

Maternal Survival 4



Mobilising financial resources for maternal health

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Coverage of cost-effective maternal health services remains poor due to insufficient supply and inadequate demand for these services among the poorest groups. Households pay too great a share of the costs of maternal health services, or do not seek care because they cannot afford the costs. Available evidence creates a strong case for removal of user fees and provision of universal coverage for pregnant women, particularly for delivery care. To be successful, governments must also replenish the income lost through the abolition of user fees. Where insurance schemes exist, maternal health care needs to be included in the benefits package, and careful design is needed to ensure uptake by the poorest people. Voucher schemes should be tested in low-income settings, and their costs and relative cost-effectiveness assessed. Further research is needed on methods to target financial assistance for transport and time costs. Current investment in maternal health is insufficient to meet the fifth Millennium Development Goal (MDG), and much greater resources are needed to scale up coverage of maternal health services and create demand. Existing global estimates are too crude to be of use for domestic planning, since resource requirements will vary; budgets need first to be developed at country-level. Donors need to increase financial contributions for maternal health in low-income countries to help fill the resource gap. Resource tracking at country and donor levels will help hold countries and donors to account for their commitments to achieving the maternal health MDG.

The scarcity of resources is a major constraint to ensuring that all mothers receive the interventions they need in a timely fashion. Demand is affected by financial barriers to care-seeking, which interact with geographical and cultural barriers and, combined with inadequate quality of care within the formal health sector, serve to discourage service use.¹ During childbirth, for example, attendants with the skills to respond to complications are present at only half of deliveries worldwide. Also, substantial inequity exists in maternal mortality rates and coverage of maternal health care both within and between low-income regions, with the sole exception of Sri Lanka, where there is virtually no difference between wealth groups (see the third paper in

this series). With respect to the supply of maternal health services, underinvestment means insufficient numbers of adequately trained health professionals are available, reaching less than 10% of requirements in some areas,² and under-equipped health facilities. To scale-up maternal health interventions and reduce the global burden of maternal ill health, a concerted effort is needed to reach out to those who are currently excluded from such care.

In this paper, we begin by expounding the case for investment in maternal health. We then consider how financial resources can be channelled to maternal health within countries, examining the limitations and successes of conventional financing mechanisms as well as some alternative methods in providing quality care and ensuring access to the poor. Although much debate has taken place about financing of health services in general, with the exception of one study,³ the implications of different financing mechanisms for maternal health have not been discussed so far. We end by summarising the additional financial resources needed to scale up effective maternal health services, and discussing the mechanisms for making these resources available. Key messages are shown in panel 1.

Why invest in maternal health?

The case for investment in maternal health is compelling. In addition to the proven effectiveness and cost-effectiveness of many maternal health care interventions,^{4,6} there are numerous benefits in addition to the maternal lives saved.³ Most maternal interventions also directly benefit newborn babies in terms of reduced mortality and morbidity.⁷ A maternal life saved also benefits older children. Children whose mothers die have been suggested to be at three to ten times greater risk of death than those with living parents.² Investment in maternal health also

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Search strategy and selection criteria

We searched PubMed, Popline, Embase, IBSS, Paho, and Lilacs from 1990 to 31 July, 2004. The search terms used were: (Mother* OR Matern* OR Newborn OR Neonat* OR reproduct* OR obstetric) AND (fee OR fees OR charge OR charges OR insurance OR insured OR financ* OR reform) AND (Africa OR Asia OR Latin OR Caribbean OR Soviet OR Eastern Europe). In view of the numerous reforms that took place in the 1980s, we did not include studies published before 1990. The searches were limited to English language publications dealing with human beings. We also reviewed the websites of major international organisations working in reproductive health (The World Bank, WHO, Partnerships for Health Reform, International Planned Parenthood Federation, Population Council, Measure, Frontiers, UN Population Fund, UN Children's Fund, and the Pan-American Health Organization). Lists of all identified references were reviewed for additional relevant studies. All relevant references were extracted to an Endnote file.

