February 2014
An Evidence-Based Policy Brief

IMPROVING SKILLED BIRTH ATTENDANCE IN ETHIOPIA

Full Report

Included:
- Description of a health system problem
- Viable options for addressing this problem
- Strategies for implementing these options

Not included: recommendations
This policy brief does not make recommendations regarding which policy option to choose

Who is this policy brief for?
Policymakers, their support staff, and other stakeholders with an interest in the problem addressed by this policy brief

Why was this policy brief prepared?
To inform deliberations about health policies and programmes by summarising the best available evidence about the problem and viable solutions

What is an evidence-based policy brief?
Evidence-based policy briefs bring together global research evidence (from systematic reviews*) and local evidence to inform deliberations about health policies and programmes

*Systematic review: A summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise the relevant research, and to collect and analyse data from this research

Executive Summary
The evidence presented in this Full Report is summarized in an Executive Summary

This policy brief was prepared by the Technology Transfer and Research Translation Directorate of the Ethiopian Public Health Institute.
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The Evidence-Informed Policy Network (EVIPNet) promotes the use of health research in policymaking. Focusing on low- and middle-income countries, EVIPNet promotes partnerships at the country level between policymakers, researchers and civil society in order to facilitate policy development and implementation through the use of the best scientific evidence available.
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Preface

The purpose of this report

The purpose of this report is to inform deliberations among policymakers and stakeholders. It summarises the best available evidence regarding the design and implementation of policies for improving skilled birth attendance.

The report was prepared as a background document to be discussed at meetings attended by those engaged in developing policies on skilled birth attendance and people with an interest in such policies (stakeholders). It is not intended to prescribe or proscribe specific options or implementation strategies. Rather, its purpose is to allow policy makers and stakeholders to systematically and transparently consider the available evidence about the likely impacts of different options improving skilled birth in Ethiopia.

How this report is structured

The executive summary of this report provides key messages and summarises each section of the full report. Although this entails some replication of information, the summary addresses the concern that not everyone for whom the report is intended will have time to read the full report.

How this report was prepared

This policy brief brings together global research evidence (from systematic reviews) and local evidence to inform deliberations about improving skilled birth attendance in Ethiopia. We searched for relevant evidence describing the problem, the impacts of options for addressing the problem, barriers to implementing those options, and implementation strategies to address these barriers. We searched particularly for relevant systematic reviews of the effects of policy options and implementation strategies. We supplemented information extracted from the included systematic reviews with information from other relevant studies and documents. (The methods used to prepare this report are described in more detail in Appendix 1.)

Limitations of this report

This policy brief is based largely on existing systematic reviews. For options where we did not find an up-to-date systematic review, we have attempted to fill in these gaps through other documents, through focused searches and personal contact with experts, and through external review of the report.

Summarising evidence requires judgements about what evidence to include, the quality of the evidence, how to interpret it and how to report it. While we have attempted to be transparent about these judgements, this report inevitably includes judgements made by review authors and judgements made by ourselves.
**Why we have focused on systematic reviews**

Systematic reviews of research evidence constitute a more appropriate source of evidence for decision-making than relying on the most recent or most publicised research study. We define systematic reviews as reviews of the research literature that have an explicit question, an explicit description of the search strategy, an explicit statement about what types of research studies were included and excluded, a critical examination of the quality of the studies included in the review, and a critical and transparent process for interpreting the findings of the studies included in the review.

Systematic reviews have several advantages. Firstly, they reduce the risk of bias in selecting and interpreting the results of studies. Secondly, they reduce the risk of being misled by the play of chance in identifying studies for inclusion or the risk of focusing on a limited subset of relevant evidence. Thirdly, systematic reviews provide a critical appraisal of the available research and place individual studies or subgroups of studies in the context of all of the relevant evidence. Finally, they allow others to appraise critically the judgements made in selecting studies and the collection, analysis and interpretation of the results.

While practical experience and anecdotal evidence can also help to inform decisions, it is important to bear in mind the limitations of descriptions of success (or failures) in single instances. They may be useful for helping to understand a problem, but they do not provide reliable evidence of the most probable impacts of policy options.

**Uncertainty does not imply indecisiveness or inaction**

The systematic reviews included in this report except for community mobilization did not have skilled birth attendance as direct outcome. Hence their effects on skilled birth attendance can not be certain. Nonetheless, policymakers must make decisions. Uncertainty about the potential impacts of policy decisions does not mean that decisions and actions can or should not be taken. However, it does suggest the need for carefully planned monitoring and evaluation when policies are implemented.

“Both politically, in terms of being accountable to those who fund the system, and also ethically, in terms of making sure that you make the best use possible of available resources, evaluation is absolutely critical.”

(Julio Frenk 2005, former Minister of Health, Mexico)
The problem: Low level of skilled birth attendance

Background

Skilled birth attendance in Ethiopia is the lowest in the world (WHO 2007). Culture, illiteracy, and poverty, among other factors play the most important role in prohibiting mothers from seeking skilled attendance during child birth. Unskilled birth attendance is considered one of the main causes of high maternal mortality in low-income countries (LIC), as most obstetric complications occur around the time of delivery and cannot be predicted (Ronsmans 2006). It is important that all pregnant women have access to skilled attendance (Gabrysch 2009a) for the Millennium Development Goals 4 and 5 to be achieved (WHO 2010). The Federal Minister of Health (FMoH) of Ethiopia has recognized lack of skilled birth attendance as a key factor contributing to both high maternal and newborn mortality during pregnancy and delivery (FMoH 2006).

