic impact of emergency obstetric care expenditures is usually particularly acute. In Burkina Faso, women who had received hospital treatment for life-saving complications reported more frequent spending of savings, borrowing and sale of assets than did women who had been classified as having an uncomplicated delivery in the same hospitals (Storeng et al. 2008). Only 51% of those needing transfer to referral care had the money available in another study in Burkina Faso (Sondo et al. 1997).
Searching for money to pay for transport and care takes time and delays access to treatment, exacerbating maternal and newborn morbidity and increasing the risk of death for both mother and baby (Gohou et al. 2004; PMMN 1995).

Although facility-based exemptions for poor patients sometimes exist to protect the poor, they are not necessarily implemented. In Burkina Faso, those who were eligible to receive such protection were often prevented from accessing it due to administrative and other practical difficulties associated with the policy’s implementation (Storeng et al. 2008). In many contexts, the structural constraints on accessing protection mechanisms are compounded by the social stigma associated with being labelled as poor, and the inferior quality of care that patients fear will be delivered once they have been identified as unable to pay.

The poor are more likely to need to borrow money, and will face the greatest constraints in paying money back. For example, in Nepal, sixty percent of those in the highest income quintile were able to pay for obstetric care from their existing capital. In the lowest income quintile, only 32% could meet costs from their existing capital (Borghi et al. 2006a). In Bangladesh, rural households were less able to generate revenue from existing resources, and borrowed almost double that of urban households (Khan 2005).

For households lacking savings or access to finance, contributions and remittances from kin and extended social networks can contribute to meeting the cost of care. In Nepal, the main source of borrowed money was a friend/relative (59%) followed by a money lender (31%), at rates of over 20% (Borghi et al. 2006b). Those with more limited social networks will be more reliant on money lenders. In Bangladesh, 25% of households borrowed from money-lenders to pay for care, with reported interest rates of 5%-30% per month (Khan 2005). The process of searching for funds and the diversity of sources involved is highlighted by one young woman in Burkina Faso:

My father asked for part of it at the mosque, and my mother also asked for some and then we added our 5,000F (from savings). We haven’t reimbursed them...my mother got 1,000 F from one person and 1,000 from another, 1,500 from yet another. We had a bit of maize that we sold. I had three cloths and I sold these and added it all up and had
15,000 F, which we went to give (to the hospital) (Storeng et al. 2008: p.551).

Whilst, in principle, pregnancy is a long enough period to allow households to save, in practice many may be reluctant to do so because of the assumption that the birth will be uncomplicated and can be managed at home, limiting the need for funds. Households may also oppose the idea of saving, if they distrust the agency managing their funds (Sondo et al. 1997).

**Costs of obstetric care as a barrier to accessing care in facilities**

The potentially high costs of obstetric care make it unaffordable for many households. Consequently, in the absence of severe complications, the cost of obstetric care represents a significant demand-side barrier to accessing care during delivery, especially amongst the poor and geographically remote (Koblinsky et al. 2006). Whilst user charges in facilities only constitute one component of the total cost of care seeking, there is a certain body of evidence that has explicitly evaluated the impact of such charges on demand.

Evaluations of delivery care rates before and after the introduction of user fees document in most cases a reduction in the number of facility-based deliveries (Owa et al. 1992; Owa et al. 1995; Mbugua & Segall 1995; Taylor et al. 1993). In Nigeria, deliveries fell by 46-50% following the introduction of fees in one hospital (1983-1988) (Owa et al. 1992; Owa et al. 1995). The number of unbooked deliveries as a proportion of all deliveries also increased, suggesting that women were not planning for a hospital delivery and only sought care if they developed complications (ibid). A 12% reduction in maternity admissions was noted in Kenya (fees were withdrawn a year after their introduction) (Mbugua & Segall 1995), and in Harare, Zimbabwe, deliveries in a health centre fell by 19% between 1981 and 1988 following the introduction of fees (Taylor et al. 1993). In Rwanda, the utilisation of health-centre services dropped from 0.3 curative consultations (inclusive of delivery care) per capita in 1997 to 0.25 in 1999 following the introduction of fees (Schneider et al. 2006). Bolivia experienced a dramatic increase in demand for antenatal and delivery care when user fees were abolished as a part of its social insurance scheme (Dmytraczenko et al. 1998).

In Bangladesh, Afsana (2004) reported that high hospital costs bar
women from seeking such care, with the example of Shaheron who, when referred to the Medical Hospital for pre-eclamptic toxaemia, refused to go, exclaiming:

_If I die, I will die here. I don’t want to sell my house and sleep with my family on the street_ (Afsana 2004, p. 177).

However, in a tertiary-level facility in Cambodia the average monthly number of deliveries increased following the introduction of fees - from 319 prior to the introduction of user fees to 585 afterwards (Akashi et al. 2004). User fees were set below pre-existing unofficial fees, and the revenue generated allocated to staff salaries. An exemption scheme was also instituted and between 4% and 7% of patients were exempted during the period (Akashi et al. 2004). In areas where unofficial fees exist, formalising user charges can be beneficial, especially if exemptions are well targeted (Ensor & Ronoh 2005). In Papua New Guinea, the introduction of user fees had no impact on the rate of institutional deliveries (Benjamin & Purai 2001).

The available evidence indicates that service and non-service based costs generally interact and serve to reduce access to care for non-complicated cases, especially for the poor. Although, as discussed earlier, when severe complications arise women will usually seek care: the economic impact and cost will be magnified, engendering a series of negative longer term consequences. The extent of the impact of user charges for obstetric care will therefore depend upon the level of the charge, the degree of complication, and extent of non-service based costs.

**Consequences of the economic burden of obstetric care**

The consequences of excessive costs are multiple and include short and long term effects on the use of services by women and their children’s use of services (during and after pregnancy); for themselves or their children; the household economy; and women’s social relationships. To date, there has been very little research into the long-term consequences of the costs associated with pregnancy and delivery, reflecting a more general lacuna in the literature on women’s health and well-being after pregnancy in low-income countries. A recently completed study is the first published study to examine a range of outcomes in women following severe obstetric complications (Filippi et al. 2007: Storeng et al. 2008).
ECONOMIC CONSEQUENCES

Households often experience difficulty recovering from the economic shock that can be associated with obstetric care (Storeng et al. 2008). In Burkina Faso, those who had incurred debts associated with emergency obstetric care repaid their debt more slowly than households that had accrued debt to pay for uncomplicated deliveries. One year after the initial expenditure 12% and 3.7% respectively had not repaid all the money borrowed to meet the hospital cost (ibid).

The source of funds to pay for delivery care can have significant long term welfare implications for the household. Where costs are financed by borrowing, there may be a reduction in future consumption; and the long-term effect will be magnified considerably if borrowing takes place at high interest rates. Where the response is to draw on savings, the impact may be less obvious, but also potentially more long-term, such as increased vulnerability to future shocks or seasonal fluctuations in income, or forgone investment in future production.

In the case of complications during delivery, maternal ill health also affects the household economy through reduced productivity of the mother. Women who are unhealthy or who die can no longer contribute to paid and unpaid work. Although most of the evidence comes from higher income countries, a variety of studies have shown that maternal ill health reduces labour force participation (Barr & Hall 1981; Wolfe & Hill 1995) and decreases the probability of employment (Moffitt 1983) and earning potential (Wolfe & Hill 1995). In Burkina Faso, debt and depletion of assets contributed to cycles of debt and households were often unable to continue productive activities due to capital depletion. Women were often unable to contribute to the household economy in the same way as before the pregnancy due to ongoing health problems (Storeng et al. 2008). In such cases, labour substitution by other female household members or children often occurred.

Concern about the lost productivity associated with childbirth means that women can come under pressure to work until very late stages of pregnancy to minimise lost productivity and income, and that care seeking is seen as a last resort, only once serious complications set in. A woman from Burkina Faso whose pregnancy ended in a stillbirth explained:

Concern about the lost productivity associated with childbirth means that women can come under pressure to work until very late stages of pregnancy to minimise lost productivity and income, and that care seeking is seen as a last resort, only once serious complications set in. A woman from Burkina Faso whose pregnancy ended in a stillbirth explained:
I was never able to rest. When I said that I was sick they thought that I was taking advantage of my pregnancy to be able to do nothing. To them I was being lazy. It was only when I was lying down not able to do anything or go to the field that they started to take me seriously (Storeng et al. 2007).

SOCIAL CONSEQUENCES

The economic burden of maternal healthcare is not only expressed in financial and productive terms, but also has potentially far-reaching social implications. One example of this is that the actual stress of meeting the cost of care can bring about or exacerbate existing social tensions, including between partners. In Burkina Faso, the immediate challenge of meeting the cost of care combined with the resulting daily economic difficulties sometimes brought forth the dissolution of relationships, particularly between young, unmarried couples, often leaving the woman in a state of heightened social and economic vulnerability. Furthermore, women often blamed themselves for aggravating pre-existing financial difficulties resulting in intra-household competition and social tensions. Nearly a year after she had experienced a severe pregnancy complication that necessitated expensive, life-saving intervention, one woman put it like this:

Even yesterday they were speaking about it. They were saying that if it hadn’t been for the cost of my operation the problem of buying [food] wouldn’t have been as bad, because we could have spent the money that we spent on the operation to buy millet. When they say things like this, I just get up and leave the room and wait until they have finished before I go back in and join them (Storeng et al. 2008: 552).

HEALTH CONSEQUENCES

While research is scarce in this area, it is generally believed that women who do not receive all the professional care they need during pregnancy, delivery and the postpartum because of the cost barrier may recover less quickly from pregnancy and childbirth and suffer physical and mental health problems. In addition, economic stress is a risk factor for mental distress (Chandra et al. 2002; Patel et al. 2002) and can be linked to adverse psychological symptoms when associated to unaffordable emergency obstetric care (Fillippi et al. 2008). Postpartum depression has recently been noted as a potentially serious public health problem also in low-income countries, affecting
between 5 and 60 percent of women (ibid). Women’s self-reports of physical symptoms and mental health problems are often inter-related, affecting productivity, particularly when they remain untreated (Filippi et al. 2007).

In Burkina Faso women who survived pregnancy complications were more likely to have experienced mental distress in the first few months after the end of the pregnancy than were women who had an uncomplicated delivery. Overall, these women were more likely to report that their experiences during pregnancy had negatively impacted on social relationships and livelihoods, due to the interplay between the physical trauma associated with the medical complication and the economic calamity it brought about (Filippi et al. 2007). Women who are single when they become pregnant are particularly at risk of long-term adverse consequences, as are women who have lost their babies (Filippi et al. 2007).

CONSEQUENCES FOR CARE IN THE POSTPARTUM

The lack of affordable maternity care overall may also play a role in reducing the demand for postnatal services, which women and families may perceive as an additional source of financial burden and not essential. Indeed, in many low-income countries, the uptake of postnatal care is much lower than the uptake of antenatal care and delivery care. There are many reasons for this low coverage, including a lack of prioritisation of postnatal services by public health authorities (Warren et al. 2006).

In Burkina Faso women more often had trouble accessing care they perceived they needed in the post-partum if they had had a severe complication and were thereby exposed to high economic costs (Storeng et al. 2008). The low coverage of postnatal services exists despite the reporting of a large amount of self-perceived morbidity in the postpartum period (Filippi et al. 2007; Uzma et al. 1999).

The high cost of delivery care may also affect the ability to pay for preventive services, such as the health care of the infant and uptake of family planning during the postpartum period, although these relationships require further investigation (Islam & Gerdtham 2006).

Conclusion

This chapter highlights the importance of considering the broader impact of unaffordable delivery and emergency care on both the short term and long
term health and economic welfare of women and children and other members of the family. Although, the literature review was not systematic, the chapter compiled an extensive range of evidence on obstetric care costs, and their economic and social consequences, from which key conclusions and recommendations can be made.

Obstetric care costs in hospitals have been shown to be significant. The official user charges interact with unofficial costs, transport costs and time costs resulting in catastrophic expenditures and debt, particularly in the event of complications. Delivering at home removes the cost of transport and reduces time costs, as well as giving more flexibility to households to pay as much as they can, contributing to household preferences for a home birth in the absence of complications.

Finding a source of financial protection for poor women is essential as they suffer the greatest impact of payments, and are more likely to be deterred from seeking care. Women’s work and everyday poverty (both before and after delivery) must be addressed alongside clinical factors in public health efforts, either by helping them plan for their delivery, providing free or less costly delivery or emergency obstetric care, or by targeting poor women through exemptions or cash transfers around the time of delivery.

Many studies have reported difficulties in identifying and exempting the poor. An alternative option would be to exempt all mothers from obstetric care costs, especially in the event of complications, as a delivering woman is easy to identify, and those delivering in the public sector are more likely to be poor. In Tanzania, for example, where official exemptions were available for maternal and child health care (MCH), the costs were significantly lower than in all other countries. The existence of these exemptions also reduced the differential in cost between normal and complicated deliveries.

Greater government participation in the financing of obstetric care would reduce out of pocket payments for care and is hence likely to increase rates of skilled attendance at delivery (Kruk et al. 2007).

Setting standard and well-publicized prices would reduce the unpredictability of costs and help households to save and ensure that they have sufficient funds available to pay for care when needed. However, obstetric complications will always be unaffordable unless heavily subsidised. The cost of obstetric complications bears the greatest and most damaging longer term consequences for households. It is therefore important that
debates about financing options for maternity care are framed not only with reference to skilled attendance for normal delivery, but that they also consider the affordability of emergency care for complications, including for complications resulting from unsafe and incomplete abortions. Unless protection is extended to emergency obstetric care, financing policies seeking to protect women will not be able to protect those who need care the most and whose lives depend on receiving such care.

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Chapter 2: Cost-sharing experience in Burkina Faso
Cost sharing scheme for emergency obstetric care in Secteur 30 health district, Ouagadougou, Burkina Faso

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Abstract

In January 2005, a cost-sharing system was introduced into Secteur 30 health district, an urban district of the city of Ouagadougou, with the aim of improving access to emergency obstetric care for pregnant women in the district. The cost-sharing covers emergency transport and caesarean deliveries. The direct costs are shared between four parties: 1) the management committees of health centres and confessional health facilities, 2) the woman and her family, 3) the local authorities and 4) the health district. These different contributions reduce the family’s share and generate a surplus for treating the poorest inhabitants of the district.

Three years after implementation, the results have been measured in terms of service utilisation, quality of care, financial viability and perception of the system by the different parties involved. Data were collected from several sources: routine data from the health information system, individual prescription forms, an Unmet Obstetrical Needs (UON) study and individual interviews with the different parties. The coverage of assisted deliveries in the district rose from 66.2% in 2003 to 86.5% in 2007 and the
rate of caesarean deliveries from 2.5 to 3.7%, with 1% of interventions for absolute maternal indications. The cost-sharing system is financially viable and managed to adapt itself to the introduction of a new national subsidy for emergency obstetric care. It now provides complete case management for a caesarean delivery for only 6,000 CFA francs (9.1 €). Nevertheless, the sustainability of such a system, based on an annual commitment from each party, requires monitoring and evaluation within Burkina’s fast changing context (decentralisation, reforms).

**Keywords**: cost-sharing, Burkina Faso, emergency obstetric care, access to health care, urban health

**Introduction**

With a ratio of 484 maternal deaths for 100,000 live births (Ministère de l’Economie et du Développement, INSD 1999), improved maternal health and access to emergency obstetric care represent a major challenge to Burkina Faso’s health system. Over the last ten years, the Ministry of Health has endeavoured to provide each region with access to basic obstetric services provided by Health and Community Promotion Centres (CSPS) and complete obstetric health care by Medical Centres with Surgical Units (CMA) (Ministère de la Santé 2000, Ministère de la Santé 2001a, Ministère de la Santé 2004). Despite these efforts, the national average caesarean rate remains low: 0.7% of expected births, according to the 2005 study on demography and health (2005). The level of CMAs varies considerably from one district to another (42 functional CMAs out of 53) and many women still have limited access to emergency obstetric care (Ministère de l’Economie et du Développement, INSD 2005, Ministère de la Santé 2005a). Financial constraints remain amongst the major barriers limiting access to health care (Thaddeus & Maine 1994). In Burkina Faso in 2006, the GDP per inhabitant stood at 235,615 FCFA (359€), with 46.4% of the population living below the poverty line (82,672 FCFA (126€) per person per year (Ministère de l’Economie et du Développement, INSD 2003). According to the Priority Survey carried out by NISD in 1998, of the reasons cited for patients’ non-use of modern services, economic issues ranked in second place, after a preference for self-medication (Ministère de l’Economie et du Développement, INSD 1998). The poorest members of the population delay
seeking health care. They have to pay transport costs, travel long distances and then cover the treatment costs on arrival. Only a tiny fraction of the population has health insurance coverage (La Concertation 2004, Bicaba et al. 2004, Su et al. 2006). A family spends an average of 4,018 FCFA (6.1€) a month on health, and the poorest quintile of the population only 1,014 FCFA (1.5€) (Ministère de l’Economie et du Développement, INSD 1998). Yet the average price of a caesarean observed in 3 regional hospitals stands at 75,000 FCFA (114€), with the highest price being 300,000 FCFA (475€) (Bicaba et al. 2004).

Different initiatives have been launched to reduce these financial barriers. In 2001, UNICEF started supporting the introduction of cost-sharing systems for obstetric emergencies in the Eastern Region (Bogandé, Diapaga & Pama), the Eastern Central Region (Koupéla and Ouargaye) and the Sahel Region (Sebba) (Ministère de la Santé 2005b). An evaluation of this experience carried out in 2003 showed a reduction in the direct costs incurred by the patient and her family of 60 to 70% without prepayment and an increase in the rate of caesarean deliveries (Nacoulma et al. 2003). In January 2005, after 18 months of preparation, the Secteur 30 health district, an urban district of the city of Ouagadougou, set up a cost-sharing system in its turn, with the technical support of the AQUASOU project7. It is the first time this system has been tested in an urban set up. On 1st October 2006, the State of Burkina Faso introduced a national subsidy for deliveries and emergency obstetric care, covering 80% of direct costs. This was in addition to the districts’ own efforts to reduce the fees for obstetric care.

This chapter aims to describe the different steps involved in introducing a cost-sharing system into Secteur 30 health district, its management and its adaptation to the fast changing context of Burkina Faso (decentralisation process). It will also present the results 3 years after the system’s implementation.

Context

SECTEUR 30 HEALTH DISTRICT

Secteur 30 health district, called Bogodogo district since 2008, was one of the four districts constituting the Central health region (Figure 1). It extended over a surface area of 1,534 Km² (currently 1,200 km²) and covered the arrondissement of Bogodogo (5 urban sectors and 2 villages), forming part of the commune of Ouagadougou and the departments of Saaba (23 villages), Koubri (25 villages) and Komsilga (36 villages). The local administration is as follow: i) the whole Central region is headed by a High Commissioner (a Government representative); ii) the whole town of Ouagadougou, by the Mayor of Ouagadougou; iii) Bogodogo arrondissement is also headed by a mayor; iv) each of the three rural departments, by a prefect. All these representatives are committed to cost-sharing system as we will see below. In 2006 its population was estimated at 489,976 inhabitants, 330,153 of whom lived in urban areas.

Figure 1. Map of health districts in Ouagadougou (Central Region)
The health district includes 44 first level health facilities, 3 medical centres including two confessional and a Medical Centre with a Surgical Unit. 85% of the district's population lives less than 5 km away from a health facility (Ministère de la Santé 2006) and 66% of women delivered with qualified assistance in 2003. Communities run their own health centres through management committees (COGES).

THE CMA OF SECTEUR 30

The CMA is the district’s referral hospital. The operating theatre opened on 1 August 2003, but emergency obstetric surgery has only been possible 24/7 since 1 October 2004 with one gynaecologist permanently on call (external doctors are needed to complete the obstetric duty roster). Two midwives, a delivery assistant and a helper are on duty for the delivery room day and night, weekends included. There are 24 beds in the maternity ward, which is few compared to service utilisation (4,182 admissions and 3,509 deliveries in 2005). The occupation rate reached 103% in 2005 (AQUASOU 2003) and in 2006 the health district introduced a policy for reducing the number of normal deliveries in the CMA, by opening maternity units in the outlying areas and offering good delivery conditions in 1st level health facilities (equipment, training). Women now have to attend these first, and by 2006, the total number of CMA admissions had dropped by 25% (2,476 deliveries).

The cost-sharing system

THE PRINCIPLE OF COST-SHARING

The objective of cost-sharing is to improve access to emergency obstetric care for women living in Secteur 30 health district. The cost-sharing covers ‘emergency transport and a caesarean’. The direct costs are shared between four parties: 1) the COGES and health facilities run by religious groups, 2) the woman and her family, 3) the local authorities and 4) the Ministry of Health. The funds contributed by these different parties reduce the family’s share and generate a surplus for treating the poorest members of the district.

THE PREPARATORY PHASE

The preparatory phase lasted a year and a half (Figure 2). The principle of introducing a cost-sharing system for obstetric emergencies was adopted...
during a consensus workshop held on 6th of May 2003, attended by the representatives of health centre management committees, health authorities at district, regional and central levels, international partners, professional associations, medical schools, representatives of local authorities, women’s associations and health staff members (AQUASOU 2004).

The first technical note was presented to the different parties (local authorities, COGES, District Management Team) in July 2003. It estimated the number of major obstetric interventions (MOI) by department or communes of origin, based on an empirical rate of 2.5% of expected births (being 538 MOI a year and an average of 45 a month). It then provided a cost estimation for the package of services (transport, surgery and post-operative care for mother and child), fixed at 112.8€ (Table 1). It should be noted that the parties adopted a solidarity-based approach for financing transport, fixing the same price for all regardless of the distance involved.
Table 1. Estimated cost of a major obstetric intervention (MOI)

<table>
<thead>
<tr>
<th>Surgical intervention costs</th>
<th>2005</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical act</td>
<td>FCFA €</td>
<td>€</td>
</tr>
<tr>
<td>Surgery kit</td>
<td>8,750</td>
<td>13.3</td>
</tr>
<tr>
<td>Specific products (anaesthesia, oxygen)</td>
<td>17,000</td>
<td>25.9</td>
</tr>
<tr>
<td>Bed charge</td>
<td>5,000</td>
<td>9.1</td>
</tr>
<tr>
<td>Postoperative prescription (mother + child)</td>
<td>16,000</td>
<td>24.4</td>
</tr>
<tr>
<td>Additional examinations</td>
<td>2,000</td>
<td>3.0</td>
</tr>
<tr>
<td>Transport costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambulance</td>
<td>1,418</td>
<td>2.2</td>
</tr>
<tr>
<td>Fuel (20 litres/100 km) for an average of 24km</td>
<td>3,360</td>
<td>5.1</td>
</tr>
<tr>
<td>Maintenance</td>
<td>1,440</td>
<td>2.2</td>
</tr>
<tr>
<td>Stretcher bearer</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>System management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Cost Recovery’ officer</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Travel costs : patient follow-up in University Hospital</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Evaluation costs (UON study)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>74,000</td>
<td>112.8</td>
</tr>
</tbody>
</table>

ASMADE, an endogenous development NGO, and the Union of Bogodogo Women’s Associations were mandated to organise meetings with representatives of the population (women and men) in rural and urban areas. They evaluated families’ financial capacities and heard the opinions of those using the cost-sharing system. All the parties then agreed on a contribution breakdown (Table 2). International partners do not make financial contributions to the system, providing alternative forms of input instead: technical support, material and training. The system’s start date was fixed for 1st January 2005. Monitoring and management details were clarified and all parties’ signed a one year renewable cooperation agreement.
Table 2. Breakdown of the different parties’ contributions for a major obstetric intervention (in Euros)

<table>
<thead>
<tr>
<th>Parties</th>
<th>From 1st January 2005 to 31st September 2006</th>
<th>From 1st October 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FCFA</td>
<td>Euro</td>
</tr>
<tr>
<td>Families</td>
<td>25,000</td>
<td>38.1</td>
</tr>
<tr>
<td>COGES &amp; Confessional health facilities</td>
<td>8,000</td>
<td>12.2</td>
</tr>
<tr>
<td>Secteur 30 health district</td>
<td>21,000</td>
<td>32.00</td>
</tr>
<tr>
<td>Local authorities</td>
<td>20,000</td>
<td>45.2</td>
</tr>
<tr>
<td>State (national subsidy)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>74,000</td>
<td>112.8</td>
</tr>
</tbody>
</table>

TARGET POPULATION AND ELIGIBILITY

The beneficiaries of the system are pregnant women living in Secteur 30 health district. District non-residents benefit from the same care but cannot take advantage of the preferential fees.

The cost-sharing system covers all major emergency interventions related to pregnancy (cesarean delivery, laparotomy for ectopic pregnancy, haemostasis hysterectomy and complicated perineum and cervical repair requiring general anaesthesia).

All costs relating to the emergency surgery are included in the fee: transport by ambulance, surgery, additional examinations, post-operative care for the mother and child during their stay in the CMA, hospitalisation and dressings as an outpatient until all wounds are fully healed.

COST RECOVERY

The patient or her family have to pay her contribution (25,000 FCFA from January 2005 up to September '07 and only 6,000 FCFA since 1st October 2006 (see section below for this modification) to the cashier of Secteur 30's CMA before or after surgery, depending on her resources. A Cost-Recovery Officer is responsible for this process. The poorest members of the district have a certificate issued by the social services exempting them from payment. The CMA’s social services can also decide to exonerate families without such a certificate after a rapid social assessment8.

8 The rapid social assessment includes questions on profession, place of residence, type of
If the CMA’s pharmacy is short of certain generic medicines or a particular pathology requires a specialist product, the family receives a prescription for the product’s purchase in a private pharmacy. The CMA refunds the family on the presentation of a receipt, following verification by the Cost Recovery Officer.

MANAGING THE COST-SHARING SYSTEM

A monitoring committee was set up, composed of representatives of the different parties (20 members). It meets every 3 months to check if the system is running according to their written agreement.

There is also an executive committee at Secteur 30 CMA level. Its 7 members meet up every 15 days and oversee the system’s daily management. But in practice, this smaller committee permanently ensures that the system is running smoothly. It carries out a monthly analysis of data and monitors contributions (reminder letters for the COGES’ contribution, contacts with the local authorities).

The executive committee includes a Social Educator who assumed his functions in the CMA in July 2005. He works in close cooperation with the cost-sharing parties and developed an assessment grid for criteria of indigence.

A cost-recovery officer was recruited in December 2005. He plays a critical role in monitoring patients in the system and following up direct health expenses. In practice, every morning he receives the files of operated patients with authorisation to leave the CMA, and gives them or their families explanations about the care received, the costs involved and the amounts due. He takes this opportunity to explain the cost-sharing system, naming the various financial contributors involved. Having settled the amounts due, he gives the patients a post-operative liaison form for the continuity of their care as outpatients and an appointment for a control visit 45 days after surgery. The officer cross-checks the various documents on a regular basis: nurses’ prescription forms, the pharmacy register, the overview of post-operative care expenditure. This ensures that surgical protocols are applied and there is no misappropriation of medicines. He informs the head of the Gynaecology-Obstetrics Department of any anomalies observed, and takes corrective measures by questioning the parties concerned.

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residence, means of travel, number of dependants and partner’s profession.
A cost-recovery guideline (explaining the care process for each patient and how the recovery system works) has been drawn up for each party to refer to in the event of any problems.

An individual prescription form is made up for each woman who underwent surgery. It is used to note all the examinations carried out, medicines administered and surgery performed, and the drugs taking out from the CMA’s pharmacy. Prescriptions are no longer handed over directly to the family (except when, as described above, the drugs in the pharmacy are out of stock).

**MONITORING AND EVALUATION**

The system for compiling the information used in monthly activity reports was improved (number of admissions, deliveries, caesarean sections, complications). The multitude of existing registers for admissions and deliveries was replaced by only one. It is checked and completed every morning during the staff meeting at 8 am, when the night duty team presents its caseload to the gynaecologist in charge.

An Unmet Obstetric Needs (UON) study (data collected on major obstetric interventions for women living in Secteur 30) is carried out each year in Ouagadougou’s various public hospitals and private clinics. This allows us to calculate a Major Obstetric Intervention (MOI) rate for women in the district and check if needs are met, especially for the rural population. The individual prescription form gives the real cost of the care provided in order to adjust the estimations if necessary. It also facilitates prescription control and allows non-standard practices to be stamped out.

**RECENT DEVELOPMENTS IN COST-SHARING: THE NATIONAL SUBSIDY FOR DELIVERIES AND EMERGENCY OBSTETRIC CARE**

The National Assembly of Burkina Faso voted to include a national subsidy for deliveries and emergency obstetric and neonatal care (EmOC) in its 2006 budget as part of its drive to improve the financial accessibility of obstetric services. This measure came into effect on 1st October 2006 (Box 1).

The subsidy aims to provide enough funds from the State, local authorities and management committees to support 80% of normal delivery costs in the health districts, 60% of normal delivery costs in national and regional hospitals and 80% of EmOC costs from 2006 to 2015.
Box 1. Services covered by the national subsidy (Ministère de la Santé 2005c)

- Normal deliveries
- Emergency obstetric and neonatal care
  - Caesarean sections
  - Laparotomy for ectopic pregnancy and ruptured uterus
  - Complicated deliveries: all vaginal deliveries requiring the use of products (solutions, oxytocics, antispasmodics, blood transfusions, etc.), repair of complicated cervical or perineal tears under general anaesthesia, uterine revision, vacuum extraction/forceps delivery and internal manoeuvres
  - Management of pre-eclampsia and eclampsia crises
  - Intensive care (acute cerebral distress, severe neonatal infection, severe respiratory distress, hypothermia) for newborns (less than or equal to 7 days old)
  - Manual Vacuum Aspiration (MVA) for abortion complications
  - The transport/evacuation of pregnant women from their villages to health centres and from health centres to the referral centre.

This national subsidy has led to a decrease in the official price of a caesarean (operation, medicines and consumables, additional examinations, hospitalisation and transport) to 11,000 FCFA in all public hospitals in the country and a delivery (act, medicines and consumables, observation) to 900 FCFA in a CMA and 1,800 FCFA in a university teaching hospital. But in Secteur 30 district, which already practices cost-sharing for caesarean deliveries, this national subsidy has been already integrated into the present system, thereby reducing even more the price of a caesarean for patients.

INTEGRATING THE NATIONAL SUBSIDY INTO THE COST-SHARING SYSTEM

The District Management Team, with the Regional Health Director, made a proposal to the monitoring committee redefining each party's contribution in order to integrate the national subsidy into the cost-sharing system. This process took into account the updated price of caesareans, including the cost-recovery officer’s salary and changes in the composition of caesarean kits (extra thread, spinal anaesthesia needles). The cost was estimated to be 126.5 € (83,000 FCFA) (Table 1) and all members of the monitoring committee adopted the new contribution breakdown in September 2006. All parties’
contributions dropped following the national subsidy's introduction (Table 2), as did the price of a caesarean, standing at only 6,000 CFA since 1st of October 2006. The estimated total budget required for the case management of the 746 procedures expected in 2008 stands at 61,918,000 CFA, to be distributed between the different parties involved (Table 3).

Table 3. Provisional global budget for 2008 (746 procedures expected)

<table>
<thead>
<tr>
<th></th>
<th>Total 1 lump sum</th>
<th>Patient</th>
<th>COGES</th>
<th>ECD</th>
<th>Local contributions</th>
<th>State (subsidy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution breakdown</td>
<td>100%</td>
<td>7%</td>
<td>7%</td>
<td>17%</td>
<td>16%</td>
<td>53%</td>
</tr>
<tr>
<td>For one intervention (FCFA)</td>
<td>83,000</td>
<td>6,000</td>
<td>6,000</td>
<td>14,000</td>
<td>13,000</td>
<td>44,000</td>
</tr>
<tr>
<td>In Euros €</td>
<td>126.5</td>
<td>9.1</td>
<td>9.1</td>
<td>31.6</td>
<td>29.4</td>
<td>99.5</td>
</tr>
<tr>
<td>For 746 interventions (FCFA)</td>
<td>61,918,000</td>
<td>4,476,000</td>
<td>4,476,000</td>
<td>10,444,000</td>
<td>9,698,000</td>
<td>32,824,000</td>
</tr>
<tr>
<td>In Euros €</td>
<td>94,393</td>
<td>6,824</td>
<td>6,824</td>
<td>15,992</td>
<td>14,785</td>
<td>50,040</td>
</tr>
</tbody>
</table>

**Methods**

The cost-sharing system has been documented in the various mission and annual activity reports produced within the AQUASOU project framework, setting out the different implementation phases. The executive and monitoring committees’ reports have documented any implementation difficulties and the results in terms of the number of patients covered and the system’s financial viability (balance between expenditure and the different parties’ contributions).

In addition to the routine data produced by the maternity ward, extra studies were required to measure the impact of the cost-sharing system on service utilisation, quality of care, and perception if the system by the population and personnel.
QUALITATIVE DATA

- Qualitative studies have been carried out amongst patients and their families to measure the population's knowledge of the system and its appreciation. Twenty four women or family members were interviewed in June 2005, and 26 in December 2005, being 6 months and 12 months after the start of the initiative, when the family's contribution was still fixed at 25,000 FCFA.

- Interviews were also conducted during the same period (June and December 2005) with health centre staff (rural and urban CSPS) and hospital staff (from different services) to document their perceptions of the system.

- *Equilibres & Populations* carried out interviews with the Mayor of Ouagadougou, the Mayor of Bogodogo, the High Commissioner of the Central Region and the 3 prefects of the rural departments during the preparatory phase in July 2003, just before the cost-sharing system began in December 2004 and during the official closure of the AQUASOU project in February 2006. Others were carried out in December 2006 and 2007 by ASMADE, an NGO with activities in political mobilisation.

- The minutes (annotated by FR) of executive committee meetings held between January 2005 and April 2006 reported any critical incidents, the days and reasons for operating theatre closures and the solutions suggested by the executive committee.

- The minutes of meetings with the COGES involved in the different stages of the process were used to collect their understanding and perceptions of the system.

QUANTITATIVE DATA

- Routine health data from the district hospital maternity ward (admissions, deliveries, complications, referrals) from 2003 to 2007.

- «C-section» forms (used for the UON study). This form provides information on the procedures and their outcomes. It was filled in for all district residents receiving a caesarean section, wherever it took place (district hospital or other neighbouring private or public facility) and for non residents operated on at the district hospital.

- «Individual prescription forms» for women who underwent caesarean section (the treatment received and its cost) in 2005. This form lists all
the surgical acts performed and the medicines prescribed for women during their stay and how much they cost. It was introduced in January 2005, when the cost-sharing system began.

- « Referral and retro-information forms » from 2004 to 2006. These forms were standardised for all the district’s health facilities (public and private) and introduced in February 2004. They ensure continuity of care through information on patient status during evacuations.

Results

Utilisation

Origin of the beneficiaries

The majority of women receiving surgery originate from Secteur 30 health district. Of the 808 major obstetric interventions carried out in 2007, 22% of the women were non residents. The number of interventions increased by 23% in the district between 2005 and 2006 and by 20% between 2006 and 2007, which is far more than the population growth rate, situated at around 6.6% (Figure 3).

Figure 3. Number and origins of women undergoing Major Obstetric Interventions (MOI) in the CMA between 2005 and 2007
Referrals
As from 2005, there was a sharp increase in the number of emergency referrals from the district’s CSPS towards the Secteur 30 CMA. This trend continued in 2006 and 2007, establishing the CMA as a referral centre: referred patients represented 16% of all admissions in 2005 and 38% in 2007 (Figure 4).

Figure 4. Total admissions and referrals received in the CMA’s maternity ward from 2002 to 2007

Coverage of assisted deliveries
The coverage of assisted deliveries by Secteur 30 district stood at 66.2% in 2003 and has been increasing ever since. In 2007, it stood at 86.5%.

Coverage of maternal needs in major surgery
The rate of major obstetric interventions (for 100 expected births) within the population of Secteur 30 district rose sharply during the first three years, then pulled back to an average of 2.8%. Between 2003 and 2007, the rate of major obstetric procedures had multiplied by 2.4 in rural areas (from 0.34% to 0.81%) and 1.4 in urban ones (2.69% to 3.81%).

The rate of major obstetric interventions for absolute maternal
indications (MOI for AMI) was less than 1% before the operating theatre began to function 24/7 at the end of 2004. The peak observed in 2005 (the year the cost-sharing system began) can be explained by the increased frequency of caesarean deliveries following suspicion of cephalo-pelvic disproportion (Figure 5).

**Figure 5. Changes in the rate of Major Obstetric Intervention (MOI) for women of Secteur 30 district**

Since 2005, the CMA has carried out the majority of its obstetric surgery on women of the district: 78% in 2007 compared to 8% in 2003 (Figure 6).
Figure 6. Proportion of Major Obstetric Interventions (MOI) carried out per hospital for district residents, 2003 - 2007

QUALITY OF CARE

Rationalisation of care
The introduction of the cost-sharing system has had an impact on the rationalisation of health care. All gynaecologists working in the CMA had to agree on the contents of a surgical kit containing mainly generic products provided by CAMEG (the national purchasing centre for essential and generic medicines). The operating teams were encouraged to use the Misgav Ladach operating technique for caesarean section (Holmgren et al. 1999) along with protocols for post-operative care (ablation of the urinary catheter on Day 1, getting up and eating early, discharge from hospital on Day 4 in the absence of complications). The introduction of individual prescription forms provides closer monitoring of the direct costs of a caesarean delivery. An increase in the cost of post-operative care, for example, leads to analysis of prescriptions and a discussion with the nursing team. This happened once in 2006 and again in 2007. The increases coincided with the arrival of new nursing staff in the surgery unit.
Mortality and lethality
From 2005 to 2007, the Secteur 30 CMA performed 2,022 surgical procedures (MOI and complicated perineal and cervical tears). There were 15 per- and postoperative deaths over three years. Three women had to return to theatre because of postoperative haemorrhages on Day 0 and 10 for wound dehiscence, Ten patients suffered from endometritis and/or wound infections (of which 4 required re-admission) (Table 4).

Table 4. Per or postoperative deaths

<table>
<thead>
<tr>
<th>Causes of per or postoperative deaths (C-section, ectopic pregnancies, serious cervical tear)</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemorrhage</td>
<td>1</td>
<td>5</td>
<td>5*</td>
</tr>
<tr>
<td>Infection</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transfusion accident</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Eclampsia</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Post-surgery lethality</td>
<td>0.56%</td>
<td>1.03%</td>
<td>0.62%</td>
</tr>
</tbody>
</table>

*(4 C-Sections + 1 repair of cervical tear)

Early perinatal mortality (<24h) after caesarean delivery dropped from 3.6% in 2005 to 2% in 2007 for all types of caesareans and from 4% to 2.2% for emergency caesarean deliveries.

FINANCIAL VIABILITY

Over the period of three years, 79% of contributions were recovered at COGES level. The percentage of recovery amongst patients rose from 90% in 2005 to 97.7% in 2007. Nine of the poorest inhabitants of the district were treated free of charge in 2007 as compared to twenty in 2006, before the reduction of fees to 6,000 CFA.

The salary of the Cost Recovery Officer, responsible for the proper running of the system, is covered by the system. The system’s administration costs only represent 3% of the total costs.