Panel 1: Key messages

- The case for investment in maternal health care is strong
- Households need financial protection to encourage them to seek care, especially poor people
- User fees hurt the poorest people
- Removal of fees and funding of maternal services through general government revenue is a promising way to increase coverage among the poorest people as long as certain conditions are met
- Insurance schemes struggle to reach the poorest people
- Targeted approaches have been effective, but more evidence is needed from low-income countries on cost and effectiveness
- Countries need to select financing strategies adapted to their local context, estimate domestic resource requirements to implement strategies, lobby for additional funds, show that funds are used effectively

has valuable equity benefits, since differences in maternal mortality mirror the huge discrepancies between rich and poor people both within and between countries.^{8,9} Poor people are especially vulnerable during pregnancy; they have less access to cash and live further away from health facilities, limiting the health care options available to them. Addressing maternal health therefore contributes to global and national efforts to alleviate poverty.¹⁰ Strategies to improve safe motherhood will also achieve wider health service improvement.¹¹ Indeed, maternal health indicators have been used to trace the performance of health systems^{12,13} in terms of access by poor people, gender equity, and institutional efficiency.¹⁰ As a result, investment in maternal health services is likely to have positive effects for health service delivery in general.

Channelling financial resources to maternal health

The provision of effective maternal health services requires money for staff, drugs, medical supplies, and food.¹⁴ These costs will differ between facility and home delivery. Seeking care at a health facility has additional financial implications for the household in terms of travel costs and patients' and their companions' time, which are subject to seasonal variation.¹⁵ Here, on the basis of a systematic review of

published and unpublished studies of financing and maternal health (see search strategy), we present evidence for how these costs are currently financed, and how to offer greater financial protection to poor people.

Most countries have at least three mechanisms for financing maternal health services. Usually, there is a principal financing mechanism, such as tax revenue, or social health insurance, combined with user charges (both formal and informal), together with supplementary community financing for specific services and components of the health system. In most low-income countries, the funding for maternal health care is shared between government (through tax revenue) and households.

User fees

User fees have almost always been shown to hurt poor people and prevent them from gaining access to needed care: maternal health is no exception. Although in principle user fees can be used to ensure a proper use of the referral system, improve quality of care, and reduce frivolous demand for care,¹⁶ they are problematic for services such as maternal health, for which demand is inadequate. Where fees are elicited for maternal health services, households pay a substantial proportion of the cost of provision of facility-based services.³ Even when formal charges are not levied, unofficial and additional costs might be incurred. The situation is exacerbated for deliveries—the single most costly event during pregnancy—and the postpartum period, and more so for complicated deliveries which usually cost households between three and ten times more than normal deliveries. The cost of complicated deliveries is often catastrophic, defined as being in excess of 10% of yearly household income.¹⁷ Table 1^{14,18–21} shows delivery costs as a proportion of yearly gross domestic product per head; this measure is used as a proxy for individual income, of which delivery-care costs represent a substantial proportion. Several studies have reported that women have to purchase supplies such as bleach to sterilise materials, bed sheets, gauze, gloves, and sanitary pads when admitted to a health facility for delivery.^{18,19} The process of obtaining relevant supplies and drugs can delay access to timely care.²² Food is often bought in by relatives for the patient,¹⁴

	Year	Yearly gross domestic product per head in 2006 (US\$)	Normal delivery in hospital		Caesarean section or complications	
			Cost (US\$)	% of gross domestic product per head	Cost (US\$)	% of gross domestic product per head
Benin ¹⁹	2002	530	15–36	3–7%	60–269	11–51%
Ghana ¹⁹	2002	380	19–23	5–6%	59–132	16–35%
Tanzania ¹⁸	1997–98	330	9*	3%	10	3%
Bangladesh (rural) ²¹	2000–01	278	31*	11%	250–385	90–138%
Bangladesh (urban) ²⁰	1995	278	32*	12%	118	42%
Nepal ¹⁴	2004	260	67*	26%	132	51%

Costs are calculated in US\$ according to 2006 prices. *Includes transport costs.

