



Engaging the private sector in maternal and neonatal health in low and middle income countries

Madhavan S, Bishai D, Stanton C, Harding A

April 2010

www.futurehealthsystems.org

Preface The aim of the Future Health Systems (FHS) Research Programme Consortium Future Health Systems is to find ways to translate political and financial commitments to meet the health needs of the poor. The consortium addresses fundamental questions about the design of future health systems, and work closely with actors who are leading the transformation of health systems in their new realities. This consortium addresses fundamental questions about the design of future health systems, and works closely with people who are leading the transformation of health systems in their own countries. Our research themes are:

- Protecting the poor against the impact of health-related shocks
- Developing innovations in health provision
- Understanding health policy processes and the role of research

Working papers are intended to make available initial findings and ideas from the research of members of the consortium. These are scholarly inquiries aimed at provoking further discussion and investigation. Comments and suggestions on these papers are welcome, and can be directed to the authors.

The FHS consortium is appreciative of the support provided by the United Kingdom Department for International Development (DFID). The ideas represented in these papers are the responsibility of the authors, and do not reflect the policies of DFID. Additional support for this paper was provided by a grant from the World Bank.

Abstract

We reviewed existing literature on private sector initiatives that have shown effectiveness in improving maternal and neonatal health. The private sector constitutes a significant proportion of delivery services for women in developing countries and it also plays a key role in family planning, abortion, nutrition, and antenatal care. We primarily address maternal health outcomes and include interventions that improve neonatal health outcomes where they are included in the study design or interventional strategy *alongside* maternal outcomes. We do not review evidence that addresses neonatal outcomes alone, as this would go beyond the scope of this paper.

Our paper reviews family planning and safe abortion initiatives as well as the literature on efforts to train private sector health workers in maternal health. Community based misoprostol programs play a special role in altering the traditional limitations of training. To a lesser extent the evidence on clean delivery kits has shown that they can be an important means of working with the private sector on maternal health.

In addition to interventions, the paper reviews strategies to accommodate private sector incentives. Demand side strategies have used conditional cash transfers and vouchers to encourage women to seek antenatal care. Supply side strategies use microfinance to allow private sector midwives and other women's health care providers to improve their practices. One innovative program in India is known as the Chiranjeevi Scheme and is a form of contracting out to increase supply of delivery services and to ensure access for poor women. Social franchising and social marketing are also discussed.

The paper concludes by discussing key principles for donors to consider in engaging with the private sector to improve the safety and quality of private sector maternal and neonatal health care in low and middle income countries.

1.0 Introduction: the private sector and maternal/neonatal health (MNH)

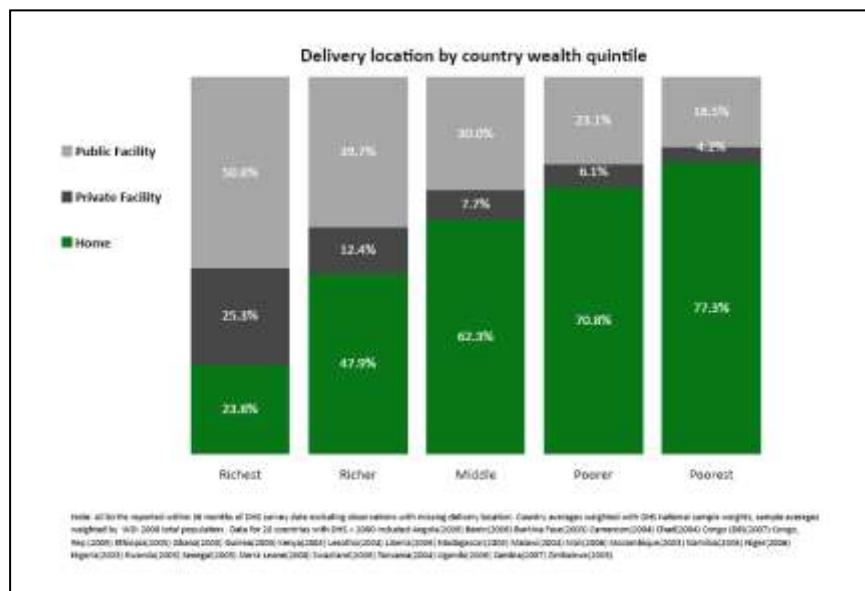
Of the 342,000 to 530,000 maternal deaths that occur every year, the vast majority happen in developing countries and could be prevented (Hogan, 2010; Ronsman, 2006). Unlike other developing country health problems where general nutrition and living standards play a major role, reducing maternal deaths relies heavily on extending the reach of high quality clinical services. This is not a public health problem with a drive-by fix like a vaccine or a micronutrient¹. Pregnant women often die from bleeding to death. Hemorrhage accounts for one third of deaths in Asia and Africa. Other causes include sepsis, hypertension, obstructed labor, botched abortions, ectopic pregnancies and emboli (Khan, 2006). Since many of these conditions do not become apparent until labor and delivery—saving a woman from dying requires a competent health worker at the delivery with recourse to effective health technology. Maternal and neonatal health is about access to high quality health services.