During a policy dialogue on ‘Prevention of Postpartum Haemorrhage in Rural Ethiopia’ on 20th April 2012 in Adama, Ethiopia, it was underlined that the most important factor contributing to the high maternal mortality in Ethiopia is that most mothers in Ethiopia give birth at home without a skilled birth attendant. Since improving maternal health without skilled birth attendance is virtually impossible, it was decided to address this problem by preparing an evidence brief. The objective of this evidence brief, therefore, is to summarize the best available evidence describing the problem of low levels of skilled birth attendance in Ethiopia and potential solutions for addressing the problem.

Size of the problem
It is estimated that 90% of births in Ethiopia occur at home without skilled attendance though, 34% receive some level of antenatal care from a skilled provider (that is, from a doctor, nurse, or midwife) for their most recent birth (ECSA 2012). This figure is among the lowest in the world as the average skilled birth attendance for developing countries is 59% (Santon 2008). The Global Picture of the Health Workers Reach Index ranks Ethiopia 4th from the bottom out of 161 countries (http://www.savethechildren.org.uk); one of the parameters of the Index is skilled birth attendance. The target of the Federal Ministry of Health, 60 % skilled birth attendance by 2015 (FMoH 2006) seems to be unrealistic given
the current 10% skilled birth attendance. Unskilled birth attendance and maternal mortality are strongly correlated, as risks for mothers and their newborn are highest at the time of labour and delivery (Ronsmans, 2006). Skilled care at birth, including emergency care for mothers and newborns, is critical to achieving Millennium Development Goals 4 and 5: about 2 million lives a year are lost to complications occurring during labour and childbirth (WHO 2010). It is estimated that around 16%-33% of all maternal deaths may be avoided through the primary or secondary prevention of complications during delivery by skilled attendance (Graham 2001). The maternal mortality ratio in Ethiopia is among the highest in the world with 676 deaths per 100,000 live births or 19,000 maternal deaths per year (ECSA 2012; Koblinsky 2010) which is worse than the average maternal mortality for developing countries, which is 290 per 100,000 births (IRIN 2012), and far from the MDG 5 target for the country, which is 350 per 100,000 live births (FMoH 2006). It is estimated that 342,900 maternal deaths occurred in 2008, and more than 50% of these deaths are contributed by six countries; Ethiopia being one of the countries (Hogan 2010). What is more alarming is that the maternal mortality rate has not improved since the last demographic and health survey in 2005 which was 673 per 100,000 live births (ECSA 2012).

Factors underlying the problem

The role of poverty as the main cause of multifaceted problems, including maternal health problems, cannot be overemphasised as Ethiopia is one of the poorest and least developed countries in Africa (UNDP 2011). A number of studies have pointed out various additional factors that could explain the low level of skilled birth attendance in Ethiopia. Those factors can be classified into the following categories (Gabrysch 2009a): 1. socio-cultural factors, 2. economic accessibility 3. physical accessibility, and 4. poor health care delivery

Socio-cultural factors

Socio-cultural factors primarily influence decision-making on whether a mother seeks care or not (Gabrysch 2009a). According to the recently held Health Demographic Survey of the country (ECSA 2012), more than six women in every ten (61 percent) believed that a health facility delivery was not necessary, and three in every ten (30 percent) stated that it was not
customary. The other factor associated with not seeking skilled birth attendance by mothers was level of education. Highly educated (above secondary school) mothers were most likely to have their births assisted by a skilled provider (74%). Age of a mother was also associated with skilled birth attendance; delivery in a health facility is more common among births to mothers aged 20-34 (11%) followed by mothers aged less than 20 (10%) and the age group of 35-49 (6%). Decision making to take mothers to a health facility depends on the husband or relatives; request to go to a health facility by mothers with difficult labour could be ignored (Bedford 2012).

Other local studies have also buttressed the results of the Demographic and Health Survey (ECSA 2012). A study in North West Ethiopia found that the need for closer attention from relatives during delivery (61%), a tradition of giving birth at home (58%) and family influence (14%) are the main reasons for not seeking skilled birth attendance. In this study, maternal education was also found to be associated with skilled birth attendance (Tefera 2004). In a study in Munisa Woreda, in south east Ethiopia, Amano (2012) found that only 12% of births took place at health facilities. In this study mother's and husband's education of secondary school and above was associated with skilled birth attendance.

Preference of mothers to give birth among relatives, more trust in traditional birth attendants than health professionals, the tradition of giving birth at home, and presumed easy labour during child birth have been reported as causes for mothers not seeking skilled birth attendance in northern Ethiopia (Nigussie 2004).

Birth order has been found to have an association with skilled birth attendance. First births are much more likely to be delivered in a health facility than sixth or higher births (21 percent versus 4 percent). Antenatal care visits are positively associated with skilled birth attendance: 34% of mothers with 4 or more antenatal care received skilled birth attendance compared to only 3% skilled birth attendance for mothers who did not attend antenatal care (ECSA 2012). Similar results have been reported from other studies in the country (Teferra 2012; Amano 2012). Access to radio, and thereby to information about pregnancy or risks of child birth, also has been found to be also associated with higher levels of skilled birth attendance (Nigussie 2004; Teferra 2012).
Low awareness of danger symptoms and signs during pregnancy, labour, delivery and postpartum contribute to delays in seeking and receiving skilled care (FMoH 2006). A qualitative study in southern Wollo (Bedford 2012) identified the following causes behind the beliefs and perceptions that deter mothers from going to a health facility for delivery:

- Health facilities do not allow relatives or neighbours to accompany the mother into the delivery unit; which makes mothers feel lonely in spite of presence of care providers during labour.
- Health facilities prohibit mothers to deliver in a kneeling position, they rather instruct them to lie down on their back with open legs. Such physical exposure is considered by mothers as invasive especially to people unknown to the mothers.
- Internal physical examinations during delivery are disliked by mothers, mothers do not want to show their bodies to people they do not know.