Table 1: Household costs of delivery care by country

and staff are either presented with gifts or tips¹⁹ or might request them.

Use of maternal health services is highly sensitive to the official fees charged. Several reports show that use fell after user fees were introduced.^{23–26} The situation is especially severe for poor people. In Nepal, the poorest people are twice as likely as those who are least poor to reduce use of child health services in response to an increase in price.²⁷

The only study to report an increase in use after the introduction of fees was in Cambodia.²⁸ Fees were set at less than pre-existing unofficial charges, and the revenue generated was used to supplement staff salaries. An exemption scheme was also introduced, which applied to between 4% and 7% of patients during the study. More generally, however, there is little evidence of success with targeted exemptions.

One of the constraints to use of maternal health care in the presence of fees is household inability to access cash at the time of need, especially in rural areas where subsistence farming is characterised by temporal or seasonal inability to pay. This issue was reportedly a major constraint for between 40% and 50% of households in west Africa.²⁹ Resource constraints are not limited to rural areas. 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.²⁰ Time spent looking for money can delay the decision to seek care and reduce timely access,³⁰ with potentially serious implications for maternal health outcomes. Studies in Nepal and Bangladesh showed that although the amount paid for a normal delivery in hospital did not differ according to wealth group, poor people paid significantly less than the least poor to a traditional birth attendant during home delivery.^{31,32} These findings suggest that households have greater control of the price paid in the home than that paid in hospitals.

In principle, pregnancy is long enough for households to save money to pay for care. However, the poor predictability of birth outcome (ranging from normal delivery to surgical delivery with severe complications) means the final price of care is uncertain, which can deter households from saving.¹⁴

Fee removal and tax revenue

General tax revenue funds universal coverage of maternal health services along with other health services in some countries and regions, for example, in Sri Lanka, Malaysia,³³ and Kerala, India.³⁴ In these settings, public health services are provided at low cost and through an extensive network of facilities, and achieve equitable service coverage³⁴ and good maternal health outcomes. However, the reality in most low-income countries is that, although they purport to provide universal tax-based funding for essential services such as maternal health, in practice a substantial financial burden is placed on individuals.

In recognition of the need to protect women from the costs of delivery, and the specific features of maternal

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A pregnant woman being weighed in a clinic in Burkina Faso

health compared with other health conditions, several countries have abolished fees for mothers and children to provide universal publicly-funded coverage for maternal health care (eg, Ghana,³⁵ selected districts of Nepal [panel 2], and South Africa^{36,37}). In Uganda, fees were abolished for all health care services.³⁸ However, since revenue from user fees can be a substantial proportion of health facility budgets (for example, 38% in Nepal,³⁹ 35% in Burkina Faso, 26% in Ghana, and 14% in Indonesia⁴⁰), government funding needs to increase to avoid the risk of shortages of drugs and medical supplies⁴¹ and reduce the risk of an increase in informal charges. In Ghana, debt relief made available from the Heavily Indebted Poor Countries Initiative is to be channelled to maternal exemptions.

The increased workload facing health professionals is another threat to the effectiveness of fee removal, with implications for staff motivation and quality of care. A rise in maternal mortality in a tertiary hospital in South Africa was partly attributed to the additional patient load after fee removal not being matched by an adequate increase in staff and facilities.⁴² The introduction of appropriate financial incentives to deter informal charges, ensuring sufficient staff and infrastructural capacity to manage increased demand, and directing patients to the most efficient care provider can help mitigate against such events.⁴¹

Fee removal for maternal health services has been effective in increasing the mean number of booked deliveries by 4–6% in South Africa.³⁶ The policy in Ghana has only recently been implemented, but early indications suggest that availability of cash at the local level will be crucial to the success of the policy.