Why don't women get these services? All of the usual culprits contribute: lack of information, lack of transport, lack of skilled providers, lack of money. It is ultimately a systems problem involving finance, workforce, supplies, health services, and governance. Stronger health systems create interlinked solutions in all of these parts of the system. Strengthening a health system requires strategies that identify current capacity in order to build on this foundation. This paper is premised on the recognition that the private sector is part of each country's capacity in maternal health.

Remarkably, the maternal mortality policy world has largely focused on strategies for the public sector. From a health systems

perspective, MDG 5 will never be as rapid as it should and could be if the private sector is left out of the discussion. Not only does the private sector constitute a significant proportion of delivery services in many developing countries, but it also plays a key role in related areas that heavily impact maternal and neonatal health such as family planning, abortion services, nutrition and antenatal care. As shown in Figure 1, private sector health workers play an immense role in attending deliveries both at homes and facilities. Around 45 million home births occur annually, and these are almost uniformly conducted by private sector attendants and family members. For this reason, policy makers must consider ways to work with the private sector to both enhance the

Figure 1. Delivery location by wealth quintile. From Montagu et al.



¹ If there is a quick fix, it is helping couples who do not want to have a baby in the first place get access to family planning. An estimated 36% of all pregnancies are unintended, more than half of which end in induced abortion. (Guttmacher, 2009)

impact they have on improving MNH outcomes but also to reduce the bad practices currently promulgated through the private sector. Any commitment to improve maternal health in the near term needs to engage the private sector.

This paper first makes the case for the need to engage the private sector. It then presents a critical review of the evidence around strategies and modalities for delivering those strategies that are implemented in, by or through the private sector to improve maternal health outcomes. The strength of the evidence is evaluated and recommendations are made for logical entry points where donors and governments can encourage engagement by the private sector in maternal and neonatal health (MNH). It should be noted that we primarily address maternal health outcomes and include interventions that improve neonatal health outcomes where they are included in the study design or interventional strategy *alongside* maternal outcomes. We do not review evidence that addresses neonatal outcomes alone, as this would go beyond the scope of this paper.

2.0 The need for private sector engagement in MNH

2.1 MNH morbidity and mortality epidemiology

WHO estimates that over 500,000 women die every year due to complications of pregnancy and childbirth. Most of these deaths occur around labor, delivery and the postpartum period. Over 4 million newborns die every year, the largest proportion of whom die in the first 24 hours of life. Most mothers and newborns die in the developing world – sub-Saharan Africa having the highest rates, and South Asia and sub-Saharan Africa together carrying the numerical burden of deaths (Ronsman, 2006).

The pie of maternal death has been cut several different ways: rural vs. urban, by wealth quintiles, by education of the mother, by place of death. Nothing shocking here – rural, poor, less educated women tend to die more than urban, wealthy, more educated women. But no analysis exists that looks at maternal mortality by type of provider – public vs. private sector. We know that a significant proportion of maternal deaths occur in hospital in many countries, which is mostly a reflection of the moribund state in which the mother arrives. But there is no data on what type of hospital/facility. Conversely, for the deaths that occur at home, one can assume that the vast majority happen in the presence of an unskilled private sector provider (traditional birth attendant or other attendant) or family member.

2.2 Who/what is the private sector?

For the purposes of this review, the ‘private sector’ is non-governmental, or anything that is not the public sector. This can encompass for-profit individuals, facilities and companies. It can also be not-for-profit NGOs, religious institutions and educational institutions². When it comes to maternal and neonatal health, the private sector is comprised of a vast array of providers and other stakeholders who can be found in the formal and informal sectors. Private sector actors are present at every level of the continuum of care: household, community and facility. And they are involved in a range of functions: patient care, drug and other commodities provision,

² Some economists would draw an important behavioral distinction between health workers in organizations with a profit-motive and those in non-profit NGOs. Adhering to this distinction would backfire because many of the strategies for engaging with private sector health workers build cooperative agreements between non-profit and for-profit entities. Most of this chapter is about the gray area in between purely for-profit and purely non-profit.

behavior change communication, management of health services, contract management, training and social marketing.