However a note should be made that as a country of more than 80 ethnic groups (PCC 2008), various communities are likely to mention different barriers which prohibit them from going to a health facility for child birth

2. Economic accessibility

A family’s income level is associated with the level of skilled birth attendance, because of costs for transport and care, and opportunity costs (Gabrysch 2009a). In the recent Demographic and Health Survey in the country, 46 % of mothers in the highest wealth quintile attended skilled birth compared to the 2% for the lower wealth quintile (ECSA 2012). Health centres are supposed to provide free maternity services by policy since 2005 (FMoH 2010). But in reality, among facilities that provide delivery care, 65% charge for some aspect of care including drugs and supplies. Indirect costs such as costs for transport, lodging and food are as much burden as the fees themselves. As a result, as much as 40% of sick people may not seek care due to associated costs (Pearson 2011).

3. Physical accessibility

With Ethiopia’s road network amongst the worst in the world, and too few ambulances, the majority of the rural dwellers (83.9 % of the total population) [Population Census Commission, 2008] are left isolated with little or no access to a health facility. As a result, more births in urban areas are delivered in health facility (50 %) than births in the rural areas (4%) (ECSA 2012).
According to the Demographic and Health Survey (ECSA 2012) lack of transport to the nearest health facility (71%) and distance to a health facility (66 %) are identified as important factors hindering skilled birth attendance. Fourteen percent of women said that either the facility is too far or they do not have transportation. Teferra (2012) and Amano (2012) have also reported that urban residence as an important factor in determining level of skilled birth attendance.

4. Health care delivery problems

Though more than 30 thousand health extension workers (HEWs) in Ethiopia are contributing to utilization of family planning, antenatal care and HIV testing, their contribution to the improvement of skilled birth attendance remains insignificant (Medhanyie 2012; Karim 2010). Health extension workers in Ethiopia have minimal theoretical and hands-on training for normal deliveries or for providing first aid to prepare women for referral (Fantahun 2010; Koblinsky 2010). Quality of services, such as the availability of drugs and equipment, access to a physician provider and providers’ attitudes towards mothers are reported to impact on utilisation of a facility by mothers (Kruk 2010). Health facilities usually face shortages of supplies and equipment for obstetric care due to poor coordination and management (FMoH, 2006). Not getting immediate treatment and onwards referrals and lack of the desired skills by care providers are deterrents to going to health facilities (Bedford 2012). Absence of maternal waiting rooms also contributes to the low level of skilled birth attendance, as mothers in an early stage of labour who present at health facilities are turned away to come later. Mothers taken home on a stretcher, because of the lack of maternal waiting rooms, gives health facilities a bad image (Bedford 2012).

Communication between health care professionals and their patients may impact on a variety of aspects of patient wellbeing (Dudley 2009). For example, a study in northern Ethiopia found that care providers did not give an explicit recommendation to mothers during antenatal care visits to give birth at a health facility (Bedford 2012).
Policy options:

Although skilled birth attendance at delivery is widely considered as the main strategy to reduce maternal deaths, there are no clear-cut interventions to improve skilled birth attendance (Hounton 2009). One of the targets of the Federal Ministry of Health for 2015 is to increase the proportion of skilled birth attendance (at home or facility) to 60% (FMoH), six times the present figure. Achieving this target in two years’ time needs integrated and innovative approaches. Four options addressing sociocultural, distance and financial barriers are proposed, since these barriers are the ones that prohibit mothers from utilizing health facilities that are already available. The four options are: 1/Community mobilization and 2/cultural adaptation of birthing services for socio-cultural barriers, 3/maternity waiting homes for distance barriers, and 4/conditional cash transfers for financial or cost barriers.

Policy option 1:  
**Community mobilization**

Community mobilization is a process of empowering people to organize themselves, recognize opportunities, identify their collective potential, and utilize available resources to realize a shared goal through unified action. Community mobilization strategies are diverse and may result in differing levels of intensity of engagement and ownership (USAID 2007; Rosato 2008). Community mobilization requires an understanding of the social structure of local contexts (Hounton 2009). It is presumed that community mobilization may have the most power to change behaviours and enable access to health care (Lawn 2009). Community mobilization can potentially be used to mobilize communities in general and mothers in particular to improve facility-based births. Different community mobilization strategies have been used in many LICs, mainly in Asia to increase use of maternal and neonatal services (Lee 2009). Community mobilization strategies from the literature are summarized in Appendix 2 (Lee 2009).

**Current practice in Ethiopia**

One of the strategic objectives of the Ethiopian Health Sector Development Program IV (FMoH, 2011) is improving community ownership, which aims to create awareness and change behaviour of the community to ensure their full participation in health policy formulation, planning, implementation, monitoring and evaluation; as well as regulation of health services and resource mobilization for the health sector. The expected outcome is community empowerment for continuity and sustainability of health programmes. One of the strategies adopted by the Federal Ministry of
Health in order to attain the Health Sector Development Programme (HSDP) IV is to mobilize the community by establishing the ‘Health Development Army’ (HDA), which is a one-to-five community network whereby a group of six people are working as a team with one of them being a leader to implement the Health extension program. HDA refers to an organized movement of the community through participatory learning and action meetings. Organizing a functional HDA requires the establishment of health development teams (HDA groups) that comprise up to 30 households residing in the same neighbourhood. The health development team is further divided into smaller groups of six members, commonly referred as one-to-five networks. The ‘Health Development Army’ is established in some regions of the country and some improvements in antenatal care have been registered (FMoH 2012).