The financial viability of the system depends on several factors: the estimation of the expected number of major obstetric interventions to be performed on district residents per year; the adherence of providers to prescription protocols and the payment of each contributor involved in the
The estimation of the number of expected caesarean deliveries determines the contributions requested from each party. If the estimation is too low, the system goes into debt. These estimations are re-evaluated and adjusted every year in accordance with the previous year’s results, and have not been exceeded so far. Cost estimations are based on standardised health care protocols for caesarean section and postoperative care and the prescription of generics. Non-adherence to these prescription rules can generate costs exceeding the estimate. The greatest variations arise during postoperative care (from 4,540 to 122,410 CFA). Whilst costs can exceed estimates for complicated cases, the average has remained reasonable: 13,654 FCFA for the 3 years (16,000 CFA in 2005, 11,743 CFA in 2006 and 13,219 in 2007). Regarding the different parties’ contribution payments, certain parties needed reminding (every quarter) before their payments were forthcoming. The successive changes in the district and hospital administrator and accountant caused some delays in local authorities’ payments, but they always settled their contribution. Some management committees have payments outstanding, often linked to internal problems within the committees. So the cost-sharing system is not in debt, but district managers continue to experience difficulties with its appropriation, considering it as an extra workload.

PERCEPTIONS OF THE STAKEHOLDERS

Population’s perception
The study carried out in June and December 2005 amongst women delivered by C-section and their families revealed that few of them were aware of the cost-sharing system’s existence before their admission to the CMA’s maternity ward. Most of the women and their relatives were informed of the system when the decision to proceed with a C-section was taken. For others, they chose the CMA maternity because they knew about the system.

The relatives expressed their appreciation of the system, even when the household financial contribution was at 25,000 CFA. Comments such as “it’s a big relief for the families”, “it’s a real help” were repeated time and time again. Before the introduction of this system, coping with the cost of a caesarean delivery presented enormous difficulties, with health facilities asking for prepayment before providing any care and patients and their
families never knowing how much the operation would cost. So, with surprise, the beneficiaries observed that “even if you don’t have the funds, you have access to health care”, an important development given the usual practice of payment before receiving anything at all. “Patients aren’t disturbed, they receive rapid care”, “here, it’s great, they (the health personnel) don’t give out prescriptions”, “twelve thousand, that’s not a lot for saving two lives! We can’t do everything for free: health care has a price!”, even though the people interviewed recognised that some families struggle to pay this sum. It should be noted that some beneficiaries said they had to sell an asset or take out a loan to cover the expenses of maternity care. Finally, there was a high opinion of the personnel’s competence and the quality of the care received. “They don’t sleep here, they don’t neglect people. As soon as you call, they come…”

Nonetheless, the users found it unsatisfactory to limit these efforts to obstetric emergencies. During an information meeting held for the general public, ASMADE revealed the extent of demands concerning general follow up during pregnancy. Many women called for a subsidy for antenatal care (ANC) and treatment of all complications during pregnancy, or suggested that ANC should be free. As it was, the cost-sharing initiative had just been linked up to a policy decision concerning free ANC that had not yet taken full effect in the field. Moreover, ANC had officially been free in Burkina Faso since the system’s initiation in 2005, but was still being paid for in some places due to shortages of products (medicines and consumables) that should normally be administered for free. Health workers in first line facilities were obliged to prescribe or sell the products in question, which led to confusion and incomprehension amongst women, and gave the impression that ANC was still fee-based.

In addition, the people interviewed suggested that costs should also include postpartum newborn care.

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9 Amounts were often quoted as exceeding 100,000 FCFA.
10 Newborn care was integrated into the ‘C-section package’ after the first year.
Providers’ perception

The health personnel in the first line facilities, and above all in the rural CSPS, declared themselves highly satisfied with the system. Since its introduction, they had rarely been called on to negotiate with families about the need to evacuate whilst family members gathered the sum required to cover evacuation and surgical costs. They found their working conditions more “comfortable”, both in taking the decision to evacuate and putting this decision into practice. According to the personnel interviewed, they were still uncertain about transport when the system was put into place: certain drivers had not understood that the cost of transport was included in the fee of 25,000 CFA, and continued to demand “motivation” from families before setting off. Moreover, the lack of available ambulances meant that some families had to pay for a taxi or private car.

The personnel working in the referral maternity ward also experienced this same sensation of “comfort”, even if it was tempered by the risk of work overload generated by the system’s expected success in the health district. Just as the first line facilities’ personnel could now decide to evacuate with more ease, the maternity ward and operating theatre personnel could now decide to perform surgery with more ease, again without waiting for payment.

The complete understanding of the system by health personnel was not immediate, and the less they were directly involved in women deliveries the more the appropriation of the cost-sharing system took time. Some individuals found it hard to discard their old “reflexes”. Thus regular explanations were required on delivering patient care without waiting for pre-payment and abandoning the habit of prescribing products (drugs and consumables) to buy outside the facility. New recruited personnel or trainees arriving in the maternity ward needed special attention to be fully informed. Adhesion to the new system was slower for the non-medical personnel, i.e; pharmacists, laboratory technicians, cashiers, drivers, cleaners, and administrative hospital and district staff. Adhesion was hampered by other patients who did not understand why these women benefited “privileges” whilst they received no help for their treatment whatsoever."
Contributing parties’ perception
The first interviews, held in July 2003 during the preparatory phase, revealed that the different representatives of the local authorities judged their financial commitment to maternal health justified and necessary, but feared that their efforts would lack visibility and prove complicated to put into practice. They had high expectations of being accorded credit for their contributions by the population and technical and financial partners in Ouagadougou and Burkina. After three years of the system running satisfactorily, the local authorities have maintained their participation and say that they draw more benefits from it than initially imagined. During the interviews held in December 2007, they expressed their satisfaction to be “doing something concrete and practical for women’s health”, which moreover contributes to their access to health care objectives (they now have a mandate in this domain). They also emphasised their understanding of the system, and above all that they knew where their money is going and how it is really being used. More specifically, the mayor of Ouagadougou continued to hold out hope that the system would be extended to other health districts covering the city and so benefit all the women and families of Ouagadougou. The mayor of Bogodogo, i.e. the representative of the urban arrondissement which is a major beneficiary of the system, is convinced of the initiative’s pertinence for the women under her jurisdiction and has no intention of turning back. She also pointed out that the system “relieves the commune’s social services department by taking care of the poorest women in case of obstetric emergency” because in her opinion the cost-sharing system covers global case management - based on defined criteria - and is more effective than the usual mechanisms of social assistance provided by the commune. The Prefects considered the project as an opportunity to introduce concrete and practical assistance for the people living within their department and to take a stand on health issues. They include participation in the reduction of maternal mortality in their action plans and requests for resources from the High Commissioner who is well-informed on this subject himself and secures the system. The Prefects’ financial implication and participation in steering the system, on a par with the other parties, has provided them with a role of pathologies is a frequently observed phenomenon, extending well beyond this particular system of cost-sharing.
legitimate guarantors of the system and the quality of health care and health training in their areas.

The other contributors to the system, the COGES, make frequent demands for more information and repeated explanations of the budgets. This point has cropped up in every meeting. Those COGES which are on time with their contributions ask for a much more strict management targeted to non-payers and laggards, “some of them haven’t paid and yet their women benefit from the system”\(^{12}\). The laggards or bad payers regularly demand that their debts be cancelled from one year to the next. Even if the money from the COGES is raised from the sale of generic medicines and should be invested in the population’s health, the monthly contributions to the cost-sharing system are perceived as a cut in the COGES’ income. They have not used their contributions to gain credit within their communities, and have not circulated any information on the system, contrary to the local authorities.

Discussion

The overview of the three years of implementation is generally positive if we count the rise in assisted deliveries and caesarean deliveries, the financial balance of the system and the families’ satisfaction.

FACTORS OF SUCCESS

If we analyse the reasons for this success, we can first of all cite the patience and attention to detail accorded to the preparatory phase, which mobilised political players and health centres’ management committees and secured their financial commitment. The system also benefited from the involvement of the health authorities: the director of the Family Health Department has supported a cost-sharing approach since these systems started up in the eastern districts in 2001 (Ministère de la Santé 2005b). The Management of the Central Region was present throughout all the different implementation stages and the Regional Director of Health became personally involved, participating in all the cost-sharing system’s monitoring committees. The

\(^{12}\) It is important to emphasise that the parties involved in the project chose at its outset not to penalise women coming from COGES behind on their payments, as has been the case in other cost-sharing experiences in Burkina Faso.
District Management Team, whilst referring to the experience acquired by UNICEF in rural districts (Nacoulma et al. 2003) managed to adapt the system to an urban environment by committing the confessional health facilities and local authorities to cost-sharing and introducing its own monitoring tools (individual prescription forms). The system was supported by an improved management of human resources (team meetings, redeployment of personnel between the different hospital services). Finally, the regular monitoring of prescriptions led to rationalised care and reduced case management costs. As a consequence, the system could adhere to the estimates made at the outset and maintain its financial viability.

**DIFFICULTIES ENCOUNTERED DURING IMPLEMENTATION**

*Providing quality emergency obstetric care 24/7*

One of the major difficulties was providing emergency obstetric care 24/7 and guaranteeing the package of services promised for the fee throughout the year. There were also hiccups when nurses had to draw up prescriptions for private pharmacies (oxytocin, stitching thread) following shortages in the hospital’s drugs store. The operating theatre also experienced some problems (shortages of oxygen and anaesthesia products, break downs in sterilisation equipment), leading to the suspension of activities and the transfer of women to the university teaching hospital. Difficulties in managing stocks and maintaining material are recurrent issues. It should be noted that in the majority of cases, drugs and material stock shortages at CMA level were linked to central purchasing public offices shortages of generics. There were also shortages of medical personnel. The numerous training courses, studying opportunities and supervision missions proposed to doctors disrupt the duty roster and jeopardise the permanence of care. External personnel were called in to cover the gaps, but the system cannot cover this cost if such a need becomes generalised. In 2007, the CMA no longer had a blood bank for emergency transfusions due to the creation of a national transfusion centre and new rules concerning the circulation of blood products.

A final difficulty resides in the maternity ward’s limited capacity, which will soon be overwhelmed by the increase in activity. As it is, the Secteur 30’s CMA drains from the populations of the surrounding districts because their CMAs do not have operating theatres open 24/7 (22% of women operated on in 2007 were not district residents).
Personnel’s adherence to the system

The second difficulty concerns the health staff’s adherence to the cost-sharing system. Generally speaking, setting up such a system is synonymous with tighter control over monetary flows relating to transport, purchase and use of medicines and consumables, examinations and medical or non-medical acts as well as increased demand for medicines, material and personnel availability. The system also involves paying more attention to patients’/their families’ complaints, in the framework of another part of the AQUASOU project (Richard et al. 2009). A number of studies have shown that little arrangements on the side allow health facility personnel (medical or not) in sub-Saharan Africa to increase their incomes, compensating for what are often low salaries (Ferrinho & Van Lerberghe 2000, Jaffré & Olivier de Sardan 2003, Van der Geest 1982, Fassin 1992, Cresson & Schweyer 2000). These “little arrangements” range from holding down several jobs at once, thereby reducing the working hours spent in the health facility, to setting up small businesses in the facility itself, involving the sale of medicines and consumables (including stock misappropriation at times) and explicit demands for “motivation” by patients before delivering any care. Tighter control therefore implies that the facilities’ personnel earn less. No compensation was offered for this drop in their income following the introduction of improved practices. The different parties involved in the cost-sharing chose not to introduce indemnities, judging that the work expected of the personnel did not extend beyond their job descriptions and official bonuses already existed for those personnel involved in the department’s activity, paid by the CMA. Whilst this is a legitimate position, does it encourage the personnel’s long-term adherence to the system? This is one of the most acute issues considering certain vertical programmes providing case management for specific pathologies - programmes heavily subsidised at times - with high bonuses for the personnel involved.

13 Particularly by the introduction of audits on obstetric complications under the form of case reviews, casenote analysis associated with interviews of the women and their relatives.

14 There is an official set up in which part of user fees are distributed quarterly to the hospital personnel according to their professional category.
Urban-rural disparity

The results show that fewer major obstetric surgical interventions are performed on the district’s rural population than on its urban residents. This obviously raises the issue of geographic accessibility; the Prefects of the three departments also think that the populations of their rural departments are overestimated. The figures used are projections based on the last census, dating from 1996 (Ministère de la Santé 2001b). Another practice to be taken into account: women often join their families or families-in-law in the city at the end of their pregnancies, preferring to be near a hospital in the event of a problem. On admission, they declare their urban address, thus lowering the rural figures.

Mobilising the communities

ASMADE organised 146 information meetings throughout the district with the direct involvement of 14,000 people. The District Management Team organised several meetings on cost-sharing for the Presidents of COGES and the Chief Nurses of the Health Centres. But the target groups - women’s associations, leaders and COGES members - did not always make information available to the direct beneficiaries: the pregnant women. Moreover, the Chief Nurses did not always train the personnel in their health centres to use the system. It should be noted that this lack of information from managers to their teams is not specific to cost-sharing, whether for the Chief Nurses or the Presidents of the COGES. The District Management Team becomes aware of this lack of communication during its supervisory visits. Following a presentation of the results during a monitoring committee, the different parties decided to change their strategy, focusing directly on midwives and auxiliary birth attendants in the CSPS, who would then pass on information to women during ANC. This campaign was backed up with posters placed in ANC waiting rooms and a series of radio broadcasts.

The future of the cost-sharing system in a changing context

Since the initiation of the cost-sharing system, many aspects of Burkina’s administrative and political context have changed: a national subsidy for normal deliveries and emergency obstetric care came into force in October 2006, rural communes joined the other cost-sharing parties in 2007.
following the decentralisation process unfolding in Burkina Faso and the district’s target population changed in 2008 following the re-drafting of health boundaries for the Central Health Region. All these changes could have destabilised the enterprise launched in 2004, without mentioning the end of the AQUASOU project in March 2006, which had supported the system’s initiation. Yet despite it all, the system still continues, and has managed to integrate the various changes. The political decision to subsidise 80% of the costs of delivery, related complications and C-sections came into force on 1st October 2006, and led to a further reduction in direct costs for the family: 6,000 CFA for the case management of mother and child for a caesarean delivery. The different parties have renewed their partnership agreement with the Secteur 30 district. It is difficult to predict the future of the cost-sharing system because the agreement is re-negotiated annually with the different parties. It should be noted that the Ministry of Health has used the experience of Secteur 30 health district, in particular the monitoring of prescriptions during case management, for drawing up its guideline on procedures and tools for implementing the national subsidy.

The efforts made by the Secteur 30 health district team have been recognised by all, and the district received the best district prize in 2007, awarded by the Ministry of Health. Nonetheless, this recognition has not been translated into a budgetary allocation to the hospital. Secteur 30’s CMA has had to cope with growing running costs in the operating theatre generated by the increase in surgical activity: maintenance of medical equipment, generator, etc. In 2007, the theatre’s running costs amounted to 30 million CFA (45,800 €). Secteur 30’s CMA is currently ranked 3rd nationally in terms of surgical activity, after the two national hospitals, yet it does not receive more public funds for covering its running costs than the other district hospitals. The surgical activity and cost-sharing system will be unable to continue if these funds do not increase.
### Box 2. Lessons learnt

<table>
<thead>
<tr>
<th>Strong points of the system</th>
<th>Points to improve</th>
<th>Conditions for launching such a system</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improved access to <em>Emergency Obstetric and Neonatal Care</em> (EmNOC)</td>
<td>• Capacity strengthening of COGES Presidents, Stability of COGES team</td>
<td>• Local bodies’ political will and financial commitment</td>
</tr>
<tr>
<td>• Organisation of referrals</td>
<td>• Local authorities’ participation</td>
<td>• Effectiveness of decentralisation (existing laws and local authorities having decisional and financial capacities)</td>
</tr>
<tr>
<td>• Implementation of Comprehensive EmNOC in CMAs</td>
<td>• Equipment in the CMA maternity ward</td>
<td>• Highly committed District Management Team</td>
</tr>
<tr>
<td>• Improved community participation</td>
<td>• Workforce (gynaecologists-obstetricians, midwives)</td>
<td>• Highly committed COGES</td>
</tr>
<tr>
<td>• Local authorities’ involvement in resolving health issues</td>
<td>• Setting up protocols adapted to the available resources</td>
<td>• A CMA in working order</td>
</tr>
<tr>
<td>• Installation of a dynamic team in setting up EmNOC</td>
<td></td>
<td>- Equipment</td>
</tr>
<tr>
<td>• The creation of a multi-sectored approach in finding solutions to maternal health issues</td>
<td></td>
<td>- Sufficient Human Resources for providing 24/7 health care</td>
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<td></td>
<td></td>
<td>- Gynaecologists-obstetricians available and committed to the process, particularly the Head of Department</td>
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<td></td>
<td></td>
<td>- Creation of obstetrics case-notes</td>
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</table>
| Conditions for sustainability | • The effective participation of the different parties through their financial contributions and attendance in meetings  
• The effective holding of statutory meetings  
• The presentation of a complete and comprehensible financial overview |
| Conditions for scaling up (other districts in Ouagadougou) | • An improvement in health care provision in the referral facility (personnel, equipment, protocols)  
• The involvement of all the figures of authority in the district (mayors, NGOs, Chief Nurses of Health Centres, COGES, etc)  
• The identification of a relay facility for implementing the communication strategy |
| Advantages of a cost-sharing system | • Removing the financial barriers to access to emergency obstetric care |
| Disadvantages | • The phenomenon of attraction that increases the personnel’s work load without any compensation for their loss of income resulting from tighter cost controls (transfer requests as a consequence) |

- Use of medical and nursing care protocols
- Organisation of a daily case review after the night shift.
- Pharmaceutical stock correctly managed
- A Cost Recovery Officer for following up health expenditure on a daily basis
- A midwife for data entry of UON study data
  • A relay point (local NGO) for social mobilisation
Conclusion

These last 3 years of implementation have proved that such a cost-sharing system can be adapted to an urban environment with the support of new parties: local authorities and confessional health facilities. The technical aspects of public health were supported by active political mobilisation and the time taken over the preparatory phase gave the different parties time to appropriate the system. One of the keys to success was undoubtedly the participative and cross-sectorial approach adopted during the preparatory phase and throughout implementation, as well as rigorous monitoring of the system. New channels for mobilising the community should be envisaged to involve even more users. The cost-sharing experience in Secteur 30 health district is full of promises, but its development over time requires close monitoring. The system has been developed in a context that cannot be guaranteed over the long term (committed Head of Gynaecology-Obstetrics Department, supportive health and political authorities, technical assistance from international partners). The different parties have to decide on the system’s future every year, and the agreements are signed on an annual basis only. The Ministry of Health encourages cost-sharing systems, but has not made them compulsory, and only 10 out of 55 districts had a system in place before the introduction of the national subsidy for emergency obstetric care. Secteur 30 health district has managed to adapt to the changes in national policy for the benefit of the women under its charge, lowering the price of a caesarean below the official one (6,000 CFA instead of 11,000 CFA), but it is difficult to predict what impact the national subsidy will have on the other cost-sharing systems in Burkina.

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Chapter 3: Obstetric Risk Insurance (ORI) in Mauritania
Risk sharing as solution for providing access to emergency obstetric care: Experience with obstetric risk insurance in Mauritania

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Abstract

Financial barriers to emergency obstetric care are one of the causes of a high maternal mortality ratio in low-income countries, particularly in Mauritania. Risk sharing through the introduction of obstetric risk insurance provides all women with care throughout their pregnancies for a flat-rate ticket of 22 US$, i.e. between two and ten times less than in other public sector maternity wards. Pregnancy-related complications and surgical procedures are included in the package. Besides facilitating access, this strategy aims to improve the quality of emergency obstetric care and ensure better working conditions for health staff.

After five years of implementation in the capital and over two years in three rural regions, the scheme has had a highly positive impact: the population’s massive adherence in all four areas has led to a growing number of services delivered and a consequent twofold increase in assisted deliveries in rural areas. Less than 0.1% of services go unpaid and the scheme is completely autonomous following an injection of initial investment. It is managed by a committee made up of users, health staff members and locally

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elected representatives, guaranteeing exemplary transparency.

These initial results have encouraged the Ministry of Health to prioritise expansion of this Obstetric Risk Insurance scheme, aiming to cover 80% of the country by 2010.

**Keywords**: maternal mortality, access to health care, emergency obstetric care, risk insurance, Mauritania.

**Introduction**

Every year, of the 536,000 women who die as a consequence of pregnancy, 99% live in less developed countries. In 33 countries, 30 of them in Africa, the maternal mortality ratio exceeds 600 per 100,000 live births (UNFPA 2005 a), which is sixty times higher than in Western countries. These deaths, which often occur outside health facilities, are the consequence of known complications (Royston *et al.* 1990), both quantifiable (Prual *et al.* 2000) and avoidable with assistance during delivery: in the survey “Maternal Morbidity in West Africa”, 67.9% of deaths were due to direct obstetric causes.

In these countries, the poorest women present the highest risks: the ratio of maternal mortality is clearly related to levels of wealth and the proportion of assisted deliveries (UNFPA 2005 b; WHO 2005 a). Improving access to care to reach 80% of skilled attendance at delivery would reduce the maternal mortality ratio to below 200 per 100,000 live births, as found in most countries (WHO 2005 a).

Whilst geographic and socio-cultural issues are also at stake, the financial constraints incumbent on poorer women limit their use of health services considerably, and few solutions to this problem have been proposed to date. Many states lack the resources, or the political will, to guarantee the financial protection of their populations. The poorest are obliged to go without health care, or sink heavily into debt to cover the associated costs, especially in the event of an obstetric emergency, as shown in the socio-anthropological survey carried out in Nouakchott (Prual 2000). In Mauritania, several different approaches co-exist: in facilities without a flat-fee system, the user pays for each service provided, but the poorest are often excluded from the most expensive health care. Exemptions do exist, but not always for those in greatest need. There have been trials in free health care, but the personnel
complain of overwork and start selling medicines that should be free of charge (WHO 2005 b). There have been only limited experiments in setting up community loan systems and community based health insurance (Fofana 1997, Carrin 2005), with insufficient results to date.

To reduce the financial barriers to obstetric care, a system of prepayment, called “Obstetric Risk Insurance” (in French: “forfait obstétrical”), was introduced in two Moughataas in Nouakchott in November 2002, covering a third of the city. The system was extended to an additional Moughataa in May 2004, becoming operational in five maternity wards and thus covering the needs of half the expected pregnant women in the capital. This chapter aims to describe the Obstetric Risk Insurance, detail the different stages of its implementation and evaluate the results 5 years after its introduction.

Context

Mauritania, a semi-desert West African country with 2.8 million inhabitants, is one of the least advanced countries in terms of health development: in 2002, health expenditure represented 2.9% of the GDP, being 10 US$ per inhabitant. The latest surveys show a maternal mortality ratio of 747 deaths/100,000 live births (MAED/MSAS 2001), a neonatal mortality of 40‰ and under-five mortality of 123‰ (MAED/ONS 2004).

The health system organisation follows the administrative boundaries. It is a pyramidal system comprising of three levels: the central level, represented by the Ministry of Health; the intermediate level, made up of Regional Health Directorates (Directions Régionales de l’Action Sanitaire: DRAS) situated in the 13 capitals of the Wilayas (regions); and the peripheral level, composed of Moughataa (departmental) health districts re-grouping health centres and health posts. Certain regional hospitals are run autonomously; others fall under the Regional Health Directorates.

In Nouakchott, the capital with 558,195 inhabitants (MEAD/ONS 2002), 90% of deliveries take place in public sector maternity wards (MEAD/ONS 2004); the remaining 10% are distributed between the private sector and homes. The city is divided up into 9 Moughataas and the country’s two referral hospitals are located here.

There are sufficient midwives for health facilities at all levels, yet the quality of health care is notoriously poor, both in terms of interpersonal
relationships and behaviour towards patients in general, as well as adherence to diagnostic and therapeutic norms and procedures.

Pregnant women cover the totality of costs related to health care during pregnancy, as the country offers no social insurance, except for the civil servants whose costs are covered by the State. The existing cost recovery system is based on the profits from sales of essential drugs. The complexity of the redistribution of the profit into personnel bonuses renders the whole management system opaque. Moreover, frequent stock shortages oblige patients to buy their medicines and consumables in private pharmacies at prohibitive prices, further increasing delays in the application of emergency therapeutic decisions. There is no organised public sector referral system so patients have to use private transport, and the backhanders demanded by certain categories of personnel significantly increase the official rate. These costs obviously vary according to the type of care required, the health facility in question and the personnel involved: they range from an average of 32 US$ for a pregnancy and non-complicated delivery to 333 US$ for a caesarean delivery (Prual 2000). These costs are too high for the majority of users, and often explain the delays observed in the provision of emergency care in the only surgical gynaecology-obstetric unit in the country, located within the National Hospital Centre (Centre Hospitalier National: CHN).

THE NOUAKCHOTT SAFE MOTHERHOOD PROJECT

Obstetric Risk Insurance was introduced in Nouakchott through the Nouakchott Safe Motherhood Project, financed by the French Ministry for Foreign Affairs (budget of 600,000 US$) with technical support from the World Health Organization. Designed to contribute to reducing maternal and perinatal mortality, the project, piloted by the Regional Health Delegation (DRAS) with the help of French Technical Assistance, focused on a multidisciplinary approach bringing together gynaecologists, public health specialists, socio-anthropologists, political and associative representatives and heads of NGOs and development partners in order to address all the determinants of maternal and perinatal mortality.

The project introduced a series of preliminary measures:
- supplying all maternity wards with basic equipment,
- staging a refresher course on emergency obstetric care for doctors and midwives,
- developing working and monitoring tools (Vangeenderhuysen et al.)
2001),
• building and equipping an operating theatre in the Health Centre with the highest attendance rate, thereby turning it into an emergency referral centre,
• carrying out a socio-anthropological survey to shed light on user/health staff relationships and health-seeking behaviours,
• setting up an audit committee to examine maternal deaths,
• introducing an autonomous management system granting financial access to the entire population regardless of the level of health care required.

The risk insurance scheme therefore formed part of a global approach aimed at improving access to health care and the quality of services provided, as opposed to being an isolated measure.

The different stages of implementing the Obstetric Risk Insurance Scheme

Although there were some initial difficulties in convincing all the parties involved, the strong political support given to the scheme from its outset encouraged adherence from the majority of health staff members.

A number of information meetings were organised to allow each staff member to understand how the system worked and appreciate the opportunity it offered to a largely impoverished population.

Consensus conferences, responsible for drawing up protocols, upheld the principle “no delivery without a midwife” and extra staff have been allocated to the participating facilities as necessary.

All health staff members adopted the standardised care protocols and the various tools developed (obstetric case notes, individual mother and child health books, registers for drug management, laboratory and ultrasound management, referral cards, monthly activity and consumption reports, receipt ledgers, etc.). Then a national NGO carried out a programme of intense social mobilisation, circulating information amongst elected representatives and community leaders and enlisting women volunteers to visit 70% of households, explaining the project to families and inviting them to participate in local meetings for information and discussion.
The personnel adopted a “good conduct” charter, focusing on the quest for quality and the rejection of illicit financial gains, but also incorporating the right to information on managing the risk insurance scheme.

A detailed estimation of needs and the average cost of care during pregnancy was drawn up using in-depth knowledge of the maternity wards’ activity (acquired before the project began), the acceptance of the data from the “Maternal Morbidity in West Africa” survey (Prual et al. 2000) for determining the incidence of the main pathologies expected during pregnancy and the estimate of drugs and consumables required for each service.

A sum of 70,000 US$ was allocated to cover the first year’s working capital, thereby guaranteeing the availability of medicines and consumables from day one.

A Monitoring Committee was set up, composed of health professionals, elected political leaders, Ministry of Health representatives, community representatives and development partners. This composition ensured full transparency.

A smaller committee was formed for handling day to day management. Different models with varying fees have been tested, ranging from 18 to 24 US$, with the fee of 22 US$ retained as the most realistic. It covers resupply of medicines and consumables and bonuses for personnel (doubling their salaries if activity levels were high) whilst remaining affordable for the vast majority of pregnant women who paid, on average, according to the official rate (which was lower than the real rate), between 14 and 33 US$ for a delivery, and around 200 US$ for a caesarean section.

**Description of the system**

Based on the underlying principle of risk sharing, Obstetric Risk Insurance (“ORI”) involves a financial contribution from pregnant women of 22 US$ paid in one or two instalments during pregnancy, to cover the costs of all related health care, regardless of the pregnancy outcome, the mode of delivery or any immediate complications.

All patients attending their first ante-natal care (ANC) consultation are informed of the options available and the services covered by the insurance scheme. They can choose to pay per act rather than enrolling in the ORI, but they cannot change their mind later on in the pregnancy. The quality of
services provided, however, remains unchanged.

Whatever mode of payment chosen, the user then receives a health book and payment receipt, presenting the latter at each contact with obstetric services. The ANC midwife notes down the patient’s name and the sum received in a receipt ledger, to be collected by the ORI administrator every month.

The insurance scheme entitles the patient to an obstetric package consisting of four ANC consultations, prophylaxis treatment, blood and other tests (haemoglobin level, blood group and rhesus at the first ANC consultation, albuminuria and glycosuria at each consultation), one ultrasound scan during the first trimester, management of pathologies associated with the pregnancy, care during a normal or complicated delivery including a caesarean section, ambulance transportation to a referral hospital if necessary, hospitalisation and post-natal care (PNC).

The management committee tracks the activity in the wards, the data collected from monitoring and the receipts generated by the system; it also approves drugs and consumables orders and bonus distributions and maintains a balanced budget.

The ORI administrator summarises the necessary information for the management committee: every week, he collects the receipts and compares them with the reported activities and receipt ledger stubs; at the end of the month, he presents the committee with a financial overview and settles the bonuses and running costs. Once the pharmacist has drawn up the monthly estimation of medicines and consumables, he pays the orders from an account requiring three signatures.

On the first day of each month, the health centres report on activities and stocks of medicines and consumables in order to be re-supplied on the basis of estimated monthly needs. After each delivery, the central pharmacy stock is re-evaluated and re-supplied; in the event of a stock shortage in the Medicines and Consumables Purchase Centre (Centrale d’Achats des Médicaments et Consommables: CAMEC, the official public sector supplier), drugs are purchased from the private sector in accordance with their quality and price.

The receipts generated by the contributions should cover the purchase of medicines and consumables, contribute towards running costs (setting off the lost takings from medicines sales as envisaged by the Bamako initiative), pay the extra personnel required to keep the operating theatre running 24/7.
and provide maternity health staff members with bonuses to compensate for the loss of non-official revenues. In an effort to maintain the notion of quality at the forefront of service provision, 30% of bonuses are distributed in accordance with merit-based criteria: application of hygiene rules, punctuality, adherence to protocols and quality of interpersonal relationships.

Forty percent of receipts were initially set aside for re-supply, with this figure gradually adjusted to 32% over the course of 2007 following better price offers by the CAMEC (Figure 1).

Figure 1. Expenses breakdown, Mauritanian obstetric risk insurance, 2007

The Regional Health Delegation (DRAS) receive 10% of receipts as reimbursement for costs generated by the few necessary transfers for intensive care at the National Referral Hospital (CHN); this fund also covers medicines and consumables for the poorest patients, estimated at 5% of users.

Once several maternity wards become involved in the scheme, personnel
bonuses are distributed in accordance with activity. Not all acts practiced during pregnancy care are equivalent, varying in technical complexity, degree of responsibility or the time they take. Each one is therefore attributed a coefficient. Thus a delivery has a coefficient of 1, a consultation and a day in hospital 0.2, an ultrasound scan and laboratory examinations 0.3. The number of interventions and hospital days are multiplied by their respective coefficients, leading to the attribution of points to each facility, then the distribution of bonuses following a scale defined jointly by the system’s managers and health staff members, with distribution in relation to staff qualification.

The Monitoring Committee, run by the Region’s Prefect, guarantees the system’s smooth running, transparency in the management of receipts and outlays, equity in the distribution of bonuses and adherence to the charter of rights and duties signed by all members of the maternal health services.

A DRAS midwife, supervised by the ORI Coordinator, provides constant monitoring of the population’s adherence to the plan, the activity in the maternity wards and the quality of services provided. Systematic data collection in all public sector maternity wards of the city is organised, identifying the geographic distribution of deliveries with the aim of pinpointing the relationship between delivery location and domicile; regular interviews are programmed with users and health staff members to assess their perceptions of the system. Retro-information is provided to the midwives running the maternity wards.

EXTENSION OF THE OBSTETRIC RISK INSURANCE SCHEME

After two years of encouraging results and despite the fact that ORI does not resolve all the existing problems, the Mauritanian Ministry of Health adopted this initiative as a model to be adapted for rural areas. The system was then extended to several Wilayas outside the capital:

- On the 11th May 2005, the Ministry of Health decided to initiate the extension to the capitals of three of the county’s Eastern regions: Kiffa (Assaba), Aïoun (Hodh El Gharbi) and Néma (Hodh El Chargui), representing a population of around 70,000 inhabitants, being a third of the three Moughataas.
- On the 11th May 2007, the commune of Aleg (15,000 inhabitants for 60,000 in the moughataa) joined the scheme.
- On 12th May 2008, the extension reached the towns of Kaédi (40,000
inhabitants) and Nouadhibou (90,000 inhabitants).

- At every stage, the presence of an effective operational surgical team was guaranteed, including a gynaecologist introduced to the facility 9 to 12 months previously. Obviously, the concordance between the arrival of a specialist and the set up of a new system of access to health care makes it difficult to carry out a separate analysis of the impact of each event. But there was no question of implementing Obstetric Risk Insurance without an adequate referral level.

Figure 2. Map of Mauritania, distribution of the ORI area
Methods

We carried out an annual evaluation on the target population’s adherence to the ORI in participating facilities, the impact on service utilisation, the quality of health care provided and its financial viability.

Quantitative data was gathered from:

- routine data collected from monthly activity reports provided by participating facilities since the introduction of ORI,
- monthly monitoring carried out in all the public sector maternity wards in Nouakchott over 24 consecutive months between 2005 and 2007, gathering all the information available on all women delivering in the first week of each month,
- Regional Health Delegations and annual hospital reports.

Qualitative data was gathered from:

- analysis of obstetric case notes selected at random in series of fifty consecutive files from each participating facility once a year; the study focused on the quality of the anamnesis, the search for signs of materno-fœtal infection, blood pressure readings, the quality of the partographs and post-partum surveillance (the limited reliability of the study’s results for the first two items explains their absence from the presentation of results),
- cross-checking the ward’s monthly activity reports with reports on the delivery and consumption of medicines and consumables, leading to a comparison of product use with therapeutic protocols,
- study of referral causes and the nature of serious complications associated with pregnancies receiving care in the surgical gynaecology-obstetrics ward (monthly reports),
- Nondirective interviews of users and maternity health personnel carried out once a year until 2006 by external staff trained in the interview techniques.
Results

IN THE FIVE MATERNITY WARDS IN NOUAKCHOTT

ORI enrolment and service utilisation

The percentage of pregnant women enrolling in ORI from their first antenatal clinic (ANC) rose from 90% at the end of the first year to 98.2% in 2007 (number of enrolments in ORI at the first ANC over the total of ANC1 carried out in the five participating facilities).

The study of delivery location (public sector facilities versus home deliveries) provides an indication of women’s confidence in health facilities (Table 1): generally speaking, most women deliver in the nearest maternity ward to their home, but this is more pronounced when they live in an ORI catchment area (81% compared to 59% p<10-3); 13.2% of women living outside an ORI catchment area deliver in ORI-participating facilities; 16.6% of women living within an ORI catchment area still attend non-ORI participating facilities, largely for geographic reasons, despite the higher rates they have to pay.

Table 1. Geographic distribution of deliveries in all the public sector maternity wards in Nouakchott: (study carried out on a sample of 11,342 women collected from monthly monitoring reports between June 2005 and May 2007)

<table>
<thead>
<tr>
<th>Maternity wards area</th>
<th>ORI area</th>
<th>non-ORI area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>81.3%</td>
<td>2.1%</td>
</tr>
<tr>
<td>ORI area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORI n=5720</td>
<td>13.2%</td>
<td>58.8%</td>
</tr>
</tbody>
</table>

As shown in Table 2, whatever the service under consideration, the activity of all the participating facilities has risen sharply since the scheme’s introduction: in particular, the enrolments increased by 77.8% between 2003 and 2007 and the proportion of deliveries covered by ORI now represents 77% of all deliveries in these 5 maternity wards compared to 42.4% in 2003, demonstrating the population’s confidence in the scheme.
Table 2. Activities and ORI coverage for the five participating maternity wards of Nouakchott, 2001-2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N° of expected births</td>
<td>11,130</td>
<td>11,904</td>
<td>12,148</td>
<td>12,451</td>
<td>12,762</td>
<td>13,082</td>
</tr>
<tr>
<td>N° of enrolments in the ORI scheme</td>
<td>5,504</td>
<td>7,549</td>
<td>7,829</td>
<td>8,823</td>
<td>9,784</td>
<td></td>
</tr>
<tr>
<td>N° of ANC consultations</td>
<td>13,500</td>
<td>12,479</td>
<td>18,937</td>
<td>18,990</td>
<td>19,670</td>
<td>23,879</td>
</tr>
<tr>
<td>N° of deliveries carried out</td>
<td>6,848</td>
<td>9,485</td>
<td>11,111</td>
<td>12,389</td>
<td>11,787</td>
<td>12,463</td>
</tr>
<tr>
<td>% caesarean sections/assisted deliveries</td>
<td>1</td>
<td>2.8</td>
<td>2.6</td>
<td>3.5</td>
<td>3.2</td>
<td>3.3</td>
</tr>
<tr>
<td>N° of deliveries carried out</td>
<td>6,848</td>
<td>9,485</td>
<td>11,111</td>
<td>12,389</td>
<td>11,787</td>
<td>12,463</td>
</tr>
<tr>
<td>% of deliveries with ORI</td>
<td>42.4</td>
<td>57.4</td>
<td>64.9</td>
<td>72</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>% of ORI activity ****</td>
<td>58.2</td>
<td>72.9</td>
<td>78.8</td>
<td>83.5</td>
<td>86.8</td>
<td></td>
</tr>
<tr>
<td>% of receipts generated by ORI</td>
<td>59.9</td>
<td>70.6</td>
<td>71.1</td>
<td>76.8</td>
<td>81</td>
<td></td>
</tr>
</tbody>
</table>

* data for the entire city of Nouakchott in 2001, for ORI-participating maternity wards for the following years
** last complete year without ORI
*** first complete year with ORI
**** services covered by ORI compared to all services

If we only consider the deliveries in Nouakchott's public sector facilities, Figure 3 clearly shows an increase of activity in the 5 maternity wards, largely at the expense of hospitals offering the same services at higher rates.

In 2007, service utilisation was higher for patients enrolled in the ORI, with an average number of 2.4 ANC per patient (1.7 outside the catchment area) and 72.9% coverage of PNC (45% outside the catchment area).
Moreover, blood and urine testing is carried out in 95.4% of cases and an ultrasound scan for 71.8% of patients (data not available in non-participating maternity wards).

Among the women not enrolled in ORI and paying all the direct expenses for their delivery in the referral hospital, 62% did not attend ANC.

Quality of care
Although quality of intrapartum care has improved in comparison with 2005, it has not reach the quality standards existing at the introduction of the ORI (Table 3).
Table 3. Changes in quality criteria in maternity wards in the ORI catchment area, Nouakchott, 2003-2007

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of partogram*</td>
<td>48%</td>
<td>35%</td>
<td>45%</td>
</tr>
<tr>
<td>Post-partum care</td>
<td>30%</td>
<td>14%</td>
<td>30%</td>
</tr>
<tr>
<td>Blood pressure readings during labour</td>
<td>-</td>
<td>29%</td>
<td>55%</td>
</tr>
</tbody>
</table>

*% of good quality partograms over the number of deliveries in the maternity wards offering ORI

The differences between the use of medicines and consumables and defined norms lead to different conclusions: highly satisfactory with regards to the application of hygiene measures and utilisation of oxytocics but considerably less so in the administration of preventive measures. Despite the permanent availability of products, it is clear that personnel do not always follow procedures: in particular, albuminuria testing was only carried out during ANC1.