In terms of ‘who’ is the private sector, we consider the following players:

- Household level: traditional birth attendants, traditional healers
- Community level: community health workers, pharmacists, midwives
- Facility level: obstetricians and other physicians, midwives and other facility staff

In most developing countries, most or all of the private sector providers listed above fall outside the purview and/or capacity of the state regulatory bodies.

2.3 The need to engage the private sector

Little is known about the scope and quality of services offered by the various private sector providers in MNH. Traditional birth attendants (TBAs), pharmacists, obstetricians, and others perform a range of services that impact outcomes, but because most of the private sector is unregulated in most developing countries, data is hard to come by. Because accreditation bodies in these countries tend to be weak, it is difficult to know what steps, if any, are taken by trained obstetricians and midwives to keep their skill sets current.

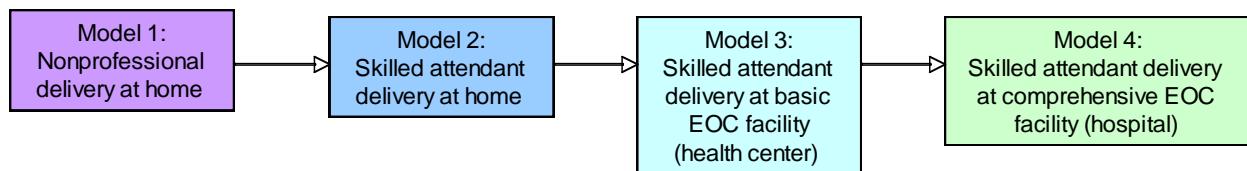
Given the volume of services that are being afforded through the private sector at homes and facilities (see figure 1), one cannot hope to reduce maternal mortality through public sector interventions alone. Furthermore, as shown in Figure 1, the poorest quintile of women overwhelmingly use private sector providers at homes and facilities. So a decision to work only with public sector facilities is a decision that differentially benefits the richest quintile over the poorest. Working only with public sector facilities violates the Harding principle by failing to “meet people where they are”.

In this chapter we will be keenly interested in private sector approaches to the management, delivery, improvement and equitability of MNH services. Because the private sector does not operate within the restrictive confines of a government bureaucracy, one may study a range of modalities that can work at different scales in different contexts.

In short, the reason to encourage donors and governments to engage with the private sector is because the private sector is where most women, especially poor women, are receiving services. This chapter is an attempt to offer a whirlwind tour of promising options and strategies for engagement. The landscape is changing rapidly, and it would be impossible to be either completely up-to-date and comprehensive. The chapter strives to view these engagement strategies within a health systems framework that is congenial to the policy levers and that can actually be implemented.

Figure 2 below depicts different models of care found at different levels of the health system, and at various stages of a country’s economic development. Most poor countries would fall squarely into one or both of the first two models while middle and high income countries would almost exclusively practice the latter two models. Health systems may progress from one model to the next or leap-frog ahead, depending on the developmental context. Moreover, because this represents an evolution in health systems reform as well as a sociocultural shift, more likely than not, most developing countries would transition over slowly with pregnant women in two or more of these boxes.

Figure 2. Progression of models of service delivery³



(From Koblinsky et al. 2003)

3.0 Assessing the evidence: service delivery strategies that have and have not worked

We critically assessed a broad range of peer-reviewed literature to identify the evidence-base on private sector service delivery strategies in maternal health. MNH indicators were not the sole focus of every relevant intervention. In many cases, programs aspired to improve health system performance in a broad range of areas including maternal care. To set boundaries, our review omitted studies that were completely generic exercises in improving the function of health systems. Each paper needed to include an overt mention of impact on maternal or neonatal health care. Not surprisingly, almost none of the studies were large enough to identify reduction of mortality as a primary outcome. Mathematical models are used in some papers to estimate the number of maternal lives saved. Most studies looked at ways to improve the process and function of the health systems relevant to maternal and neonatal health.