Insurance

Insurance requires households to make a fixed prepayment in return for minimisation (members might have to pay a

Panel 2: Removal of user fees for delivery care: Ghana and Nepal

Ghana and Nepal are implementing financing policies that explicitly aim to reduce the financial barriers to obtaining delivery care.

The Ghanaian government has introduced a policy of free delivery care for all women. This policy is to be financed from some of the money released from lower debt repayments as a consequence of the Heavily Indebted Poor Countries Initiative. The policy has been extended in a gradual way and initial results suggest the policy is popular with staff and women and has led to an increase in institutional deliveries. A key question concerns the availability of funding after an initial release of resources, with cash flow problems reported in several regions (unpublished data).

In Nepal, the Government responded to findings that the financial costs of delivery care, particularly transport, were both substantial and acted as a barrier to their objective of increased skilled attendance at birth. The new policy, implemented since July, 2005, provides: a cash payment to mitigate transport costs (which vary according to topology of the area) for all women; an incentive to skilled birth attendants for undertaking delivery; and, in the poorest districts, free institutional delivery. Although introduced on a national basis, in practice fewer than half of the districts have implemented the policy in the first year. Some increase in skilled attendance has been reported, but it is too early to attribute this effect to the cost-sharing policy.

Although the policy in Ghana covers institutional costs only, the Nepalese policy has recognised costs that fall to mothers as an important barrier, especially in mountainous areas. Neither policy targets poor individuals, mainly because of the evidence that such targeting is usually ineffective. In Ghana, the policy is universal, whereas the Nepalese policy targets areas of the country known to be generally impoverished. The experience of both countries is that generally popular policies can easily be derailed by inadequate financing, emphasising the importance of ensuing adequate cash flow for such schemes.

proportion of the cost when they are treated) or avoidance of uncertain but potentially catastrophic payment for services at the time of need. Social health insurance often operates at the national level, and is compulsory among certain segments of the population. Social insurance schemes generally provide coverage for a range of services inclusive of maternity care. However, a social insurance scheme in Bolivia was designed specifically to provide for maternal and child health services. The scheme succeeded in increasing use of antenatal and delivery care by 50% in public health facilities, especially by the poorest people.⁴³ The financial sustainability of the Bolivian scheme was subsequently called into question, however, because of the underestimation of average costs.⁴³

Although several countries are introducing or planning to introduce a system of compulsory social health insurance, this method of financing is still little developed in lower income regions of sub-Saharan Africa and south Asia. The extension of compulsory insurance coverage to rural areas presents challenges because of geographic dispersion of households, low incomes, limited formal sector employment, and minimal health-care infrastructure.⁴⁴ Because of these limitations, such schemes have generally struggled to provide coverage to the poor.^{45,46}

Instead, community health insurance schemes that operate more informally and on a smaller scale have developed in many low-income settings. Contributions are

usually voluntary and flat-rate, aiming to improve access to care by reducing the cost at the time of care seeking. The schemes have been successful in increasing assisted-delivery rates for scheme members by 45% in Rwanda⁴⁷ and 12% in The Gambia.⁴⁸ A seven times higher rate of delivery was reported in scheme members compared with non-members in the Democratic Republic of the Congo.⁴⁹ However, flat-rate premiums can limit access by poor people. In the Democratic Republic of the Congo, for example, premiums proved too expensive for people living further from facilities, and the non-users were the very poorest.⁴⁹ The scheme in Rwanda promoted equity in use (ill insured individuals reported a higher number of visits than uninsured), although the scheme was not specifically assessed for the effect on delivery care,⁵⁰ nor was the affordability of premiums reported. One way to promote equity in access is by exempting poor people from premium payment or relating premiums to ability to pay.⁵¹