Together with HEWs, TBAs and midwives, the HDA is organizing monthly pregnant women conferences in the villages in the Tigray Region. Similar initiatives have also started in other regions of the country to establish ‘home delivery –free villages’. The mass media are also being utilized to raise awareness of the importance of skilled birth attendance (FMoH 2013).

**Impacts of community mobilization**

A systematic review evaluated the impact of community mobilization on institutional (facility-based) deliveries (Lee 2009). They found that (Steinmann 2010) (Table 1):

- Community mobilization probably increases the proportion of institutional deliveries.
- The effect of community mobilization depends on the intensity of the mobilization efforts.
Table 1: Community mobilization to improve maternal and newborn health

**Patients or population:** Pregnant women and their newborns  
**Settings:** Communities in low and middle-income countries (LMIC)  
**Intervention:** Community mobilization (essential newborn care package, women’s groups, group education sessions, health committees, birth and newborn care preparedness). Additional interventions in some studies.  
**Comparison:** No community mobilization (but sometimes other interventions, e.g. infrastructure improvements in both intervention and control arms of studies)

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<td>Skilled birth attendance</td>
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<td>- Meta-analysis (all studies meeting inclusion criteria):</td>
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<td>RR 1.71; 95% CI 1.10-2.64</td>
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<td>- Meta-analysis (Studies describing more intensive and participatory community mobilization):</td>
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<td>RR 2.08; 95% CI 1.23-3.49</td>
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*GRADE Working Group grades of evidence:

- ⬤ ⬤ ⬤ **High:** We are confident that the true effect lies close to what was found in the research.
- ⬤ ⬤ **Moderate:** The true effect is likely to be close to what was found, but there is a possibility that it is substantially different.
- ⬤ **Low:** The true effect may be substantially different from what was found.
- ⬤ **Very low:** We are very uncertain about the effect.

**Limitations:** The review did not fully report the search strategies that were used, how risk of bias was assessed, or details of the included or excluded studies.
Applicability, equity, costs, monitoring and evaluation

Applicability.

There is no sufficient data that community mobilization could work in all LMIC. The systematic review by Lee (2009) on community mobilization included 5 countries from South Asia and 1 each from Africa and Latin America implying that the results are of direct relevance and applicable to South Asia, while they may not be directly applicable in other societies such as Africa due to cultural or traditional differences (Steinmann 2010).

Equity

There is currently insufficient evidence that community mobilization increases equity. However, since community mobilization often focuses on rural and deprived areas, thus benefiting poor and neglected populations, there is a potential for community mobilization to increase equity (Lee 2009; Steinmann 2010).

Economic considerations

There is a limited data on cost and cost-effectiveness of community mobilization. However, community mobilization is a relatively low-cost intervention on a per-capita basis. However, the large populations to be covered mean that it still requires substantial amounts of money. Funds for any programs outside the formal health sector are often unavailable in LMIC. The intensity-dependance of the effectiveness of community mobilization signals it could be more costly if programs are needed to achieve good results (Lee 2009; Steinmann 2010).

Monitoring and Evaluation

There is limited data on cost-effectiveness, sustainability, and scalability of community mobilization. The effectiveness of community mobilization in other areas than South Asia needs to be evaluated. The cost-effectiveness and sustainability of community mobilization need to be better evaluated (Lee 2009; Steinmann 2010).
**Policy option 2:**

**Cultural adaptation of birthing services (altering the environment of health facility delivery units to better suit mothers’ personal and cultural needs)**

Child birth in different communities is associated with different practices that are deeply rooted in the cultures and traditions of the community. Some cultural practices, for example, include eating porridge, putting butter on the head of the mother and conducting a coffee ceremony (FMoH 2005). Some norms include, giving birth in a sitting position instead of lying down on one’s back with open legs, and giving birth among families instead of among strangers (Bedford 2012). Absence of these traditional practices and norms discourages women from going to health facilities for delivery. Hence, availing these traditional practices in health facilities is likely to encourage women to give birth in health facilities.

**Current practice in Ethiopia.**

Some regions in Ethiopia have started to allow traditional practices in health facilities to encourage mothers to give birth at health facilities. In the Tigray region in Northern Ethiopia, a mother is expected to eat porridge immediately after birth. If this practice is not fulfilled it is believed that ‘evil things’ could happen to the mother or the newborn. Because of this, mothers prefer to give birth at home. Hence to address this barrier porridge is prepared for mothers giving birth at health facilities. In the region of Oromia, ‘coffee ceremonies’ are practised at health facilities, as is the culture in home deliveries. In some parts of Southern Ethiopia, putting butter on the heads of mothers after delivery is a culture; families are now allowed to put butter on the mother at health facilities. These practices are expected to grow in scale, at present they are all pilot initiatives (FMoH 2013).

**Impacts of Cultural adaptation of birthing services**

We were not able to find a systematic review of the impacts of cultural adaptation of birthing services. Only one study from Peru has evaluated an intervention to culturally adapt a birthing facility. This study found that cultural adaptation of birthing facilities, such as introducing a rope and bench for a vertical delivery position, allowing family and traditional birth attendants in the delivery process and use of local language at health facilities, increased facility based deliveries from 6% to 83% in nine years (Gabrysch 2009).