During the 2005-2007 period (Table 4), severe maternal morbidity accounts for 5.3% of deliveries with a case-fatality rate of 1.6%. Haemorrhages and eclampsia account for 75% of deaths.

Table 4. Severe maternal morbidity and rate of lethality in the 5 maternity wards in the ORI catchment area, 2005-2007

<table>
<thead>
<tr>
<th></th>
<th>Haemorrhage pre and per partum</th>
<th>Post-partum haemorrhage</th>
<th>Severe hypertension complication</th>
<th>Severe dystocia and CPD*</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe maternal morbidity %</td>
<td>13.2%</td>
<td>12.2%</td>
<td>13.3%</td>
<td>43.2%</td>
<td>18.6%</td>
<td></td>
</tr>
<tr>
<td>% delivery</td>
<td>0.7</td>
<td>0.6</td>
<td>0.7</td>
<td>2.3</td>
<td>1</td>
<td>5.3</td>
</tr>
<tr>
<td>Lethality %</td>
<td>3</td>
<td>1.3</td>
<td>4.8</td>
<td>0.4</td>
<td>1.3</td>
<td>1.6</td>
</tr>
</tbody>
</table>

*Cephalopelvic disproportion

The percentage of caesarean sections is relatively stable (Table 2) with globally identical indications from one year to the next, exclusively for maternal reasons in the absence of foetal monitoring during labour.
number of maternal deaths is decreasing regularly, but the figures are not yet significant.

**Perception of the system by users and providers**

The interviews carried out with system stakeholders reveal their opinions on ORI at different stages of the project.

Most users find the system more equitable and accessible to greater numbers of people. Generally speaking, they appreciate their reception at ANC level or in the maternity wards, but many complain of a lack of information on "the principles of risk insurance and its advantages" and observe periodic lapses into corruption behaviour in the referral maternity wards, with some staff members falsely claiming drug shortages in order to sell drugs to women on the side. They appreciate the fact that medicines and consumables are provided, even if prescriptions are still required on occasion. Amongst the non-enrolled patients, there are two different scenarios: either their pregnancies are followed up in a non-participating facility and they present themselves at the ORI-participating maternity ward for delivery, or, far too often, their pregnancies are not followed up at all.

Amongst the personnel, opinions vary greatly: most complain of a significant increase in workload and insufficient bonuses, and a lack of consultation and information within the system, etc. But for the users, there is a clear improvement, both in terms of service cost and the increased rapidity of emergency care.

In reality, the study of changes in workload per ward shows the situation to be stable. Nonetheless, in so far as salaries have risen considerably since 2003, the impact of bonuses on monthly revenues is becoming less and less significant.

**The financial viability of the system**

The increased receipts (Table 5) are logically proportional to the increased activity, with a growing share generated by ORI.
Table 5. Annual receipts in US$ for the five maternity wards in the ORI catchment area, Nouakchott, 2002 - 2007

<table>
<thead>
<tr>
<th>Year</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>16,200</td>
<td>167,670</td>
<td>210,465</td>
<td>254,880</td>
<td>257,527</td>
<td>261,110</td>
<td>1,167,852</td>
</tr>
<tr>
<td>% Risk insurance</td>
<td>37.5</td>
<td>59.9</td>
<td>70.6</td>
<td>71.1</td>
<td>76.8</td>
<td>81.0</td>
<td>72.4</td>
</tr>
</tbody>
</table>

The breakdown of receipts varies significantly depending on the month under consideration (Figure 4), which clearly explains the variability of bonuses paid over to health staff members.

Figure 4. Quarterly breakdown of receipts in US$ in the 5 maternity wards in the ORI catchment area, Nouakchott, 2003-2007
The breakdown of expenses (Figure 5) shows that the funds initially set aside for re-supply are used for such, either in the future (2%), or already used or in stock (35%).

Figure 5. Breakdown of outlays in % of total receipts for the maternity wards in the ORI catchment area, Nouakchott, 2002-2007

Operating theatre running costs, independent of the volume of activity, and in line with personnel costs, represent 14% of expenses. In total, including the 34% attributed to varying bonuses, 48% of receipts are re-distributed directly to personnel.

Of the 10% set aside for health centre running costs, half is also distributed as bonuses to the numerous “volunteer” personnel. The rest is spent on small-scale maintenance.

The 3% re-assigned to the DRAS largely covers hospitalisation costs for the intensive care unit (ten patients on average per year over the 5 year period) and medicines and consumables for patients unable to afford ORI. They represent only 0.1% of users since the scheme’s introduction.

Of the 5% assigned to the security fund, almost all of it was used on maintenance, repairs and the purchase of supplies. This was not planned, as these costs should fall to the Minister of Health.

On 31st December 2007 the financial reserves covered six months of
supply; over the last year, the average overall cost of medicines and consumables required for pregnancy care accounted for 32.4% of the risk insurance fee, being 0.4% more than forecasted. If costs and activities remain unchanged, there are currently no concerns regarding financial viability.

RESULTS IN THE NEW WILAYAS (KIFFA, AÎOUN, NÉMA)

For Kiffa, Aïoun and Néma (Table 6), we compared the last complete year without ORI (2004) with the complete years with ORI (2006 and 2007). The scheme has not been in place long enough to present results for Aleg, Kaédi and Nouadhibou, even if for Aleg, the preliminary results are similar to those observed in the three first Moughataas.

Table 6. Main indicators for maternal health in Kiffa, Aïoun and Néma since the introduction of ORI, 2004-2007

<table>
<thead>
<tr>
<th></th>
<th>KIFFA</th>
<th>AÎOUN</th>
<th>NÉMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nbr of ANC Consultations</td>
<td>3,000</td>
<td>5,929</td>
<td>5,970</td>
</tr>
<tr>
<td>Nbr of assisted deliveries</td>
<td>1,520</td>
<td>2,142</td>
<td>2,630</td>
</tr>
<tr>
<td>Nbr of enrolments in ORI</td>
<td>1,956</td>
<td>1,939</td>
<td>732</td>
</tr>
<tr>
<td>% of caesarean sections/assisted deliveries</td>
<td>3.2</td>
<td>2.5</td>
<td>4.1</td>
</tr>
<tr>
<td>Ratio of maternal mortality (per 100,000 LB)</td>
<td>675</td>
<td>186</td>
<td>266</td>
</tr>
<tr>
<td>% of ORI deliveries/assisted deliveries</td>
<td>59</td>
<td>61</td>
<td>58</td>
</tr>
<tr>
<td>% of assisted deliveries/expected deliveries in the moughataa</td>
<td>41</td>
<td>62</td>
<td>69</td>
</tr>
</tbody>
</table>
Adherence and service utilisation

There was a noticeable rise between 2004 and 2006:

- Number of ANC increased by 63% in Aïoun, 97% in Kiffa and 190% in Néma,
- Number of assisted deliveries increased by 30% in Aïoun, 41% in Kiffa and 78% in Néma.

This trend continued in 2007, but, logically, in a less spectacular manner. This improvement in access to health care led to a significant increase in the rate of assisted deliveries in all the Moughataas, surpassing the rate recorded in the hospital maternity wards and thus testifying to the knock-on effect of introducing ORI in these departments.

There was massive adhesion to the ORI scheme (enrolments rose from 83% to 87% during the first ANC consultation) and women now choose this mode of payments for 2/3 deliveries.

In Nema, it is regrettable that around a third of enrolled members, originating from villages close by, carry out their ANC in ORI-participating facilities but then return to their villages to deliver, often doing so in unsafe conditions. This can probably be explained by gender-associated taboos (the health staff members in rural areas are almost always male) and the considerable influence of religion in these rural areas, added to the population’s lack of confidence in their health system to date. We can imagine that re-locating the offer of health care to health posts at an affordable rate will help regain the confidence of these women who have been forgotten for so long by the health services.

Quality of care

For the users, the permanent availability of medicines and consumables and the consequent drop in prescriptions and costly purchases in private pharmacies is a major step forward, and largely explains the success of the ORI scheme.

This availability provides health staff members renewed comfort in their working conditions and for most of them, the consequent reduction in revenue is compensated for by bonuses.

The rate of caesarean sections has risen, varying between 2.5% in 2007 in Kiffa to 5.7% in Néma.

There has been a definite reduction in hospital maternal mortality...
(significant for Kiffa and Néma); nonetheless the rates remain too high. Over half the deaths recorded were due to eclampsia, requiring resuscitation that is difficult to provide in hospital facilities equipped with minimal technical resources.

Moreover, the increased death rate in 2007 results from a higher number of referred cases coming from neighbouring Moughataas in deplorable conditions (74% of deaths).

An explanation is still required for why the substantial increase in caesarean delivery rates in Néma between 2006 and 2007 had no effect on maternal mortality, and why there was such a difference (p=0.007) in mortality with Kiffa, where the equipment and human environment appear identical.

Financial viability
The financial management analysis demonstrates that the level of receipts is stable, largely covering re-supply in medicines and consumables and a distribution of bonuses that can amount to a second salary, depending on the month and the health worker’s professional qualification.

The accounts are comfortably in credit, both for re-supply and security funds.

Discussion
Despite the imperfections listed by the users and inadequacies in the quality of certain services provided during routine care (Table 3), this initiative has been an undeniable success with the population: amply demonstrated by the rising number of enrolments and the constant increase in activities (Tables 2 and 6). This confidence attracts the women living outside the ORI catchment areas (Table 1), and explains the other Moughataas’ demands to be included in the scheme, whether in the capital or beyond. Increasing numbers of women choose to enrol in the ORI, and concerns expressed during the scheme’s introduction regarding non-payers have proved unfounded. Given the population’s average living standards, the financial appeal of the scheme is considerable, even if the promised quality is not always delivered.

In Nouakchott, the downside of this success has led to a saturation of the referral gynaecology-obstetric ward, with an average of 50 ANC
consultations and 18 deliveries taking place per day. Whilst the teams on duty are managed by a midwife, they are otherwise composed of insufficiently qualified auxiliary personnel, with all the safety risks that this implies. The ward needs to reinforce its health staff members and introduce continued supervision in order to improve the quality of its services; improved organisation of tasks and a more judicious distribution of working hours could also lead to improved ANC and PNC coverage.

In terms of quality, the main improvement lies in the permanence and continuity of care, made possible by the availability of drugs and supplies, the effective presence of an operational team available 24/7 and the existence of an efficient referral system allowing faster delivery of emergency obstetric care. The average time required between the decision to carry out a caesarean section and the start of the intervention is now 45 minutes, which is, according to the conscientious observations made by the obstetricians on duty, three times less than in the two other surgical maternity wards in the capital.

In Nouakchott, despite a reduction in comparison to the 2003/2005 period (Renaudin et al. 2007), lethality remains high (Table 4), particularly during haemorrhagic and severe hypertension complications, but it can be hoped that the recent availability of blood products (fresh frozen plasma and concentrated red blood cells) will bring it down.

Outside the capital, the increased number of deaths registered in the regional capital maternity wards corresponds to an increase in referrals from neighbouring departments: this confirms the urgency of extending the ORI coverage in order to organise the referral system in the best conditions possible.

The ORI introduced official additional resources, but despite the increase in activities, the bonuses remained stable following a multiplication of “arranged” staff postings to participating maternity wards. This led to periodic instances of corrupt behaviour from certain staff members, who nonetheless remained a minority. In regions with fewer personnel, the risk of such behaviour is lower, and satisfaction quasi-unanimous.

Fears of embezzlement in the management of such initiatives can curb their implementation: experience shows that rigour and transparency are possible when management protocols are well-defined and Management Committees are held accountable to users.

Risk insurance generates considerable resources, and is at times
mistakenly considered an absolute solution to all problems - the maintenance of medical equipment, for example - as if it were possible to expect users to cover not just medicines, supplies, bonuses and duty personnel but the entire health system's running costs as well. Rehabilitating premises, maintaining equipment or buying it new must remain the responsibility of the State or donors, and it would be dangerous to imagine that this scheme, successful though it is, can substitute them in their entirety.

Improvements are required, particularly at the level of information circulation amongst personnel, on-going training, adherence to protocols, maternity ward supervision, consultation with users’ representatives, etc. (although it is difficult to obtain continuity in the latter due to its inevitably voluntary nature). After 5 years of experience in Nouakchott, nearly 3 years of experience outside the capital and an increase of 10% in the ORI fee in early 2005 (20 to 22 US$), the budget is balanced and financial autonomy assured if good management practices are applied, particularly in the purchase of medicines and consumables.

The ORI fee is accessible, yet sufficient to avoid the need for external financing (from development partners, community associations, the State or communes, etc.) that can never be guaranteed over the long term. Development partners and health authorities consider that the moderate budget for regional extension, currently estimated at between 4 and 7 US$ per woman of childbearing age (depending on whether or the Moughataa has a working ambulance or not), should allow implementation of the extension strategy without undue delay.

Conclusion

The guaranteed availability of supplies, the presence of a surgical team exclusively for emergencies, the organisation of a referral system and the accessibility of the ORI fee are probably all factors that explain the huge success of this scheme with women.

Furthermore, this mode of prepayment for an existing event with a known duration and for which the date of enrolment is open to choice probably corresponds to the financial capacities of a population with modest and irregular revenues better than a classic mutual insurance system. It should be noted that rigorous management and transparent procedures guarantee viability and autonomy without the need to undertake or envisage
any recapitalization.

The marked increase in assisted deliveries at rural Moughataa level shows the knock-on effect of risk insurance and pleads for a rapid extension of the scheme towards more remote areas, where needs are more acute, expectations higher and efforts most required. The ORI alone cannot resolve the enormous challenge facing those responsible for the health system with regards to the tragic levels of maternal mortality, but its positive impact and knock-on effects has placed it at the core of Mauritania’s maternal health policy.

The strong political support accorded to the scheme from the outset has undoubtedly contributed to its sustainability to date. The recently-envisioned extension of care to newborns should also capitalise on a firm political will to define a real strategy for reducing neonatal mortality.

At present, 25% of Mauritanian women benefit from this risk sharing scheme; with the help of development partners (the French Development Agency, UNFPA, UNICEF and the Spanish Cooperation), the scheme aims to cover 80% of the country by the end of 2010 in the reasonable hope of reaching the Millennium Development Goal of a three quarters reduction in maternal mortality.

References


MAED/MSAS, Mauritanie (2001) Enquête démographique et de santé 2000-01, ONS/ORC Macro, RIM.


Appendix 1

IMPLEMENTING REGIONAL EXPANSION

It is an absolute priority to ensure the proper management of the referral surgical gynaecology-obstetrics ward so it can handle all emergencies. The ORI is therefore always introduced into the regional capital first, then extended to departmental health posts once the referral hospital is established, then departments depending on this regional hospital for surgical referrals.

PRELIMINARY STEPS

Human resources: the first requirement is a team trained in the case management of obstetric emergencies, which involves:

- the presence of a gynaecologist-obstetrician or, if none is available, a surgeon trained in the techniques of vacuum extraction and caesarean section at referral hospital level
- the presence of an anaesthetist technician, operating theatre personnel and a laboratory technician in the regional hospital
- the effective presence of sufficient midwives and nurses trained in Emergency Obstetric Care to assist deliveries in the health centres and regional hospital; presence of one registered nurse and one auxiliary midwife in the health posts.

Equipment: refers to the referral facility and basic health facilities

- the existence of an equipped, functional operating theatre in the regional hospital
- the availability of blood products
- the equipment of all maternity wards with basic supplies to ensure quality care for vaginal deliveries
- the existence of communication means (radio or telephone) in each health facility
- the allocation of a functioning ambulance exclusively for the use of obstetric emergencies.
PROCEDURES

It is vital to precede the introduction of ORI with presentations of the scheme’s objectives and management, offered to:
- health authorities and health management staff (regional director, hospital director, senior doctors in health centres, gynaecologist, Reproductive Health Programme midwife)
- administrative authorities and local elected representatives
- representatives from civil society (NGO, women’s associations, etc.)

Regional actors should obviously be associated with all stages of the extension procedure.

Health information; detailed knowledge of maternal health activity is critical in order to:
- fix objectives
- monitor and evaluate
- adapt the working capital to the volume of activity
- at health district level, the only indicators required are simple to collect:
  - number of ANC consultations (first and total)
  - number of deliveries
  - number of referrals to the regional hospital
  - number of maternal deaths
  - number of stillbirths
- In addition to the indicators above, the number of caesarean sections and lethality of the different complications should be recorded at regional hospital level, which is often new for these facilities
- during strategy presentations in health posts, an analysis is carried out with the post’s Head Nurse on the cost of services, users’ preferences and the services already used by women in rural areas.

Training: this must be dispensed at all levels of the health pyramid and adapted to the targeted personnel; focus should be placed on managing the practical training and the programmed monitoring.
- training on the use of a partograph
- training on the case management of obstetric and neonatal emergencies with the strict application of pre-defined care protocols already validated by consensus conferences in Nouakchott
in the outlying facilities, the training should focus on the early detection of emergencies and the organisation of referrals

- standardised training modules exist at national Reproductive Health programme level; they are starting points for the theoretical sessions, which should be delivered jointly by central and regional trainers
- particular attention should be accorded to the absolute necessity to collect reliable and accurate activity data: this guarantees that indicators are monitored correctly, and management controls are also based on activity.

**Setting up a working capital fund**: this fund aims to cover the purchase of drugs, supplies and management tools for the first 6 months of the scheme’s introduction.

- the size of this fund obviously reflects activity levels
- its composition is decided on the basis of preventive and curative care protocols; five years of experience can be capitalised on together with regular checks to assess the average consumption, thus ensuring a volume for a determined length of time, in accordance with the funding allocated
- all needs can be met at local levels: ideally, the working capital fund should be accorded and topped up by the CAMEC (the national purchasing centre for essential and generic medicines) which ensures product quality and competitive prices. In the event of shortages, purchases can be made through the private sector.

**Management**: the community financing approach, which is totally different to the system in place, requires a specific way of managing which is now thoroughly tried and tested, both in Nouakchott and outside the capital. It is steered by a Management Committee composed of health staff representatives and users.

As a first step, an administrator is appointed uniquely to the ORI: if possible, he should be a member of civil society, be familiar with basic IT tools, and have the trust of users and health staff members alike.

He requires preliminary training in all aspects of his job: collecting receipts, gathering detailed data on maternity ward activity, consumption and stocks, drawing up monthly financial reports, presenting them to the Management Committee, ordering and distributing supplies, paying bonuses...
The most delicate stage of this extension process concerns the development of a list of active personnel involved in maternal health activities and the definition of a motivation scale. This discussion must be transparent and include all the categories of personnel in order to avoid conflicts later on, even if it is often difficult to meet all the demands. The breakdown of receipts’ allocation should be clearly explained to all the health staff members and user representatives.

Allocation models are proposed to Management Committees but each Committee can decide to allocate its receipts as it wishes so long as some basic principles are respected:

- the risk insurance is fixed at 22 US$ at national level
- 35% of receipts are automatically reserved for re-supply once a surgical maternity facility is operational in the catchment area concerned
- the planned offer of services must be delivered
- Staff bonuses must be reserved exclusively for staff involved in maternal health activities.

In regional extensions, adaptations to the management model are required:

- when one facility only carries out deliveries (as is the case in certain regional capitals), the system of coefficients depending on acts no longer applies: only points depending on rank and individual activity are taken into consideration
- in the Moughataas outside the regional capital, there are neither operating theatres nor surgical teams. Obstetric emergencies are therefore referred and the care provision cannot be exactly the same: there are no personnel trained in ultrasound, for example, and blood group testing is reserved for referred women
- each “Moughataa ORI” is therefore autonomous and holds a contract with the regional hospital for evacuations. These are then recorded under the “regional capital ORI” as “patients paying per act”, but are covered by the “Moughataa ORI”
- In a “non-surgical Moughataa ORI scheme”, no drugs and supplies are needed for an operating theatre; the percentage reserved for re-supply is therefore reduced to 20% and a budget for referrals is set aside, extending up to 28% in the most remote rural areas.
Information and awareness-raising:
- the population’s adherence to the principle of obstetric risk insurance is completely dependent on personalised awareness-raising, with a strategy of household visits conducted by local animators. The objective is to visit 70% of the households within the selected geographical area.
- the administrative authorities and elected representative must also be provided with detailed information on the implementation of this strategy during meetings held specifically for this purpose.
- the manual “Everything you need to know and explain about obstetric risk insurance in 36 questions/answers” serves as a starting point for this activity.
- fliers summarising the scheme’s objectives and how it works are distributed during contacts with the population.
- this activity must be carried out jointly by health staff members and representatives of civil society selected for their representative capacities and impartiality.

Monitoring - supervision:
- without fixing any specific dates, it is obvious that regular monitoring missions must be carried out during the first few months of implementation in order to reassure the parties involved and check the procedures set up are all running smoothly.
- at a later date, bi-annual supervision is sufficient.
- as time moves on, it is preferable that regional Management Committees propose and organise themselves expansion of the risk insurance scheme to new health posts.
Chapter 4: Role of community health insurances
MURIGA in Guinea: an experience of community health insurance focused on obstetric risks

Pascal Ndiaye¹, Séré Kaba², Mamady Kourouma³, Aïssatou Noumou Barry⁴, Alhassane Barry⁵ & Bart Criel⁶

Abstract

Guinea is one of the poorest countries in the world, as is reflected in its health indicators (Eckert 2002). According to the Demographic and Health Survey III (DNS/Macro 2006), Guinea’s maternal mortality ratio is 980 for 100,000 live births, and it has a neonatal mortality rate of 39 for 1,000 live births.

In 1997, the government of Guinea, in collaboration with UNICEF, set up a project to reduce maternal and neonatal mortality in the health district of Dabola. This project aimed both at improving the quality of services and at enhancing community involvement through the establishment of community health insurance schemes for safe motherhood (MURIGAs). Following an evaluation of this pilot project, the MURIGA approach was adopted as a national maternal mortality reduction strategy and has since been developed in 17 of Guinea’s 33 health districts.

Today, members pay a contribution of between €0.9 and €1.8 per year, depending on the sub-prefecture, entitling them to access to care in the event of obstetric complications, including caesarean sections. The cost for a caesarean section in the event of a complication for non-members is €15 to €20, not including under-the-table payments and other possible indirect costs.

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³ Specialist in Maternal and Neonatal Health (UNICEF - Conakry).
⁴ Coordinator, 'Dynamic Mutualiste' NGO, (DYNAM - Conakry).
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⁶ Institute of Tropical Medicine (ITM - Antwerp).
Although the members and organisations supporting these MURIGAs are broadly satisfied with the system’s outcomes, the management of their activities and level of community involvement still leave much room for improvement. Global coverage by the MURIGAs remains relatively low, with a median coverage of about 10% of the target population. And in spite of efforts to gradually broaden the range of benefits and target population, they are still highly selective.

**Keywords**: maternal mortality, emergency obstetric care, quality of care, community health insurance, Guinea.

**Introduction**

In spite of efforts to improve basic health services, maternal and neonatal mortality is still a serious problem in Guinea. According to the Demographic and Health Survey III (DNS/Macro 2006), the maternal mortality ratio was 980 per 100,000 live births, whereas in the 1999 DHS it stood at 528. For every 1,000 live births, 39 children die within 28 days of birth, and 91 die before their first birthday (DHS 2005). These indicators are an expression of the poverty situation in Guinea (Eckert 2002).

Until 1996, most of the activities implemented by the various health programmes focused on improving attendance to antenatal care and delivery in health centres and health posts at the expense of emergency obstetric care in the district hospitals. In the wake of the sub-regional workshop on Safe Motherhood held in Bingerville in 1995, and in collaboration with UNICEF, the government of Guinea launched in 1997 a project to reduce maternal and neonatal mortality in the health district of Dabola. The aim of this project, called EmNOC/MURIGA, was to improve access to quality Essential and Emergency Obstetric Care, strengthen the capacity of the district team, mobilise the community and promote community health insurance schemes. The establishment of community health insurance schemes for safe motherhood, or MURIGAs (for **MU**tuelles pour la prise en charge des **RI**ques liées à la **G**rossesse et à l’**A**ccouchement), was part of this project.

As the EmNOC/MURIGA approach piloted in Dabola had produced

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*Emergency Neonatal and Obstetric Care*
satisfactory outcomes (Kourouma 2005), the annual review of the Expanded Programme on Immunisation/Primary Health Care/Essential Medicines (EPI/PHC/EM - 1998) recommended its extension to the rest of the country. A baseline study, financed by the World Bank, was then conducted. This study attempted to identify those socio-cultural and economic factors relevant to the establishment of a MURIGA. Its findings highlighted the main obstacles to obstetric referrals and revealed that 85% of people questioned were in favour of setting up a community health insurance. This study also recommended pre-conditions for the effective founding of these community health insurance schemes, including community awareness-raising, the setting up of management committees and improvements in the quality of care and services. In 2000, the Ministry for Health decided to extend the system of MURIGAs throughout the country. The institutional donors involved in health sector funding (UNFPA, UNICEF, WFP, WHO, GTZ, WB/PRSS and ADB/PRSS) agreed to and supported this decision (Soumaré 2004).

Access to health services for women, with the specific objective of reducing maternal and neonatal mortality, is the main strategic orientation in the UNDP’s Health Sector Development Programme 2001-2010 (UNDP 2001-2010), which clearly defines risk-sharing as a strategic response to reducing maternal and neo-natal mortality.

This chapter aims to describe the MURIGA development process and context, evaluate the management and outcomes of these MURIGAs in terms of utilisation of maternal health services, and present the different stakeholders’ perceptions of the system. We will also discuss the potential and limits of this type of community health insurance.

Context

Guinea has enormous agro-pastoral, fishing, hydraulic and mining potential. Yet despite its inestimable natural wealth, the country poses a paradox. In 2005, according to the UNDP’s socio-economic development indicators, it ranked it 156th out of 177 countries. Surveys carried out on household consumption show the scale of poverty: 49% of the population live below the poverty threshold and 13% below the extreme poverty threshold. Nevertheless, these proportions are simple averages that hide the reality of enormous disparities between areas, gender and access to goods and services,
especially social services (Ministry of Planning 2004). According to the results of the EIBEP (the integrated baseline poverty assessment survey in Guinea) carried out in 2002/2003, the population living below the poverty threshold was estimated to be 53.6% in 2005, compared to 50.1% in 2004 and 49.2% in 2002; this represents a 4.4% decline over 4 years (IMF, 2007). Poor economic performances, the acuity of its economic and social problems and budgetary problems are just some of the factors that have lead this country into poverty and one of the most serious economic crises in its history.

One in five women (21%) has no income-generating activity. The illiteracy rate amongst adults is 83.5% for women compared to 55% for men.

Table 1. Key indicators for women and child health, Guinea, DHS 2005

<table>
<thead>
<tr>
<th>Indicators</th>
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</thead>
<tbody>
<tr>
<td>Women aged 15-19 already mothers or pregnant at the time of the survey</td>
<td>32%</td>
</tr>
<tr>
<td>Primary school attendance rate in girls</td>
<td>40.8%</td>
</tr>
<tr>
<td>Prevalence of Female Genital Mutilation (15-49 years)</td>
<td>96%</td>
</tr>
<tr>
<td>Modern contraceptive prevalence</td>
<td>5.7%</td>
</tr>
<tr>
<td>Total fertility rate</td>
<td>5.7</td>
</tr>
<tr>
<td>HIV prevalence in women</td>
<td>1.9%</td>
</tr>
<tr>
<td>Ante-natal care (ANC) coverage</td>
<td>82%</td>
</tr>
<tr>
<td>Assisted deliveries (health facilities)</td>
<td>38%</td>
</tr>
<tr>
<td>Post-natal care (PNC) coverage</td>
<td>59%</td>
</tr>
<tr>
<td>Neonatal mortality rate</td>
<td>39‰</td>
</tr>
<tr>
<td>Maternal mortality ratio</td>
<td>980 /100,000 LB</td>
</tr>
<tr>
<td>Infant mortality rate</td>
<td>91‰</td>
</tr>
<tr>
<td>Under-five mortality</td>
<td>163‰</td>
</tr>
</tbody>
</table>

Source: Guinea 2005. Demographic and Health Survey

Guinea was one of the first countries to introduce primary health care based on the Bamako Initiative (BI). In 1988, the Ministry of Public Health, with the support of its main partners, notably UNICEF, WHO, the World Bank, and other bi- and multi-lateral cooperation bodies, implemented a national primary health care programme based on the BI. This programme revitalised

* National prevalence in men and women aged 15 - 49 is 1.5 %, with more women affected than men (1.9 % against 0.9 % in men).
and made functional approximately 382 health centres, improving the population’s geographical accessibility to curative care (60% within 5km) and preventive care (90% within 5km) (DNS 2000). However, a large part of the population (40%), including women, is excluded from access to health services. This exclusion, particularly in rural areas, is linked to a problem of financial accessibility to healthcare services (Kourouma 2005).

**Methods**

This study started with a review of documents on the MURIGA experience. Most of these documents have not been published in scientific reviews and include official documents from the Guinean Ministry of Health and reports from health development partners in Guinea, notably those involved in supporting the maternal mortality reduction programme.

We then contacted various stakeholders (health system managers, care providers, international and national partners, etc.) to further clarify our information, particularly on the process. The most recent data (2006, 2007), which had not yet been published, was gathered by the UNICEF Conakry office, which is responsible for monitoring the MURIGAs and the National Program for Safe Motherhood.

The information sought concerned the geographic extent and the number of functional MURIGAs, the enrolment rate, the impact on utilisation of services, the quality of care, their financial and administrative management, access to care for the poorest, and finally the population and health staff’s perception of the MURIGAs. The absence and/or incoherency of data have been a major constraint in this study; we have only retained reliable and complete data.

**Characteristics of the MURIGAs**

**THE MURIGAS’ ORIGINS**

The MURIGAs’ origins lie in a successful pilot scheme with a solidarity fund in the district of Dabola in 1997. The hospital’s Obstetrics and Gynaecology department had come up with the idea of introducing a credit system based on a solidarity fund into which the hospital’s management team paid the equivalent of 10 referred patients’ case-management costs. The idea was simple: the fund was used to pay referred patients’ transportation and
hospital costs so as not to delay their access to care, and the families then settled their account with the Obstetrics-Gynaecology department. This was a success. In 1997, 192 women received care through this solidarity fund, out of 205 patients referred. Only 1% (two families) did not pay for their care, whereas in 1996, 33% of families left their costs unpaid. It was on the basis of these encouraging outcomes that the idea of organising the community into setting up their own fund was launched. As a result, community funds were set up in the sub-prefectures under the name of MURIGAs. The sections that follow describe the current characteristics of a MURIGA.

SERVICES COVERED

A MURIGA covers the costs of maternity-related services only:

- **Women’s obstetric care costs**
  - ante-natal care (ANC) (including medicines)
  - delivery
  - obstetric complications (including hospital care and medicines)

- **Transportation costs in the event of referral** to a higher-level health facility (either the ambulance fuel costs or payment of fees).

Priority is given to obstetric complications and the transportation of women referred to a referral facility, the costs of which are obligatorily covered by the MURIGA. Coverage of other benefits (ANC, normal delivery, curative consultations for children under five, family planning) and other types of costs (accompanying person + meals) are decided by the community and depend on the community’s contributory capacity. As a result, benefits covered vary from one locality to another. This is how the MURIGA in Dabola and Mandiana gradually introduced the coverage of curative consultations for children from 0 to 5 years, and the MURIGA in Baté Nafdjí (Kankan region) extended benefits covered to include curative consultations for children from 0 to 5 years and family planning.

The MURIGA pays 100% of the fees, except in Mandiana where the community decided on 80%. Here, the MURIGA has introduced a sort of co-payment which leaves 20% of fees to be paid by the beneficiary. To be entitled to the benefits offered by the MURIGA, members must be up-to-date with their subscriptions.
ENROLMENT PROCEDURES

The name given to this form of risk-sharing gives a clear indication of its main target group, being women of child-bearing age\(^9\) who pay an annual subscription to avert potential problems related to complicated pregnancies and deliveries (Tambalou 2005). Joining a MURIGA is a free and voluntary decision, usually taken by the head of the household. There are three membership models. The first, and by far most popular model, is one whereby the household constitutes the membership unit: households thus subscribe to cover the maternity care of women of child-bearing age belonging to these households. In the second model, women of child-bearing age pay their own contribution. However, this model was discouraged and reduced to a minimum through intensive information and technical support following the supervision visits by the national safe motherhood programme (PNMSR). Indeed, with this model, the issue of risk-sharing is more likely to arise as the member’s status and access to cover are for a limited duration only. A third model is one where a handful of localities ask the whole tax-eligible population to contribute towards the MURIGA (the sub-prefecture of Sinta, for example). The tax-eligible population is defined by the local authorities as including any person over 18 or 20 years of age (depending on the locality) who is not a civil servant. This model is much more difficult to monitor in light of the fiscal administration deficiencies seen in the majority of African countries.

In concrete terms, becoming a member of the MURIGA means purchasing a member’s passbook which grants MURIGA member status. The amount is notified into the MURIGA’s annual budget. The membership card is proof that the beneficiary is up-to-date with his/her contributions. It also serves to assure the service provider that the beneficiary in question fulfils the conditions for accessing benefits and guarantees that her costs will be covered in accordance with the defined terms. This membership card serves as the MURIGA’s letter of indemnity with regards to the service provider. In principle, it reduces the delays in accessing care.

\(^9\) The target group of the first MURIGA to be set up was pregnant women only. After a few years of experimenting, the target group was extended to include women of child-bearing age, which helped broaden the membership base.
that result when such a letter is required\textsuperscript{10}.

In some localities, to obtain MURIGA membership status, the member has to pay non-refundable membership fees. A part of this amount is used to meet administrative costs, such as the purchasing of membership passbooks/files, and the rest is paid into a reserve fund to allow the organisation to cope with cash-flow problems and exceptional expenditure.

\textbf{SUBSCRIPTION CALCULATION PROCEDURE}

The rate and methods of payment vary from one locality to another and are decided by the community. The subscription is usually payable once a year, at a period when revenue in the community is at a peak. In rural areas, for example, households have the most revenue at harvest-time. The subscription recovery period often lasts two months.

In determining the rate of subscription, the MURIGA’s founders base themselves on the annual cost of benefits and the organisation’s running costs, mainly the cost of producing management tools. These two elements make up the MURIGA’s annual budget. The annual cost of services is linked to health care and transportation costs. It is calculated by taking the following parameters into account:

- the expected number of pregnancies
- the expected number of obstetric complications\textsuperscript{11}
- the expected number of caesarean sections
- the cost of care (c-sections, management of obstetric complications, and, depending on choice: ANC, normal delivery, etc.)\textsuperscript{12}
- the cost of transporting patients from their locality to the referral facility (ambulance or public transport provided by the union of transport workers)\textsuperscript{13}.

\textsuperscript{10} Most conventional community health insurance organisations provide a letter of indemnity that the member has to fetch from the organisation’s office before seeking treatment.

\textsuperscript{11} The expected number of obstetric complications in a locality during the year is estimated at 15\% of expected deliveries (UNICEF/ WHO/ UNFPA 1997). This rate is confirmed or adjusted during the feasibility study.

\textsuperscript{12} Hospital tariffs for an obstetric complication (the bed charge in application in the country is GF 10,000 per obstetric complication, including c-sections and ectopic pregnancies). However, since the dislocation of the health system in 2002-2003, this tariff is calculated according to the real cost of services.

\textsuperscript{13} The transportation tariff is calculated per km (250 GF/km in 2000 and 300 GF/km from 2002) (Kourouma 2005).
Members are then offered a choice of benefit packages (Table 2):

Table 2. Different insurance options

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management of obstetric</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>complications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caesarean section</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ANC</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Normal delivery</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Transportation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Meals</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Option 1 is the basic insurance option, and is compulsory for all new MURIGAs. Annual running costs are also factored into the subscription calculation. They relate to the cost of producing management tools and administrative overheads. This cost is usually 10% of the total annual amount of subscriptions. The subscription rate is set for a one-year period. It is reached by dividing the MURIGA’s total annual budget by the number of subscribers. The subscription unit is variable: individual, household, village, association or group, etc. The choice of option determines how the subscription rate is calculated (cf. formula in appendix 1).

The subscription rate per subscription unit varies according to the choice of option. Thus the annual subscription rate per household has gone up from GF 6,000 to 12,000 in a number of MURIGAs (about €0.9 and €1.8 Euros)\(^\text{14}\). By contrast, in rural areas, there are MURIGAs which entitle members to benefits with an extremely low premium: between GF 300 and GF 600 (€0.05 to €0.1) This type of situation arises when communities have not received adequate support in determining the number of expected deliveries and complications, the related costs, and, from these, the amount of contribution to be paid.

GEOGRAPHIC ORGANISATION

One MURIGA covers an entire health district, which corresponds to a Prefecture in administrative terms. The MURIGAs are therefore organised

\(^{14}\) 10,000 Guinean Francs = € 1.47 (http://www.xe.com, October 2008).
on the scale of a Prefecture, thus covering all its sub-prefectures, except in the Prefectures of Pita and Telimele, where respectively 4/12 and 4/14 of their sub-prefectures are covered by MURIGAs. In practice, the MURIGA's main office is located in the administrative seat of the Rural Development Communities (RDC) and/or Urban Communes (UC). Branches are then set up at district or village level. Trusted members of the community are appointed as their locality's delegate to the MURIGA's decision-making and regulatory bodies (General Assembly, Board of Trustees, Executive Committee, etc.). The districts and neighbourhoods thus make up the MURIGA's sub-sections. All the districts/neighbourhoods in a RDC or UC are grouped together to form the MURIGA on this administrative scale.

ADMINISTRATIVE AND FINANCIAL MANAGEMENT

The structure of a MURIGA is similar to that of a conventional community health insurance organisation. At the start-up, a constitutive general assembly (CGA) brings together the system's beneficiaries and officially processes the creation of the MURIGA by making it an official entity. However, MURIGAs have no legal status and 'usual' community health insurances are registered as associations at the Ministry of Regional Administration and Decentralisation (Gautier 2005). Then, the GA usually meets once a year.

The MURIGA's internal organisation is governed by its articles of association and rules of procedure. These documents are intended to ensure the organisation is run democratically. The articles of association define the different bodies and their remit, whereas the rules of procedure specify the organisation's operating methods (service-provision, designated service providers, members’ rights and obligations, etc.). The articles and rules of procedure determine the responsibilities of the MURIGA’s management bodies, including the executive and regulatory committees. The executive committee carries out the day-to-day running of the MURIGA, including the management of enrolments, subscriptions, service-provision and any grants. The designated members of these bodies must have the full trust of the community and be school-educated or literate.

The MURIGA’s funds, managed by its members (management committee made up of 5 to 10 members) are deposited at the mutual credit or rural credit bank, a local micro-credit bank with a branch in almost all the sub-prefectures. In the localities that do not have such a bank, the funds are kept by the MURIGA’s treasurer. The Treasurer, along with the Chairperson
and General Secretary, carry out this management committee’s main functions. A regulatory committee ensures that the MURIGA’s activities conform to its articles and rules of procedure. It checks that its management procedures are properly complied with and monitors the book-keeping and transparency of financial transactions.

The prefectural health team, made up of the Prefectural Director of Health (PDH), the Director of Micro-projects (DMR) and the Prefectural Director for the Advancement of Women, assists with monitoring the running and management of the MURIGA.