Much of the evidence for the effect of community insurance schemes comes from pilot programmes that operate on a small scale. The ability of such schemes to have a substantial effect on the financial consequences of childbirth is thus limited. The financial viability of the schemes can also be precarious, and government or donor subsidies are often required to sustain them. We identified only one scheme that was self-financing.⁵² Moreover, many schemes restrict the scope of health services covered, excluding more expensive care (eg, childbirth). The Vimo SEWA insurance scheme in Gujarat, India, although covering complications of pregnancy as long as they result in a hospital stay of more than 24 h, does not cover normal deliveries (Personal communication, Kent Ranson, London School of Hygiene and Tropical Medicine, UK). Reasons for exclusion of delivery care include fears that premiums will become unaffordable to poorer members of the community, that those at higher risk will be more tempted to join, and that the insured population will place excessive demands on the scheme, especially for complicated deliveries, making it financially unsustainable.³⁴ A separate concern is that providers might drive up costs by encouraging caesarean sections for deliveries that are covered by insurance. Evidence from Chile and Sri Lanka indicates that a rise in caesarean sections during the 1980s and 1990s correlated with a rise in the proportion of births that had insurance coverage.^{53,54} However, there is evidence that women like delivery care to be part of the insurance package and are willing to pay for this benefit.^{55,56} Concern about households bypassing basic care can be addressed by the introduction of small charges for unnecessary services or by exclusion of certain benefits from the insured package of services, as in Rwanda where hospital-based normal deliveries were excluded from the benefits package.⁴⁷

Targeting poor people

Several novel methods to target and create demand in poor women have been introduced and are being tested.⁵⁷⁻⁶²

Conditional cash transfers for mothers of preidentified families can be used to target poor and marginalised groups. These schemes provide money to individuals or households, which is conditional on their use of prespecified services. The schemes increased uptake of antenatal care by 8% in the first trimester of pregnancy in Mexico⁵⁷ and by 15–20% in Honduras,⁵⁸ especially in poorer households. Although conditional cash transfer does not overcome access barriers, since payment is made on receipt of care, it would help with the timely repayment of loans and prevent long-term indebtedness. In Nepal, in addition to financing facility-based delivery in the poorest areas, the government provides cash payments to women who attend facilities and to providers⁵⁹ (panel 2).

Voucher schemes to generate demand have been used in several Asian countries under the World Bank Pro-Poor Project⁶⁰ to increase access by poor women to maternal and neonatal health care. Specific marginalised groups can be targeted, and can redeem the vouchers in exchange for free maternal services in health facilities contracted in advance by the voucher agency. Such schemes overcome the problem of access to cash because they do not require advance payment for care, and so household expenditure is limited to transport costs (and time) only. Incentives for quality care and efficiency can be included by contracting health facilities by competitive tender.⁶¹ The results of the evaluation of these schemes, however, are not yet available, so the effect on use of maternal health care cannot be quantified. Furthermore, these schemes have so far been funded largely by donor sources and have operated on a small scale, so their effectiveness, costs, and financial sustainability at scale remain to be tested.

Transport costs

None of the financing schemes we have discussed, apart from the one in Nepal, provide for transport and time costs, yet these can be substantial. Transport costs have been estimated at almost half of total expenditure for a normal delivery in studies in Tanzania¹⁸ and Nepal,¹⁴ and 25% for a complicated delivery.¹⁴ Total (travel and waiting) time costs were estimated at 9–14% of total household expenditure for a delivery in Nepal¹⁴ and 65–93% in Tanzania.¹⁸

Community initiatives to pool funds in order to increase access to cash to pay for transport have been documented. These include generation of pooled emergency loan funds,^{62–64} and collaboration with local transport groups.^{65–67} The limited evidence indicates that such initiatives can increase the use of maternal health services. Such funds, however, suffer from a number of constraints. One scheme faced difficulty collecting funds and recovered only 12–15% of the vehicle budget.⁶² Often the amounts generated are insufficient to cover the cost of transport, so that householders still have to make further payments.⁶³ Ensuring funds are used effectively and for the intended purposes is another challenge. Other issues are the