- **Cultural adaptation of birthing places might address one of the reasons why some women do not go to a birth facility, particularly in rural populations. The effects on increasing skilled birth attendance are uncertain.**
Applicability, Equity, Economic considerations, monitoring and evaluation

Applicability
There is a dearth of information regarding adapting maternity services to respective cultures in various communities except for the pilot study in Peru (Gabrysch 2009). However, cultural adaptation of birthing services is very likely to be appropriate to rural settings, as cultural backgrounds influence beliefs, norms and values in relation to health services use. The present experience in Ethiopia is showing favorable results though it is too early to make conclusions.

Equity
Cultural adaptations of birthing places are likely to reduce inequalities between rural and urban populations as they will likely increase skilled birth attendance in the rural areas.

Economic considerations
There is no data on cost and cost effectiveness of cultural adaptations of birthing services. However, this intervention is supposed to be low-cost intervention as the family of the mother and neighbours are the ones who cover the expenses in many traditions during child birth.

Monitoring and evaluation
Since there is no sufficient data on the impact of cultural adaptation of birthing places, there is a need for randomized trials to evaluate their impacts on skilled birth attendance, maternal outcomes and any potential unintended effects.

Policy option 3:
Building maternity waiting homes

Maternity waiting homes are residential facilities, located within easy reach of a health facility, where women defined as "high risk" can await their delivery and be transferred to a nearby medical facility shortly before delivery, or earlier should complications arise. Many consider maternity waiting homes as a key element of a strategy to overcome distance barriers in rural settings to improve access to care for mothers. Besides emphasis is also given to education and counselling regarding pregnancy, delivery and care for the newborn (WHO 1996; van Lonkhuijzen 2009). Provision of maternity waiting homes has been practiced in many LIC: Zimbabwe, Zambia, Tanzania, former Zaire, Ghana, Ethiopia, Nigeria, Liberia, Malawi, Mozambique, Papua New Guinea, Nicaragua, Cuba, Peru, Honduras and Lao (van Lonkhuijzen 2009).
**Current practice in Ethiopia**

The practice of maternity waiting homes is known in Ethiopia for more than thirty years, though not institutionalized; nine facilities have maternity waiting homes in the country (Gaym 2012). However, the number is quite small when compared to the number of hospitals and health centres in the country which is 3880 (FMoH 2011).

**Impacts of maternity waiting homes**

There are no systematic reviews on the effect of maternity waiting homes on skilled birth attendance. However there is a systematic review on the effect of maternity waiting homes for improving maternal and neonatal outcome on low-resource settings which found no randomized control trials on the effect of maternity waiting home on perinatal and maternal mortality and morbidity in low resource countries (van Lonkhuijzen 2009). It was found that (Duley 2011):

- *For rural populations with limited access to emergency obstetric care, maternity waiting homes might address the problem of long distances between where people live and birthing facilities. The effects of maternity waiting homes on increasing skilled birth is uncertain.*
Applicability equity, costs, monitoring and evaluation

Applicability

There are no randomized control studies available from low resources settings regarding maternity waiting homes. However, maternity waiting homes are likely to be appropriate to rural settings where there is limited access to emergency obstetric care, where there is sufficient capacity to ensure access to emergency obstetric care, and where it is possible to offer home that are safe, affordable and attractive to women (van Lonkhuijzen 2009; Duley 2011).

Equity

There are no data available from studies in low-resource settings. However, well functioning maternity waiting homes are likely to reduce inequalities between rural and urban populations. On the other hand if there are financial barriers affecting the usage of such facilities, inequalities in access to care may increase amongst poorer women in rural areas (van Lonkhuijzen 2009; Duley 2011).

Economic considerations

There are no data available from low resource settings. The costs of maternity waiting homes include those related to transportation, staffing, food and supplies, and emergency obstetric care. The costs of staying in maternity waiting home may exceed the costs of home delivery (van Lonkhuijzen 2009; Duley 2011).

Monitoring and evaluation

There is limited data on cost-effectiveness, sustainability, and scalability of maternity waiting homes. Thus there is a need for randomised trials to evaluate their impacts on skilled birth attendance (van Lonkhuijzen; Duley 2011).
**Policy option 4**

**Conditional cash transfer to mothers giving birth at health facilities**

Conditional cash transfer programmes (CCT) give money to poor people in return for fulfilling specific behavioural conditions such as children’s school attendance, up-to-date vaccinations or regular visits to a health care facility by pregnant women. The purpose is to make a positive impact on the recipients’ health, education or other socio-economic well-being depending on the condition applied. In preventive and primary health care, regular visits to health facilities and timely immunization levels are the most commonly used conditions. CCT started in the late 1990s mostly in Latin America, including in Mexico, Brazil, Colombia, Honduras, Nicaragua and Ecuador. CCT have also been implemented or are being considered in other LMIC, such as Bangladesh, Kenya, Cambodia, Turkey, South Africa, Indonesia and Côte d'Ivoire. There is some encouraging evidence coming mostly from Mexico, where, CCT appear to have successfully reduced infant morbidity and mortality, as well as obesity, hypertension and diabetes in adults. In Honduras and Colombia, a reduced incidence of diarrhoea among children (by 3-10%) is attributed to CCT (WHO 2008). This option aims to give money to each mother giving birth at a health facility in Ethiopia.

**Current use in Ethiopia:**

Conditional cash transfers for health outcomes do not exist in Ethiopia except for some pilot studies (Samuels 2011). However, health centers are supposed to provide free maternity services by policy since 2005 (FMoH 2010). But in reality among facilities that provide delivery care 65% charge for some aspect of care including drugs and supplies (Pearson 2011).