The rural credit bank in which the MURIGA’s funds are deposited, gives agricultural credit or other loans to community solidarity organisations, groups or associations for informal activities (trade, handicrafts, etc). Social pressure facilitates the reimbursement of credit granted to these organisations, which undertake to reimburse even in the event of a member’s death.

**Setting-up of a MURIGA**

There are three stages to the setting-up of a MURIGA (at quarterly intervals) according to the approach adopted by the Health District Management teams in collaboration with the National Programme for Safe Motherhood (PNMSR) and UNICEF (Box I): a social mobilisation and information phase, setting up the management committee, and then rollout.

Before the introduction of a community health insurance scheme, a feasibility study is generally required to determine the extent of beneficiaries’ contributions to the scheme. With the MURIGA, only the first ones were preceded by such a study. Those that followed were established on the basis of a situational analysis, notably of the health situation, backed up by the experiences and outcomes of the first MURIGA. However, in a new *Technical Guide for the Establishment of Community Health Insurance for Safe Motherhood* drawn up in 2006, the PNSMR recommends that a feasibility study be conducted each time, and outlines the different stages to be followed.

Constituting a MURIGA involves the drafting of a number of statutory documents (agreements with health care providers, articles of association, rules of procedure, etc.) and the setting up of boards and committees. The MURIGA, as a community solidarity organisation, draws up agreements
with its care providers. These agreements essentially cover tariffs, invoicing and payment procedures. In order to ensure a regular and permanent referral service between the health centre and the prefectural hospital, the MURIGA also signs contracts with drivers (transport workers’ unions or private individuals), as the ambulance may break down or be in use elsewhere. This agreement prevents one of the heaviest costs from weighing on the household. The cost of transportation for evacuating an obstetric emergency is GF 80,000 minimum, or about €12, which represents about 5 months’ revenue for a household. A single evacuation can thus cause catastrophic expenditure for the household concerned (Kourouma 2005).

With regards to transparency, general information on the organisation of the system on tariffs for transportation and care, as well as on the care package covered by the MURIGA, is put up in the health centres, the offices of the Rural Development Communities (CRD) and the offices of the transport workers’ unions.

Box 1. Establishment of a MURIGA in three phases

<table>
<thead>
<tr>
<th>Phase 1. Social mobilisation, information and awareness-raising activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>The themes covered in the awareness-raising are:</td>
</tr>
<tr>
<td>- the objectives of the safe motherhood project</td>
</tr>
<tr>
<td>- the role of the community</td>
</tr>
<tr>
<td>- operating and enrolment procedures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase 2. Setting up a management committee for the MURIGA and start of enrolments</th>
</tr>
</thead>
<tbody>
<tr>
<td>- description of the composition and role of the members</td>
</tr>
<tr>
<td>- nomination of the MURIGA committee members</td>
</tr>
<tr>
<td>- establishment of a partnership agreement with the hospital for essential and emergency obstetric care (tariffs, invoicing, payment method)</td>
</tr>
<tr>
<td>- establishment of a partnership agreement with the transport workers’ union for the transportation of pregnant women (tariffs, payment method)</td>
</tr>
<tr>
<td>- start of enrolments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase 3. MURIGA rollout and launch of activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>- verification of the amount of funds collected (start-up once 50% of expected subscriptions received)</td>
</tr>
<tr>
<td>- launching of activities on average three months after the start of the establishment process</td>
</tr>
</tbody>
</table>

Source: Soumaré 2004
At the end of the month, each of the three organisations (prefectural referral hospital, health centre and union office) issues the MURIGA with an invoice. Once checked, the MURIGA authorises the rural credit bank to pay these invoices.

**Monitoring and evaluation system**

The supervision and monitoring of the MURIGA is carried out jointly by the health district’s management team, the National Programme for Safe Motherhood, and the NGOs and partners involved in the process. Monitoring is conducted at the same time as the supervision of maternal and neonatal mortality reduction activities, twice a year at the central level, every three months at the regional level and every month at the prefectural level. The information gathered is organised into three categories: data relative to the MURIGA’s administrative and financial management, data relative to the coverage of obstetrical needs and data for measuring the impact of the MURIGA on hospital utilisation (proportion of MURIGA members among patients receiving hospital treatment for obstetric complications). However, the compilation of this data poses serious exploitation problems.

In 2001, 2002 and 2004, evaluations of the different MURIGAs were carried out to assess progress, improve the system and ensure sustainability. These evaluations highlighted initial successes and the considerable demand among pregnant women and their families for this type of financial self-help mechanism, but they also brought to light the difficulties and constraints created by the operating methods of these community health insurance organisations. These evaluations, especially the 2004 exercise, helped speed up reflection into methodology for extending this approach to other health districts (Soumaré 2004).

The Ministry of Health used their recommendations in defining its key strategic orientations for the development, promotion and sustainability of MURIGAs in the Republic of Guinea. One of the main outputs is the Technical Guide for the Establishment of Community Health Insurance for Safe Motherhood (2006), which provides a technical response to the establishment of MURIGAs.
Stakeholders’ role

A number of stakeholders are involved in the development of MURIGAs, among them health sector development partners. Their support focuses mainly on technical, financial and institutional aspects (Ndiaye 2006).

The Ministry of Health, via the National Programme for Safe Motherhood (PNMSR), is the main initiator of these MURIGAs. The PNMSR is the overarching structure that organises strategy, leads advocacy action and acts as a guarantor with partners. Organisational aspects of the development process are managed by the health district management team with the support of the development partners and administrative authorities (Director of Micro-projects, Director of Social Affairs and the Advancement of Women, sub-prefects and mayors). This last group provides technical assistance rather than financial or material support. It also helps provide information and awareness-raising\(^{15}\), in partnership with local leaders, with regard to the scale of poverty-related maternal mortality and the need to implement a solidarity and self-help mechanism to deal with it.

The availability of quality health services in an environment close to the target population is one of the pre-conditions for establishing a MURIGA. Assisting the communities to become financially self-supporting means that adequate care is in place for this community. This implies the availability of trained health staff, wheeled equipment/material (medically-equipped ambulance, motorbike and supervision vehicle), medico-technical equipment and material (including autonomous mobile communication relays), management tools for the health centres and hospital maternity units, drugs and consumables. The financial support needed to satisfy the pre-conditions for setting up MURIGAs has come from bi-lateral and multi-lateral cooperation.

The first MURIGAs were set up by UNICEF. The German Technical Cooperation (GTZ), as part of a partnership agreement, supported the implementation of the pilot project in Dabola. The World Bank’s Population and Reproductive Health Project (PRHP), the UNFPA, the

\(^{15}\) Some bodies such as the WHO contribute from time to time by carrying out awareness-raising or prevention activities such as the distribution of impregnated mosquito nets (Afro 2005).
African Development Bank (ADB) and the American bilateral technical aid agency (USAID), through projects and NGOs (PRISM, Save the Children and Adventist Development of Rural Areas - ADRA), joined UNICEF in providing financial and technical support for setting up the MURIGAs. The PRHP, which also supported their establishment, allocated them a grant equal to 75% of their total subscriptions. National NGOs (Mother and Child Association, Association for the Defence of Women’s Rights in Guinea, Guinean National Coalition for the Rights and Citizenship of Women, Guinean Peace and Development Corps and the Association for the Sustainable Development Of Women), and DYNAM in particular, provided considerable expertise and technical support to the process.

Table 3 below summarises the role played by the different partners in the MURIGAs’ development, and Table 4 gives the area and year of their intervention.

Table 3. Stakeholders’ role in the development of the MURIGA

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health and its decentralised services (PNMSR, Districts)</td>
<td>Decision to create a MURIGA, Establishment of the MURIGA</td>
</tr>
<tr>
<td>Local authorities</td>
<td>Technical support to the establishment process, Participation in community mobilisation</td>
</tr>
<tr>
<td>First-line stakeholders (care providers, transporters, banks)</td>
<td>Compliance with the agreements binding them to the MURIGA</td>
</tr>
<tr>
<td>Families, pregnant women</td>
<td>Contributors (subscription), Beneficiaries</td>
</tr>
<tr>
<td>International agencies (UNICEF, UNFPA, SCF etc.)</td>
<td>Availability of quality services (training staff in Essential and Emergency Obstetric Care, contribution of medical and communications equipment), Methodological support, Monitoring and evaluation</td>
</tr>
<tr>
<td>National NGOs, DYNAM, PRISM</td>
<td>Support to the development process, Monitoring and evaluation, Extension of the package to other health problems (children under 5, etc.)</td>
</tr>
<tr>
<td>Prefectures</td>
<td>MURIGA set-up date</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Dabola</td>
<td>1996</td>
</tr>
<tr>
<td>Boffa</td>
<td>1999</td>
</tr>
<tr>
<td>Kouroussa</td>
<td>2001</td>
</tr>
<tr>
<td>Kissidougou</td>
<td>2002</td>
</tr>
<tr>
<td>Forécariah</td>
<td>2003</td>
</tr>
<tr>
<td>Kindia</td>
<td>2006-2007</td>
</tr>
<tr>
<td>Dinguiraye (*)</td>
<td>2007-2008</td>
</tr>
<tr>
<td>Faranah (*)</td>
<td>2008-2009</td>
</tr>
<tr>
<td>Mali (*)</td>
<td>2008-2009</td>
</tr>
<tr>
<td>Mandiana</td>
<td>2000-2002</td>
</tr>
<tr>
<td>Siguiri</td>
<td></td>
</tr>
<tr>
<td>Beyla</td>
<td></td>
</tr>
<tr>
<td>Lola</td>
<td></td>
</tr>
<tr>
<td>Kérouané (*)</td>
<td>2003</td>
</tr>
<tr>
<td>Kouba (*)</td>
<td>2007-2008</td>
</tr>
<tr>
<td>Lelouma (*)</td>
<td></td>
</tr>
<tr>
<td>Mali (*)</td>
<td></td>
</tr>
<tr>
<td>Dalaba (*)</td>
<td></td>
</tr>
<tr>
<td>Gueckedou (*)</td>
<td></td>
</tr>
<tr>
<td>Gaoual</td>
<td>2003</td>
</tr>
<tr>
<td>Koundara</td>
<td></td>
</tr>
<tr>
<td>Tougué</td>
<td>2000-2002</td>
</tr>
<tr>
<td>Boké</td>
<td>2007-2011</td>
</tr>
<tr>
<td>Lelouma</td>
<td></td>
</tr>
<tr>
<td>Pita (*)</td>
<td></td>
</tr>
<tr>
<td>Télémélé(*)</td>
<td></td>
</tr>
</tbody>
</table>

Source: PNMSR 2007
* Currently being set up

**Results**

**MURIGA’s coverage**

To date, 17 of the country’s 33 health districts are covered by MURIGAs (Table 4), although some of them are not yet fully functional. The map below shows their geographical distribution (by district).
However, within any given prefecture, the enrolment rate varies from one locality to another, ranging from a few percent to more than half of pregnant women. The median coverage is 10%. In the period 2000-2006, 15% of pregnant women living in areas with operational MURIGAs received care through the system (Table 5).

Table 5. Number of women who benefited from the MURIGAs compared with the expected number of pregnancies in the different prefectures covered (2000-2006)

<table>
<thead>
<tr>
<th>Years</th>
<th>Expected number of pregnancies</th>
<th>Number of pregnant women covered by MURIGAs</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>70,115</td>
<td>11,016</td>
<td>16</td>
</tr>
<tr>
<td>2002</td>
<td>92,959</td>
<td>18,977</td>
<td>20</td>
</tr>
<tr>
<td>2004</td>
<td>149,706</td>
<td>16,493</td>
<td>11</td>
</tr>
<tr>
<td>2006</td>
<td>165,944</td>
<td>26,144</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>478,724</td>
<td>72,630</td>
<td>15</td>
</tr>
</tbody>
</table>
SERVICE UTILISATION

The process indicators chosen for monitoring the system are given in table 6. These are outcomes for the period from 2000 to 2006. They are drawn from the monitoring exercises conducted every six months by the district’s team, as well as from the MURIGAs’ management records and the various supervision reports produced by the PNMSR and other partners. The results show that in the areas covered by MURIGAs, ANC coverage increased from 55% to 79%, whereas the assisted delivery proportion stayed generally low, edging up from 17% to 22%.

Table 6. Trends in indicators at the prefectural level\(^\text{16}\) (2000-2006)

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective ANC coverage</td>
<td>55%</td>
</tr>
<tr>
<td>Assisted delivery rate</td>
<td>17%</td>
</tr>
<tr>
<td>Referral rate</td>
<td>5%</td>
</tr>
<tr>
<td>C-section rate</td>
<td>0.75%</td>
</tr>
</tbody>
</table>

With regard to the rate of referral from health centres to prefectural hospitals and the c-section rate, there was a gradual increase between 2000 and 2006. Although the c-section rate also rose in areas without cover, it is still lower than the rate in areas covered by MURIGAs (Figure 1).

\(^{16}\) The prefectures in question are, in 2000: Dabola, Boffa, Mandiana, Siguiri, Beyla and Lola (N=6 prefectures); in 2002: Dabola, Boffa, Mandiana, Siguiri, Beyla, Lola and Kouroussa (N=7 prefectures); in 2004: Dabola, Boffa, Mandiana, Siguiri, Beyla, Lola, Kouroussa, Kissidougou, Forecariah and Kérouané (N=10 prefectures); and in 2006: Dabola, Boffa, Mandiana, Siguiri, Beyla, Lola, Kouroussa, Kissidougou, Forecariah, Kérouané, Boké, Pita and Telimélé (N=13 prefectures).
QUALITY OF CARE

Setting up a MURIGA produces subsidiary effects. The different national and international partners supporting the process commit to ensuring the availability of quality care: training for health staff, strengthening of technical support and improvements to communications and transport conditions, all of which contribute towards improving the quality of services provided.

However, intentions to improve the quality of care and establish the right preconditions for setting up a MURIGA are not always confirmed in reality. Hence, for several years normal deliveries in Dabola and Forécariah took place at the prefectural hospital rather than at the health centre, due respectively to a lack of staff and a lack of space. In Forécariah, the health centre adjoined the prefectural hospital, so the authorities did not see the need for deliveries at the health centre. This situation caused additional expense for the MURIGA (a normal delivery costs GF 1000 in the health centre compared to GF 6000 at the prefectural hospital). In Dabola, this situation still increased geographical and cultural barriers for the women, as in 2004, 80% of women in this locality chose to give birth at home with a traditional midwife rather than at the hospital. This situation in Dabola and Forécariah continued until 2007; today deliveries are possible at the health centre.
ACCESS FOR THE POOREST

In Guinea, 15% of the population is indigent (Condé 2004). In principle, the financial burden for the MURIGA in any given locality falls on those households capable of paying. Costs for women from indigent households, identified as such by the local population, should automatically be covered by the contributions of others. However, in the evaluation conducted in 2004, of the 12 MURIGAs surveyed, none of them had provided access to the system for impoverished women because of difficulties in defining criteria (Soumaré 2004). The managers interviewed reported cases of enrolment of indigent women in Dabola and Konindou but there is no information on the percentage this represents. Furthermore, an indigence fund has been set up with resources from the “Heavily Indebted Poor Countries Initiative” (HIPC). In order to keep management simple, these funds are paid directly to each hospital on the basis of population covered rather than the level of poverty of the district. They are intended exclusively for the payment of patients’ hospital costs. No example of the utilisation of these funds by the MURIGAs has been reported.

ADMINISTRATIVE AND FINANCIAL MANAGEMENT

In conducting this survey, we have been faced with a problem of insufficient or incoherent data. There is considerable variance between what should be gathered on a regular basis by the MURIGAs’ management bodies, and what is actually gathered. In many cases, the operating standards of these bodies remain poor. Low school attendance and literacy rates are obstacles to management and, to a certain extent, to the community’s appropriation of the MURIGAs. In the 2004 study, only one MURIGA had received any management training.

With regards to administrative management, in some cases the management tools designed for conventional community health insurance organisations are not suited to the MURIGAs’ specificity. In others, forms are not filled correctly. General Assemblies are rarely organised and delegates’ mandates are not renewed at the intervals specified in the rules of procedure. The managers are not all informed of their roles and complain of a lack of training for carrying out the functions devolved to them. The fact that the MURIGA does not have its own head office reduces participation by the managing members. They tend to use government premises and very
often those of the health facilities.

As for financial management, the evaluation carried out in 2004 revealed that only half of the MURIGAs had produced a balance sheet and income statement at the end of each financial year (Soumaré 2004). It is therefore very difficult to obtain data on their financial viability. In 2003, in the health district of Dabola, expenditure in 5 sub-prefectures out of 9 exceeded the amount of subscriptions recovered (Kourouma 2005). In most cases, these deficits were made up by the Rural Development Communities (CRD). If all the receipts had been pooled, the burden share would have only amounted to 70% of the amount of subscriptions recovered.

### Table 7. Percentage of expenditure per sub-prefecture in relation to total subscriptions recovered

<table>
<thead>
<tr>
<th>Sub-prefecture</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banko</td>
<td>41%</td>
<td>45%</td>
<td>46%</td>
<td>39%</td>
</tr>
<tr>
<td>Konindou</td>
<td>56%</td>
<td>52%</td>
<td>105%</td>
<td>111%</td>
</tr>
<tr>
<td>Konso</td>
<td>91%</td>
<td>88%</td>
<td>93%</td>
<td>104%</td>
</tr>
<tr>
<td>Kankama</td>
<td>94%</td>
<td>61%</td>
<td>43%</td>
<td>102%</td>
</tr>
<tr>
<td>Bassikrima</td>
<td>91%</td>
<td>83%</td>
<td>87%</td>
<td>15%</td>
</tr>
<tr>
<td>Dogomet</td>
<td>60%</td>
<td>40%</td>
<td>44%</td>
<td>49%</td>
</tr>
<tr>
<td>Arfamoussaya</td>
<td>73%</td>
<td>50%</td>
<td>71%</td>
<td>102%</td>
</tr>
<tr>
<td>Kindoye</td>
<td>75%</td>
<td>84%</td>
<td>104%</td>
<td>109%</td>
</tr>
<tr>
<td>Dabola Centre</td>
<td>77%</td>
<td>24%</td>
<td>39%</td>
<td>16%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>72%</td>
<td>53%</td>
<td>64%</td>
<td>72%</td>
</tr>
</tbody>
</table>

Source: Kourouma (2005)

The implementation of agreements with health facilities is also unsatisfactory. In the 2004 survey, 8 MURIGAs out of 12 claimed to have signed agreements, but not one document was found (Soumaré 2004). This absence or non-availability of written agreements opens the way to non-compliance with payment procedures. Service providers often provide services to patients who are not up-to-date with their subscriptions. Sometimes service providers also ask for payment in advance. Such practices jeopardise the system’s viability. The shortage of medicines in the health facilities also remains a problem. Major breaks in the supplies of medicine stocks are the result of the depreciation of the currency and the lack of performance on the part of supply structures (IMF 2007). Medicines included in the benefits package are often out of stock and MURIGA then...
have to buy them out of their own funds (DYNAM 2004). There is a similar lack of rigour surrounding agreements with the transport workers’ union: none of the MURIGAs surveyed in 2004 had a signed agreement with this body. There were only verbal contracts that could be broken unilaterally at any time (Soumaré 2004).

STAKEHOLDERS’ PERCEPTION

In spite of the constraints and difficulties, the MURIGA experience seems to have been deemed satisfactory by the beneficiaries and also by the other stakeholders, particularly with regard to the services offered. This feedback is taken from the personal accounts gathered during the evaluation of the MURIGAs commissioned by UNICEF in December 2004.

On the whole, the beneficiaries express satisfaction with the improvements in their care-management since the introduction of the MURIGAs, notably in terms of reception and care. The MURIGAs have reduced their feeling of insecurity by guaranteeing access to quality essential emergency obstetric care. They have provided financial relief to beneficiaries’ families, and thus a chance to save money, as is illustrated in this account by a beneficiary in Moussayah:

“The MURIGAs have brought us good health by helping us to organise ourselves so that together we can save the women of our community who are members. Because before, when the need arose, it wasn’t easy for the parents, husbands and brothers to meet the costs. But with the MURIGAs, you are transported and cared for without your family suffering”;

or in this one from Fermessadou:

“If I’m still alive today, it’s thanks to the MURIGA, because I was in a coma when the ambulance took me from here to Kssidougou for treatment and a caesarean section, and I didn’t pay anything. The GF 500 insures you for your transport and care”.

On the whole, health facility managers consider that the MURIGAs have permitted improvements to service utilisation, an increase in resources and better quality services (even the setting up of new services). Indeed, by providing them with access to ambulances, communications material, equipment and other supplies, as well as training for health staff and traditional birth attendants, the MURIGAs have made a significant contribution towards the satisfactory running of these health facilities.
Other health managers, however, feel that the MURIGAs have made no real contribution. Enrolment levels are still relatively low - with a median coverage of about 10% -, and drugs shortages, the absence of management tools, the lack of motivation amongst MURIGA managers, their lack of training or poor level of education, as well as insufficient awareness-raising and a lack of continuing follow-up are all factors affecting the system’s performance.

Opinion leaders see them as a real mechanism for relieving the suffering caused to households by health problems. One elected representative explained as follows:

“
When we have a neighbourhood meeting, it’s my duty to remind people to continue raising awareness among women, in the mosques and at meetings, so that the women join the MURIGA, because you never know, better safe than sorry. All anyone wants is for every pregnant woman to give birth normally, but you never know. So we need to inform women so they join the MURIGA”.

However, although the women themselves generally recognise the usefulness and relevance of the MURIGAs, some of them regret the fact that this form of solidarity is “one-way”. There is no prospect of health cover after the birth, either for the baby, the mother, or for any other members of the family when they fall ill (DYNAM 2004-2005). Furthermore, although the initiative is well-received by opinion leaders (religious and community leaders), the organisations' management methods do not always follow the democratic rules defined in the establishment process. Consequently, a number of women complain that the decision-making bodies are not renewed and that women are under-represented (Soumaré 2004).

It also appears that in some places the system’s success is largely dependant on individual health managers, as this account by the transport workers’ union shows:

“We were entirely satisfied when Dr K. was in charge because, with him, all sides kept to the agreements. We had no complaints from the transport workers about their fuel costs not being paid. Once the driver had dropped off a woman with obstetric complications, he was immediately reimbursed the cost of his petrol. But now we are having problems getting drivers’ fuel costs reimbursed. We’re having to pay them out of our own pockets”.

"Studies in HSO&P, 24, 2008"
Discussion

LOW ENROLMENT RATE

In 2000, with the support of UNICEF, the government of Guinea decided to extend the Dabola pilot project throughout the country. Today 17 of the 33 prefectures are covered and the extension is continuing. However, the penetration rate in these prefectures remains low, with a median of 10%. A number of reasons may lie behind this.

The first is the contribution method. The subscription unit chosen can have an impact on social dynamics. If, for example, the subscription unit is the household or the village population, the heads of families may not feel concerned. Social tensions may even arise from the fact that only a small proportion of the population benefits from the services, as MURIGAs only cater for pregnant women.

The second is the quality of care. In spite of government policy and the support of institutional donors, Essential Obstetric Care is still not available in all the health centres, which means women have to give birth at the prefectural hospital for normal deliveries or pay for medicines in a private chemist’s because the hospital pharmacy is out of stock. The low MURIGA enrolment rate seems to be linked to the low utilisation rate of health centres. This rate is approximately 0.10 - 0.15 new cases per inhabitant per year. If people do not see the point of going to the health centre when they are ill, it is clear that a community health insurance scheme built around this centre will find it difficult to convince its target population of the benefits to be had from enrolling in it. And yet the system of risk-sharing is not in itself sufficient incentive for improving the quality of care (Waelkens & Criel 2004, Criel et al. 2005). Other measures relative to human resources management at the health system’s central and first-line level also need to be put in place (career planning, staff availability and mobility, training, etc.).

A third explanation is the MURIGAs’ top-down approach.

The MURIGAs have been set up strategically to tackle problems specific to maternal and neonatal mortality. For this reason, the objectives, coverage characteristics (targets and benefits), and methods of contribution and community participation differ from conventional community health insurance schemes (Table 8). Conventional schemes’ technical and social construction is broader and more comprehensive.
The various evaluations carried out so far highlight the low level of community involvement in the process. The decision to set up a new MURIGA is taken by the Ministry of Health with the support of an international agency. The families are considered as beneficiaries but have almost no involvement in the implementation process. The main reason for non-enrolment, according to the non-member women questioned, is a lack of information about this system. Most families do not know the MURIGA’s executive committee members. It is significant that few of these committee members are actually elected; most of them are nominated by the prefecture’s administrative authorities (Soumaré 2004). All this makes for poor appropriation of the MURIGA by the community.

Table 8. Conceptual comparison of MURIGA and conventional community health insurances

<table>
<thead>
<tr>
<th></th>
<th>MURIGA</th>
<th>Conventional Community Health Insurances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective</td>
<td>Specific: to reduce maternal and neonatal mortality through improved access to maternal and neonatal care.</td>
<td>Broad: to improve access to care for the population in general</td>
</tr>
<tr>
<td>Package of benefits covered</td>
<td>Selective: women and children Specific and relatively rare occurrence of risk (pregnancy)17</td>
<td>Extended: the whole population Variable risks: small and large, rare and less rare occurrence</td>
</tr>
<tr>
<td>Enrolment</td>
<td>Voluntary: per at-risk individual, per tax-eligible individual18 or per household</td>
<td>Voluntary: per individual or per household</td>
</tr>
<tr>
<td>Establishment</td>
<td>“Top-down” establishment process. High level of involvement by the health ministry and health sector development partners.</td>
<td>Needs and characteristics defined by the population (high-level of appropriation and “ownership”)</td>
</tr>
<tr>
<td>Management</td>
<td>High-level of involvement by health and social authorities, co-management (community and health administration)</td>
<td>High-level of social participation, community-based management</td>
</tr>
</tbody>
</table>

A fourth explanation is the subscription rate, which is also put forward by non-

17 15% of pregnancies encounter complications and 5% are caesarean sections (UNICEF/WHO/UNFPA 1997).
18 This refers to the membership of a village or a sub-prefecture. The amount necessary for the village is calculated and divided by the number of tax-eligible people in this village.
member women as a reason for not enrolling. In theory, and according to the guidelines and orientations of their promoters, the MURIGA should cover costs on behalf of women who do not have the financial capacity to contribute. However, it has not been possible to find any data in the different reports on exemptions for poor patients. There is no data to show that MURIGAs have improved access to services for the poorest.

**MANAGEMENT CAPACITY**

This is still one of the system’s main challenges. It may be commendable to have produced technical guidelines outlining each stage in the constitution of a MURIGA, but poor management by the different managing bodies remains a serious problem. The different procedures and tools are rarely complied with or used, making monitoring and evaluation very difficult. This is certainly the most urgent issue to be resolved and a responsibility to be assumed by the supporting bodies (Ministry of Health, local authorities and international organisations) before extending the MURIGA’s services.

The current system of organisation does not allow for the payment of a membership fee or administrative costs, restricting receipts to subscriptions for health care only. The viability of the MURIGAs will therefore depend on their capacity to mobilise volunteers and additional resources for the administrative side of operations. This limit to the community health insurance system in Africa is acknowledged by a number of authors. Volunteer managers are often ill-prepared to mobilise resources and keep balanced and reliable books (Huber et al. 2005).

**FINANCIAL VIABILITY**

When writing this chapter, it became apparent that the MURIGAs’ accounting data was very difficult to obtain and had not been compiled at the central level. Some Rural Development Communities systematically make up any deficits. Some institutional donors subsidise the MURIGAs for the equivalent of 75% of received subscriptions. Certain MURIGAs did not receive sufficient assistance with calculating their subscription rates and have ridiculously low subscriptions, leading them into deficit. This raises the question of whether dividing the organisations up at sub-prefecture level does not somehow weaken the MURIGAs, which can rapidly find themselves with cash-flow difficulties if they have a number of heavy cases to deal with in any one financial year, whereas the current trend is towards the
“pooling” of community health insurances for a better risk spread and application of solidarity over a larger group of subscribers.

EXTENSION OF SERVICES

A number of people are in favour of broadening services, which would make the MURIGAs more acceptable to men and thus lead to better coverage. The MURIGAs in Kissidougou, Mandiana and Diabola have already incorporated access to children into their package and in 2006 provided access to care for 418 children, whatever their pathology. NGOs already active in the community health insurance field, such as DYNAM and the PRISM project with its Mutual Health Organisation Project in High Guinea, have been the driving force behind this movement to extend services. However, expansion will not solve the problem of the already unsure and unsound management of certain MURIGAs. Strengthening the management capacities of the MURIGAs’ executive committees and improving the quality of health services are mandatory preconditions for any plan to extend the services covered.

Conclusion

Although we cannot claim with any certainty that the improvement in indicators such as referrals and caesarean sections is exclusively due to the MURIGAs, this system can be an interesting mechanism for the regular and integral case-management of obstetric emergencies. However, the system is still a long way from covering the whole country and population. Seventeen of the 33 prefectures have MURIGAs and the enrolment rate in these prefectures is only about 10%. There is also a clear lack of involvement by the community in the running of what was intended to be a community participation mechanism. In some districts, the management is carried out by the care provider directly. In others, the men involve themselves because the women wouldn’t have the necessary skills (the literacy rate among women in rural areas is very low). It would be interesting to study self-management modalities and look at how to strengthen community stakeholder capacity (Ndiaye et al. 2005).

For the stakeholders in community health insurance in Guinea, extending the mandate of the MURIGAs, or at least incorporating them into bigger schemes, is both necessary and desirable, all the more so as this has
been one of the objectives from the outset. However, the population’s low contributory capacity caused by poverty could be a curb to this extension. At present, although there is a trend towards broadening benefits and target populations, the MURIGAs remain a specific and selective formula. However, in spite of the imperfections identified in the MURIGA risk-sharing approach, the satisfaction expressed by the different stakeholders involved in their development (beneficiaries, authorities, elected representatives and health workers) and the spontaneous demand among non-members, are considerable assets for any future improvement and extension of the approach. As part of improving mobilisation and the rational use of financial resources, there has been (i) a revision of the national drug policy which aims to formulate a new supply strategy for medicines and define a price policy; (ii) the signing of a credit agreement with the World Bank on 29th September 2005 regarding financial support for the National Support Plan for Health Development (APNDS) whose goal is to reduce maternal and infant mortality in 18 prefectures (Koundara, Gaoul, Dinguiraye, Dabola, Kissidougou, Kérouané, Mandiana, Siguiri, Kouroussa, Telimélé, Tougué, Mali, Koubia, Lélouma, Pita, Dalaba, Guéckédou, Beyla) and; (iii) reflection with the World Bank on developing a health financing policy to put in place risk sharing mechanisms (IMF 2007).

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References


Appendix 1

Calculation method for subscription rates according to chosen option

X: expected number of deliveries in the CRD/CU; Y: expected number of obstetric complications; Z: expected number of caesarean sections; TC: transport costs; BC: health benefit costs; SU: number of subscribing units:

- Option 1 = (Management of obstetric complications tariff x Y) + (Caesarean section tariff x Z) + TC) x 10%/SU
- Option 2 = (Management of obstetric complications tariff x Y) + (Caesarean section tariff x Z) + (ANC tariff x X) + TC) x 10%/SU
- Option 3 = (Management of obstetric complications x Y) + (Caesarean section tariff x Z) + (ANC tariff x X) + (Normal delivery tariff x X) + TC) x 10%/SU
- Option 4 = (Management of obstetric complications x Y) + (Caesarean section tariff x Z) + (ANC tariff x X) + (Normal delivery tariff x X) = (Cost of accompanying person (transport or transport + meals) + TC) x 10%/SU
Community health insurance in sub-Saharan Africa: Opportunities for improving access to emergency obstetric care?

Werner Soors¹, Maria-Pia Waelkens¹ & Bart Criel¹

Abstract

Risk sharing eases the financial burden for the individual household and prepayment ensures quick access at the time of need. These two attributes of insurance improve access and reduce delay when seeking health care. Swift access is particularly important for emergency obstetric care and, indeed, evidence from African community health insurance schemes indicates that financing emergency obstetric care is a prioritised service in the benefit package. Recent improvements in the supply of emergency obstetric care, especially predictable fees and better services, provide a major opportunity to include emergency obstetric care in a scheme’s benefit package. Community health insurance can flexibly and appropriately adapt to a changing environment. Whatever the other financing mechanisms for emergency obstetric care in place, community health insurance can cover the remaining cost. The complementarity of community health insurance to other interventions exceeds the financial domain as schemes expand their role as intermediaries between health professionals and the population.

In this article we illustrate these potential contributions of community health insurance to improve access to emergency obstetric care with evidence from African experiences.

Keywords: community health insurance, maternal health, access, financing, sub-Saharan Africa.

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Introduction

Community health insurance (CHI) aims to improve access to health care and to protect households from health-expenditure related risks. The term CHI embraces a broad array of nonprofit schemes providing risk pooling to cover part or all of the costs of health care services. To a greater or lesser extent, CHI schemes target households that derive their income from the informal economy and are excluded from formal systems of social protection. Membership is therefore usually voluntary. In principle, CHI schemes promote participatory decision-making and management. Building on mutual aid and solidarity, risk sharing is as inclusive as possible and membership premiums are independent of individual health status. However, premiums are usually flat rates, thus not modulated according to ability to pay (Bennett 2004; Bennett & Kelley 2004; Criel et al. 2008).

Community health insurance in Africa started with isolated initiatives in the 1980s and has since undergone a rapid expansion. A count in 11 francophone countries of West Africa showed a growth from 76 active schemes in 1997 and 366 in 2003 (Concertation 2004) to 626 in 2006 (Ndiaye et al. 2007). Several countries - most notably Ghana (Agyepong & Adjei 2008) and Rwanda (PHRplus 2006) - made community health insurance national policy.

The contribution of CHI to covering maternal health services has been studied before. In 2001, the International Labour Organisation carried out a survey looking specifically at maternity benefits offered by the schemes (ILO 2003). African countries included in the survey were Senegal, Tanzania and Uganda. The study reports on 23 schemes, 13 of which are in Africa, that offer maternity benefits, but gives only basic information about the schemes. PHRplus, one of the main partners of CHI in Africa, proposes guidelines for promoting reproductive health services through CHI based on their experience in sub-Saharan Africa (PHRplus 2004). Empirical evidence on the effects of African CHI schemes are still scarce (Ekman 2004). A first attempt to group evidence from three West African countries on CHI and utilisation of maternal health services was published in 2008 (Smith & Sulzbach 2008).

This paper discusses the potential contribution of CHI to financing emergency obstetric care (EOC) in Africa today. We illustrate these opportunities with secondary data from the existing literature and
inventories, and deliberately use primary data from our own consultations in the field (Uganda, Togo, Mauritania and Mali).

**Insurance: improved access through prepayment and risk sharing**

As with other forms of health insurance, CHI shares the underlying principles of prepayment and risk sharing. Prepayment at the time when money is available ensures access at the time of need - even when money is scarce. Sharing the financial risk of health care expenditure eases the burden for the individual and can make expensive services accessible.

From this technical point of view, emergency obstetric care clearly qualifies as a proper candidate for any form of health insurance. It is a service where fast access at the time of need is crucial. Women who prepaid their contribution to a health insurance scheme should be able to access care without delaying to seek out cash for paying user fees. Whereas the price to pay for a caesarean section is high and often unaffordable for the individual household (Kowalewski et al. 2002; Storeng et al. 2008), risk sharing can make a difference (Richard et al. 2007) precisely because of its rare occurrence. We illustrate this using a premium calculation exercise from a Ugandan CHI scheme (see Box 1).
Box 1. Effective risk spreading for caesarean section in Uganda

According to national population statistics, five percent of the population in Uganda are pregnant women (UBOS 2006). Of those, it is expected that 60% would come to a health centre for delivery. The average fee for an uncomplicated delivery at the Nyamwegabira health centre in the particular area where this scheme operates is 7,400 Ugandan shilling (UGS). Hence, the premium for this service is 222 UGS per individual scheme member per year.

When need for a caesarean section is identified, the average charge for transport to the referral hospital plus the fee for complicated delivery amounts to 70,000 UGS (27 €). By estimation, 10% of all women coming to the health centre for delivery would need such service. Hence, the premium is calculated at 210 UGS (0.08 €) per individual scheme member per year.

An expensive service thus becomes quite affordable when the risk is spread among all members. In fact, the premium comes down to that of a much less expensive (but more frequent) service.

<table>
<thead>
<tr>
<th>Services</th>
<th>Expected consumption</th>
<th>Premium calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of population</td>
<td>Expected use</td>
</tr>
<tr>
<td>Uncomplicated delivery at health centre</td>
<td>0.05</td>
<td>0.60</td>
</tr>
<tr>
<td>C-section + transport to hospital</td>
<td>0.05</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Emergency obstetric care: a perceived need

Community health insurance schemes rarely cover all health care services from the start (Bennett & Kelley 2004). Especially in the beginning, the number of members may be too small and the pooled resources too little to do so. Over time - when understanding and confidence grow and the number of members increases - members may be willing and schemes able to add services to the initial package. At the start, members and schemes have to make tough choices. The package on offer reflects a balance between social priorities as defined by members and technical priorities as proposed by scheme managers.

The different inventories of CHI schemes in West Africa carried out by La Concertation² give an idea about the place of EOC among the services covered. Out of 366 active schemes listed in the 2003 inventory, 55% provided coverage for caesarean section. Only generic drugs and uncomplicated deliveries were included more often in the benefit package (see Table 1). The 2006 inventory³ confirms the high priority given by scheme members and schemes to emergency obstetric care: caesarean section was covered in 72% of the schemes⁴. Only generic drugs, first-line curative services and uncomplicated delivery were covered more frequently.

² La Concertation entre les acteurs du développement des mutuelles de santé en Afrique/The Dialogue between the actors of mutual health organizations in Africa: a network including most CHI schemes of West Africa. See http://www.concertation.org
³ Inventaire permanent - Afrique - 2006 - Concertation. See http://www.concertation.org/gimi
⁴ We should not consider the apparent increase of C-section coverage from 55 to 72% as significant: the methods of data collection changed, and the 2006 inventory gathers information about 126 active schemes only. Instead of contacting all known schemes individually as was done in 2003, scheme managers were expected to enter their data online. This method may have excluded smaller schemes with less opportunity to cover referral care.
Table 1. Services covered by CHI schemes in the 2003 inventory of La Concertation

<table>
<thead>
<tr>
<th>Service</th>
<th>Number of schemes that cover this service</th>
<th>Percentage of schemes that cover the service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic drugs</td>
<td>285</td>
<td>77.9%</td>
</tr>
<tr>
<td>Uncomplicated delivery at first line</td>
<td>212</td>
<td>57.9%</td>
</tr>
<tr>
<td><strong>Caesarean section</strong></td>
<td>201</td>
<td>54.9%</td>
</tr>
<tr>
<td>Out-patient care at first line</td>
<td>197</td>
<td>53.8%</td>
</tr>
<tr>
<td>In-patient care at first line</td>
<td>185</td>
<td>50.5%</td>
</tr>
<tr>
<td>Antenatal care at first line</td>
<td>176</td>
<td>48.1%</td>
</tr>
<tr>
<td>Complicated delivery without C-section</td>
<td>166</td>
<td>45.4%</td>
</tr>
<tr>
<td>Hospitalisation in medical ward</td>
<td>162</td>
<td>44.3%</td>
</tr>
<tr>
<td>Surgery</td>
<td>159</td>
<td>43.4%</td>
</tr>
<tr>
<td>Ambulance</td>
<td>136</td>
<td>37.2%</td>
</tr>
<tr>
<td>Local transport</td>
<td>57</td>
<td>15.8%</td>
</tr>
</tbody>
</table>


Overall, the services most included in an African CHI package are those that are most frequently needed and used: curative services at first-line level, generic drugs and uncomplicated deliveries. Referral care and transport to a hospital are covered to a lesser extent. Different reasons may explain this choice (PHRplus 2004). First of all, from the insurer’s side, the inclusion of expensive risks is not an option for small schemes, as it endangers solvency when the number of claims becomes high (Dror 2002). Secondly, from the demand side, CHI members tend to prefer the coverage of relatively frequent events - like ambulatory curative care - because it gives them a tangible return to their financial investment. Health insurance is a fairly new concept: often people are unaware that coverage of rare and expensive risks is the most profitable intrinsic benefit of insurance. Thirdly, from the supply side, quality referral care at a reasonable distance may not be available; but whenever referral is covered, caesarean section is the service most frequently included in the benefit package. This may well reflect that emergency care for childbirth is one of people’s priorities.