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A pregnant woman carries a pot of drinking water in Bangladesh

management of funds, follow-up of defaulters, and record keeping.⁶⁷ A revolving petrol fund for improved transport to obstetric services was depleted within a year because no capacity was available to follow-up on defaulters.⁶⁸ The success of such schemes is dependent on community mobilisation, which is more likely in communities with strong leadership.^{62,64,66} The integration of such schemes in existing credit schemes operated by women's groups might offer a means of ensuring their sustainability and generating larger pools.

As an expansion of infrastructure eases access by communities to health facilities with adequate equipment and staffing, transport and time costs will fall.⁶⁹ However, this process takes time, and in the interim, more immediate measures are needed to address these constraints. Table 2 shows an overview of financing strategies that help channel resources to maternal health, and a comment on the extent of documented experience.

Costs of taking maternal health services to scale

To increase coverage of maternal health services, the financial burden faced by many households during pregnancy needs to be urgently addressed. The supply of maternal health services also needs to increase in order to meet the additional demand. Across 75 priority countries, if the MDGs are to be met, an additional 334 000 midwives are estimated to be needed, increasing to 700 000 by 2030, and the skills of 140 000 health professionals need to be upgraded at primary level and those of 27 000 doctors at tertiary level.² Because of inadequate incentives and salaries, human resource constraints are especially severe in remote rural areas, where mechanisms are needed to support recruitment and retention of staff.

Several estimates have been made of the global price tag, or the additional yearly resources needed to take effective

	Extent of experience	Advantages	Disadvantages	Conditions for effective implementation
Removal of fees through government revenue	Considerable	Makes services affordable to all Reduces delay from seeking cash Protects against indebtedness from care seeking More equitable revenue generation Increases service use by poor people Avoids need for exemption on basis of income	Risk of informal charges Households may not respect the referral system Does not protect from transport and time costs Limited capacity to deal with additional demand (health staff workload, availability of drugs and medical supplies)	Need for lost resources to be replaced by additional government revenue Investment in staff salaries and drugs and medical supplies
Insurance	Considerable	Allows households to pay when they can Reduces uncertainty Can be used to encourage referrals	Premiums might not be affordable to poor people Pregnancy is not a typically insurable risk Limited financial sustainability of schemes Small-scale schemes do not always allow for pooling across rich and poor people	Government or donor subsidy or both Cross-subsidy from other services Delivery care included in package Sliding premiums according to ability to pay or by geographic region Transport costs might be included
Conditional cash transfers	Very little	Targets specific groups Can encourage quality of care Encourages uptake of services Reduces the financial burden on households	Administrative costs can be high Difficult to ensure sufficient cash reaches health facilities	Need for evaluation Consider effect of including transport costs
Vouchers	Very little	Targets specific groups Can encourage quality of care Encourages uptake of services Reduces the financial burden on households	Black market risk Administrative costs can be high	Need for evaluation Consider effect of including transport costs
Loan funds for transport costs	Moderate	Can be used to finance transport and time costs	Financial sustainability Limited capacity to generate funds Limited management capacity Difficult to ensure cash is used for intended purpose	Community mobilisation and support to manage logistics Financial support from government/donors to ensure sustainability

Table 2: Overview of financing strategies for maternal health

maternal interventions to scale (table 3).³ The 2005 World Health Report estimated the cost per head to be US\$0.22–1.18,² whereas the Commission for Macroeconomics and Health estimate was \$0.36–1.40.⁷⁰ In aggregate terms, the World Health Report estimated the need to be an additional \$1 billion in 2006, increasing to \$6.1 billion in 2015.² Commission for Macroeconomics and Health estimates were an additional \$2.1 billion in 2007 increasing to \$5.5 billion in 2015.⁷⁰ This amount represents 12–15% of the total district-level costs of

scaling up a package of high-priority interventions, including prevention and treatment of malaria, HIV, tuberculosis, and childhood illnesses. The recurrent cost per head of reaching 99% coverage with combined child and neonatal services has been estimated at US\$1.48.⁷¹