**Impact of conditional cash transfer**

We could not come across a systematic review which dealt with skilled birth attendance as a direct outcome of conditional cash transfer intervention. However a systematic review on
impact of conditional cash transfers on care-seeking behaviour and immunization coverage (Lagarde 2008) has shown favourable result that conditional cash transfer programmes can be effective in increasing the use of preventive services and can sometimes improve immunisation coverage and health status (Pantoja 2008) [Table 4].

- Conditional cash transfer programmes could provide incentives for women to go to birthing facilities. The effects of conditional cash transfer programmes on increasing skilled birth attendance are uncertain.

Table 4. Impacts of conditional cash transfers

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Impact</th>
<th>Number of participants* (studies)</th>
<th>Quality of the evidence (GRADE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care-seeking behaviour</td>
<td>All the studies reported an increase in the use of health services in the group with cash transfers (27% increase in individuals returning for voluntary HIV counselling, 2.1 more visits per day to health facilities, 11-20% more children taken to the health centre in the past month, 23-33% more children &lt;4 yrs attending preventive healthcare visits)</td>
<td>5,832,619 (5 studies)**</td>
<td>Moderate</td>
</tr>
<tr>
<td>Immunisation coverage</td>
<td>The effects were unclear (increased vaccination rates in children for measles and tuberculosis but only in specific groups or temporarily, and without change in one study)</td>
<td>5,832,619 (4 studies)</td>
<td>Moderate</td>
</tr>
<tr>
<td>Health status</td>
<td>Mixed effects on objectively measured health outcomes (anaemia) and positive effects on mothers’ reports of children’s health outcomes (22-25% decrease in the probability of children &lt;3 yrs being reported ill in the past month)</td>
<td>5,421,619 (3 studies)</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

GRADE: GRADE Working Group grades of evidence (see above and last page)
* Number of household beneficiaries (1 study in Mexico included 5,000,000 households)
** There was no information about the number of participants or beneficiaries for two studies (Brazil and Malawi)

Limitations: This is a good quality systematic review with only minor limitations.
Applicability, equity, economic considerations and monitoring and evaluations

Applicability

There are studies from LMIC predominantly from Latin America where the evidences are likely to be applicable. However, their replicability under different conditions - particularly in more deprived settings like Sub-saharan Africa or South Asia is still unclear because they depend on effective primary health care and mechanisms to disburse payments. In resource-poor countries where public spending on healthcare is low and access to effective interventions limited, expanding the capacity of health services would be necessary for cash transfers to result in improved use of health services (Lagarde 2007; Pantoja 2008).

Equity

CCT helps the poor, however to it needs equitable access to health facilities as a precondition if it has to reach all equitably. Therefore, if an adjustment is not incorporated into the transfers, those recipients with less access would benefit less than those with better access to health services (Lagarde 2007; Pantoja 2009).

Economic considerations

There is no data on cost effectiveness of CCT. Conditional cash transfer programmes may require significant flows of money (Lagarde 2007; Pantoja 2009).

Monitoring and evaluation

There is a need for rigorous evaluative research of CCT in low-income settings with more limited health system capacity like Sub-saharan Africa prior to wide spread implementation in those settings (Lagarde 2007; Pantoja, 2009).
Implementation considerations

Community mobilization, cultural adaptation of birthing services, maternity waiting homes, and conditional cash transfers are four potential solutions to improve skilled birth attendance in Ethiopia. Implementing these options requires other changes, including policy changes. Strategies for implementing the options should take advantage of factors that enable their implementation as well as addressing barriers.

Enablers of improving skilled birth attendance in Ethiopia include:

- Strong political commitment from the government for maternal child health in general and skilled birth attendance in particular
- Rapid economic growth in the country
- The establishment of the ‘Health Development Army’ in the country, which can be used for community mobilization
- More than 30 thousand health extension workers working at the grass root level, who can be used for all four options
- Major funding opportunities and public-private sector collaboration globally
- A number of global and local partners and civil society organizations working on maternal health
- An increasing number of skilled health workers in Ethiopia

Barriers to the four options and implementation strategies that address those barriers are summarised in Tables 1 to 5.

### Table 1. Barriers and implementation strategies for all options

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Descriptions</th>
<th>Implementation strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategies or guidelines</td>
<td>There are no strategies and or guidelines in place to implement the options except for community mobilization</td>
<td>Formative research to understand local culture, beliefs and practices and design suitable strategies and manuals (ACCESS 2010).</td>
</tr>
<tr>
<td>Financial resources</td>
<td>There may be insufficient financial resources to implement all the options</td>
<td>Pilot study to evaluate costs and cost-effectiveness before full scale implementation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resource mobilisation through coordination of governmental and non-governmental organizations. Establish a consortium of stakeholders for maternal health to pool resources and use them for achieving the common goal of increasing the level of skilled birth attendance in Ethiopia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cost sharing with the community (Poovan 1990).</td>
</tr>
</tbody>
</table>
## Barriers, Descriptions, and Implementation Strategies