After inclusion of a service in a scheme’s benefit package, copayment - the part of the fee that remains for the beneficiary to pay at the point of use -
may also reflect people’s choices. No copayment is asked for caesarean section in 48% of the CHI schemes that include such service according to the 2003 inventory. This is striking given the fact that the introduction of copayment tends to be a standard policy. Caesarean section is often the only service for which no copayment is asked (Concertation 2004).

How scheme members and managers carefully balance inclusion of services and copayment can be illustrated by the choices made in Togo (see Box 2). The current benefit packages include few referral services, but all include caesarean section. Members agree not to include more referral services before gaining sufficient numbers of members. Copayment is compulsory for all first-line services. Indeed, informed members understand that a personal contribution at this level may limit unnecessary use of care. CHI schemes only intervene for 50% of the fee for uncomplicated deliveries. The rationale is that the cost of an uncomplicated delivery is affordable, and that women have enough time to gather the money needed. No copayment however is asked for caesarean section: managers see no need for gatekeeping and people know there is no time to find cash.

Other schemes seem to follow a similar reasoning. In Ghana for example, before the free delivery care policy was implemented, 72% of 47 schemes surveyed covered the full fee of complicated deliveries (Atim et al. 2001), while only 29% cover uncomplicated deliveries (PHRplus 2004).

Box 2. C-sections, benefit packages and copayment in Northern and Central Togo

| Annual contribution for the CHI schemes of Tidonti, Sikbaog, Kpong and Tammongue in Northern Togo is 1,500 CFA (about 2.3 €) per household member per year. Caesarean section is currently the only referral service included in the benefit package. The schemes pay all expenses for a caesarean section up to a ceiling of 80,000 CFA (122 €). The amount of this ceiling was agreed on and identical to the calculated average expenses for caesarean section at the Dapaong referral hospital. No ambulance is available and arrangements for emergency transport are not yet included in the benefit package. The feasibility of including additional referral services will be studied in the course of 2008. Since their start in 2004, the four mentioned schemes have registered 359 deliveries. Six women were referred to the hospital due to complicated labour, two of whom had to be assisted by caesarean section. Two CHI schemes were set up in Central Togo in 2007. They benefited from the experience of the schemes in Northern Togo and were less reluctant to include expensive services. They rightly understood that covering caesarean section is not |
necessarily a threat to the financial stability of their scheme, providing membership is large enough and good arrangements are made with the hospital. Consequently, they did not fix a ceiling on coverage for caesarean section and were able to reduce the financial barrier further than their colleagues. In the case of Tchaoudjo, the scheme is currently looking into the possibilities of including emergency care for children with severe malaria, as a second priority after caesarean section.

<table>
<thead>
<tr>
<th>CHI coverage (proportion of the fee free of copayment)</th>
<th>Northern Togo: Tidonti, Sikbaog, Kpong, Tammongue</th>
<th>Central Togo: Tchaoudjo</th>
<th>Central Togo: Sotouboua</th>
</tr>
</thead>
<tbody>
<tr>
<td>At first-line level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curative consultation + generic drugs</td>
<td>80%</td>
<td>70%*</td>
<td>75%*</td>
</tr>
<tr>
<td>Normal delivery</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Antenatal care</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>At referral level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caesarean section (intervention + hospitalisation)</td>
<td>100%, up to 80,000 CFA (122 €)</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Admission for severe malaria in children</td>
<td>-</td>
<td>60%</td>
<td>-</td>
</tr>
</tbody>
</table>

* Including minor surgery, interventions for snake bites, rapid tests and admission for observation

Sources: Scheme evaluations & personal communication with Jean de la Croix Yangnenam (Dapaong) and Graziella Ghesquière (Sokodé).

Supply-side efforts: opportunities for including EOC in insurance packages

The calculation of a premium for inclusion of referral care of any kind into an insurance package is no easy task in low-income countries. Often the information needed is not at hand. Fees for hospital care are often unpredictable. Fee lists may not be transparent or there may be no standardized fees at all. Hospital providers may be reluctant to agree to fixed prices, because they tend to adapt treatment and prices to the financial...
capacity of individual patients.

With regard to referral care, the case of emergency obstetric care is gradually moving away from the picture described above. From the insurance point of view, years of supply-side efforts targeting obstetric care have generated better quality EOC in some places, more predictable and/or lower fees for EOC in other places, or a combination of both. Pricing for obstetric care is becoming more transparent than for other health care services. Many hospitals and specialized facilities now offer caesarean sections at a fixed fee, including or not drugs and hospital days. This evolution makes inclusion of EOC in a CHI benefit package less difficult than it used to be. Box 3 provides an illustration of how the combined effect of predictable fees and an alternative high-quality provider can positively influence content and price of a benefit package.

Box 3. Obstetric services covered and reimbursement provided in the Health Project of Dar-Naïm, Nouakchott

The Health Project of Dar-Naïm (Projet Santé de Dar-Naïm, PSDN) is a private nonprofit organisation that operates four health facilities (one health centre and three health posts) and supports the CHI scheme Mutuelle de Santé Communautaire de Dar-Naïm (MSCDN) in Dar-Naïm, one of the urban departments in Mauritania’s capital Nouakchott.

In 2006, the MSCDN reimbursed 60 uncomplicated deliveries at 75% in the PSDN-owned health facilities and three caesarean sections (out of seven women referred with complicated labour) at 100% in a referral hospital. The fee for an uncomplicated delivery was 1,500 ouguyia (UM); the fee for a C-section varied and was on average 26,750 UM (73 €).

In 2007, the MSCDN reimbursed 38 uncomplicated deliveries at 75% in the PSDN-owned health centres and two caesarean sections (out of 8 women referred with complicated labour) at 100% in the same referral hospital. The fee for an uncomplicated delivery was still 1,500 UM; the fee for a C-section was now fixed at 30,000 UM (82 €). The latter fee did not include drugs or hospital days. The scheme reimbursed a maximum of 5,000 UM for complicated delivery without C-section and provided all referred women with an extra 500 UM for transport.

In April 2008, the PSDN signed a contract for referral of women presenting complicated labour with the health centre of Sebkha, a health facility specialising in obstetric care. The contract between the two providers guarantees PSDN a fixed price of 20,000 UM (54 €) for a C-section and of 3,500 UM for a complicated delivery without C-section. These fees include the intervention, the drugs, the hospital days and all related expenses other than transport costs. If drugs are not
available at Sebkha health centre, the latter provider still pays for them.

The PSDN has applied the Forfait obstétrical (Renaudin et al. 2008) since April 2008. Regardless of the intervention needed, all women presenting for delivery at a PSDN facility are now charged 3,000 UM (the fee asked by other health centres in the area for an uncomplicated delivery). Regardless of the intervention carried out (uncomplicated delivery at the PSDN facility or complicated delivery at Sebkha health centre), reimbursement for MSCDN members is 75%, copayment for the household being 750 UM (2 €). All financial risks are now borne by the provider.

Sources: Project evaluation & personal communication with Bâ Abdoulaye Samba, Nouakchott.

Flexibility and complementarity: added values of community health insurance

The smooth adaptation of a Nouakchott CHI scheme to a changing environment is not incidental. It illustrates a core characteristic of community health insurance: flexibility due to proximity. Indeed, participatory decision-making by end-users enables CHI schemes to adapt swiftly and appropriately to a changing environment. Genuine preoccupation with the interests and demands of the community is noticeable already in the design of a CHI scheme, carried out through a feasibility study; the reimbursement of transport costs for complicated deliveries in Mali before and after 2005 provides an example (see Box 4).

Box 4. Reimbursement of transport costs by CHI schemes in Ségu, Mali, before and after national fee exemption

Despite more than a decade of well-intended health sector reforms, Mali’s maternal health records are far from enviable. By the beginning of this century, maternal mortality was still over 570 per 100,000 live births. Absent and inaccessible emergency obstetric care certainly played a role: on average only 0.8 major obstetric interventions were performed per 100 expected births (UON Network 2001).

Against this background, the Malian government declared caesarean section free of charge in July 2005. Unlike in Ghana and Senegal (Witter et al. 2008), the exemption was applied to the whole direct cost (the total cost of surgical intervention, drugs, laboratory tests and hospitalisation days for all women presenting at a referral facility with symptoms requiring a C-section). As in Ghana and Senegal, transport (and other indirect) costs were left out. Policy-makers assumed that a national cost-sharing system already in place at referral level would...
make up for this deficiency. Users and CHI schemes deem this cost-sharing mechanism to be complicated and ineffective.

In the central Ségou region of Mali, most CHI schemes constituted before 2005 reimburse 75% of the transport cost for women in complicated labour, despite the presence of a cost-sharing mechanism.

In the same region, all CHI schemes constituted after 2005 reimburse 100% of the transport cost for women in complicated labour. The users’ demand voiced in the feasibility study prompted maximum reimbursement from the onset of the scheme.

* Cost sharing is practised through a solidarity fund (Caisse de Solidarité) managed at the referral facility, with financial inputs from the parturient, the community organisation owning the health centre in her home village (ASACO, Association de santé communautaire), the local government of her home village, and the referral facility.

Source: References mentioned, plus personal communication with Seydou Ouattara and Aly Barry, Ségou.

The complementary potential of CHI reaches beyond financing arrangements. The identification of a CHI scheme with a well-defined community provides an attractive interface between policy-makers, providers and the community. Schemes play a role in organising access to services by connecting services to their intended beneficiaries. Policy-makers, government officials and providers increasingly approach CHI schemes for the social marketing of policy features and services. In Mali for instance, involvement of CHI schemes and ASACOs in communicating the existence of fee exemption for C-section is a common feature and part of the policy implementation.

**Performance and effects on utilisation of community health insurance**

Experts’ perception of CHI’s performance and impact is mixed (Bennett 2004; Carrin et al. 2005; Ekman 2004), partly due to lack of empirical evidence, partly due to lack of a uniform framework for analysis. In a recent review of different financing mechanisms for maternal health, insurance was praised because it allows households to pay when they can, because it reduces uncertainty and because it can be used to encourage referrals. At the same time the authors were critical of the potential of insurance. Premiums
unaffordable to the extreme poor, limited financial sustainability of schemes, limited risk pooling and the interpretation of pregnancy as “not a typically insurable risk” were described as disadvantages of insurance in financing maternal health (Borghi et al. 2006).

As far as CHI’s effect on delivery in a health care facility is concerned, studies carried out on behalf of PHRplus in Mali (Diop et al. 2006, Franco et al. 2006) and Senegal (Diop et al. 2006) suggest higher service utilisation among scheme members than among non-members, but most schemes scrutinised in these studies are even more small-scale than the African average, limiting both the schemes’ potential and the study findings’ external validity.

Findings from two larger schemes in the DR Congo (Criel et al. 1999) and Ghana (Diop et al. 2006; Sulzbach et al. 2005) offer a clearer picture. Both schemes specifically aim to improve access to hospital care, including emergency obstetric care. In the DR Congo, membership of the Bwamanda scheme led to a higher uptake of C-sections. The relative increase in C-section rates was even more pronounced for communities living far away from the hospital, suggesting that the scheme actually helped to overcome geographical barriers to hospital utilisation. In Ghana, membership of the Nkoranza Community Health Plan was associated with a 12% increase in institutional deliveries. Insured women in Nkoranza were twice as likely to benefit from C-section as uninsured women (Sulzbach et al. 2005).

Conclusion: a role for community health insurance in emergency obstetric care

In this paper, we presented four arguments for the potential contribution of community health insurance to improve access to emergency obstetric care.

First on technical grounds, risk sharing for a rare event compensates for the price to pay. It makes emergency obstetric care an exemplary candidate for health insurance, regardless of pregnancy itself being a typically insurable risk.

Second, evidence from a large number of African CHI schemes indicates that financing emergency obstetric care through CHI is a prioritised response to a perceived need at both demand- and supply-side. Evidence from Togo shows that realising this ambition does not have to be restricted
only to big schemes (although we recognise that size helps).

Third, recent improvements in the supply of emergency obstetric care, especially predictable fees and better services, provide a major opportunity to include emergency obstetric care in a scheme’s benefit package.

Fourth, community health insurance has an important added value due to its intrinsic user-centred design. It can flexibly and appropriately adapt to a changing environment. Whatever the other financing mechanisms for emergency obstetric care in place, the remaining cost will never be zero for the end-user. The complementarity of community health insurance with other interventions aiming at improving access to quality EOC is thus highly welcomed. This complementarity exceeds the financial domain as schemes expand their role as intermediaries between health professionals and the population.

Acknowledgements

The authors wish to thank Jean de la Croix Yangnenam and Graziella Ghesquière for data from Togo, Bâ Abdoulaye Samba for data from Mauritania, and Seydou Ouattara and Aly Barry for data from Mali. The authors assume full responsibility for their interpretation of these data.

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Chapter 5: Fee exemption strategies
National fee exemption schemes for deliveries: comparing the recent experiences of Ghana and Senegal

Sophie Witter1, Margaret Armar-Klemesu2 & Thierno Dieng3

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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2 Impact, Noguchi Memorial Institute for Medical Research, University of Ghana, Legon, Ghana.
3 CEFOREP, Maternité Hôpital Aristide Le Dantec, B.P. 22 340, Dakar, Senegal.
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 (Immpact 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 Immpact 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 (Immpact 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.

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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; Nyonator 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 & Acodess 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 Matrones4. 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

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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 demand\(^5\) 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).
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).
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 delivery\(^6\) (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)

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

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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Bolivia’s Health Reform: a response to improve access to obstetric care

Bertha Pooley¹, Marcia Ramirez² & Caroline de Hilari³

Abstract

This chapter presents a historical overview of the development of a health insurance policy in Bolivia, describing its impact on improving obstetric care. It details the gradual extension of coverage, its legal framework, sources of finance, administrative system, service provision and finally monitoring and evaluation system, all of which gave rise to increased coverage of antenatal consultations and skilled attendant deliveries. It concludes with lessons learnt.

The model for public health insurance in Bolivia has existed for the past 10 years. It was initiated as the “National Insurance Scheme for Maternity and Childhood” with service packages for 32 health issues, continued as the “Basic Health Insurance Scheme”, which expanded to 92 service packages, and since 2002 has been called the “Universal Mother and Child Insurance Scheme” (SUMI⁴), providing service packages for 547 health issues affecting pregnant women from the beginning of pregnancy until 6 months after childbirth and to children from birth to 5 years of age.

SUMI has 3 main sources of financing: municipal, departmental and national. Through a credit agreement, the World Bank established the management and supervision system, including coverage indicators with quarterly monitoring and reports.

The first years after the introduction of the insurance package, 1998 to 2003, saw the greatest coverage increase in antenatal care visits and skilled attendant deliveries; whilst in recent years this growth trend has reached a plateau. This has served to address somewhat the existing geographical and

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³ Health Advisor, Save the Children Bolivia.
⁴ Abbreviation from the Spanish: Seguro Universal Materno Infantil.
cultural barriers through innovative strategies such as mobile “brigades”, community pharmacies and an intercultural health component that reinforces the use of services in rural areas. Bolivia still requires further innovative approaches to improve maternal health, and universal coverage needs to be considered a political goal to achieve equity in the right to access quality services.

**Keywords:** Health reform, maternal mortality, insurance schemes, outreach strategies

**Introduction**

The Health Reform process in Bolivia was part of a general package of State Reforms undergone by the country over two decades of democratic government. In this process, the country’s health system has met with a series of new challenges on the road towards achieving the universal right to an equitable and high quality health service that reduces maternal, neonatal and child mortality.

Based on the criterion of “health as an investment”, the country acquired two concessory credits to finance what was known as the “Health Reform”, which included financing the insurance policy as part of the credit agreements with the International Development Association (Asociación Internacional de Fomento). The aim of these agreements is to assist the country in achieving the Millennium Development Goals (MDGs) 4 and 5. Likewise, they promote the policy alignment of all international aid.

This chapter presents a historical summary of how a health insurance policy in Bolivia functions, describing its impact on improving obstetric care. It details the legal framework, sources of finance, administrative system, service provision and finally monitoring and evaluation system which has given rise to increased coverage of indicators such as antenatal care visits and skilled attendant deliveries and shares the lessons learnt.

**Background**

Bolivia is a landlocked country located at the centre of South America, with one of the highest levels of poverty in Latin America, affecting over half (67.3%) of the population, mostly in rural areas (UDAPE 2006). According
to latest estimates Bolivia has 10,027,643 inhabitants, 35% of whom live in rural areas (INE 2008). The population is culturally diverse; at least 3.6 million are indigenous people, belonging to 36 ethnic groups, mainly Andean Quechua and Aymara speakers from the highlands and valleys and Tupi-Guaraní speakers in the lowlands.

National spending on health, as a percentage of the Gross National Product (GNP), increased from 4% in 1995 to 7% in 2002 (Cardenas, 2004). This increase has not been due to a rise in public spending on health over the same period (28% and 23.3%, respectively) but rather to the contribution made by international aid programmes aimed at vaccination coverage and controlling Chagas disease, malaria and tuberculosis, which represents more than 50% of the budget, while the State Treasury contributes no more than 8.2% (OPS 2008).

In the past decade, Bolivia has made some remarkable strides in the provision of health services, although healthcare for mothers and newborns still remains inadequate. Over 30% of the Bolivian population has no access to any type of modern medical health services.

There has been a sharp decrease in the maternal mortality ratio. In 1994, the Demographic and Health Survey (INE & MII 1994) recorded 399 deaths per 100,000 live births, with a large differential: ranging from 262 in urban areas to as high as 929 in rural highland areas. This number went down to 230 deaths per 100,000 live births in 2003 (Figure 1). It nevertheless still remains the highest in the Latin American and Caribbean region after Haiti and according to the post-census survey of maternal mortality conducted in 2000 (INE 2003), large urban/rural disparities persist as the maternal death ratio was four times higher in rural areas than in urban zones.

These deaths are mainly related to haemorrhage, infections and abortions (INE & MSD 2003). The major associated factors to these deaths are anaemia, chronic malnutrition, short pregnancy intervals, poor perinatal health care for obstetric complications and women’s lack of autonomy to decide on their health problems.

In 1999, the Bolivian government secured a credit from the World Bank to undertake the health reform. Over the ensuing years, the Health Reform Unit developed the technical and financial bases for several Ministry of Health programmes which we describe below.
Methods

A comprehensive literature review was conducted on the most relevant documents with reference to the health reform’s legal structure, services offered and financial system. Available external evaluations and administrative reports from the Health Reform Unit were used to document service coverage, implementation problems, equity challenges and the rationale for alternative strategies.

To complete the analysis, five national decision-makers from the Ministry of Health and Sports were interviewed using an in-depth semi-structured questionnaire which focused on information gaps and assessed their perception of the barriers and facilitating factors impacting on the insurance scheme for obstetric care services.

Finally the authors systematized the documentary and interview information, including the major findings from a current external evaluation of the implementation of the national insurance scheme, identifying strengths, opportunities, gaps and challenges to improve obstetric care. This

5 The level of MMR reflects the ratio not during the year of the survey but on average 3 years earlier.
was the basis of the summary of lessons learned that may be useful for other countries that are beginning to put in place similar insurance processes.

**Description of the public health insurance policy**

Inequity and exclusion from basic social services motivated the Bolivian government to implement strategies to improve the status of maternal and child health, launching a national insurance policy in 1996. The aims were to increase coverage, improve the quality of services, improve equity, and increase the efficiency and effectiveness of the health services (Maceira, 2007). Although the insurance policy included maternal and child health, this chapter will concentrate on issues relating to maternal health.

**THE THREE SUCCESSIVE SCHEMES SINCE 1996**

The model for a public health insurance scheme has existed for the past 10 years with subsequent expansions and improvements. It was initiated in 1996 as the “National Insurance Scheme for Maternity and Childhood” (Seguro Nacional de Maternidad y Niñez, SNMN) with 32 service packages, providing medical assistance to mothers and children below the age of 5 years. It covered maternity care including caesarean sections for obstetric emergencies and paediatric care for cases of diarrhoea and respiratory infections.

In 1998, this scheme was changed to the “Basic Health Insurance Scheme” (Seguro Básico de Salud, SBS) and a complementary indigenous insurance scheme, which together covered service packages for 92 health problems. In addition to the previous scheme, the SBS included obstetric emergency transport, newborn care, child nutrition and development screening, vaccination and care for infectious diseases other than diarrhoea and pneumonia, such as sepsis and meningitis (Böhrt & Holst 2002). For

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\(^8\) SBS Seguro Básico de Salud.

rural communities lacking health services, the SBS covered the costs of periodic visits by health personnel and it established elements of cross-cultural communication for health staff. Included in the package of services were trained community agents who were provided with credentials and the relevant authorisations (Lugo & Gutiérrez 2002).

On November 1st 2002, the “Universal Mother and Child Insurance Scheme” (*Seguro Universal Materno Infantil*, SUMI) started, covering approximately 500 health problems related to the perinatal period and children from birth to five years. SUMI services were extended on April 1st 2006, to incorporate 27 additional sexual and reproductive health service packages, including family planning and cervical cancer screening, protecting women up to 60 years of age.

**SCOPE OF SUMI**

Given the high levels of mother and infant mortality, the country decided to prioritise health services directly addressing these sectors of the population. The SUMI package now covers almost all health conditions related to pregnant women from the beginning of pregnancy until 6 months after childbirth and a very wide range of health conditions and needs of children up to five years. The only health problems excluded are congenital malformations, orthosis, prosthesis, cosmetic surgery, chemotherapy, radiotherapy, transplants and orthodontics.

Technically speaking, SUMI is not an insurance scheme, but rather a package of free services. SUMI is intended to be a universal, comprehensive health care package, which the population can access through all public health services whatever the level, as well as through services provided by the social security system. Clients have to register at first contact and receive a SUMI card which allows them to access any health service throughout the country.

The Catholic Church and NGOs, via their health services, may also be part of the insurance system in accordance with the Supreme Decree 24237. Furthermore, SUMI proposes adaptation of services, when appropriate, to include traditional Bolivian medicine and traditional healing practices appreciated by indigenous and peasant people in Bolivia.

**LEGAL FRAMEWORK**

One of the principal differences between the SNMN, the SBS and SUMI,
was that the former two were supreme decrees signed by the President, while the latter required the promulgation of a law, approved by Congress, which gave it the prerogatives of a state policy. The continuity of a health policy, focused on improving maternal and child health, throughout seven consecutive government regimes is an important achievement. Public health insurance is now a state policy, with an established legal framework and implemented by the public sector, the social security system and some private non-profit and profit making health institutions.

FINANCING SUMI

In order to understand the insurance scheme it is necessary to note some of the most relevant laws that support it. Bolivia is divided politically into nine “departments” and 327 “municipalities” (similar to counties in other countries). Municipalities may be as large as a city of 1.8 million or as small as only several hundred inhabitants. At each level, there is a governing structure: municipal, departmental and national government. The laws which regulate SUMI are: (1) the law of popular participation (1994), which transfers national tax funds to municipal governments to administer health and education services; (2) the law of administrative decentralization (1995), which delegates the responsibility for paying health service personnel to departmental governments; (3) the law of national dialogue (2000), which allows the use of national resources, from Highly Indebted Poor Countries (HIPC-II), as a Solidarity Fund for areas of social concern such as health services. While municipal governments, depending on their scale and governing capacity, may raise their own revenues through local taxes, these funds are not used to support SUMI.

SUMI thus has 3 principal sources of financing: municipal, departmental and national. From the total funds received by local governments (municipalities) on a per capita basis from National Income Taxes, 10% is allocated to pay for SUMI services, as well as the health infrastructure and equipment that are municipal assets. Departmental governments have the duty to pay health service personnel. There are complementary resources available to strengthen SUMI financing derived from the National Solidarity Fund through the Dialogue Law, funded from debt relief. If the municipality has any funds remaining, these are used for social investments: in infrastructure or other activities related to
maternal and child health. For the 2006 period, the municipalities received around 22 million US dollars for the payment of SUMI service packages. This national level policy commitment and dedication to financial support has assured the economic sustainability of SUMI.

**Figure 2. SUMI Financial system**

- National Customs and Internal Tax System: 7% in 2003, 8% in 2004, 10% since 2005
- Human Resources paid by National Revenues given to departmental government (Prefecturas)
- National Liability Fund
- Up to 10% of resources of Dialogue Account 2000
- Additional resources
- SUMI Pays for essential drugs and supplies
- Investments in health infrastructure, water/sanitation and special programmes

If exceeds
MANAGEMENT COMMITTEES

The aim was to create a simple system which would guarantee efficiency. Already at the time of the SNMN and SBS schemes, several reimbursement mechanisms were tested and refined. Basically, these forms and procedures guaranteed that cash or supplies flow back to service providers (Health Centres and Hospitals) after services have been provided. To this end, several forms were created to track patient registrations, monthly summaries, control of expenditures, and finally reimbursement of inputs. In order to cover the payment by one municipality for the services provided to a citizen from its jurisdiction in a centre belonging to another jurisdiction, there is a specific bill for trans-municipal charges.

The measures set out in the SUMI law maintain the national and departmental management units created under previous schemes. However, these management units are now mandatory for the entire national health system, prefectures, municipal governments, the social security system, and all institutions which are subject to these agreements.

It defines administrative authorities in the following way:

1. The Technical Coordination Committee (COCOTEC\textsuperscript{10}), composed of the Planning Ministry and the Ministry of Health and Sports and the Economic Policy Unit (Unidad de Política Económica, UDAPE 2006), in charge of monitoring SUMI.

2. The Ministry of Health and Sports, as the National Health Authority, is responsible for establishing rules, regulating, coordinating, supervising and controlling SUMI and how it is applied at all levels of health care.

3. The Municipal Governments are directly responsible for implementing SUMI in their jurisdictions, as well as administering the Municipal Health Account (CMS-SUMI\textsuperscript{11}) and reimbursing public health centres.

An important change under the SUMI law is the creation of a Local Health Committee (DILOS\textsuperscript{12}) as the top authority in local administration in each municipality. This committee is responsible for implementing SUMI, administering the Municipal Health Account and complying with national health policies. It is composed of the mayor of the municipality or his/her

\textsuperscript{10} Comité de Coordinación Técnica.
\textsuperscript{11} Cuenta Municipal de Salud - SUMI.
\textsuperscript{12} Directorio Local de Salud.
representative, as president of the committee; a representative of the Municipal Vigilance Committee and a representative of the Departmental Health Service (SEDES), set up by the departmental government

REIMBURSEMENT PROCEDURES

The flow of funds for payment of services is as follows: (1) the National Treasury opens an account for each municipality and automatically transfers the resources corresponding to its share of national income from taxation (coparticipación tributaria); 10% of this sum is transferred to the municipal health account for the SUMI; (2) the health centre which has provided the service sends the administrative bill (FOPO) to the municipality, which reviews it, records it in a database, debits the sum from the municipal account and credits it to the health centre’s account. At the same time, the information is dispatched electronically to the Departmental Management Unit where it is consolidated to be sent to the National Management Unit; (3) the National Management Unit identifies and authorizes municipalities to access additional resources from the National Solidarity Fund. This procedure is applicable when the municipality has spent the totality of its funds destined to SUMI. This situation does not often occur, for example, during 2005 only 15% of this fund was used (MSD 2008), particularly for the payment of third level care hospitals.

MONITORING SYSTEMS

Monitoring of the SNMN was carried out based on the priority indicators for children under 5 and their mothers, through the National Health Information System (SNIS13). Later under the SBS, administrative commitments were established with the aim of following up the seven indicators tracing supply of services and an indicator for the sustainability of financing vaccinations. For SUMI, as part of its credit agreement, the World Bank established management and supervision systems, including eight coverage indicators, with quarterly monitoring and reporting. One indicator was changed, from “coverage of diarrhoea cases” to “early newborn mortality”. In the first case, compliance with this indicator did not present a challenge for the country, while in the second the Demographic Health Survey (INE & MSD 2003) proved that newborn mortality was an important

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13 Sistema Nacional de Información en Salud.
problem, since it represented almost 50% of infant mortality which was at 54 per 1,000 live births.

**Box 1. Eight indicators to monitor mother and child health (MSD 2003)**

| ✓ Women with 4 antenatal check-ups |
| ✓ Institutional delivery            |
| ✓ Pentavalent vaccine coverage     |
| ✓ Early newborn mortality in 15 hospitals |
| ✓ Pneumonia case management coverage |
| ✓ Iron supplement coverage in children under 5 years |
| ✓ Number of municipalities with coverage of pentavalent vaccine below 80% |
| ✓ Sustainability: sufficient funds from the national government to purchase vaccines for the regular expanded program of immunizations |

Since 2003 under SUMI, an information system has been established, parallel to the national health information system (SNIS). This system electronically tracks service reimbursement forms, by which service provision and financial reimbursement can be opportunely analyzed. This information system and the SNIS are in the process of ensuring mutual compatibility so as to structure a new integrated SNIS which would involve the production, administration and financing of services.

Supervision is in the hands of four external consultants (two auditors and two physicians) who report to the National Management Unit of the SUMI, and who visit those health centres which show reduction in productivity or incongruent data in their information. These visits lead to feedback to the centre and the definition of an action plan. Unfortunately, neither the Departmental Management Unit of the SUMI nor the Departmental Health Service, SEDES, are involved in this supervision. As a result, many recommendations are not followed up.

**EVALUATION**

The monitoring system was complemented by external evaluations carried out by different organizations, which in general agreed that the different types of insurance schemes have had favourable results with respect to the demand for services. However, it is difficult to know if this is only due to the
effect of the insurance scheme or if other social factors influenced this variable. These evaluations identified specific problems in the administration and the quality of services.

Partnerships for Health Reform (PHR) carried out an evaluation of the SNMN in 1998 (Dmytraczenko et al. 1998). Other evaluations were carried out on the Basic Health Insurance scheme (Böhrt & Holst 2002, Böhrt & Larraín 2002). The last evaluation was carried out by the Unit of Analysis of Social and Economic Policies (UDAPE 2006) which reports to the Ministry of Development Planning, analyzing the impact of the three insurance systems.

Demographic Health Surveys (DHS), mostly financed by the Health Reform, are planned every four to five years. The information produced allowed the country to measure the progress made towards the Millennium Development Goals, disaggregated by departments and identifying those at greatest risk. At present, the DHS 2008 is at the field work stage, which will measure progress made during previous years.

QUALITY MANAGEMENT

Quality assurance systems have been set up to maintain quality of services while increasing coverage. In the second phase of the Health Reform Project (APL II), the Quality Administration Observatory was created, which generates studies and establishes norms for the accreditation and certification of health centres, medical audits and studies of user satisfaction. As the initial step, the Ministry of Health selected 15 hospitals which attended almost 70% of institutional childbirths in the public sector, improved the training of personnel in obstetric and neonatal emergencies, provided equipment and supplies and applied patient and provider bio-safety norms for accreditation, alongside equity assessments for those populations with least access to health.

Among the most important activities carried out by the Quality Administration Observatory was the creation of the Accreditation Commissions in second and third level hospitals and certification for first level health centres. This was accompanied by assessment and equipment of hospitals and first and second level care centres to respond to obstetric and neonatal complications, as well as offering continued staff training on

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standard practices for maternal, neonatal and child care and improvement of infrastructure.

Between 2004 and 2007, of 100 third level hospitals, 34 were accredited and of the 1,000 selected health centres, 300 were certified (MSD 2008). These processes have been supported by the Departmental Health Service, although their implementation has not been homogeneous. Some SEDES have set up teams to support the Accreditation and Certification Commissions, which has led to standardised ways of working, while in others, this activity has been sporadic. Furthermore, the detection of problems in a centre has not always given rise to the necessary decision making and action to correct the problems or follow them up.

COMPLEMENTARY STRATEGIES: MOBILE TEAMS, COMMUNITY PHARMACIES AND INTERCULTURAL COMPONENT

Although economic barriers have been mitigated by SUMI, the fundamental challenge continues to be inequities and social exclusion. This is generated by geographic inaccessibility, insufficient human and technical resources, above all in rural areas, and cultural aspects both on the community side and the service provider side. All these phenomena set up barriers to health care access (OPS 2002).

Since 2003, a number of solutions have been proposed and implemented to address geographical and cultural barriers and to make the health service model more inclusive.

The National Programme for the Expansion of Coverage of the SBS and SUMI, EXTENSA, was designed to provide direct basic health services to populations in remote areas of the country. EXTENSA formed multidisciplinary mobile health teams called “Brigades” (doctor, nurse, dentist and assistant). Each one provides services in 40 to 50 communities, which are visited every two months in rounds lasting 20 to 25 days.

In 2006, 59 mobile health brigades reached 202 municipalities and 3,250 communities, covering 411,000 inhabitants, related to more than 500 health centres in the dispersed rural area with the highest poverty index. In the 2007 administrative period more than 1.6 million services were carried out, of which the SUMI covered 59%, displaying a constant increase with reference to the geographical context and the production of services since 2002.
The Community Pharmacy is a strategy for the social inclusion of rural communities with high levels of poverty, guaranteeing prompt access to drugs. It consists of providing a supply of essential drugs to remote communities which do not possess a health centre. This supply is administered by a community health agent elected and supervised by the community. Since the 2005 administrative period, 1,400 Community Pharmacies have been set up in selected communities according to the level of access to health centres; a process which gave rise to the mobilization of more than 4,000 members of the Local Health Committees, who were trained in handling the communal pharmacy and in topics related to health care. With these pharmacies, more than 170,000 inhabitants benefit from prompt and safe access to drugs and essential supplies for resolving basic health problems. Another 1,700 community pharmacies are planned for the 2008 administrative period.

One of the greatest problems of exclusion is the lack of understanding and respect for cultural traditions, which particularly affect rural women. To overcome this barrier, the Health Reform developed an intercultural health component in 2002. 371 health facilities (19% of the entire country) in rural areas are being strengthened with special intercultural training for health service personnel and culturally adapted approaches to attend childbirth, provide care for pregnant women and their families in the maternal homes and make use of traditional herbs in health centres.

Results

SERVICE UTILISATION COVERAGE

As stated earlier, the country prioritised eight indicators to measure results within the context of the Millennium Development Goals, establishing annual targets. For the first two years all indicators were met. In the following years, this was not maintained, presenting a different performance level each year. In 2007, four of the projected indicators were met: early neonatal mortality, iron supplementation, coverage of pneumonia cases and immunization financing.

The two indicators selected to measure maternal health, four antenatal checkups (Figure 3) and institutional delivery, are positively correlated with the reduction of maternal and neonatal mortality (Vidal 2003).
Figure 3. Coverage of 4 ANC, 1999-2007, Bolivia


Figure 4. Institutional delivery

The first years of the insurance scheme - 1996 to 2003 - produced the greatest increase in coverage of institutional delivery, while in recent years, a plateau has been reached (Figure 4).

**IMPACT ON MATERNAL HEALTH**

The Bolivian DHS documents the positive changes in maternal indicators. In 1994, the DHS showed that the maternal mortality ratio was of the order of 390 maternal deaths per 100,000 live births, antenatal coverage was 49% and deliveries with skilled attendants 43%. On average, the maternal mortality ratio for 2003 fell to 230 per 100,000 live births, antenatal care was almost 71% and deliveries with skilled attendants stood at about 60%.

**EQUITY GAPS**

All evaluations of SUMI and previous schemes agreed that access to health services had increased, but noted, as one of the crucial issues, that services did not extend to the poorest sectors of the population, and that the rural population was not aware of these insurance services (Narvaez 2002). In the coverage of pregnant women and newborns for the 2004 period, SUMI showed a clear gap between urban and rural areas. In rural areas, only one third of pregnant women completed their 4 antenatal check-ups while this percentage for urban areas was almost 70% (Figure 5). In addition, neonatal coverage (a well baby check-up before one month of life) was only 6% in rural areas, whereas in urban areas it had reached 94%. On the other hand, the coverage for children under 5 (one doctor’s visit per year) is 10% higher in rural areas compared to urban areas (56% vs. 44%).

If we look at the C-section rate, which was not one of the 8 monitoring indicators, but which is an excellent indicator of utilisation and accessibility of services, we see that the rate of caesareans has not increased in rural areas since the start of the insurance scheme (Figure 6).
Figure 5. Coverage of 3 services packages: Pregnant women, newborns and children under 5, Bolivia, 2004

![Bar chart showing coverage rates for pregnant women, under 5, and newborns in urban and rural areas, with specific percentages for each category.]

Sources: Health Reform Unit, FOPO's 2004.

Figure 6. Evolution of urban and rural C-section rate, Bolivia

![Bar chart showing the C-section rate from 1994 to 2003 in urban and rural areas, with specific numbers for each year.]

Furthermore, there are still wide disparities between and within regions and departments, especially with respect to disadvantaged groups. For example, in urban areas, antenatal coverage is almost double that of rural areas. The highlands, where most indigenous people live, have the lowest coverage rates (59%) compared to the lowlands with almost 80% coverage and, for those women in the lowest poverty quintile, antenatal care is only 37% (INE & MSD 2003). In addition, skilled birth attendant deliveries in urban areas run to almost 75%; in rural areas this percentage is only 38% and for women in the lowest poverty quintile it is still only around 27%.

The greatest increase in services utilisation took place in third level centres in urban areas, which include general and specialized hospitals. The best facilities are preferred by users as they offer the opportunity of being attended by specialists and have a greater availability of drugs and supplies.

QUALITY OF CARE

According to monitoring reports from the Quality Administration Observatory, over the years until 2006, there were deficiencies in the quality of services, such as poor identification of danger signs on the part of health centre personnel, and a lack of basic laboratory tests which could identify early onset of anaemia in pregnant women, urinary tract infections and STDs, and allow them to take prompt decisions. However, hospitals which received accreditation showed a good level of staff knowledge in terms of updated clinical standards, infrastructure, equipment and safety standards. Clinical audits of case histories were satisfactory in the accredited hospitals.

SATISFACTION

Users reported a decrease in quality of care, mainly in third level care hospitals. Despite this, during the 1998 evaluation, based on exit interviews, 85% of female users were satisfied with the services (Dmytraczenko et al. 1998). This may reflect a general tendency for users to declare satisfaction with the medical care they receive, and a reticence to criticize services especially when the exit interview is done on the premises of the clinic. After this evaluation in 1998, no other comprehensive assessment of client satisfaction has taken place.
FINANCIAL SUSTAINABILITY

In the 1998 evaluation the Bolivian scheme was called into question due to the underestimation of average costs (Dmytraczenko et al. 1998). Higher level health facilities faced higher average costs and this needed to be reflected in the chosen levels of reimbursement. This problem persists even today. The reimbursement per service is the same in urban and rural areas (for example the cost of normal childbirth). However, due to the greater complexity of services offered in urban areas (such as C-sections, neonatal intensive care), urban areas spent twice as much in 2006 as rural areas (US$ 13,981,775 urban versus US$ 7,685,678 rural (MSD 2008)).