Of the World Health Report total, it was estimated that drugs and medical supplies would account for the largest proportion (48%), followed by staff salaries (25%), and health system development (including recruitment, training, and infrastructure; 22%).²

	Number of countries included	Interventions included	Coverage by 2015	Estimates of total costs	Costs per head	Limitations	Source of cost data	Source of effectiveness data
World Health Report ²	75	67 maternal and neonatal health interventions during pregnancy, childbirth, and up to 42 days postpartum	73%	US\$1.0 billion extra resources in 2006 increasing to \$6.1 billion in 2015 (\$39 billion during next 10 years)	US\$ 0.22 to \$1.18	Assumptions made to fill gaps on current coverage and incidence and prevalence rates Current staff remuneration used, which is unlikely to be sufficient to recruit, retain, and deploy staff where most needed in future	WHO Choice	DHS Surveys; Global Burden of Disease regional averages; WHO expert opinion Ditto
Commission for Macroeconomics and Health ⁷⁰	83	Antenatal care, treatment of complications during pregnancy, skilled birth attendance, emergency obstetric care, and postpartum care	90%	\$2.1 (1.6–2.5) billion in 2007 increasing to \$5.5 (4.3–6.7) billion in 2015	\$0.36–0.58 to \$0.89–1.40	Assumed incidence and prevalence of diseases as constant Maternal health costs do not include cost of increased salaries or overheads, which were included only in estimate for full package of interventions	Literature review	Literature review

World Health Report and Commission for Macroeconomics and Health costs are not readily comparable. They make different assumptions about the population size (75 vs 83 countries) and the final coverage of maternal health services within countries (73% vs 90%). Commission for Macroeconomics and Health costs are estimated at district level, excluding costs incurred at higher levels.

Table 3: Estimates of cost of scaling up effective maternal health interventions

Neither set of estimates takes account of the need for staff incentives (although total Commission for Macroeconomics and Health costs did allow for increasing salaries). Boosting public sector pay in ways to encourage appropriate care is one of the most important yet most neglected elements of most financial projections, and is needed to ensure staff retention in rural areas and to improve quality of care.⁷² Inclusion of such costs can substantially increase the funds required. International agreements, such as those of the International Monetary Fund, need to be revisited to ensure they do not excessively constrain government capacity to recruit additional staff or increase salaries.^{73,74}

Evidence for the cost of increasing demand for maternal health services is scarce. These costs will depend both on the method used (cash transfers *vs* user fee abolition or insurance) as well as the proportional increase in demand (the number of beneficiaries). The cost of provision of cash transfers in Nepal was budgeted at £5.95 million (\$9.91 million) over 5 years.⁵⁹ This cost was based on a predicted yearly increase in service use of 3.5% for both home and institutional deliveries. Assuming a population of 24 million, that equates to £0.05 (\$0.08) yearly per head. Further work is needed to estimate the costs of removal of fees for maternal services and other measures of demand creation, and the relative cost-effectiveness of each approach.

The role of donors and international institutions

The capacity of low-income countries to mobilise substantial additional revenue is questionable. Donors are therefore likely to play an important part in filling the resource gap between what is now being spent and what is needed to take interventions of proven effectiveness to scale. Donors will need to increase investment in the health sector in general and to maternal health in particular. Despite increasing trends in recent years, overall aid commitments from the leading donor countries are still far from the 0.7% of gross domestic product target set in Monterrey, Mexico, in 2002⁷⁵ and few have set a timeline to reach this amount. Furthermore, maternal health represents a tiny proportion of the overall aid budget. Only 1% of the aid budget of one of the main donor countries was estimated to have gone directly to maternal health, and although maternal health benefits would also be derived from investments in the broader health system, these are difficult to quantify.⁷⁶ If this amount is representative of all donors, total donor investment in maternal health care would equate to US\$580 million (according to 2003 prices), falling far short of the requirements to meet the MDGs.⁷⁶ The same investigators suggest that an increase by 0.01% of the combined gross domestic product of leading donors would be sufficient to raise the necessary funding.⁷⁶