### Table 3. Barriers and implementation strategies for option 1: Community mobilization

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Descriptions</th>
<th>Implementation strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of community mobilization strategy</td>
<td>Absence of community mobilization strategy and manual</td>
<td>Conducting a formative research to understand local culture, beliefs and practices and design suitable strategies and manuals (ACCESS 2010)</td>
</tr>
<tr>
<td>Cultural barriers</td>
<td>Presence of heterogeneous culture might necessitate culture sensitive community mobilization strategies</td>
<td>Conducting formative research to understand local culture, beliefs and practices and design suitable strategies and manuals (ACCESS 2010)</td>
</tr>
<tr>
<td>Sustainability</td>
<td>As activists are volunteers, lack of accountability therefore sustainability could be a challenge</td>
<td>Integration of community mobilization into the institutional structure (ACCESS 2010)</td>
</tr>
<tr>
<td>Absence of institutional structure for community mobilization</td>
<td></td>
<td>Integration of community mobilization into the institutional structure (ACCESS 2010)</td>
</tr>
<tr>
<td>Burn-out of health extension workers</td>
<td>Health extension workers who could be key players in community mobilization are already overworked</td>
<td>Involving other stakeholders, such as community and religious leaders, social institutions, volunteers, civil societies (Hounton 2009; ACCESS 2010). Reducing workload of health extension workers by redesigning the health extension program, introducing motivation packages and increasing the number of health extension workers.</td>
</tr>
</tbody>
</table>

### Table 2. Barriers and implementation strategies for option 2: Cultural adaptation of birthing services

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Descriptions</th>
<th>Implementation strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of strategic plan</td>
<td>There are no strategic plans or manuals in place for cultural adaptation of birthing places</td>
<td>Strategic plans with clear goals, policies and management accountability for cultural competence should be put in place (Anderson 2003).</td>
</tr>
<tr>
<td>Cultural beliefs, norms and values</td>
<td>There could be various cultural beliefs, norms and values in a certain area where they should</td>
<td>Mapping cultural beliefs, values and norms of local communities (Hounton)</td>
</tr>
</tbody>
</table>
all be accommodated in one health facility (2009) and adapting birthing services to the various cultural beliefs, values and norms prevalent in a community

Inappropriate norms | Current standards of health care practice may be in conflict with the option | Establishing a culturally competent primary health care system by developing relevant cultural competence guidelines (Anonymous 2005)

Motivation to change | People may not be motivated to go to health facilities regardless of the changes in health facilities | Dissemination of information that is designed to motivate the community to change their practice; financial or other incentives

Attitude of care providers | Possible resistance from care providers to allow cultural adaptations in health facilities | Establishing a culturally competent primary health care system by developing relevant cultural competence guidelines (Anonymous 2005)

Lack of motivation of care providers | Health workers may not be motivated to change their practices | Dissemination of information that is designed to motivate health workers to change their practice; providing incentives, reduce the burden of changing practices

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Descriptions</th>
<th>Implementation strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture</td>
<td>Absence of culturally appropriate practices in maternity waiting homes (WHO 1996)</td>
<td>Cultural adaptation of maternity waiting homes (Gabrysch 2009; Lee 2009)</td>
</tr>
<tr>
<td>Competency of care providers</td>
<td>Absence of the capacity for identification and referral of high risk women (WHO 1996)</td>
<td>Establishment of an effective system of community health services, staffed by providers who have been specifically trained in the identification and referral of high risk pregnancies (WHO 1996).</td>
</tr>
<tr>
<td>Blueprints for maternity waiting homes</td>
<td>Lack of a “blueprint” of what a maternity waiting home should constitute and provide</td>
<td>Developing a national guideline for maternal waiting homes</td>
</tr>
<tr>
<td>Inadequate internal communication</td>
<td>Lack of proper referral system might result in missing high risk women; maternity waiting homes might be occupied with women not at risk (WHO 1996)</td>
<td>Establishment of an effective system of community health services, staffed by providers who have been specifically trained in the identification and referral of high risk pregnancies (WHO 1996).</td>
</tr>
</tbody>
</table>
Table 5. Barriers and implementation strategies for option 4: Conditional cash transfers (CCT)

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Descriptions</th>
<th>Implementation strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal sustainability</td>
<td>Fiscal sustainability could be a challenge (Handa 2006)</td>
<td>Carefully designed exit strategies consistent with CCT program objectives (Honda 2006)</td>
</tr>
<tr>
<td>Motivation to change</td>
<td>Participation of mothers could be low due to socio-cultural barriers</td>
<td>Adjusting the design of CCT programs to the heterogeneous socio-cultural factors prevailing in the country</td>
</tr>
<tr>
<td>Poor capacities of health facilities</td>
<td>Health facilities might find it difficult to meet additional demand likely to arise when beneficiary households try to meet the conditions.</td>
<td>Pilot study to assess possible rise in demand and the capacity of health facilities before full-scale implementation</td>
</tr>
<tr>
<td>Implementation capacities</td>
<td>Capacities for managing cash transfer schemes are weak in low-income countries. The health system may not be able to meet the additional administrative demands related to conditionality (Schuber 2006)</td>
<td>Preparing CCT implementation guidelines Organizational change and capacity building on CCT of the relevant bodies within the civil service (Schubert 2006) Link cash transfers to existing and complementary programmes</td>
</tr>
<tr>
<td>Feasibility</td>
<td>CCT may be difficult to implement</td>
<td>Pilot study to assess the feasibility of CCT</td>
</tr>
<tr>
<td>Over reporting skilled birth attendance</td>
<td>Abuse of money allotted for would be mothers is a possibility by over reporting skilled birth attendance</td>
<td>Put an appropriate auditing mechanism in place</td>
</tr>
<tr>
<td>Cumbersome bureaucracy</td>
<td>Burdensome paperwork to provide cash to mothers may discourage mothers not to come to a health facility again</td>
<td>Minimizing paper work</td>
</tr>
</tbody>
</table>
Next steps