Discussion

Current evaluations demonstrate that the utilisation of institutional maternal services has increased since the insurance policy was implemented, and this is likely to have contributed to improved maternal indicators, as observed in DHS survey report updates. It is important to recognize that over the course of time, stagnation or a slight downturn in the trends of some indicators can occur. In this case, it may be necessary to identify other outreach strategies in order to guarantee universal coverage.

The main problems of SUMI remain in the area of equity and quality of care. Equity assessments show that the poor, the indigenous and the rural populations still underutilize SUMI. The notable exception being that child health care services are seeing higher coverage in rural areas and this may be related to the success of community-IMCI (Integrated Management of Childhood Illnesses) with intense social mobilization in rural areas, but it could also be explained by a higher use of private providers in urban areas. Another example is the stagnation of the C-section rate in rural areas, which can be explained by the lack of hospital care. Most health centres in rural areas are only equipped and staffed for ambulatory care.

Quality problems are probably due to the coverage increase rate which puts pressure on health service personnel, increasing their daily workload. The disproportionate increase in tertiary level facilities as opposed to primary level ones, must lead us to think about strategies to reinforce the latter and actively support second level hospitals in responding to obstetric and neonatal emergencies.
Conclusion and lessons learnt

SUMI is not perfect. Although more than ten years of implementation seems a long time, the learning process from a public insurance strategy requires constant follow up and contingency strategies to improve services and to achieve the goal of social inclusion. The health sector reform process provides an opportunity to scale up evidence-based effective and feasible maternal essential interventions and set up standards for other organizations.

The fact that a public insurance scheme, such as SUMI, has been adopted as a state policy, guarantees continued commitment, even during political instability or transition, and also financial sustainability. The legal framework and the definition of a shared system of finance have been fundamental in converting SUMI into a state policy. Signing administrative commitments with clear maternal indicators is a practice which allows for improvement in follow-up and decision making by Departmental and National Management Units, Health Network Managers and municipalities to comply with agreed targets.

Box 2. Lessons learnt

1. **Need for bulk purchase of drugs and consumables and for a national purchasing centre**: With respect to the purchase of inputs and medicines, it is advisable for insurance policies to formulate maternal packages according to the level of complexity of the health facility and type of health personnel, and to implement the interventions through bulk purchases between several municipalities or by the Departmental Management Units, so as to reduce costs.

2. **Facilitating delivery of drugs and consumables at providers’ level**: With respect to supply, it is necessary to have a supply system, both at national and departmental levels, that will allow health personnel to get drugs and consumables required for obstetric and neonatal emergencies.

3. **Strengthening the management capacity of municipal and health services personnel and systems** should be a priority to resolve bottlenecks. So far, the reimbursement mechanisms are somewhat bureaucratic and slow, endangering the administrative and technical capacity of the health facilities, especially among tertiary level hospitals.
4. **Monitoring progress is essential**: A result driven approach and focus on accountability would facilitate project implementation and follow up. Therefore, improvement in information systems is required, so as to monitor indicators and assess if the insurance policy is reaching poor populations.

5. **To effectively monitor progress there is a need for standardised indicators**: Compatibility is essential between the information systems of the different insurance schemes with regular health systems, so as to come up with a sole information system. A limited number of maternal indicators focused on target fulfilment is recommended. Close supervision is important to maintain the pace of implementation. Selection of appropriate indicators has also proven to be critical for maintaining the focus on the final results.

6. **Intercultural, gender and inter-generational issues are essential to tackle**: Focus only on the supply side of health reform measures is not sufficient to address the health needs of the poor. The equity gap for low-income households’ access to health services still remains. It is crucial that maternal health strategies address client satisfaction and take into account intercultural, gender and inter-generational differences.

7. **Primary stakeholders have to receive support**: The development and consolidation of civil and governmental alliances are needed to sustain and develop insurance policies. Alliances should be established at all levels of society and government, especially with various women’s movements.

8. **Strategic action lines to promote community involvement in health services must be developed** to facilitate the participation and empowerment of new civil stakeholders and non-health sectors as local social actors. This could include in particular school teachers, students, and other community members, to promote key family practices, reinforce the link between health services and the community, and stimulate collaboration between sectors, especially between those of health and education, and thus strengthen outreach strategies.
Although interventions to reduce maternal mortality and improve quality of life of women should be given priority, in the framework of the continuum of care, universal coverage of all people has to be a political goal, if we are to achieve equity in the exercising of the right to access quality health services.

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Chapter 6: How to protect the poorest?
Improving access to safe delivery for poor pregnant women: a case study of vouchers plus health equity funds in three health districts in Cambodia

Por Ir1,2, Dirk Horeman1, Souk Narin1 & Wim Van Damme2

Abstract

In many developing countries, maternal mortality rates remain high with huge poor-rich inequalities. Programmes aimed at improving maternal health and preventing maternal mortality often fail to reach poor women. Vouchers potentially are an effective financial mechanism for targeting health services to the poor.

We examine voucher and Health Equity Fund (HEF) schemes for safe delivery in three health districts in Cambodia and draw lessons learned for further improvement and scaling up. Data on voucher and HEF schemes were collected from reports and routine health information system combined with the personal observations of the authors and those from nine focus group discussions.

We found that voucher and HEF schemes increased deliveries in public health facilities. Voucher and HEF beneficiaries accounted for about one third of total facility deliveries and these increased sharply over time without decreasing the number of self-paying deliveries. But, the impact of both schemes on improved access to safe delivery for poor pregnant women remains limited. We outline several limitations of the voucher schemes.

Finally, we conclude that vouchers plus HEFs, if well designed and implemented, have a strong potential to address financial barriers to improved access for poor pregnant women to safe delivery. Yet, they do not overcome many non-financial barriers. To be fully effective, vouchers and HEF should be implemented together with supply-side interventions. More

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Keywords: voucher, health equity fund, access, safe delivery, Cambodia.

Introduction

The Millennium Development Goals set a target of reducing the maternal mortality ratio by three quarters by 2015 (United Nations 2000). However, progress towards this goal has been disappointing. The maternal mortality in many countries, especially in Sub-Saharan Africa and Asia, remains high (Hill et al. 2007). Furthermore, there are huge poor-rich inequalities in maternity care and maternal mortality (Houweling et al. 2007; Gwatkin et al. 2004). To achieve the fifth Millennium Development Goal, it is essential to target interventions toward the most vulnerable - the rural populations and poor people (Ronsmans et al. 2006).

The technical interventions to reduce maternal mortality are well known nowadays. Ensuring access to skilled birth attendants and emergency obstetric care are among the priority interventions fundamental to preventing avoidable maternal deaths (Donnay 2000; Liljestrand 2000). Campbell & Graham (2006) propose that the main priority for developing countries should be to offer women the choice to deliver in health centres. It has been estimated that the presence of skilled birth attendants at delivery could reduce between 13 and 33 percent of maternal deaths (Graham et al., 2001). However, in many countries, existing programmes to improve maternal health have been found to be ineffective in preventing maternal mortality. Enabling pregnant women, especially the poor and vulnerable who often face many barriers to access essential maternity care, is a big challenge for developing countries (Houweling et al. 2007). Beside transport and time costs, formal and informal fees in public health services in many developing countries still constitute a substantial financial barrier for poor women to access maternal health services (Sharma et al. 2005).

To address these financial barriers, various demand-side approaches to financing health care that subsidize directly the consumer of health care are increasingly being implemented in developing countries. Among them, voucher schemes are considered a potentially effective means of targeting health services or health products to specific population groups such as pregnant women and the poor (Ensor 2004; World Bank 2005; Bhatia &
Vouchers for health are defined as “a financing mechanism for subsidizing the price of health services and products to target population groups, with the goal of improving access to and utilisation of those services and products” (PSP-One 2006). Although vouchers offer potential for improving access to specific types of health care for the poor and for helping them avoid catastrophic expenditure, so far there has been limited documented evidence on their success (Onwujekwe et al. 2004; Worrall et al. 2005; Borghi et al. 2006).

In Cambodia, maternal mortality is among the highest within South and South-East Asia, at 472 maternal deaths per 100,000 live births and marked by a low percentage of skilled birth attendance (UNFPA 2006a). For these indicators, the gap between the poorest quintile and richest quintile is very large. In 2006, it was estimated that only 6.3% of pregnant women in the lowest quintile delivered at public sector facilities and 20.7% were attended by trained personnel, compared to 42.2% and 89.9% respectively for the richest quintile (World Bank 2006). Since early 2007, the Belgian Technical Cooperation (BTC) and the Ministry of Health have initiated voucher schemes in three health districts in Kampong Cham province together with Health Equity Funds (HEF) and supply-side strategies to improve access to safe delivery for poor pregnant women. We examine these voucher and HEF schemes and draw lessons learned for further improvement and scaling up.

Context

GENERAL CONTEXT IN CAMBODIA

Cambodia is a low-income country in South-East Asia with a total population of 14 million in 2005. More than 80% of the population live in rural areas mainly as subsistence farmers. Per capita gross national income was US$430 in 2005 (World Bank 2007). In 2004, 35% of the population were extremely poor, living below the national poverty line of US$0.59 per person per day and rural poverty accounted for almost 90% (World Bank 2006).

In the health sector, despite considerable progress, access to essential health services, including maternal care, remains a problem, especially for the poor. The overall user rates are low and there is a huge difference between the poor and the rich and between urban and rural residents. In
2004, the user rate in government health centres was 0.42 contact per inhabitant and the number of admissions to government hospitals was 23.4 per 1000 inhabitants (Ministry of Health 2005). The Cambodian Socio-Economic Survey in 2004 showed that only 59% of the poorest quintile sought care when ill compared with 75% for the richest quintile. The annual hospital admission rate per 1000 inhabitants was as low as 28 among the poorest quintile, almost six times less than the richest quintile. The annual hospital admission rate per 1000 inhabitants was as low as 28 among the poorest quintile, almost six times less than the richest quintile. The Cambodia Demographic and Health Survey 2000 and 2005 (NIS & DG 2001; NIPH & NIS 2006) showed an improvement for most maternal and child health related indicators, except the maternal mortality ratio (Table 1).

Furthermore, health care in Cambodia is relatively expensive and relies heavily on private spending. The out-of-pocket expenditure per capita estimated in 2004 was US$23.6, the equivalent of 6.7% of GDP per capita (WHO NHA 2006). The failure of exemptions makes user fees in public hospitals a major financial barrier for the poor (Wilkinson et al. 2001). User fees in public sector together with out-of-pocket expenditure in private sector amounted to 67% of the total health expenditure, 6 times more than the government health expenditure. High out-of-pocket expenditure on health and health services may throw the non-poor household into poverty and the poor household into destitution. Besides foregoing treatment or accessing low quality care, households are often forced to borrow money with high interest rates or sell or mortgage productive assets (Van Damme et al. 2004; World Bank 2006).
Maternal health service indicators, in particular deliveries in health facilities and deliveries by skilled attendants, have remained low. In 2005, 43.8% of deliveries were assisted by trained health personnel but only 21.5% delivered in a health facility (Table 1). More than half of women still delivered with a TBA at home. Many pregnant women, especially poor pregnant women, could not deliver at a health facility or with assistance of trained health personnel because of many barriers such as absence of trained attendant, distance to health facilities, costs and no family or friends to accompany them (UNFPA 2006b). Hence, increasing access to safe delivery through promoting skilled birth attendance in public health facilities with prompt access to emergency obstetric care has been one of the main priorities for the Ministry of Health (Ministry of Health 2005). In Cambodia, government health personnel are very poorly paid, which results in low motivation (Van Damme et al. 2001). Low staff income is one of main obstacles to facility delivery (UNFPA 2006b). Practically, midwives and health personnel earn much more when they assist a delivery at home than when they do it in a government health facility, creating a disincentive for them to promote facility delivery. To promote delivery in public health facilities, the Cambodian government decided in mid 2007 to provide an

### Table 1. Maternal and child health related indicators

<table>
<thead>
<tr>
<th>Indicators</th>
<th>CDHS 2000</th>
<th>CDHS 2005</th>
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<tbody>
<tr>
<td>Children 12-23 months fully vaccinated (%)</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>Use of modern contraceptive method (%)</td>
<td>19</td>
<td>27</td>
</tr>
<tr>
<td>Antenatal care at least once by trained personnel (%)</td>
<td>38</td>
<td>69</td>
</tr>
<tr>
<td>Deliveries in health facilities (%)</td>
<td>9.9</td>
<td>21.5</td>
</tr>
<tr>
<td>Deliveries assisted by trained personnel (%)</td>
<td>34.4</td>
<td>43.8</td>
</tr>
<tr>
<td>Total fertility rate</td>
<td>4.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Infant mortality per 1,000 live births</td>
<td>95</td>
<td>66</td>
</tr>
<tr>
<td>Under 5 mortality per 1,000 live births</td>
<td>124</td>
<td>83</td>
</tr>
<tr>
<td>Maternal mortality ratio per 100,000 live births</td>
<td>437</td>
<td>472</td>
</tr>
</tbody>
</table>

Source: Cambodia Demographic and Health Survey 2000 and 2005.
incentive of US$12.5 to US$15 to health personnel for each delivery attended in public health facilities. This incentive mechanism was introduced in the whole country, in addition to existing health financing mechanisms such as 'performance-based contracting' and HEF. Although the amount of the incentive may not entirely compensate the income loss for midwives and health personnel to promote facility delivery, the government incentive mechanism, if well implemented, can to some extent address the disincentive problem. Yet, the result of this mechanism needs to be assessed.

CONTEXT IN THE STUDY SITE

The study took place in three health districts in Kampong Cham province in Cambodia: Cheung Prey, Chamkar Leu and Prey Chhor. The public health system in these three districts consists of a total of three referral hospitals, without any operating theatre for surgical interventions, and some 42 health centres, serving a total population of approximately 537,000. Surgical cases, including caesarean sections, are referred to the provincial hospital, located in Kampong Cham town. All the hospitals and health centres charge user fees. Along with the public health system, there is a diverse and unregulated private sector. In Kampong Cham, 12.3% of women delivered in a health facility while 52.6% of women delivered at home with traditional birth attendants. Only 8.2% of deliveries were carried out in public sector facilities (NIPH & NIS 2005).

Since late 2004, the BTC has provided intensive technical and financial support to these three districts and the provincial hospital. BTC uses several supply and demand-side approaches for its support, the main ones being performance-based contracting and HEF.

BTC has progressively implemented performance-based contracting with the government health facilities and management bodies in the three districts and the provincial hospital as a supply-side financing strategy to address the vicious cycle of underpaid health staff, and poorly performing and under-utilised health services. This approach is inspired by the 'Cambodian New Deal' experiment in Sotnikum, which is described in detail elsewhere (Van Damme et al. 2001; Meessen et al. 2002). In the performance-based contracting arrangements, contracted facilities receive financial subsidies related to some process and output indicators. The facilities distribute these subsidies together with part of the collected user fees to their personnel based on basic criteria such as attendance, fulfilment
of job description, refraining from unofficial payments and poaching patients to private practice. As a result, the performance of the contracted facilities is improving considerably. A minimum quality of services (24 hour services and absence of informal fees) is more or less ensured, but the issue of equity of access for the poor remains.

Since late 2005, BTC has progressively started HEF (see Box 1) in the four government hospitals in the area to address the issue of access to hospital services for the poor. The management of the four HEF schemes was entrusted to a local NGO, Action for Health, playing a role as a third party to purchase health services from the hospitals for the poor. In 2007, another local NGO, Association for Human Resource Development and Health Education took over the management of one HEF scheme in Chamkar Leu referral hospital.

**Box 1. Definition of a Health Equity Fund (HEF)**

HEF is a demand-side financing mechanism to promote access to priority public health services for the poor in an environment where user fees are charged.

HEF beneficiaries are identified according to eligibility criteria, either at the community level before health care demand (pre-identification) or at the health facilities through interviews (post-identification).

At the health facility, the eligible poor patients get full or partial support from HEF for the cost of user fees, transport cost and other costs incurred during hospitalisation.

Both NGOs use exclusively a post-identification approach to determine the eligible poor. At the hospitals, potentially poor patients are interviewed by NGO staff to determine their eligibility for HEF assistance, using a predefined questionnaire and eligibility criteria as is shown in Appendix 1. Based on the score calculated, the interviewees are classified into four categories of eligibility: very poor, poor, near-poor and non-poor. The latter category is excluded from HEF assistance. According to the eligibility category, patients get a full or partial benefit package, including payment for hospital user fees, payment for cost of transportation between home or health centre and hospital, food allowance during the hospitalization and funeral cost in case of death.
THE VOUCHER SCHEMES

In Kampong Cham, despite significant improvement with performance-based contracting and HEF, many pregnant women, especially the poor, still face many barriers, including financial barriers, to accessing the maternity services in public health facilities. The performance-based contracting helps improve the supply-side performance, but does not address demand-side barriers, in particular the financial barrier. HEF supports only at hospital level. Although in general paying user fees at health centres is not a big barrier for access in Cambodia (Wilkinson et al. 2001), fees for delivery are, as it is the most expensive fee and it represents a substantial amount for poor pregnant women (US$7.5 for a simple delivery). In addition, transport cost to reach health facilities constitutes a significant amount and can be a major financial barrier to accessing health care for the poor (Hardeman et al. 2004). Therefore, voucher schemes for safe delivery at the health centre were initiated in an attempt to improve the situation (Figure 1).

Figure 1. Mechanisms used by BTC to improve access to safe delivery
The first voucher scheme was introduced in Cheung Prey health district in February 2007. It was later expanded to Prey Chhor and Chamkar Leu health districts in June and July 2007 respectively. The main objective of the voucher schemes is to improve access to safe delivery for poor pregnant women through promoting deliveries and antenatal and postnatal care with skilled birth attendants at public health centres in the concerned areas, thereby contributing to the reduction of maternal and newborn mortality and morbidity. The organisational structure of the voucher schemes can be schematised as in Figure 2.

Figure 2. Organisational structure of voucher schemes in Kampong Cham

BTC and local health authorities sub-contracted the management of voucher schemes to the NGOs that were already operating HEF in the area, Action for Health and Association for Human Resource Development and Health Education, as voucher management agencies (VMA). The voucher
recipients are poor pregnant women in the catchment area. Selected government health centres are the health service providers. To ensure minimum quality of midwifery services for safe delivery, the local health authorities together with BTC and the VMA applied three main criteria to select health centres for voucher schemes: (1) the health centre should be able to provide all services recommended by the Ministry of Health for a health centre, the so-called Minimum Package of Activities; (2) the health centre should have at least one skilled midwife available at time of need; and (3) the health centre has a record of relatively high utilisation for antenatal care and delivery.

The selected health centres signed contracts with the VMA. The contracts stipulated the health centres’ commitment to timely and professionally provision of antenatal, delivery and postnatal care services and arranging for referral services to emergency obstetric care in case of complications, to all voucher recipients who show up at the health centres. In exchange, the contracted health centres would get the user fees for their services paid by the end of each month.

Poor pregnant women are identified by local health volunteers and staff of VMA at their home. All pregnant women reported by local health volunteers as potentially poor are visited and assessed for eligibility for voucher schemes. The home visits are done every three months by VMA staff and local health volunteers. At each home visit, an interview based on the same predefined questionnaire as for HEF (Appendix 1) is administered to determine household socio-economic status. Once identified as eligible poor, a voucher with five detachable coupons (for three antenatal care visits, delivery and one postnatal care visit) is provided with explanation about the use of the voucher. The voucher recipients are encouraged to use all five coupons for their pregnancy, but they still are free to use only one or few of these coupons.

The voucher entitles the woman to (1) round trip transportation costs for antenatal care, delivery and postnatal care at the contracted health centre, (2) referral transportation costs from the health centre to referral hospital in case of complication, and (3) free antenatal care, delivery and postnatal care at the contracted health centre. User fees and other related costs at referral hospitals are the responsibility of HEF. The vouchers are only valid for the current pregnancy.
Payment of transportation cost is done by health centres based on a pre-defined list of prices with an advance cash allowance from the voucher schemes. The list estimates transportation costs for each village in its catchment area to the health centre. These prices take 300 Riel$ per kilometre as unit-based fare, which is the estimated rate for moto-taxis.

BTC and the local health authority have been monitoring the activities of vouchers and HEF schemes as part of their overall project monitoring activities, using quantitative indicators such as number of poor pregnant women identified, number of vouchers distributed, and utilisation of vouchers for ANC, delivery and postnatal care as well as costs of services provided through the voucher schemes. Periodically, they conduct individual interviews and focus group discussions among voucher holders and local stakeholders to understand their perception on the performance of voucher schemes and on the quality of services.

**Methods**

We collected data on voucher and HEF schemes in 2006 and 2007 from reports by VMA and HEF agents, and from the routine health information system in the three health districts, combined with nine focus group discussions and personal observations of the authors.

In the routine health information system, data on deliveries in the three health districts were collected every month from two main sources: the records of health facilities for facility deliveries and reports by village health volunteers for deliveries outside the health facilities. For the latter, health centre personnel organise monthly meetings with village health volunteers - two from each village - from all the villages in the health centre catchment area to gather information on deliveries during the previous month in their respective villages.

To understand the perception of voucher recipients on the performance of voucher schemes, on the quality of services provided at contracted facilities, and on reasons for non-use of vouchers, the third author conducted nine focus group discussions in late 2007 with a total of 87 voucher recipients. Out of the nine groups, five groups included 51 voucher recipients who did not use their vouchers for delivery (non-user group) and

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3 Riel is Cambodian currency. The exchange rate is around 4,000 Riel = US$1.
four groups included 36 voucher recipients who used their vouchers (user group). Participants were randomly selected from the list of voucher recipients and beneficiaries at health centres. The non-user group came from health centres with low utilisation rates of vouchers for delivery while the user group came from health centres with high utilisation rates of vouchers.

Two of the authors (DH and SN) are directly involved in the field operation of voucher and HEF schemes. The findings from the above methods are carefully matched with their personal observations.

To analyse the operational effectiveness of voucher schemes, we split the operational process of voucher schemes in three stages: (1) health centre selection, (2) voucher distribution and (3) voucher utilisation.

We used MS excel and SPSS version 13.0 for windows to analyse quantitative data. The qualitative data from the focus group discussions were manually coded, grouped and analysed.

**Results**

**Utilisation of the Vouchers and HEF**

In 2007, a total of 1,093 vouchers were distributed in the three health districts within less than one year of operation (11 months, 6 months and 5 months respectively in Cheung Prey, Prey Chhor and Chamkar Leu health districts). During that period, the vouchers were used by 843 poor pregnant women for ANC1, 635 for ANC2, 474 for ANC3, 402 for delivery and 186 for postnatal care. Of the 402 users for delivery, 107 delivered in referral hospitals; 12 of them were referred by health centres and 95 others went straight to the hospitals possibly on advice given by the health centres during ANC visits. Their numbers per month progressively increased (Table 2).
Table 2. Utilisation of vouchers in the three health districts in 2007

<table>
<thead>
<tr>
<th>Month</th>
<th>ANC1</th>
<th>ANC2</th>
<th>ANC3</th>
<th>Delivery at Health centre</th>
<th>Hospital</th>
<th>Postnatal care</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>March</td>
<td>6</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>April</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>May</td>
<td>17</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>June</td>
<td>131</td>
<td>37</td>
<td>7</td>
<td>16</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>July</td>
<td>210</td>
<td>128</td>
<td>59</td>
<td>24</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>August</td>
<td>246</td>
<td>140</td>
<td>99</td>
<td>37</td>
<td>15</td>
<td>24</td>
</tr>
<tr>
<td>September</td>
<td>62</td>
<td>146</td>
<td>85</td>
<td>44</td>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>October</td>
<td>26</td>
<td>55</td>
<td>99</td>
<td>53</td>
<td>17</td>
<td>42</td>
</tr>
<tr>
<td>November</td>
<td>78</td>
<td>52</td>
<td>62</td>
<td>68</td>
<td>22</td>
<td>43</td>
</tr>
<tr>
<td>December</td>
<td>57</td>
<td>66</td>
<td>60</td>
<td>51</td>
<td>22</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>843</td>
<td>635</td>
<td>474</td>
<td>295</td>
<td>107</td>
<td>186</td>
</tr>
</tbody>
</table>

The sharp increase of ANC1 and ANC2 users between June and August could be explained by the start of voucher distribution in Prey Chhor and Cham Kar Leu districts. Many poor pregnant women were identified and given vouchers only in the last trimester of pregnancy. Those women would have missed the opportunity to use their vouchers for all the three ANC visits. This could be a reason for immediate drop of monthly ANC1 and ANC2 visits after the increase between June and July. It could also explain the progressive decrease of voucher utilisation for ANC visits from the first to the third visit. In 2006, HEF supported 132 poor pregnant women who delivered at the three district referral hospitals and 239 in 2007, excluding the voucher holders.

**COST OF VOUCHERS**

The total cost of the voucher schemes in the three health districts over the study period was US$5,309. Of this amount, US$2,299 (43%) was for payment of user fees charged by contracted health facilities, US$1,888 (36%) for transportation and US$1,123 (21%) for operational costs, including per-
diem and transport costs for the voucher distributors (Figure 3). The latter
does not include staff salary and administration cost of the two VMA, as
these expenses were covered in the HEF contracts and were not increased for
the voucher schemes. The total direct financial assistance to beneficiaries (for
health centre user fees and transportation cost between home and health
centres) was US$4,186 or 79% of the total cost (Figure 3). Per voucher
recipient, the average financial assistance was US$3.83 and total cost
US$4,86. The total cost per supported delivery at health centre was US$18.

Figure 3. Breakdown of total expenditure for vouchers between January and
December 2007

OPERATIONAL EFFECTIVENESS OF VOUCHERS

The whole operational process of voucher schemes can be split into three
stages: (1) health centre selection, (2) voucher distribution, which includes
pre-selection of potentially poor pregnant women at village level, home visits
and interviews to identify the eligible poor pregnant women, and (3)
utilisation of vouchers, which also includes detection and referrals of
complicated cases. Overall results at different stages are summarized in
Figure 4.
(1) **Health centre selection.** By the end of 2007, voucher schemes had been introduced in 329 villages in the catchment areas of 30 health centres. This represents only 67.6% of the total 487 villages in the three districts. Twelve health centres and their catchment villages were not covered because they did not meet the selection criteria (six without building) and were not selected for intervention. Pregnant women living in the catchment areas of these twelve health centres were automatically excluded from the voucher schemes.

(2) **Voucher distribution.** Distribution of vouchers started with pre-selection of potentially poor pregnant women in the target villages by respective village health volunteers and village chiefs. They proposed a list of pre-selected poor pregnant women, who were later interviewed by VMA staff. As a result, 1,093 pregnant women were identified as eligible and provided with vouchers during the period. It is not possible to estimate exactly how many eligible poor pregnant women were missed at this stage. Using 30‰ crude birth rate and 37% poverty rate in the coverage area an estimation of poor pregnant women during the time period would be 4,398. Only 1,093 poor pregnant women (24.9%) were identified as eligible for vouchers, thus excluding 3,305 (75.1%) potentially poor pregnant women from voucher schemes. These exclusion errors could have resulted from the pre-selection and interviews. It was reported that very few poor pregnant women pre-selected by village health volunteers and village chiefs were excluded from voucher schemes by VMA staff after interviews. But the VMA staff failed to make as many home visits for interviews as it was planned. Each target village was expected to be visited by VMA staff together with village health volunteers and village chiefs every three months. It meant 894 visits to the 329 target villages. In practice, only 545 visits (60.9%) were carried out over the study period.

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4 The crude birth rate in Kampong Cham province in 2007 was officially estimated at 30‰ of the total population. Many observers believe that the real birth rate in the area has fallen considerably over recent years, but probably less so among the poor.

5 According to the Cambodia Socio-Economic Survey 2004, the general poverty rate (living below US$0.59 per person per day) in Cambodia was estimated at 35% while in Kampong Cham the poverty rate was estimated at 37%.
(3) **Voucher utilisation.** Many voucher recipients did not use their vouchers. Among the 1,093 voucher recipients in the list, 786 with clear record on voucher utilisation and estimated date of voucher distribution and expected delivery, indicating that they had delivered already, were selected for analysis at this stage. Out of the 786 voucher recipients, 618 (78.6%) had used their vouchers for ANC1, 484 (61.6%) for ANC2, 369 (46.9%) for ANC3 and 335 (42.6%) for delivery. So, more than half of voucher recipients did not use their voucher entitlement for delivery. Excluding one district which had data missing, of the 467 voucher holders, 143 (30.6%) went for postnatal care at health centres.

Over the study period, 14 pregnant women (about 5.6% of the voucher recipients who delivered at health centres) were found to have complications by health centre midwives and were referred to district hospitals. Four of them were further referred to the provincial hospital. One of them underwent caesarean section.
Figure 4. Results of voucher schemes at different stages of operation

(1) Health centre selection

<table>
<thead>
<tr>
<th>Total health centres: 42</th>
<th>30 health centres or 71.4% of the total health centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total villages: 487</td>
<td>329 villages selected for voucher intervention or 67.6% of the total villages</td>
</tr>
</tbody>
</table>

(2) Voucher distribution

<table>
<thead>
<tr>
<th>Total expected visits: 894</th>
<th>545 visits to the 329 villages carried out in 2007 or 60.9% of the total expected visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total expected poor pregnant women with 37% poverty rate: 4,398</td>
<td>1,093 poor pregnant women have been identified as eligible and provided vouchers or 24.9% of the total expected poor pregnant women in the 329 selected villages</td>
</tr>
</tbody>
</table>

(3) Voucher utilisation

<table>
<thead>
<tr>
<th>Sample for ANC and delivery: 786 voucher recipients with clear record</th>
<th>618 voucher recipients have used their entitlement for ANC1 or 78.6% of the total sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>484 voucher recipients have used their entitlement for ANC2 or 61.6% of the total sample</td>
</tr>
<tr>
<td></td>
<td>369 voucher recipients have used their entitlement for ANC3 or 46.9% of the total sample</td>
</tr>
<tr>
<td></td>
<td>335 voucher recipients have used their entitlement for delivery or 42.6% of the total sample</td>
</tr>
<tr>
<td>Sample for postnatal care: 467 women with clear record</td>
<td>143 voucher recipients have used their entitlement for postnatal care or 30.6% of the total sample</td>
</tr>
<tr>
<td>Sample for referrals: 251 voucher recipients who delivered at health centres</td>
<td>14 complicated deliveries referred to hospitals and one got caesarean section or 5.6% of the total sample</td>
</tr>
</tbody>
</table>
RESULTS FROM FOCUS GROUP DISCUSSIONS

None of the 87 participants in the focus group discussions had had any previous deliveries in health centres prior to the introduction of the voucher schemes, although about half of them used to seek ANC at health centres. Most of the participants could explain well the use of the vouchers and their benefits. They appreciated the vouchers. Almost all of them, even the non-user group, used vouchers to seek ANC at least once at the contracted health centres.

The voucher user group were in general satisfied with the services provided at health centres. They reported three main reasons why they had used the vouchers for delivery in health centres. First, thanks to vouchers they did not need to pay. Second, they felt safer delivering in health centres than at home with TBAs. Third, they could get their child vaccinated at once.

By contrast, many participants in the non-user group expressed their dissatisfaction with health centre staff. Some participants reported poor staff attitude and extra payments. Some stated that midwives did not explicitly request extra payments, but made it difficult for them not to do so. Some doubted the midwife’s availability at night time for delivery. Beside supply-side problems, transportation and intra-household constraints were raised as the two main reasons for non-use of vouchers for delivery. First, they are living in remote areas and far away from health centres. The deliveries happened at night time and they could not find transport means, even knowing that transportation costs would be paid for by the voucher scheme. If they could find the transport, they anticipated that the price would be much higher than the day time price approved by the voucher scheme. Women feared that such higher costs would not be fully covered by the voucher scheme. Second, several intra-household constraints made it difficult for the poor pregnant women to leave home. Many affirmed that if they came to deliver at health centres, nobody would look after their house and take care of their children at home, or that nobody could accompany them to health centres.

IMPACT ON SKILLED BIRTH ATTENDANCE

Midwives in contracted health centres and hospitals are considered skilled birth attendants. So, for the sake of this analysis, we consider deliveries
attended by midwives at the health centres and hospitals (facility deliveries) skilled birth attendance. The number of deliveries in public health facilities in the three health districts increased sharply not only for voucher and HEF beneficiaries, but also for self-paid deliveries. This indicates that voucher and HEF schemes brought new pregnant women to deliver at health centres and hospitals (Figure 5).

Figure 5. Facility deliveries in the three districts by type of beneficiary

![Figure 5](image)

Based on the routine health information system, a total of 6,681 deliveries were reported in 2006 and 6,718 in 2007 from 329 targeted villages in the three health districts. Of the reported deliveries in 2006, 1,154 (17.3%) were deliveries in public health facilities and 5,527 (82.7%) were home deliveries versus 1,975 (29.5%) and 4,727 (70.6%) respectively in 2007. This shows that deliveries in the public health facilities almost doubled in 2007 compared to 2006, while the number of deliveries at home proportionally decreased (Figure 6).

Among the 1,975 deliveries in public health facilities in 2007, 1,373 (69.5%) were in health centres and 602 (30.4%) were in referral hospitals. Vouchers supported 295 (21.5%) of the total health centre deliveries while HEF supported 346 (57.5%) of the total hospital deliveries. In total,
vouchers and HEF together supported 641 (32.5%) of the total 1,975 deliveries in public health facilities. The total number of beneficiaries of the voucher schemes (4.3%) and of the HEF schemes (5.2%) represented 9.5% of the total 6,718 deliveries reported in 2007. Along with voucher and HEF beneficiaries, the number of women who delivered in the public facilities and paid the delivery related costs by themselves, or ‘self-paying’ deliveries, also increased considerably from 15.3% in 2006 to 19.9% in 2007 (Figure 6).

Figure 6. Deliveries in the 3 districts: facility deliveries versus home deliveries

Based on 37% poverty rate, the total voucher and HEF beneficiaries accounted for 25.8% of the reported deliveries among poor pregnant women in the 329 targeted villages in 2007. But the total deliveries might have been under reported by the village health volunteers. If we use 30‰ crude birth rate, the total estimated pregnancies in this area in 2007 would be 11,887, almost double the reported number of deliveries. In this case, the percentage of voucher and HEF beneficiaries would be 5.4% of the total deliveries and 14.6% of the deliveries among poor pregnant women. The impact of voucher and HEF schemes on improved skilled birth attendance is summarised in Table 3.
Table 3. Impact of voucher and HEF schemes on improved skilled birth attendance

<table>
<thead>
<tr>
<th></th>
<th>Report by routine health information system</th>
<th>Estimation by crude birth rate (30‰)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total deliveries in 2007</td>
<td>6,718</td>
<td>11,887</td>
</tr>
<tr>
<td>Expected poor pregnant women (based on 37% poverty rate)</td>
<td>2,486</td>
<td>4,398</td>
</tr>
<tr>
<td>Total number of beneficiaries of vouchers and HEF schemes</td>
<td>641 (9.5% of total deliveries) (25.8% of total deliveries among poor pregnant women)</td>
<td>641 (5.4% of total deliveries) (14.6% of total deliveries among poor pregnant women)</td>
</tr>
</tbody>
</table>

Discussion

In the three health districts in Kampong Cham, the introduction of voucher schemes alongside HEF schemes seemed to effectively improve access to safe delivery for poor pregnant women. The number of voucher and HEF beneficiaries represented a large share (32.5%) of total reported facility deliveries and increased sharply over time, without decreasing the number of self-paying deliveries. Furthermore, the focus group discussions indicated that all poor pregnant women who used vouchers to deliver at health centres and hospitals did this for the first time, as they used to deliver at home with TBAs. Voucher schemes thus brought new pregnant women to public health facilities for delivery.

However, it is difficult at this stage to measure the impact of voucher and HEF schemes on improved access to safe delivery for poor pregnant women for many reasons. First, it is too early to see the full effect of the intervention since the schemes have been fully implemented for less than one year. Second, there are many other financing schemes under implementation in the area. Third, we do not have enough reliable data, including the total number of deliveries and number of poor pregnant women in the area.
The increase of self-paying deliveries could be partly explained by the overall improvement of supply-side performance thanks to performance-based contracting and government incentives for deliveries, the two supply-side mechanisms implemented in the study area. These mechanisms could play an important role in the increase of self-paying deliveries as well as overall facility deliveries. Yet, the real impact of these mechanisms still needs be assessed. Other factors such as, improvement of road access, increasing awareness on safe delivery by women, which were found in a survey in Cambodia as important determinants for increased facility delivery (UNFPA 2006b), could also play a role. It is important to recognise that the Cambodia Demographic and Health Survey 2000 and 2005 (Table 2) already showed an increasing trend for deliveries in health facilities in the country.

There are two possible scenarios to estimate the number of poor pregnant women and their deliveries during the study period: (1) we apply 37% poverty rate to the total reported deliveries in the area, though the village health volunteers may have under reported the number of deliveries in their villages; and (2) we apply the 37% poverty rate to the total expected pregnancies in the area estimated based on 30‰ crude birth rate. It is believed that the 30‰ crude birth rate is higher than the reality, but it may be realistic for the poor since the poor often have a higher fertility rate. Based on the first scenario, voucher and HEF schemes supported about 25.8% of poor pregnant women. This figure decreases to about 14.6% with the second scenario. This low coverage of voucher and HEF schemes among the poor indicates that their impact on improved access to safe delivery for poor pregnant women remains limited.

The operational effectiveness analysis of voucher schemes showed that many poor pregnant women were excluded from the schemes at three stages of operation - health centre selection, voucher distribution and voucher utilisation - because of some non-financial barriers, including organisational barriers, supply-side barriers and intra-household barriers. This suggests that overall effectiveness of voucher schemes would have been much better if these barriers were well addressed.

At the first stage - health centre selection - twelve of the 42 health centres did not meet the selection criteria because of the unavailability of skilled

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6 The Cambodia Demographic and Health Survey 2005 showed that the total fertility rate among the lowest quintile was 4.9 versus 2.4 for the richest quintile.
midwives and poor infrastructure and were not included in the intervention. This automatically ruled out about 29% of poor pregnant women from the scheme. One can argue that these women would have not been excluded if alternative providers had been chosen. A competitive voucher scheme allows the recipients to choose among a number of different providers they like and at their greatest convenience. This choice not only raises satisfaction amongst voucher recipients, but also creates competition among participating providers to improve quality of their services to attract more voucher clients (World Bank 2005). Instead of government health centres monopolising vouchers, BTC and local authorities could consider contracting some good private providers for service delivery, at least in the areas where there is no qualified government health centre. However, the feasibility of this approach depends on the availability of the private providers in the area, on their willingness to enter in a contractual relationship on terms acceptable for the purchaser and on political acceptability for the key stakeholders.

The second stage - voucher distribution - was limited by some targeting constraints. In general, there are three targeting methods: individual targeting, group or categorical targeting and self-selection (Coady et al. 2004). The voucher scheme is a targeting mechanism that uses one or more of these methods (Hanson et al. 2006). The voucher schemes in Kampong Cham use all three targeting methods. They use group targeting to target pregnant women for maternal services. By selecting only the ‘poor’, the voucher schemes also use individual targeting. Moreover, by choosing only public health centres as service providers, to some extent self-selection is automatically introduced. It means that non-poor pregnant women for some reasons may not want to deliver at public health centres even when there is no cost for it. This self-selection seems to make individual targeting unnecessary, since it tries to exclude the non-poor from the benefits that they would not want to claim for even if they were allowed to do so. Targeting helps improve efficient use of subsidies for the most needy, but it has a cost (Coady et al. 2004). The individual targeting in Kampong Cham may induce unnecessary cost to identify the non-poor pregnant women and delay the distribution of vouchers. With the estimate based on 37% poverty rate and 30‰ crude birth rate in Kampong Cham, more than two thirds of the potentially poor pregnant women in the intervention area were excluded from receiving vouchers. One obvious cause of this exclusion was that VMA staff failed to conduct regular home visits to interview and identify poor
pregnant women. Only 61% of the expected home visits were performed. For this reason, one could suggest rather systematically distributing vouchers to all pregnant women in the area regardless of socio-economic status to improve the coverage of voucher distribution. But, targeting the poor is crucially important to meeting the efficiency, equity and poverty-reduction objectives of subsidies. Alternatively, VMA could just distribute vouchers through village health volunteers without systematic interviews, but randomly cross-check to avoid fraud and errors, or introduce systematic identification of all eligible poor households in the area as part of an overall targeting strategy for not only vouchers, but also for HEF and other social transfers.