The final question is how to channel additional donor funds for maternal health to countries. Suggestions have been made that a global fund for maternal and child health

is the best way to secure funds to achieve MDG-4 and MDG-5.⁷⁶ The main advantage of this approach is that it would facilitate holding donors to account. However, in view of the extent to which maternal health services are naturally embedded in the broader health system, it is preferable for donors to channel funds through direct budget support or pooled sector funding within the context of a plan that gives adequate priority to financing improved maternal health services. At the same time, governments need to quantify resource requirements at each level of the health system and make explicit a strategy for protection of women against the costs of maternal health care.

Conclusions

There is a strong case for public investment in maternal health, in view of its multiple health and social benefits (panel 1). Households pay far too great a share of the costs of maternal health services, or do not seek care because they cannot afford the costs. User fees have impeded access to maternal health care, especially for the poor. As a result, several governments are implementing or considering alternative financing methods that help ensure increased funding for maternal health and protect households from the costs of care. These financing methods include the elimination of fees for pregnant women financed through government revenue, as implemented in Ghana, some districts of Nepal, and South Africa, or financed through social health insurance (as in Bolivia) or offering cash incentives or vouchers to selected groups to encourage service uptake.

Countries must decide which approach best suits their local context. The available evidence makes a strong case for removal of user fees and provision of universal coverage for pregnant women, especially for delivery care. To be successful, governments must also make the substantial commitment to replenish the income lost through the abolition of user fees. The initiatives in sub-Saharan Africa should provide valuable lessons for other countries, provided they are adequately documented and evaluated.

Where insurance schemes exist, maternal health care needs to be included in the benefits package and careful design is required to ensure enrolment and service uptake among the poorest. Sufficient resources need to be invested to cover the administrative and managerial costs associated with collection of insurance premiums and ensuring their appropriate use.

Voucher schemes and cash transfers provide a way to target specific groups (especially if targeted to reach everyone in a specific area) and overcome the barrier of access to cash. However, such schemes need to be tested in low-income settings, and their costs (of identification of households or women for allocation of cash or vouchers) and cost-effectiveness compared with other financing methods thoroughly assessed. Unlike user fee exemptions and the inclusion of maternal health benefits in insurance schemes, where targeting is achieved by regulations rather than financial flows, vouchers and cash transfers imply a

distinct flow of funds for maternal health. This process might result in increased transaction costs due to compartmentalisation of health financing, and could skew service priorities away from equally valuable services. On the other hand, these innovative schemes might achieve the demand creation that conventional funding channels do not, and in view of the specific features of pregnancy and maternal health, a case could potentially be made for treating these services differently, as discussed in the fifth paper in this series. With a few exceptions, such as some small-scale community initiatives, most schemes fail to address transport and time barriers. Further research into the most sustainable and effective way to target financial assistance for these costs would be of great value.

Current investment in maternal health is insufficient to meet MDG-5, and substantial additional resources will need to be mobilised to strengthen the health system to scale up coverage of maternal health services and to create demand for these services through appropriate financing initiatives. The exact resource requirements will vary from country to country, and budgets need to be developed by each country as an essential first step. Global estimates are based on extensive assumptions, do not include staff incentives, and are too crude to be of use for domestic planning. Donors will need to pledge substantial increases in financial contributions for maternal health in low-income countries to help fill the resource gap. Resource tracking at country and donor level will be important in holding countries and donors to account for delivering on their commitment to achieve the maternal health MDG.

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Conflict of interest statement

We declare that we have no conflict of interest.

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