The aim of this policy brief is to foster dialogue and judgements that are informed by the best available evidence. The intention is *not* to advocate specific options or close off discussion. Further actions will flow from the deliberations that the policy brief is intended to inform. These might include, for example:

- Careful consideration of the need for community mobilization
- Careful consideration of the need for cultural adaptation of birthing services
- Careful consideration of the need for building maternity waiting homes
- Careful consideration of conditional cash transfers to mothers giving birth at health facilities
- Monitoring and evaluation of the suggested policy options and implementation strategies
- Consideration of appropriate implementation strategies for each of the four options
References


Fantahun 2010. Fantahun M. Achieving the maternal millenium development goals in Ethiopia. Where are we and what needs to be done. *Ethiop. j. health dev.* 2010; Special Issue. Editorial.


experiment in a region with low rates of facility delivery. *J Epidemiol Community Health* 2010; 64, 984-988.


Appendices

Appendix 1. How this policy brief was prepared

The methods used to prepare this policy brief are described in detail elsewhere.\textsuperscript{vi, vii, viii}

The problem that the policy brief addresses was clarified iteratively through discussion among the authors, review of relevant documents and research. Research describing the size and causes of the problem was identified by reviewing government documents, routinely collected data, searching PubMed and Google Scholar, through contact with key informants, and by reviewing the reference lists of relevant documents that were retrieved.

Strategies used to identify potential options to address the problem included considering interventions described in systematic reviews and other relevant documents, considering ways in which other jurisdictions have addressed the problem, consulting key informants and brainstorming.

We searched electronic databases of systematic reviews, including: the Cochrane Library (CENTRAL, Cochrane Database of Systematic Reviews), Support Summaries, PDQ Evidence, Health Systems Evidence and supplemented these searches by checking the reference lists of relevant policy documents and with focused searches using PubMed, Google Scholar, and personal contacts to identify systematic reviews for specific topics. The final selection of reviews for inclusion was based on a consensus of the authors.

Potential barriers to implementing the policy options were identified by brainstorming using a detailed checklist of potential barriers (SURE guide for Identifying and addressing barriers) to implementing health policies. Implementation strategies that address identified barriers were identified by brainstorming and reviewing relevant documents.

Drafts of each section of the report were discussed with the SURE Project team based at the Norwegian Knowledge Centre for the Health Services. External review of a draft version was managed by the Norwegian Knowledge Centre for the Health Services. Comments provided by the external reviewers and the authors’ responses are available from the authors. A list of the people who provided comments or contributed to this policy brief in other ways is provided in the acknowledgements.


vii Supporting the Use of Research Evidence (SURE) in African Health Systems. SURE guides for preparing and using policy briefs: 5. Deciding on and describing options to address the problem. www.evipnet.org/sure

Appendix 2. Strategies to mobilize communities to seek skilled birth care (Lee 2009*).

Women’s Groups with Community Action Cycle
The community action cycle was originally developed in the Warmi project and involves 4 main processes: (1) identification and prioritization of key maternal and newborn health problems in the local community; (2) developing a formal action plan; (3) implementation of solutions as a community; and (4) evaluation of the progress of the program, assessing challenges and solutions. In the Warmi and Makwanpur projects, the community-designed interventions included a wide range of activities from creation of community funds for transport, acquisition of stretchers, and education regarding danger signs in pregnancy with interactive picture card games and role playing.

Community groups with socio-contextualized behavior change messages
The Saksham study conducted extensive formative research regarding childbirth practices and engaged stakeholders at multiple levels, from household members, village leaders, priests, teachers, traditional birth attendants, other practitioners, and community volunteers. Newborn care interventions were tailored to the local traditions and customs at birth, and disseminated at community group meetings and one-on-one community health worker visits. The Skilled Care Initiative in Burkino Faso also used community groups to map local health beliefs, engage local traditional and religious leaders, and implement activities using existing social platforms.

Community education meetings
Many programs use community group meetings to educate women and families about prenatal care, danger signs during pregnancy, signs and symptoms to refer, essential newborn care, and postnatal care. Educational strategies may include lecturing, flip charts, role playing, and video. Group leaders may include CHWs, TBAs, key community members, or program staff.
Village health committees

Village health committees may organize community members to develop actions to address key issues, such as the development and administration of emergency funds and transport driver systems. Members may include key stakeholders, and those with specific expertise, such as members of the local bank to assist administration of local funds.

Community campaigns

Social marketing campaigns have been used to generate awareness of maternal and newborn health issues, including a wide range of activities from public concerts, radio campaigns, video, and TV commercials. The Prevention of Maternal Mortality Group in Nigeria has promoted childbirth health awareness, particularly focusing on male decision makers and used a range of media such as puppets and a video drama of a maternal death.

Glossary, acronyms and abbreviations

ACCESS - access to clinical and community maternal, neonatal and women's health services
CCT - Conditional cash transfer programs
ECSA - Ethiopia Central Statistical Agency
EPHI - Ethiopian Public Health Institute
FMoH - Federal Ministry of Health of Ethiopia
HDA - Health development army
HEWs - Health extension workers
HIV - Human immunodeficiency virus
HSDP - Health sector development program
IRIN - Integrated Regional Information Network
LIC - Low income country
LMIC - Low and middle-income country
MNH - Maternal and new born health
PCC - Population Census Commission of Ethiopia
SURE - Supporting the use of research evidence (SURE) for policy in African health systems project.
TBAs - Traditional birth attendants
UNDP - United Nations Development Program
UNICEF – United Nations Children’s Fund
WHO - World Health Organization