At the third stage - voucher utilisation - many voucher recipients did not use their vouchers for recommended services at health centres. Yanagisawa and colleagues (2006) showed that previous contact with a skilled birth attendant through antenatal care was a significant determinant in facility deliveries in rural Cambodia. But in the case of vouchers in Kampong Cham, the majority of voucher recipients did use their vouchers for ANC while more than half did not use them for delivery because of several remaining barriers which were not or not fully addressed by vouchers. Many deliveries happen at night time during which it is difficult to arrange transportation to health centres and to expect the presence of midwives at the health centres. In many cases, women decided to deliver at home because there was nobody to accompany them to health centres and to look after the children at home. Some health centre staff and midwives showed bad behaviour towards voucher holders and charged them extra fees. This could partly result from their low-income and disincentive to deliver in the health centre as discussed in the context. To address this problem requires more effective measures toward improving supply-side performance. The issue of disincentive for facility delivery can be addressed by linking voucher schemes with the government incentives for deliveries. To facilitate transportation for pregnant women during night time, a local arrangement by the communities should be developed. The project can also make use of village health volunteers by providing them some resources and incentives to arrange transport and accompaniment for pregnant women to deliver at health centres. Last but not least, more promotion for safe delivery at the public health facilities may further improve voucher utilisation.
Conclusion

Finally, even with the limitations of this study, we can conclude that vouchers together with HEFs, if well designed and implemented, have a strong potential to improve access for poor pregnant women to safe delivery services by addressing financial barriers. Yet, many non-financial barriers cannot be addressed. To be fully effective, vouchers and HEF should be implemented together with other supply-side interventions. More evidence is needed to prove the effectiveness and impact of the voucher and HEF schemes and to provide lessons for further scaling up.

Acknowledgements

We thank the field staff of the Ministry of Health and Belgian Technical Cooperation and village health volunteers in Kampong Cham for their hard work in project implementation and data collection. We are very grateful to Anna C Gorter, Bruno Meessen, Kristof Decoster and César Antonio DP Sousa for their comments on previous drafts of this paper. We also thank the reviewers and editors.

References


Appendix 1. Questionnaire and eligibility criteria for HEF

<table>
<thead>
<tr>
<th>Q1 – Housing</th>
<th>Score</th>
<th>Q6 – Farm assets</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Roof: Thatched/Leaf/Tent</td>
<td>0</td>
<td>A. None</td>
<td>0</td>
</tr>
<tr>
<td>B. Wall: None/Leaf/Bamboo</td>
<td>0</td>
<td>C. Draft animals (oxen, buffaloes)</td>
<td>2</td>
</tr>
<tr>
<td>C. Floor: None</td>
<td>0</td>
<td>Q7 – Livestock</td>
<td>Score</td>
</tr>
<tr>
<td>B. Wall: None/Leaf/Bamboo</td>
<td>0</td>
<td>A. None</td>
<td>0</td>
</tr>
<tr>
<td>C. Floor: None</td>
<td>0</td>
<td>B. 1 adult pig/&lt;30Chickens/Ducks</td>
<td>1</td>
</tr>
<tr>
<td>D. Condition: Bad</td>
<td>0</td>
<td>C. 2 Adult pigs/&gt;30Chickens/Ducks</td>
<td>2</td>
</tr>
<tr>
<td>Very good</td>
<td>2</td>
<td>D. &gt;2Goats/1 cow/ox/buffalo</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q2 – Electronic tools</th>
<th>Score</th>
<th>Q8 – Cash income/Person/Day)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. None, Radio</td>
<td>0</td>
<td>A. &lt;2,000 Riels*</td>
<td>0</td>
</tr>
<tr>
<td>B. Tape/TV (Black &amp; White)</td>
<td>1</td>
<td>B. 2,000R to 4,000 Riels*</td>
<td>1</td>
</tr>
<tr>
<td>C. TV (Colour)</td>
<td>2</td>
<td>C. 4,100R to 8,000 Riels*</td>
<td>2</td>
</tr>
<tr>
<td>D. ICOM Radio/Cell phone</td>
<td>3</td>
<td>D. 8,100R to 16,000 Riels*</td>
<td>3</td>
</tr>
<tr>
<td>E. &gt;16,000 Riels*</td>
<td>4</td>
<td>E. &gt;16,000 Riels*</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q3 – Electricity</th>
<th>Score</th>
<th>Q9 – Dependents</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. None, Kerosene</td>
<td>0</td>
<td>A. &gt;2 Elderly/Disable/Orphans</td>
<td>0</td>
</tr>
<tr>
<td>B. Battery &lt; 50 Ampere</td>
<td>1</td>
<td>B. One Elderly/Disable/Aphelion</td>
<td>1</td>
</tr>
<tr>
<td>C. Electric buying</td>
<td>2</td>
<td>C. None</td>
<td>2</td>
</tr>
<tr>
<td>D. Owner ship of generator</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q4 – Transportation means</th>
<th>Score</th>
<th>Q10 – Length of severe illness last year</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. None</td>
<td>0</td>
<td>A. &gt;30 days</td>
<td>0</td>
</tr>
<tr>
<td>B. Bike/ Small Boat</td>
<td>1</td>
<td>B. 15-30 days</td>
<td>1</td>
</tr>
<tr>
<td>C. Horse/Oxcart</td>
<td>2</td>
<td>C. 5-15 days</td>
<td>2</td>
</tr>
<tr>
<td>D. Motor boat/Motorbike</td>
<td>3</td>
<td>D. &lt;5 days</td>
<td>3</td>
</tr>
<tr>
<td>E. Vehicle/Power Tiller</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q5 – Productive Lands</th>
<th>Score</th>
<th>Q11 – Household health expenditure last year</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. None</td>
<td>0</td>
<td>A. &gt;500,000 Riels*</td>
<td>0</td>
</tr>
<tr>
<td>B. &lt;0.01 Hectares</td>
<td>1</td>
<td>B. 200,000 to 500,000 Riels*</td>
<td>1</td>
</tr>
<tr>
<td>C. 0.01-0.02 Hectares</td>
<td>2</td>
<td>C. &lt;200,000 Riels*</td>
<td>2</td>
</tr>
<tr>
<td>D. &gt;0.02 to 0.05 Hectares</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. &gt;0.05 Hectares</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Quality A-Third Category** 0  
**B-Second Category** 1  
**C-First Category** 2  

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>A. Used to borrow for health care</td>
<td>A: Very poor</td>
</tr>
<tr>
<td>1</td>
<td>B. Never borrowed</td>
<td>B: Poor</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>C: Near poor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D: Non-poor and rejected from support</td>
</tr>
</tbody>
</table>

**TOTAL SCORE AND ELIGIBILITY CRITERIA**

- A: Score between 0-10 Very poor
- B: Score between 11-14 Poor
- C: Score between 15-18 Near poor
- D: Score equal or above 19 Non-poor and rejected from support

*Riel is Cambodian currency. The exchange rate is around 4,000 Riel = US$1*
A conditional cash assistance programme for promoting institutional deliveries among the poor in India: process evaluation results

Narayanan Devadasan¹, Maya Annie Elias¹, Denny John¹, Shishir Grahacharyya² & Lahnuntlangi Ralte³

Abstract

India contributes significantly to the global burden of maternal deaths. More than 20% of all maternal deaths occur in India. To tackle this and especially to promote institutional deliveries, the government of India has introduced a conditional cash assistance programme called the Janani Suraksha Yojana (JSY). Under this programme, poor women who have had three antenatal check ups and who deliver in a health facility would get money soon after delivery to take care of their direct and indirect costs.

We interviewed staff and women who had recently delivered from four Indian states, to determine how the JSY is functioning in the field and whether it is meeting its original objective of increasing institutional deliveries. While there is some evidence to suggest that there has been an increase in institutional deliveries, we were able neither to quantify it nor attribute it to the JSY. This is because of the paucity of good quality data at the state and district levels. Both the staff as well as the pregnant women were happy with the scheme and felt that it met an important need. However, there were some important gaps in the implementation of the scheme. We found that some of the poor women were not aware of the programme; that the documentation processes had become very cumbersome and that there was a considerable delay in the women getting the cash benefit. Some women also mentioned that they received only partial amounts - the rest being pocketed by the health staff. The most significant issue was that the scheme has been changed to permit the cash benefit to go

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to all women who deliver, irrespective of the site of delivery. This has resulted in this scheme actually promoting home deliveries, a perversion of the original objective.

**Keywords**: India; maternal mortality ratio; institutional deliveries; conditional cash transfers; Janani Suraksha Yojana.

**Introduction**

India’s maternal mortality ratio is high compared to many other Asian countries. The latest figure states that there are about 301 maternal deaths per 100,000 live births. However, this average hides a wide range: from 110 in Kerala to 517 in Uttar Pradesh (Ashish Bose 2007). This is much higher than neighbouring countries such as China (56), Thailand (44), Malaysia (41) and Sri Lanka (92) (UNFPA 2007). Pregnant women die in India due to a combination of important factors, ranging from poverty, to ineffective or unaffordable health services (Ganatra et al. 1998). Mavalankar states that the major causes of the high maternal mortality are lack of political, managerial and administrative will (Mavalankar et al. 2008). All this culminates in a high proportion of home deliveries by unskilled relatives and delays in seeking care and this in turn adds to the maternal mortality ratios. In India, while 77% of pregnant women receive some form of antenatal check up, only 41% deliver in an institution (International Institute for Population Science 2007). Again this is an average, which does not reveal that only 13% of the lowest income quintile delivers in a hospital, even though all services are free for them. While many women felt that institutional delivery was not necessary, a quarter interviewed expressed that they could not afford to deliver in a health facility (International Institute for Population Science 2007).

The Government of India has been implementing various programmes from time to time to tackle these issues. It launched the Reproductive and Child Health (RCH) programme in 1997, which aimed at universalising immunization, ante-natal care and skilled attendance during delivery. Reduction of maternal mortality was an important goal of RCH-II that was launched in 2005. One of the main interventions was to provide emergency obstetric care at the first referral unit. Incentives were also given to staff to encourage round the clock obstetric services at health facilities (Ministry of
Later in 2005 the Government of India launched the National Rural Health Mission (NRHM) mainly to strengthen health services in the rural areas. It seeks to provide effective health care to the rural population by improving access, enabling community ownership, strengthening public health systems, enhancing accountability and promoting decentralization (Ministry of Health & Family Welfare 2005a). Under the NRHM, there is a specific scheme - the Janani Suraksha Yojana (JSY), which was introduced in April 2005 to promote institutional deliveries. Cash assistance is provided to those women who deliver in a health facility. This demand side financing was supposed to reduce financial barriers and hence increase institutional delivery and thereby reduce maternal and neonatal deaths. While there is some evidence from Latin America (Attanasio et al. 2005) and Africa (Kakwani et al. 2005; Lagarde et al. 2007) about the effectiveness of conditional cash assistance, there is very little information about it in Asia. This document tries to fill this gap. It describes the JSY and then analyses the available information to see whether the JSY is able to meet its primary objective.

Methods

We conducted a descriptive study to understand how JSY was implemented and how JSY was perceived by the staff and the community. The authors first reviewed all existing literature about the JSY programme. Much of this information was obtained from government sources as well as the internet. These documents provided information regarding the description of the scheme and secondary data about coverage and utilisation of services. Following this, the authors conducted a qualitative study in January 2008 to understand the functioning of the scheme and the perceptions of various stakeholders. We interviewed stakeholders of the scheme in the states of Maharashtra, Chattisgarh, Orissa and Karnataka. These states were selected because of the presence of the authors. One district in each state was selected purposively. 17 members from the health team including District Health Officers (4), PHC Medical Officers (5) and nurses (8) were selected in these districts randomly and were interviewed by trained interviewers. Semi-structured interview schedules were used to collect the data. The main topics for the interviews were to describe how the JSY was being implemented in
their district, document the manner in which the JSY is being monitored, to understand the problems that the stakeholders are facing, and to listen to their suggestions for improvement. Interviews were done in the local language and data were directly transcribed to the questionnaire by the interviewer. Data were then translated into English for a thematic analysis by the first author.

We also reviewed the nurse’s birth register and identified poor women (BPL) who had delivered in the past six months. Twenty two of them were randomly selected and interviewed. The main topics for the interview were: knowledge of the scheme, amount of money received, time delay, documents required, unofficial payment, opinion about the scheme, and suggestions for improvement.

**Description of the scheme**

The Janani Suraksha Yojana (JSY) or ‘Women’s security scheme’ is a 100% central government sponsored scheme to give cash assistance to poor pregnant women (Ministry of Health & Family Welfare 2005b). The JSY is functional in the entire country. Its main objective is to increase institutional deliveries and thereby reduce overall maternal and neonatal mortality rates. The main steps in availing of the benefits are given in Figure 1. The description of this scheme as given below is taken extensively from the JSY guidelines that were drawn up by the national government.
Eligibility criteria

Pregnant women who are below the poverty line\(^4\) (BPL), of the age of 19 years or above and with no more than 2 live births are eligible to enrol in this scheme. If any woman even after the third live birth chooses to undergo a tubal ligation soon after delivery, she is also eligible to receive the cash assistance.

The process

The pregnant woman has to register with the government nurse at the nearest sub-centre. She subsequently is expected to visit the nurse for three antenatal checkups, the last of which has to be in the third trimester. At the time of delivery, the woman is expected to deliver in the nearest health facility - be it a primary health centre (PHC) or a First Referral Unit (FRU). Soon after delivery, she should produce a certificate to prove that her family

\(^4\) The government of India has drawn a poverty line based on a set of 8 criteria. As per these criteria, those below the poverty line consume less than 2,400 calories per day.
belongs to the “below poverty line” (BPL) category. The medical officer reviews this document as well as the discharge summary from the facility and then sanctions the funds. The cash is handed over to the post-natal woman by the nurse. She is expected to use this money to meet the indirect costs of delivery, as well as to purchase nutritious food. The cash assistance depends on the type of delivery (Table 1). If the pregnant woman was identified and taken to the hospital by the village health worker (ASHA), the latter also gets a cash incentive.

Table 1. The cash assistance as per the Janani Suraksha Yojana guidelines

<table>
<thead>
<tr>
<th>INSTITUTIONAL DELIVERY</th>
<th>Normal delivery in a government facility</th>
<th>Caesarean section in a government facility</th>
<th>Incentive for the village health worker (ASHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural areas</td>
<td>Rs 700 (US$ 18)</td>
<td>Rs 1,400 (US$ 36)</td>
<td>Rs 600 (US$ 16)</td>
</tr>
<tr>
<td>Urban areas</td>
<td>Rs 600 (US$ 16)</td>
<td>Rs 1,400 (US$ 36)</td>
<td>Rs 200 (US$ 5)</td>
</tr>
</tbody>
</table>

This assistance is slightly less in economically advanced states. The guidelines state that if there is no government obstetric facility in the area, especially for caesarean sections, the nurse can arrange for the pregnant woman to be admitted in a private facility. Rs 1,500 is then paid by the government to the practitioner for this.

Administration of the scheme

The BPL card is used to identify poor pregnant women. In regions where the BPL card is not available, the elected representative can use his/her discretion to issue a certificate. The local nurse is given an initial advance of Rs 10,000, which is used for disbursing the assistance. The money is put into a joint bank account that is controlled by the nurse and the local elected representative. The assistance is given as one instalment soon after the delivery and on providing the Medical officer with at least two documents - certificate of delivery and the BPL card. The advance is replenished every time the nurse submits a utilisation certificate to the district authority.

Monitoring of the scheme

Implementation committees at the National, State and District level monitor
the scheme closely. The nurses file monthly reports to the district office with information about the number of women benefited, the amount of money disbursed and the outcome of the delivery. Seven percent of the entire fund is allocated to the state for meeting administrative costs. To promote transparency, all health centres are expected to write the names of the beneficiaries and the amount disbursed on a board that is displayed publicly. A grievance officer is also appointed in each district to look into any problems that may arise for the pregnant woman.

Results

IMPLEMENTATION

Though there was a general understanding about how the scheme should function, each of the four states studied has modified the central guidelines. The inclusion criteria, documents to be submitted, the timeline for receiving the cash benefit and the amount given varies from state to state. Table 2 gives further details.

Eligibility criteria
In the second year, even home deliveries were eligible for cash assistance. Policy makers in many states felt that all poor pregnant women should get some cash benefit. Thus women who deliver at home were to be provided with Rs 500 (US$ 13).

In the economically weaker states (Orissa & Chattisgarh) all pregnant women were targeted for this scheme, not just the poor. In Karnataka and Maharashtra however, the focus remained on the poor pregnant women. Low caste and tribal women were included in Maharashtra, irrespective of their economic status.

Amount of cash assistance
The amount varies a little from state to state and according to the type of delivery. While some of the states gave only Rs 500, others gave Rs 700 for a normal delivery. The assistance for Caesarean sections was similar in all the states. In most of the states the money was disbursed by the nurse. To improve transparency, in some states she disbursed the money in the presence of locally elected members.
Provider
One of the objectives of this scheme was to increase access to institutional care. Hence women were encouraged to use either the public or private facility. Unfortunately, in the economically weaker states (where the public health facilities would naturally be weaker), the government decided to limit the benefit to only those who either delivered at home or in a public health facility.

Table 2. Differences in the implementation of the Janani Suraksha Yojana in different states

<table>
<thead>
<tr>
<th>Eligibility criteria</th>
<th>Economically weak states</th>
<th>Economically better off states</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chattisgarh</td>
<td>Orissa</td>
</tr>
<tr>
<td>All BPL women who deliver in a health facility (public or accredited private facilities)</td>
<td>All women if they deliver at home or in public facilities. Only BPL women - if they deliver in accredited private hospitals.</td>
<td>All women if they deliver at home or in public facilities.</td>
</tr>
<tr>
<td>Or above</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 villages form one panchayat</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5 Panchayats are locally elected bodies (one member per village). Usually 5 villages form one panchayat

Cash assistance

**Rural area**
- Normal deliveries: Rs 700
- Caesarean sections: Rs 1,400

**Urban area**
- Normal deliveries: Rs 600
- Caesarean sections: Rs 1,400

**Home delivery**
- Normal delivery: Rs 500
- Caesarean section: Rs 1,500

**Normal delivery in institution**
- Normal delivery: Rs 1,400
- Caesarean section: Rs 1,500

**Caesarean section in Govt. Hospital**
- Normal delivery: Rs 500
- Caesarean section: Rs 500

**Caesarean section in Private Hospital**
- Normal delivery: Rs 1,000
- Caesarean section: Rs 1,500

(Rs. 700 for the beneficiary and Rs. 800/- for the attending doctor)

Home delivery in Govt. Hospital
- Normal delivery: Rs 500
- Caesarean section: Rs 500

Home delivery in Private Hospital
- Normal delivery: Rs 1,000
- Caesarean section: Rs 1,500

Source: Interviews in the four states.

**Documents required**

In all the states, the 'BPL card' was the main document required to avail of the benefits of this scheme, especially if the woman delivers at home. Where BPL cards had not yet been issued or had not been updated, alternate documents had been specified, which vary from state to state. In Karnataka, the new parents were expected to furnish a photograph of themselves with the baby to receive the cash assistance. While Maharashtra insisted on all the documents being submitted within seven days of delivery, in most other states, there was no time limit. In Karnataka, even women with a one year old child were allowed to claim the assistance.

**Delay of reimbursement**

In Maharashtra, the women said that they received the benefit the moment they had submitted the documents. However, women from other states said that there was considerable delay in receiving the benefit. As stated earlier, in Karnataka, the money was disbursed up to one year after the child was born. The most common reason for this delay was the fact that the advance was not replenished by the district/state (as per the nurses and medical officers). On the other hand, the state level officers said that this delay was because the nurses did not submit the utilisation certificates in time. In all the facilities conducting institutional deliveries, there is a huge backlog of JSY payments. During the survey, a nurse reported that in her area, out of 20 institutional deliveries, only 8 women and village health workers have received the JSY entitlement. The remaining 12 have not yet been paid due to paucity of funds.
Coverage
We made an estimate from various sources to assess the coverage of the scheme (Table 3). According to the figures reported by NRHM, the estimated coverage of the scheme was around 75% in Karnataka and 21% in Chattisgarh, whereas it was only 8.5% in Maharashtra. One needs to interpret this figure with caution as it is just an estimate. Moreover, there is considerable lag period between the cash assistance in the field and the report reaching the state and the central government.

Table 3. The estimated proportion of beneficiaries under the Janani Suraksha Yojana (2006-2007)

<table>
<thead>
<tr>
<th>State</th>
<th>Number of BPL individuals (Planning commission 2005)</th>
<th>Estimated no of deliveries among BPL families#</th>
<th>No of deliveries covered under JSY (Ministry of Health &amp; Family Welfare 2008)</th>
<th>% covered</th>
<th>Budget allocated in rupees (Ministry of Health &amp; Family Welfare 2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karnataka</td>
<td>13,889,000</td>
<td>305,558</td>
<td>233,147</td>
<td>76.3%</td>
<td>91,600,000</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>31,738,000</td>
<td>698,236</td>
<td>59,000</td>
<td>8.4%</td>
<td>106,800,000</td>
</tr>
<tr>
<td>Chattisgarh</td>
<td>9,096,000</td>
<td>309,264</td>
<td>64,000</td>
<td>20.7%</td>
<td>40,000,000</td>
</tr>
<tr>
<td>Orissa</td>
<td>17,849,000</td>
<td>464,074</td>
<td>227,000</td>
<td>48.9%</td>
<td>85,200,000</td>
</tr>
</tbody>
</table>

\# Estimated data using fertility rates from SRS data (Sample Registration System).

Utilisation
NRHM reports state that there is a steady increase in the number of beneficiaries utilising the scheme. According to these updates (Ministry of Health & Family Welfare 2007) there is a ‘significant increase in institutional deliveries because of Janani Suraksha Yojana’. To substantiate this statement, the reports further state that in 50 Blocks of Madhya Pradesh, institutional deliveries recorded a 27% increase (from 26% to 53%). In Orissa, figures from three CHCs show an increase in institutional delivery from 88 to 149, 59 to 120 and 97 to 169 respectively over a corresponding time period. In Haryana, the institutional deliveries went up from 28% in 2004-05 to 43.6% in 2005-06 (Ministry of Health & Family Welfare 2007).
Table 4. The number of Janani Suraksha Yojana beneficiaries

<table>
<thead>
<tr>
<th>States</th>
<th>No of JSY beneficiaries, 2005-2006</th>
<th>No of JSY beneficiaries, 2006-2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low performing states</td>
<td>26,000</td>
<td>223,000</td>
</tr>
<tr>
<td>High performing states</td>
<td>300,000</td>
<td>969,000</td>
</tr>
</tbody>
</table>

Source: NRHM report 31/12/07 (Ministry of Health & Family Welfare 2008).

Table 5. Janani Suraksha Yojana beneficiaries in Karnataka.

<table>
<thead>
<tr>
<th>Year (1st April to 31 March)</th>
<th>Total number of deliveries</th>
<th>Number of JSY beneficiaries (% of all deliveries)</th>
<th>Number of JSY beneficiaries who delivered in institutions (% of total JSY beneficiaries)</th>
<th>Proportion of JSY beneficiaries who had Caesarean sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-2006</td>
<td>901,260</td>
<td>50,542 (5.6%)</td>
<td>30,142 (59.6%)</td>
<td>NA</td>
</tr>
<tr>
<td>2006-2007</td>
<td>909,631</td>
<td>233,147 (25.6%)</td>
<td>133,778 (57.4%)</td>
<td>NA</td>
</tr>
<tr>
<td>2007-2008*</td>
<td>454,874</td>
<td>162,192 (35.6%)</td>
<td>107,286 (66.2%)</td>
<td>26,291 (16%)</td>
</tr>
</tbody>
</table>

* April to September 2007

From the above two tables, it appears that there is an increase in the number of women who receive the assistance of JSY. Unfortunately, this does not inform us whether there has been a substantial increase in the institutional deliveries. We managed to get figures from Karnataka where we note that the proportion of institutional deliveries has shown some increase over the years. It is interesting to note the relatively high caesarean rate. In other states we could access only the number of beneficiaries. The denominator was not available.

PERCEPTION OF THE SCHEME BY THE PROVIDERS

The senior government officials and medical officers felt that the scheme was beneficial for poor and needy patients who normally could not afford institutional deliveries. They reported that the scheme was resulting in

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6 Low performing states are the economically weaker states as defined by the Government of India.
promotion of institutional delivery and it should also help in minimizing family size as this scheme is applicable for the first two children. To quote one of the medical officers, “People are becoming aware and coming to hospital for delivery. Maternal and infant deaths have reduced since JSY. It is a very good scheme for both the mother and child. They are directly getting benefits and our death rate is decreasing. Also after delivery they are able to buy medicine especially for chronically anaemic mothers. Also the gap which used to be there between rural people and the public health facility has been bridged and now people who used to go to a quack for treatment are now coming immediately to seek care.”

Most of the medical officers in the health centres reported that the work load has definitely increased since the introduction of this scheme. The number of institutional deliveries increased but at the same time many hospitals did not have the adequate infrastructure and staff facilities required to handle this extra load. They reported that due to this, they are often forced to discharge the women within a day of the delivery. They also stressed that necessary training has to be given to village health workers and other field staff to improve the quality of their work.

They pointed out that as the benefits of the scheme are extended even to home deliveries, this might affect the success of the scheme. To quote a nurse; “if the delivery is at home, they get Rs.500, and if it is conducted in a hospital, they get Rs.700. They have to spend more for travel, food and other expenses if they deliver in a hospital. So they are reluctant to go to hospital, and prefer to deliver at home.”

The medical officers suggested that the fund flow has to be more streamlined so that the delay in payment can be avoided. They reported that the village health worker (ASHA) has a heavy work load and she does not get rewarded for her performance on time. They felt that due to this she might lose her motivation and that in turn will affect the success of the scheme. They suggested that the scheme should be made open to all, irrespective of caste and economic status and the grievance procedure to be strengthened. They also felt that the facilities at the sub-centres have to be improved. They strongly opined that the benefits should be restricted to only two children, lest it contradict the population policy.

7 Sub-centres are the lowest formal institutions in the government health system. It has an auxiliary nurse and provides preventive care for a 5000 population. The nurse reports to the doctor at the primary health centre which is in turn responsible for 30,000 population.
PERCEPTION OF THE SCHEME BY THE BENEFICIARIES

The level of awareness about the scheme was low in Chattisgarh and Karnataka compared to Maharashtra and Orissa. Beneficiaries interviewed from the state of Maharashtra reported that the scheme was good as it benefits the poor and it should be continued. To quote a beneficiary, “this is a good scheme, [we receive] financial support for maternal expenses and there is no need to borrow money”. But the majority of the BPL mothers who had delivered in the past six months from Chattisgarh and Karnataka mentioned that they had not heard about this scheme.

Corruption is another issue of serious concern. According to the Jan Swasthya Abhiyan report, “there are instances of negligence on the part of the block level health officials in Chattisgarh whereby the full entitlement does not reach the beneficiaries” (People’s health movement 2007). In Karnataka beneficiaries interviewed stated that they did not receive the full amount. All the beneficiaries interviewed from Orissa reported that they received only Rs 350 instead of Rs 700. The rest was apparently distributed among the facility staff.

The pregnant women suggested that the coverage of the scheme has to be extended to all women and up to 3 live births. The payment has to be made on time, and the procedure for documentation has to be simplified. They felt that the amount should be increased as they spend more money associated with delivery (hospital charges, medicines, transportation charges etc). They also suggested that the assistance has to be given for the new born baby’s treatment also. They felt the information regarding the scheme has to be provided a long time before the delivery so that the documents can be arranged in time. If an application is rejected, the reason for rejection has to be explained also.

Discussion

Maternal mortality rates have become one of the major concerns globally and many countries have developed different strategies to address the same. Some of them include free access to health care, insurance schemes and voucher schemes. Many countries have successfully implemented cash assistance schemes to increase the utilisation of health care and educational facilities by children (Lagarde et al. 2007). JSY was such an attempt by the
Government of India, to increase the access to obstetric care for poor women.

We have tried to document the JSY through a review of secondary literature and some primary data collection. While we were successful in interviewing important stakeholders, our attempts to get quantitative data about the scheme were not very successful. This was mostly because the data required was not available in the states studied. This results in a more descriptive study rather than an analytical one and our conclusions need to be interpreted keeping this in mind. Furthermore, we had only historical controls and had to rely on government data that concentrated only on numerators, without taking the denominator into account. Not having any data on private sector utilisation is a serious limitation because the (apparent) increase in government utilisation may reflect a shift from the private sector with no increase in institutional deliveries overall.

JSY was introduced mainly with the aim of increasing the institutional delivery rate and thereby decreasing maternal and neonatal mortality. While the central government developed broad guidelines, we see that each state has modified it: home deliveries included, private excluded, difference of cash amount, etc. By permitting even home deliveries to be covered, the primary objective may have been undermined. As graphically described by a nurse, currently the JSY is an incentive for home deliveries. This needs to be looked into urgently; else the JSY will be converted into a programme to support deliveries, not necessarily institutional deliveries.

The reasons for divergence are not clear: was it a result of poor understanding and communication of the policy, or independent changes made to suit the local context? This needs further investigation.

In three of the four states there is anecdotal evidence that some of the BPL women were not aware of the scheme and its benefits. Those women who have received the benefits did not receive the cash immediately after delivery. Except for Maharashtra, in the other states, the disbursement was considerably delayed. This defeats the purpose of providing funds at the time of delivery to take care of indirect costs. The states have to make sure that the money is disbursed at the time of delivery, or even before, to improve the effectiveness of the scheme. Also the incentives given to the health workers should be on time to maintain her morale. Obviously this is an issue of proper financial management, as both central and state officers maintain that there are adequate funds available for this scheme. What is required is
to streamline the fund flow, so that funds are always available at the local level.

Yet another issue that affects the proper utilisation of the scheme is the documentation required to get the money. While the original guidelines just require a BPL certificate and a discharge summary, some of the states have increased the number of documents required. This places a burden on the family. Also these documents have to be produced after the delivery, which begs the question - is the mother going to look after her newborn or is she going to run around trying to collect the documents? The Karnataka requirement that the neonate has to be photographed exposes the child to the dust and infection of the market place, thereby increasing the probability of infection and subsequent mortality.

And then of course there is the ubiquitous role of corruption. While only few women complained about it, most accepted that they did not receive the promised amount. They seem to have accepted this situation "something is better than nothing."

Anecdotal evidence suggests that the quality of care has suffered in institutions because of the increased number of deliveries. Staffs are not able to cope with the increased demand on their time and services. It was hoped that some of these deliveries would happen in the private sector, and so reduce the burden on the existing health services. But most states have been less than proactive in involving the private sector and so the public facilities have borne the entire burden. Also the caesarean section in Karnataka seems to be high (16%). This needs to be reviewed very carefully to understand the reason behind this.

The monitoring of the scheme is currently done by the District Programme Manager (NRHM) and the RCH officer at the district level. There is a need to strengthen the monitoring mechanism at the field level to make sure the scheme is implemented effectively. Currently the variables monitored are "the number of beneficiaries" and the "amount disbursed." As stated earlier, this does not permit the policy maker to understand whether the JSY has met its original objectives, those of increasing institutional delivery and reducing maternal and neonatal deaths. A real problem with monitoring the incentive scheme is that it encourages over-reporting on utilisation data. An independent agency could monitor the scheme to provide timely and accurate reports of its performance. There is no formal evaluation being undertaken. An independent evaluation was
recommended by the government but has not been carried out yet. There is a need to add private data to have a full picture of what is happening.

Conclusion

The Janani Suraksha Yojana is an attempt to promote institutional deliveries. Its strength lies in the fact that the government has made budgetary allocations for the poorest. There is some evidence to suggest that institutional deliveries have increased due to the JSY. However, it is apparent that there are some weaknesses in the scheme. Women are not aware of the scheme in some states. Changes in the benefits now promote home deliveries which conflicts with the original objective of encouraging institutional deliveries to reduce maternal and neonatal deaths. Documentation procedures have evolved into a cumbersome process and have the potential to deny benefits to the needy. If the implementation process is strengthened, quality improved and the programme is effectively monitored, then the poor can benefit from this scheme and, in the long run, it may reduce maternal and neonatal deaths.

References


Chapter 7: Synthesis & Conclusion
Learning lessons and moving forward: how to reduce financial barriers to obstetric care in low-income contexts

Sophie Witter1, Fabienne Richard2 & Vincent De Brouwere2,3

Introduction: typology of interventions

In all of the contexts described in this book, the problem statement is the same - few women are accessing formal delivery services, for reasons which include their inability to afford the cost of care. Skilled attendance rates, nationally, range from around one-third in the case study countries with the highest proportion living in absolute poverty to two-thirds in those with the lowest levels (Table 1). All, apart from Bolivia, have caesarean section rates that fall far below the recommended range of 5%-15% of deliveries (and in Bolivia, the low rural rates are counterbalanced by excessive urban one).

The financial barriers that they face stem from a range of factors, including low household incomes, low prioritisation of maternal health within the household, high costs of care, unpredictability of costs of care, and lack of risk-sharing mechanisms within the health financing system (so that the majority of costs are paid out-of-pocket by households). The financial and non-financial barriers result in low demand for obstetric care and low effective access. Although interconnected, some of these barriers are addressed more directly through health system interventions and others through household and community interventions (Figure 1).

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Table 1. Selected characteristics of cases study countries

<table>
<thead>
<tr>
<th>Country</th>
<th>GNI per capita in current US$ (2007)</th>
<th>National skilled attendance coverage (DHS)</th>
<th>C-section rate (DHS)</th>
<th>Out of pocket as % of total expenditure on health (2007)</th>
<th>% population below 1.25 US$ per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolivia</td>
<td>1,260</td>
<td>67% (2003)</td>
<td>15.8</td>
<td>23.0 6.1 32%</td>
<td>19.6% (2005)</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>430</td>
<td>38% (2003)</td>
<td>0.7 2.6 0.4 44%</td>
<td></td>
<td>56.5% (2003)</td>
</tr>
<tr>
<td>Cambodia</td>
<td>540</td>
<td>44% (2005)</td>
<td>2.2 6.7 1.4 63%</td>
<td></td>
<td>40.2% (2004)</td>
</tr>
<tr>
<td>Ghana</td>
<td>590</td>
<td>47% (2003)</td>
<td>4.2 8.9 1.8 45%</td>
<td></td>
<td>30.0% (2005)</td>
</tr>
<tr>
<td>Guinea</td>
<td>400</td>
<td>38% (2005)</td>
<td>1.8 5.2 0.8 88%</td>
<td></td>
<td>70.1% (2003)</td>
</tr>
<tr>
<td>India</td>
<td>950</td>
<td>47% (2005-2006)</td>
<td>9 17.3 6.2 78%</td>
<td>Rural 43.8% (2004)</td>
<td>36.2% (2004)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Urban 36.2%</td>
<td>21.2% (2000)</td>
</tr>
<tr>
<td>Mauritania</td>
<td>840</td>
<td>57% (2000-2001)</td>
<td>3.3 5.6 1.5 31%</td>
<td></td>
<td>31.2% (2004)</td>
</tr>
<tr>
<td>Senegal</td>
<td>820</td>
<td>52% (2005)</td>
<td>3.5 7.1 1.4 56%</td>
<td></td>
<td>33.5% (2005)</td>
</tr>
</tbody>
</table>

Sources: World Bank (key development data & statistics), Countdown 2015 (Country profiles), DHS Stat Compiler
The interventions described in this book aim to lower access barriers by averting some of the economic and social costs of paying for obstetric care which are described in the context chapter (Borghi et al. 2008). Cost structures vary according to context, with facility costs dominating in some contexts and non-facility costs (for example, for transport) dominating in others. The costs of obstetric care take many forms and are not just focussed on the intrapartum period, but can also last for some time after the delivery, particularly in the event of an obstetric emergency or near-miss event (Storeng et al. 2007).

Most of the approaches described in this book focus on the cost of care and on increasing risk-pooling of costs. They mostly adopt one or more of the direct strategies to reduce financial barriers to care described in Table 2.
### Table 2. Direct strategies to reduce financial barriers - an overview

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Funding</th>
<th>Targeting</th>
<th>Which costs?</th>
<th>Purchasing</th>
<th>Payment systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply side (financial barriers tackled via the health system)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fee exemption or reduction (Ghana, Senegal, Burkina)</td>
<td>Public finance or donors</td>
<td>Service-based; possible geographic targeting and self-selection</td>
<td>Official fees for services and goods</td>
<td>Health facilities - public, private, private not-for-profit</td>
<td>Subsidies on inputs or retrospective payment per case to facilities</td>
</tr>
<tr>
<td>Waivers (Cambodia HEF)</td>
<td>Individual or household targeting</td>
<td></td>
<td></td>
<td></td>
<td>Payments per case or per capita to facilities</td>
</tr>
<tr>
<td>Tackling informal payments (Mauritania)</td>
<td>User fees, with possible subsidy component</td>
<td>All services within specific facilities or facility types</td>
<td></td>
<td></td>
<td>Internal to facility budget; substitution of official for unofficial payments</td>
</tr>
<tr>
<td><strong>Demand side (financial barriers tackled directly via the households)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conditional cash transfers (India)</td>
<td>Public finance or donors</td>
<td>Individual or household targeting</td>
<td>Any cost component, potentially fees, transport, food, opportunity costs</td>
<td>Usually third party organisation, based in community, or at facility, or independent (but generally not-for-profit)</td>
<td>Payment to client, subject to specified attendance at facilities</td>
</tr>
<tr>
<td>Vouchers (Cambodia)</td>
<td>Public finance or donors, with possible co-payments</td>
<td>Individual or household targeting, usually, though could be geographic</td>
<td>Official fees for services and goods</td>
<td></td>
<td>Payment per case to facilities in exchange for redeemed vouchers</td>
</tr>
<tr>
<td>Loans</td>
<td>Public finance, donors, community contributions</td>
<td>Individual and needs-based (sometimes based on creditworthiness too)</td>
<td>May be restricted to certain costs or situations, or general</td>
<td></td>
<td>Loans to clients with or without fixed limits and interest</td>
</tr>
<tr>
<td>Prepayment/ community health insurance (Guinea, Mauritania/social health insurance (Bolivia)</td>
<td>Public finance or donors, with possible co-payments</td>
<td>Individual or household targeting, usually, though could be geographic</td>
<td>Official fees for services and goods</td>
<td></td>
<td>Subsidy payment to insurance fund per target client enrolled</td>
</tr>
</tbody>
</table>

Source: adapted from (Witter 2008b)
In addition to direct approaches to reducing financial barriers, there are a variety of actions which, while not usually framed in those terms, do in reality bring down the real costs of accessing services for clients. These include, for example:

- Changes to public resource collection and allocation in such a way that poorer areas benefit and are able to pass on the benefits in the form of fee reductions or quality improvements.
- Any policy which increases the income of clients, particularly the poor, will have the effect of reducing the real cost of accessing care (e.g. micro-credits).
- Bringing services closer to clients, which has the effect of reducing transport and opportunity costs (e.g. increase the number of CEmOC facilities or/and provision of funded ambulance service).
- Improving the quality of care and the provision of drugs and supplies similarly reduces real costs to clients, by removing the need to seek alternative sources of care (e.g. in the private sector) and to purchase additional inputs, such as drugs and supplies, which are lacking in facilities.

**Lessons derived from case studies**

A summary of the policies described in this book and their impact is given in Appendix 1.

Senegal and Ghana present examples of national fee exemption policies, which have achieved positive results at relatively low costs per case, but with significant implementation difficulties. These included inadequate funding in Ghana and failure to adequately reimburse lower level facilities in Senegal, both of which reduced the real benefits which were realised for households (Witter et al. 2008c). These policies were wide but thin: entitlement was universal, with rapid scale up from poorer regions, but with theoretical cost reductions limited to service fees, while the bulk of household expenses go to drug costs and transport. Community health insurance (CHI) could play a complementary role by taking on these costs not covered by the national fee exemption policy. However coverage of CHI remains low and access is not guaranteed if households cannot afford the premium (Soors et al. 2008). In Guinea, a CHI was developed specifically to protect women and their families from excessive expenditures (Ndiaye et al. [...])
Studies in HSO&P, 24, 2008. This system, called MURIGA, is progressively scaling up in terms of district coverage but the proportion of adherents remains low, as is common for more general CHI.

In Mauritania, household solidarity is expressed by a flat fee pre-payment scheme. This prepayment is offered to pregnant women at the first antenatal consultation and covers all costs until the end of the pregnancy. The state pays salaries to the health personnel involved in the obstetric care and the pre-payment covers consumables and fees. This is a district-managed scheme (Renaudin et al. 2008). The Burkina initiative in Secteur 30 includes all care for the mother and her newborn (transport, intervention and post-delivery care) but is limited to emergency and/or life-threatening obstetric care. This scheme involves not only the district, the households and the health centres, but also the local authorities. This system is district-driven and cannot be implemented without the willingness of the district team and local authority (Ouédraogo et al. 2008).

Other approaches target the poorest pregnant women. In Cambodia, a voucher system and a Health Equity Fund (HEF) were implemented with the specific aim of protecting the poorest. The number of voucher and HEF beneficiaries represented a large share (32.5%) of total reported facility deliveries and increased sharply over time. But the study questions the effectiveness of the targeting (Por et al. 2008). In India, the government introduced a conditional cash assistance programme called the Janani Suruksha Yojana (JSY) in 2005 to promote institutional deliveries. Under this programme, poor women who attended three antenatal clinics and who delivered in a health facility were to be given money soon after delivery to take care of their direct and indirect costs (Devadasan et al. 2008). Process evaluation shows the difficulty of assuring efficient and transparent cash transfers in a policy of this ambitious scale.

In the case of Bolivia, a variety of packages for free care have been developed over the past decade, promoting access for priority groups such as mothers and children. Although these are called social health insurance, they are funded not by membership but by national and local revenues, and to that extent are similar to the national exemption policies. A significant and sustained increase in access has been achieved, but overall coverage of services remains low and indicators for rural areas still lag far behind those of urban areas (Pooley et al. 2008).
There are a number of lessons which emerge from these case studies. One is the importance of setting out a clear monitoring and evaluation framework for new policies. Given the frailty of funding for many of these policies, robust evidence of results is needed to justify further external investment. It is also important to look at beneficiary incidence - how much of the subsidies are reaching the poorer households. Few schemes do this at present (only Ghana out of the case studies in this book).

The need for clear implementation plans and guidelines also emerges for some of these initiatives. Differences have been observed in terms of implementation that can lead to a complete distortion of the objectives of the plan (for example, in India, where some areas decided to reimburse home deliveries). This has also been noted in similar policies elsewhere (Powell-Jackson et al. 2007).

Funding sources vary greatly between schemes - some rely fully on national government funding (Ghana, Senegal, India); some are fully funded by donors (Cambodia); some are mainly funded by users (Mauritania); and others have a mix of sources (three levels of government in Bolivia; a mix of users, local government and national in Burkina). Many had considerable assistance with set-up costs from donors (Mauritania and Guinea). Funding sources correlate to some extent with the scale of the policy: those funded by government are much more likely to be national in scale, compared to other sources. They are also most plagued by funding delays.

The low take-up of some of the benefits packages - even where these are substantial and do not require co-payments by households - merits further investigation. In the Cambodia voucher scheme, less than half of the eligible women used their vouchers for delivery care. In Guinea, a 10% take-up rate was reported, despite the high external subsidy and potentially large cost-savings for households. These imply non-financial barriers, such as concerns over quality of care or geographical and cultural barriers.

A theme shared by most of the studies is the dissatisfaction of health workers with rising workloads and the lack of income supplements (with the exception of Mauritania) - though in some (such as India) informal payments may be filling the gap. To ensure the sustainability of the policy and to minimise adverse effects, this constituency should be won over in reforms to user payments. This is likely to involve a mixture of measures, including consultation over changes, improvements to pay and working conditions, and ensuring adequate staffing and controls over working hours.
All schemes report increased uptake of services, though few have robust evidence of the extent of the increase (see Table 3). Costs of intervention are equally under-reported, but where this information is available, the estimates are fairly close (for example, $18-$21 per normal deliveries and $154-$165 per CS). These costs do mask differences in benefit packages though.

Table 3. Summary of costs and utilisation responses

<table>
<thead>
<tr>
<th>Obstetric finance scheme</th>
<th>Cost of intervention</th>
<th>Impact on utilisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolivia social health insurance</td>
<td>Not reported</td>
<td>17% increase in supervised deliveries at national level over period 1994-2003, partly related to SUMI. 5% increase in CS over same period (though no change in rural areas).</td>
</tr>
<tr>
<td>Burkina cost sharing</td>
<td>Estimated $165 per CS</td>
<td>20.3% increase in supervised deliveries between 2003 and 2007 (secteur 30 district) 1.2% increase in CS</td>
</tr>
<tr>
<td>Cambodia vouchers</td>
<td>$5 per voucher recipient, $18 per supported delivery</td>
<td>12.3% increase in public health facility deliveries (2006-2007) (increase of vouchers deliveries as well as self paid deliveries)</td>
</tr>
<tr>
<td>Ghana fee exemption</td>
<td>$22 per delivery (all types), $0.16 per capita (nationally), $62 per additional delivery (all types)</td>
<td>12% increase in supervised delivery rate (2003-2005, Central Region) 5% increase (2004-2005, Volta Region)</td>
</tr>
<tr>
<td>India cash transfer</td>
<td>Not reported</td>
<td>Between 15 and 27% increase (depending on the areas) in facility deliveries (2004-2006)</td>
</tr>
<tr>
<td>Mauritania EmOC insurance</td>
<td>Set-up costs of $1.3 to $4 per reproductive age woman, Premium of $22 per pregnancy</td>
<td>33. 8% increase in facility deliveries (2000-2007)</td>
</tr>
<tr>
<td>Muriga CHI, Guinea</td>
<td>Not reported</td>
<td>Little impact on supervised deliveries: 5% increase from 2000 to 2006 1.1% increase in CS (not different from non-Muriga areas)</td>
</tr>
</tbody>
</table>
Senegal fee exemption

Based on sample of facilities in five exempted regions (2004-6):

- $2.2 per normal delivery
- $154 per CS
- $0.10 per capita nationally
- $21 per additional normal delivery
- $467 per additional CS

Most of the policies described here were young, and so the impact on more ‘fixed’ costs, such as staff, equipment and maintenance were not significant, but over time, as activity levels increase, governments must budget for increased allocations to these areas.

There is a clear trade-off between depth and breadth, with targeted schemes (Cambodia, India) able to include a wider range of costs, such as access costs. However, the assumed equity advantages of individual targeting over geographical targeting was questioned by the Cambodia case study, which highlighted the problem of maintaining systems for identifying the poor in all villages.

Some of the initiatives had very short lifetimes, being soon superseded, fully or partially, by new policy initiatives (e.g. in Ghana, by the shift from exemptions to national insurance, or in Burkina Faso, by the shift from localised cost-sharing to a national subsidy policy). These policy shifts can be positive, if they represent scaling up of policies and are based on lessons learned from previous experiences.

The only case study with a longer history (of more than a decade) is the Bolivian one. It demonstrates the possibility of improving national indicators with sustained national commitment over time, but also issues of cost-control, and the limit to policies which target financial barriers alone, without addressing wider health system, geographical and cultural barriers.

The case studies highlight a range of practical lessons on the implementation of policies aimed at reducing financial barriers to obstetric care. These are summarised in Box 1.
Box 1. Lessons on implementation of policies to reduce financial barriers to obstetric care

1. Design of policy

- The policy should be based on a thorough situation analysis of the main barriers to raising skilled delivery (financial barriers may not be the most significant factor in some contexts). Policies directly addressing financial barriers are most appropriate where there is:
  - High maternal mortality (and/or high inequalities in maternal mortality rates by area or socio-economic group)
  - Relatively low skilled attendance rate at delivery (and/or high inequalities in skilled attendance at delivery rates by area or socio-economic group)
  - Low caesarean rates (below 5% of all deliveries) and/or high inequalities in CS rates by area or socio-economic group
  - Physical access by population to health care facilities
  - Staffing of health facilities with at least minimum norms of trained personnel
  - Acceptable quality of care, with functioning equipment and adequate drug supply
  - High out-of-pocket payments by households for delivery care, relative to household income
- The package of services to be covered should address the policy’s objectives (e.g. including the interventions which save lives and cause most economic hardship to families)
- The policy should be consistent with the wider policy environment and thinking in government
- The policy should extend to major service providers, whatever their sector of work, reflecting current utilisation patterns of services and subject to minimum quality standards
- Eligibility should reflect areas of greatest need but also a realistic assessment of available resources
- Additional investments should be planned alongside the policy to address key supply-side constraints (such as staff shortages) and to cope with increased utilisation in the medium-term
- The scope for additional demand-side investments, such as in transport funds, should be considered alongside supply-side approaches, in specific areas of need
- The role of complementary players, such as TBAs, should be considered - can they be involved in the policy in a constructive way?
- Policies should reinforce the referral process, so that uncomplicated deliveries...
are handled at lower level facilities

- Conversely, the policy should support access to referral care for those with medical needs

2. Policy development process

- All key stakeholders should be consulted and involved in development of the policy. This process should engage with potential 'champions', who can sustain the policy momentum nationally and sell the policy politically
- The policy should be carefully and realistically costed (based on utilisation patterns, caseload, unit costs, and projected changes to these) and matched with likely funding sources (also projected to assess likely changes over the medium-term)
- Policy guidelines should be clearly elaborated and communicated to all key stakeholders
- Policy should be subject to periodic review and revision with major stakeholders

3. Policy dissemination

- Core messages should be kept as simple as possible
- Strategy should be developed for active dissemination of policy to communities and health workers
- Statements of benefits package and eligibility criteria should be prominently displayed

4. Resource allocation

- Funds should be allocated by area according to a population-based formula, adjusted for service utilisation rates and case-mix
- Other public funding sources should be maintained so that the policy provides additional resources
- Funding should be regular and predictable

5. Payment systems

- The payment mechanism should ensure that average production costs (or the components that are not centrally funded or subsidised) are reimbursed (but not over-reimbursed) for each provider type
- Payments to facilities should either be made in advance, based on predicted caseload, and adjusted periodically, based on reports, or paid retrospectively but frequently, to avoid cash-flow problems
- If based on activities, there should be record-keeping which allows for independent verification of cases managed
- Indicators of cost escalation, including caesarean rates, should be monitored, and incentives adjusted to counter-act over-medicalisation
- The financial impact on health facilities should be monitored, with checks to ensure that costs are not being shifted onto other services, or into informal payments
• If health workers were dependent for part or whole of their income on user fees, then compensatory measures should be built into the policy

6. Management, monitoring and evaluation
• There should be clear lines of responsibility (both institutional and individual) for managing and monitoring the policy implementation process
• Timely monitoring should pick up and respond to problems, but also flag up successes to generate continued financial support
• Periodic community-based surveys should assess actual benefits to different socio-economic and geographical groups
• Evaluations should be conducted periodically, using baseline indicators of utilisation, quality of care, health outcomes and household costs
• Country experiences should be documented and shared, focussing not only on costs and outcomes, but also on the processes which enabled policies to be sustained and to be effective, or conversely, which acted as barriers

**Is there a best bet strategy for different contexts?**

There is increasing recognition of the importance of context and process, which will determine the dynamic responses of health systems to changes. A three-country study of health reforms and maternal health (Penn-Kekana et al. 2007) found large differences between de jure systems (as laid out in official documents) and de facto systems (in terms of actual care). Informal behaviours, structures and relationships mediated the official policies in unintended ways which sometimes worked against their purpose. This limits the transferability of lessons (positive and negative) from one context to another.

It is also widely recognised that there is no single successful way to ‘target’ the poor (Gwatkin et al. 2005), and that many different approaches are required to re-orient health systems towards greater equity. A recent report for WHO included wide-ranging recommendations covering political and legal frameworks, regulatory measures, health financing and management initiatives (Gilson et al. 2007). Others go even broader, and emphasise that equity should involve addressing the root causes of poverty and inequity, not just addressing the symptoms: ‘“Pro-poor” interventions deployed around a deeply inequitable core structure are insufficient’ (UN Millennium Project 2005). There is a growing view that health systems should not just seek to guarantee equitable access to interventions but
should be seen as a core social institution which reinforces social solidarity and citizenship. Conversely, exclusion and marginalising treatment by the health system is increasingly recognised as forming a core part of the experience of being poor in low-income countries (UN Millennium Project 2005). The authors of this report argue for a paradigm shift away from the focus on competitive markets to deliver health care goods more efficiently to a human rights approach which recognises the role of the state in ensuring redistribution and social solidarity. This involves reinforcing the legitimacy of the state, strengthening collaborative relationships between public and private sectors, and giving the poor a stronger voice and power to assert claims.

**Financing increased coverage**

The overall financial climate remains highly constrained in low-income countries. Many countries spend less than $10 per capita per year on health care, which is well below the ballpark figure suggested by the Commission for Macroeconomics and Health (CMH) of $35-40 to finance a basic package of health in developing countries (World Health Organization 2001). Some are pessimistic about the likelihood of reaching that figure in the period to 2015 (Pearson 2007). These projections suggest that health financing is likely to increase over the period to 2015, but will be lowest and starting from the lowest base in the poorest countries, and unlikely to reach CMH targets. Even if the Abuja targets for government allocations to health were met (15% of public expenditure allocated to health), there would continue to be significant shortfalls in funding, relative to the $35 per capita target. Consequently, this report argues, the focus should be on improving the use of such additional resources as are realistically to be expected.

A recent modelling exercise of the additional resources required to reach the MDG goals for maternal and newborn health in 75 countries produced estimates of $39 billion over the next ten years to achieve moderate scale up, and $56 billion for a more rapid scale up (Johns et al. 2007). Mobilising these resources will be challenging, despite recent initiatives, such as the Global Business Plan for MDGs 4 and 5 and the International Health Partnership. Estimates of the cost of reaching MDG 5 in high-burden countries range from $0.22 per head to $1.40 (Gill et al. 2007). Based on 2004 levels, donor funding would have to increase 11-fold to achieve the
investment which the WHO estimates is needed by 2015 (Borghi et al. 2006; Powell-Jackson et al. 2006). A recent review of donor funding found that funding for maternal and neonatal health had increased between 2003 and 2006 from $7 per live birth to $12 per live birth (Greco et al. 2008). However, the authors noted that funding has reduced in some high-burden countries and that resources were not well targeted to areas of highest maternal health need.

Maternal health is also in competition for resources with other health goals, and has traditionally attracted fewer resources than the more ‘vertical’ interventions, though this is something that the recent initiatives aim to address. The relatively modest cost of providing free mother and child care in countries like South Africa - 2.5% of the recurrent budget (Schneider & Gilson 1999) - suggest that resources for this strand could be found at the national level, if this was seen as a priority intervention by policy-makers. Recent initiatives, such as the Partnership for Maternal, Newborn and Child Health have attempted to act as advocates for MCH and to create harmonised messages - one of the weaknesses identified by some observers of the Safe Motherhood movement (AbouZahr 2001, Shiffman & Smith 2007).

International financial support is currently being pulled in two directions. One is towards strengthening health systems, with the recognition that high levels of funding tied to specific diseases can weaken the sector as a whole. For example, a recent report found that only about 20% of all health aid goes to support the government’s overall programme (i.e. is given as general budget or sector support), while an estimated 50% of health aid is off budget (Foster 2005). On the other hand, there is a shift towards output-based aid, in which aid is dependent on specified targets being met (World Bank 2007). Depending on how, by whom and which targets are set, these approaches may or may not reinforce one another.

Conclusion

There is renewed interest in closing the gap in skilled attendance and maternal health, between and within countries, and a variety of approaches have been tested in recent years in different contexts. In addition to policies which directly address the financial barriers for households, which are the focus of this volume, there is also a growing interest in complementary areas, such as getting the right incentives for health workers to increase coverage
and creating aid modalities which enable and reward higher performance by the health system as a whole. These approaches can all contribute, if designed in an integrated way, to meeting the MDG goals.

Adopting the right package for a given context is not a mechanistic matter. The balance of supply- and demand-side constraints will vary, and the design of an appropriate policy has to take into account resource availability, cultural expectations of roles and responsibilities, as well as the way in which the health service is financed and organised.

There are no single ‘best bet’ strategies for all contexts, but there are established pathways to success, derived from country experiences. The key ingredients are local commitment, perseverance over time, a holistic approach which addresses demand- and supply-side barriers, and maintaining a focus on universal coverage as the ultimate, if not immediate, goal.

References


## Appendix 1. Summary of case studies

<table>
<thead>
<tr>
<th>Design features</th>
<th>Ghana delivery fee exemption policy</th>
<th>Senegal free delivery and caesarean policy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date and geographic extent of implementation</strong></td>
<td>End 2003 introduced for four poor regions; end 2004 scaled up to whole country</td>
<td>2005 introduced for five poorer regions; extended in 2006 to all regional hospitals (except Dakar)</td>
</tr>
<tr>
<td><strong>Beneficiaries</strong></td>
<td>All women who deliver in health facilities</td>
<td>All women who have caesareans; all normal deliveries in health centres and health posts</td>
</tr>
<tr>
<td><strong>What services are covered by the scheme?</strong></td>
<td>All normal deliveries; all assisted deliveries (including CS); all complications arising from deliveries. All direct facility costs for the mother are meant to be covered (consultation, tests, drugs, supplies etc.).</td>
<td>Normal deliveries and caesareans (now extending to other complicated deliveries). All direct facility costs for the mother are meant to be covered (consultation, tests, drugs, supplies etc.).</td>
</tr>
<tr>
<td><strong>Which providers are eligible to participate?</strong></td>
<td>Public, mission and private providers are eligible</td>
<td>Public only</td>
</tr>
<tr>
<td><strong>Funding arrangements</strong></td>
<td>Funded by government, with inputs from HIPC funds</td>
<td>Funded by government</td>
</tr>
<tr>
<td><strong>Management of the scheme</strong></td>
<td>Funds transferred to districts, based on population numbers. Funds managed by District Assemblies and District Health team.</td>
<td>Coordinating committee at national level. Operates through regions and districts, working with national and regional medical stores for provision of kits.</td>
</tr>
<tr>
<td><strong>System for paying providers</strong></td>
<td>Facilities present monthly reports on exemptions provided. Reimbursed according to agreed tariffs (according to acts and provider type)</td>
<td>Funds transferred at start of year, based on estimated case-load, to regional hospitals; lower facilities receive kits for CS or normal deliveries</td>
</tr>
<tr>
<td><strong>Assessment of impact</strong></td>
<td>Impact on utilisation: Estimated 12% increase in deliveries in Central Region (over 18 months of implementation) and 5% in Volta (6 months of implementation). Main increase in health centres. Main attendance: by midwives.</td>
<td>Data from selected facilities visited by researchers showed small but significant increases in facility deliveries (4%) and CS (1.4%) in year after introduction. Control data lacking but some national data for non-intervention regions supports claim that increase in five regions may be linked to intervention.</td>
</tr>
<tr>
<td><strong>Impact on quality of care</strong></td>
<td>Quality unchanged by scheme (poor before and after)</td>
<td>Small but non-significant reduction in fresh stillbirths. Qualitative results suggest quality unchanged – neither deteriorated nor guaranteed by exemptions policy.</td>
</tr>
<tr>
<td>Impact on household costs/expenditures</td>
<td>Significant fall for fees for CS (28% decrease) and facility deliveries (26%); also non-significant fall for TBA/home deliveries (14%). Out of pocket payments remain significant however (continued non-fee and fee expenses)</td>
<td>Qualitative evidence that households continuing to pay for many delivery costs at facilities, especially drugs not included in kits. Reduction in costs unlikely to be sufficient to convert non-users, except for CS, where reductions probably more significant (though regional variations). Other complications not included in policy.</td>
</tr>
<tr>
<td>Impact on health outcomes</td>
<td>Not established, though mortality and morbidity should be reduced through increased facility deliveries and quicker access to emergency care</td>
<td></td>
</tr>
<tr>
<td>Impact on facilities</td>
<td>Initially positive – increased income and ability to purchase supplies – but later debts as scheme under-funded</td>
<td>Value of transfers to regional hospitals far exceeded cost of services. Lower level facilities lost out though, due to kits not covering labour and other costs. Also shortages of kits and irregular supply. Some have recouped through increases in other prices or continued charging for deliveries.</td>
</tr>
<tr>
<td>Impact on health workers</td>
<td>No direct impact on health worker income, though workloads increase. Few incentives related to scheme. Health worker income going up independently at time of implementation.</td>
<td>Policy threatens income of community staff at district and sub-district facilities (previously paid from delivery user fees). However, no evidence of cuts to staff – rather facilities now support in other ways. Increase in workload. Most deliveries conducted by ‘matrones’ (community staff with 3-6 months’ training).</td>
</tr>
<tr>
<td>Scheme’s performance in terms of equity</td>
<td>Decrease in inequalities of utilisation by quintiles under policy in Volta (unchanged in Central). Fall in catastrophic payments and household pushed into poverty. Proportionate reduction in out-of-pocket greatest for top quintile (22%), compared to bottom (13%).</td>
<td>Geographic inequity in distribution of funds and kits (poorly correlated with expected deliveries by region or district). Qualitative evidence that remote communities not able to access exemptions as too far from facilities. Main beneficiaries probably poor in urban/peri-urban areas. Poorest probably unaffected as limited waivers (e.g. free drugs) existed before.</td>
</tr>
<tr>
<td>Adequacy and sustainability of funding</td>
<td>Scheme funded almost adequate for first phase with four regions, but under-funded by 62% when expanded nationally. Lack of commitment. Poor monitoring and evaluation. Exemptions to be subsumed within new National Health Insurance Scheme</td>
<td>Initial budget adequate but hampered by poor planning of policy implementation (e.g. transfers to lower facilities) and poor communication. Lack of consensus on policy approach undermined sustainability.</td>
</tr>
<tr>
<td>Cost/cost-effectiveness of the scheme</td>
<td>$3 million total expenditure 2005. Average $22 per delivery. $0.16 per capita. $62 per additional delivery (all types)</td>
<td>$300,000 spent on policy in 2005 for five regions (0.5% of total national health expenditure for year). $0.10 per capita. $2.2 average per normal delivery. $154 average per CS. $21 per additional normal delivery. $467 per additional CS.</td>
</tr>
</tbody>
</table>
### Improving access to safe delivery, Kampong Cham, Cambodia

<table>
<thead>
<tr>
<th>Design features</th>
<th>Vouchers</th>
<th>Health Equity Funds (HEF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date and geographic extent of implementation</td>
<td>The first scheme started in February 2007 in one health district (Kampong Cham) and extended to two other health districts (Prey Chhor, Chamkar Leu) in mid-2007</td>
<td>Progressively started in late 2005 in 3 district hospitals and one provincial hospital</td>
</tr>
<tr>
<td>Beneficiaries</td>
<td>Poor pregnant women in the coverage area</td>
<td>All poor patients admitted in the four government hospitals, including voucher recipients</td>
</tr>
<tr>
<td>What services are covered by the scheme?</td>
<td>User fees for delivery, 3 ANC visits and one postnatal care visit in contracted health centres; transportation cost between home and health centre to get the above services; cost for referral to hospital in case of complication</td>
<td>Depending on eligibility level, total or part of the following benefit: hospital user fees, transportation cost, food allowance and funeral cost in case of death</td>
</tr>
<tr>
<td>Which providers are eligible to participate?</td>
<td>30 government health centres in the 3 districts selected based on having: full Minimum Package of Activities, at least one skilled midwife, record of good performance in delivery and ANC</td>
<td>4 contracted government hospitals</td>
</tr>
<tr>
<td>Funding arrangements</td>
<td>Voucher and HEF schemes are funded by a bilateral project between Cambodian government and Belgian government</td>
<td></td>
</tr>
<tr>
<td>Management of the scheme</td>
<td>2 NGOs as both Voucher Management Agencies (VMA) and HEF operators</td>
<td></td>
</tr>
<tr>
<td>System for paying providers</td>
<td>Case-based payment: by the end of each month the health centres and hospitals get their services paid according to the number of vouchers and HEF cases and agreed tariffs of user fees</td>
<td></td>
</tr>
<tr>
<td>Assessment of impact</td>
<td>Deliveries in contracted health centres increased considerably; voucher supported 21.5% of the total health centre deliveries. However, more than one half of voucher recipients did not use their vouchers for delivery at contracted health centres</td>
<td>Deliveries in contracted hospitals increased considerably; HEF supported 57.5% of the total hospital deliveries, including voucher recipients</td>
</tr>
<tr>
<td>Impact on quality of care</td>
<td>Not established, though it was reported to be improved</td>
<td></td>
</tr>
<tr>
<td>Impact on household costs/expenditures</td>
<td>Not established, though household costs/expenditures should be reduced as they could get the services for free</td>
<td></td>
</tr>
<tr>
<td>Impact on health outcomes</td>
<td>Not established, though maternal and child mortality and morbidity should be reduced through increased access to safe delivery: skilled birth attendance at public health facilities with quicker access to emergency care</td>
<td></td>
</tr>
<tr>
<td>Impact on facilities</td>
<td>Not established, though in general positive: increased income and better management</td>
<td></td>
</tr>
<tr>
<td>Impact on health workers</td>
<td>Not established, though it was reported that health workers were more regularly present at work thanks to increased income and better regulations through contracts and monitoring and supervision</td>
<td></td>
</tr>
<tr>
<td>Scheme’s performance in terms of equity</td>
<td>Not established, though equity should be promoted through targeting poor pregnant women. A large number of poor pregnant women was covered by the schemes</td>
<td></td>
</tr>
<tr>
<td>Adequacy and sustainability of funding</td>
<td>The present funding is very reliable. But external fund may not be sustainable. Anyhow, government budget is allocated for HEF. A plan supported by government to extend the vouchers to four other provinces is under process. This increases chances of sustainability of the schemes</td>
<td></td>
</tr>
<tr>
<td>Cost/cost-effectiveness of the scheme</td>
<td>US$5,309 total expenditure in 2007. Average about US$5 per voucher recipient and US$18 per supported delivery</td>
<td></td>
</tr>
</tbody>
</table>

| Cost-sharing system, Secteur 30 district, Burkina Faso | The Janani Suraksha Yojana, for institutional deliveries, India |

<table>
<thead>
<tr>
<th>Design features</th>
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</thead>
<tbody>
<tr>
<td>Date and geographic extent of implementation</td>
<td>Started in 2005 in Secteur 30 district, Ouagadougou</td>
</tr>
<tr>
<td>Started in 2005 - entire country. 1.1 billion population</td>
<td></td>
</tr>
<tr>
<td>Beneficiaries</td>
<td>All pregnant women living in the district</td>
</tr>
<tr>
<td>Poor pregnant women (below poverty line) who have had 3 antenatal check-ups and delivered in a health facility. (Later changed to any delivery)</td>
<td></td>
</tr>
<tr>
<td>Beneficiaries contribution</td>
<td>A fixed rate 25,000 FCFA (38.1 €) till September 2006 6,000 FCFA (9.1€) from 1st October 2006</td>
</tr>
<tr>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>What services are covered by the scheme?</td>
<td>Only obstetrical emergencies (mainly c-section). Items included: transport, intervention, drugs, lab exams, post-surgery care, hospital fee, new born care, dressings in OPD, post-natal consultation</td>
</tr>
<tr>
<td>Which providers are eligible to participate?</td>
<td>Secteur 30 district hospital</td>
</tr>
<tr>
<td>Funding arrangements</td>
<td>Funded by health committees, district health team, government, local authorities</td>
</tr>
<tr>
<td>Management of the scheme</td>
<td>Management committee (hospital staff, district team, health committee, local authorities representatives) Meeting every trimester</td>
</tr>
<tr>
<td>System for paying providers</td>
<td>Funds transferred to district for one year based on the expected number of c-sections (2 to 3.5% of expected births)</td>
</tr>
<tr>
<td>Assessment of impact</td>
<td></td>
</tr>
<tr>
<td>Impact on utilisation</td>
<td>Facility based delivery: from 66.2% in 2003 to 86.5% in 2007 Population based C-section rate from 2.5 to 3.7 %</td>
</tr>
<tr>
<td>Impact on quality of care</td>
<td>Improvement of quality but due to multidisciplinary activities (public health, anthropological, social mobilisation)</td>
</tr>
<tr>
<td>Impact on household costs/expenditures</td>
<td>No household survey done but qualitative survey indicates satisfaction of the patients for cost reduction and quality of care</td>
</tr>
<tr>
<td>Impact on health outcomes</td>
<td>No case of maternal mortality due to a lack of c-section but maternal mortality due to post-partum haemorrhage or severe anaemia persists.</td>
</tr>
<tr>
<td>Impact on facilities</td>
<td>Increasing workload but no increase of government budget for equipment and infrastructures (equipment gets quickly damaged with high workload)</td>
</tr>
</tbody>
</table>
### Impact on health workers

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
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<tbody>
<tr>
<td>No direct impact on health workers income, though workloads increase.</td>
<td>Mixed response. Health staff feels that this is a good scheme to promote institutional deliveries. Some of the staff seems to benefit from it due to the informal fees that they charge. At the same time, they are unhappy about the high workload.</td>
</tr>
<tr>
<td>No incentives related to the scheme.</td>
<td></td>
</tr>
<tr>
<td>Comfort: care immediately provided (C-Section performed prior to payment)</td>
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</table>

### Scheme’s performance in terms of equity

<table>
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<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Flat rate (6,000 FCFA) means that poor pay as much as rich people but indigents are exempted after social interview.</td>
<td>While originally the scheme was for poor women, subsequently it was opened up for all women (especially in the poorer states). It is not clear who is now benefiting from the scheme, the better off or poor. Indicators for this are not being monitored.</td>
</tr>
<tr>
<td>Utilisation still higher in urban than in rural area.</td>
<td></td>
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</table>

### Adequacy and sustainability of funding

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<tr>
<th>Description</th>
<th>Details</th>
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<tbody>
<tr>
<td>Funding adequate as subvention is readjusted every year with the expected C-Sections. Many stakeholders involved and contract to be negotiated every year. Need for a constant political mobilisation.</td>
<td>Funds are not a problem. But there is an issue of fund flow to the periphery, resulting in women receiving the benefits after considerable delay.</td>
</tr>
</tbody>
</table>

### Cost/cost-effectiveness of the scheme

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>52 million FCFA for 2007 for the district of Secteur 30 (632 CS planned)</td>
<td>Not established</td>
</tr>
</tbody>
</table>

### MURIGA (Community Health Insurance for Safe Motherhood) vs Obstetric Risk Insurance (ORI) in Mauritania

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
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<tbody>
<tr>
<td>Design features</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MURIGA</th>
<th>Obstetric Risk Insurance (ORI) in Mauritania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date and geographic extent of implementation</td>
<td>1997: solidarity fund in the district of Dabola. 2006: 17 districts out of 33. 17/11/2002 for 2 districts of Nouakchott. 11/05/2004 for a 3rd district of Nouakchott. 11/05/2005 for 3 regional capitals (Kiffa, Atoum, Némâl). 12/05/2007 for 1 regional capital (Aleg). 1/03/2008 for rural areas of the department of Kiffa. 13/05/2008 for 3 regional capitals (Kaédi, Nouadhibou).</td>
</tr>
<tr>
<td>Beneficiaries</td>
<td>All women of child-bearing age and children under five. All pregnant women choosing this mode of payment.</td>
</tr>
<tr>
<td>What services are covered by the scheme?</td>
<td>Ante Natal Care (ANC) including biological testing and ultrasound; all types of delivery including caesarean section; post-natal care</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Which providers are eligible to participate?</td>
<td>Existing public sector health facilities in the chosen catchment area.</td>
</tr>
<tr>
<td></td>
<td>Public sector health facilities in the chosen geographical area.</td>
</tr>
<tr>
<td>Funding arrangements</td>
<td>Premiums are paid by the households but international organisations and NGOs (UNICEF, World Bank, UNFPA, African Development Bank, USAID, etc.) supported the implementation phase of the MURIGA (meetings, transport). Some compensate the deficits, if any, at the end of the year. The scheme is funded by the contribution (pre-payment) of the households. Development partners (UNFPA, UNICEF, French Ministry of Foreign Affairs (SCAC, AFD) supported the implementation phase of the scheme (financial and technical support) in the first years.</td>
</tr>
<tr>
<td>Management of the scheme</td>
<td>General Assembly of members who entrust the implementation of activities to an executive committee; the prefectural health team (Prefectural Director of Health, Director of Micro-realisations, Prefectural Director for the Advancement of Women). Batch of drugs supplied for the first six months then management autonomy, run by a local committee composed of beneficiaries and health staff members</td>
</tr>
<tr>
<td>System for paying providers</td>
<td>Receipts are paid into the rural credit bank and the service providers (care-providers and union of transport workers) issue the MURIGA with an invoice. The monthly receipts are used to pay re-supply of medicines and consumables plus duty personnel to cover emergencies 24/7; the balance is distributed as personnel bonuses</td>
</tr>
<tr>
<td>Assessment of impact</td>
<td>Little impact on assisted delivery rate (17% to 22% between 2000 and 2006). C-section rate rose from 0.75 to 1.85% between 2000 and 2006 for the MURIGA areas versus 0.4 to 1.6% for the areas without MURIGA</td>
</tr>
</tbody>
</table>
### Impact on quality of care

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beneficiaries have quicker access to care, but the MURIGA do not solve all the problems of bad management in health facilities, such as drug shortages, staff absenteeism, etc., which explain the health services' low utilisation rate.</td>
<td></td>
</tr>
</tbody>
</table>

| Significant improvement in the provision of emergency obstetric care in the 5 ORI facilities of Nouakchott (tripled rate of caesarean sections, with delay between indication and intervention reduced by three); no changes in daily care. |

### Impact on household costs/expenditure

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>Financial relief for the beneficiary families, but the enrolment rate is still low (about 10%)</td>
<td></td>
</tr>
</tbody>
</table>

| The rate fixed for the ORI is overwhelmingly supported by the users themselves. Even if there are still a few attempts to get unofficial payments; the women questioned cite the "price" as the biggest advantage. |

### Impact on health outcomes

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>No data available on the MURIGAs' impact on maternal and neonatal mortality.</td>
<td></td>
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</tbody>
</table>

| No population data. Whether in the regions or in the 5 maternity wards offering ORI in Nouakchott, the participating facilities' maternal mortality rate has halved on average. |

### Impact on facilities

<table>
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<tr>
<th>Description</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>In some hospitals, financial and technical support from the supporting institutions has enabled the MURIGA to set up new services and provide ambulances, radios, equipment and other supplies, as well as training for health staff.</td>
<td></td>
</tr>
</tbody>
</table>

| The hospitals display a certain hostility to the system. Their revenues have decreased following the introduction of the ORI - the income from obstetric activity is going elsewhere. Nevertheless, they no longer provide medicines or consumables and they receive bonuses that did not previously exist; |

### Impact on health workers

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some health managers feel that the MURIGA have made no real contribution.</td>
<td></td>
</tr>
</tbody>
</table>

| They are less satisfied than the users because they consider their bonuses insufficient, especially in the capital. |

### Scheme's performance in terms of equity

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>In principle, the system caters to the poorest women free-of-charge. There are no figures available to back this up.</td>
<td></td>
</tr>
</tbody>
</table>

| The constant increase in the number of enrolments seems to indicate that even the "poorest" can pay; very few "non-paid" fees have been recorded. |

### Adequacy and sustainability of funding

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
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<tbody>
<tr>
<td>Most of the financial support for the strategy comes from development partners in the health sector. The contribution paid by beneficiaries and the benefits package are still globally low. Financial viability and autonomy are not yet guaranteed. Current interest from the Rural Development Communities (CRD) may well provide a source of local funding.</td>
<td></td>
</tr>
</tbody>
</table>

| The scheme can only be implemented in a region after the allocation of a working capital fund to cover six months of medicines and consumables. |
### Bolivia’s health insurance packages

<table>
<thead>
<tr>
<th>Design features</th>
<th>Bolivia’s health insurance packages</th>
</tr>
</thead>
</table>
| **Date and geographic extent of implementation** | Nationwide  
1998: Seguro Nacional de Maternidad y Niñez (SNMN)  
2000: Seguro Básico de Salud (SBS)  
2002: Seguro Universal Materno Infantil (SUMI) |
| **Beneficiaries** | SNMN: pregnant women and children under 5  
SBS: pregnant women and children under 5  
SUMI: pregnant and puerperal women until 6 months after childbirth, women 15 to 60 years for cervical cancer and family planning, children under 5 |
| **What services are covered by the scheme?** | SNMN: Infant and child health problems (diarrhoea, cough) and obstetric care  
SUMI: 547 service packages, all illnesses with some exceptions. Medical consultation, laboratory, surgery, in-hospital care, drugs, supplies, nutritional supplements |
<p>| <strong>Which providers are eligible to participate?</strong> | In theory public (Ministry of Health), public insurance, private and church/NGO providers. In practice only public, public insurances and some church providers, because SUMI reimbursement does not cover staff costs |
| <strong>Funding arrangements</strong> | National, departmental and municipal revenues |
| <strong>Management of the scheme</strong> | SUMI administration unit at national and departmental levels |
| <strong>System for paying providers</strong> | Administrative bill is prepared by the health facility and send to the municipality, which reviews it, records it in a database, debits the sum from the municipal account and credits it to the health centre’s account |
| <strong>Impact of policy</strong> | Institutional deliveries increased from 33% in 1996 to 64% in 2005 |
| <strong>Impact on utilisation</strong> | Some decrease reported due to overcrowding of services |
| <strong>Impact on quality of care</strong> | Decrease, but no current data available |
| <strong>Impact on household costs/expenditures</strong> | Maternal, infant, neonatal mortality reduced over period, which may be linked to the policy |
| <strong>Impact on facilities</strong> | No data available on financial impact on facilities |
| <strong>Impact on health workers</strong> | Increase in work. Some report more satisfaction. |</p>
<table>
<thead>
<tr>
<th>Scheme’s performance in terms of equity</th>
<th>Gaps in urban-rural and mestizo-indigenous coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequacy and sustainability of funding</td>
<td>Adequate and sustainable for the population covered</td>
</tr>
<tr>
<td>Cost/cost-effectiveness of the scheme</td>
<td>No specific data available</td>
</tr>
</tbody>
</table>