Box 1: Rating the evidence: our scale

Once the literature search was whittled down to only those studies addressing at least one indicator of interest, the papers were graded as follows:

5 = Randomized community or health facility-based trial; large sample size; strong statistical analysis; strong conclusions

4 = Quasi-experimental design; reasonable sample size; conclusions based on statistical analysis; or for a review article, includes meta-analysis or systematic review and provides strong data-based conclusions;

3 = Secondary data analysis and/or descriptive data analysis; sample size large or small; some statistical analysis

2 = Descriptive; small sample size; weak conclusions

1 = Faulty study design; OR no statistical analysis; OR weak conclusions

The box on the left outlines the scale against which all peer-reviewed papers have been judged for inclusion in this chapter. While this is by no means an exhaustive review of the evidence, we have sought to cover all of the key areas where important and promising contributions have been made to advance the knowledge-base on working with the private sector in low and middle income countries.

Figure 3 provides a flow chart of how abstracts were screened, and papers reviewed for final inclusion in this chapter.

Our review looks at three factors related to MNH: **1) information, 2) capacity and 3) motivation.**

- How did interventions give providers, consumers and stakeholders better information to make better decisions regarding MNH?
- How did interventions capacitate these same stakeholders to use their knowledge and resources?

³ Adapted from Koblinsky, MA, ed. *Reducing maternal mortality: Learning from Bolivia, China, Egypt, Honduras, Indonesia, Jamaica, and Zimbabwe*. Washington DC: World Bank. 2003.

- How did interventions enhance the motivation for stakeholders to pull together knowledge, and capacity to make better decisions?

With this framework in mind, the evidence is divided into a) strategies that directly address *information and capacity* and b) strategies to *motivate* change in the private sector. The information and capacity strategies typically focus on training and subsidized drugs/devices for specific types of pathophysiology like hemorrhage or infection. The *motivating* strategies restructure incentives in the system to correct systemic shortcomings.

3.1 The interventions: What do we implement through the private sector?

Efficacy trials of interventions are designed to be independent of who is promoting them – i.e., public or private sector. The question is whether a perfectly implemented intervention will work. Successor investigations known as “effectiveness studies” address whether interventions continue to work in field conditions where human factors and a variety of personal motivations can alter what actually gets done. This section will focus on those interventions and strategies whose effectiveness is robust to implementation by the private sector. We pay special attention to any evidence that interventions continue to work in resource-poor settings and with women from the poorest sectors of the population.

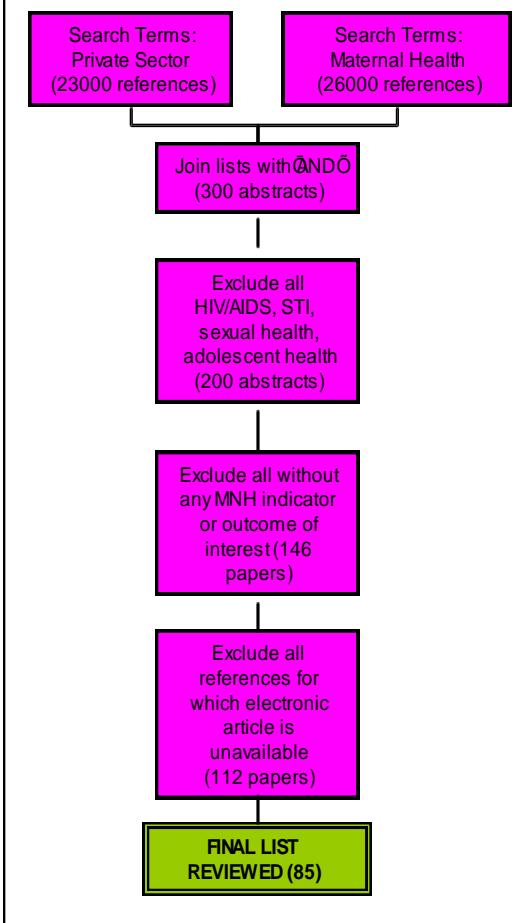
3.1.1 Stand-alone interventions

Two interventions stand out, repeatedly, as being indisputably efficacious and cost-effective in reducing maternal mortality in the private sector: family planning and safe abortion services. Essentially, if a poor country could not afford to do anything else about MNH, it would get the biggest bang for the buck and save the greatest number of women’s lives by investing in scale up of FP and/or safe abortion services. (Goldie, 2010) Again, while these programmes have been sponsored by governments through the public sector for decades, they do benefit from promotion through private sector partners who can go a long way to satisfy unmet need in these areas.

3.1.1.1 Reducing unmet need for family planning (FP)

One third of maternal deaths are estimated to be preventable if all families had access to family planning technology (Stover, 2009; Antarsh, 2004; Winikoff, 1997; Daniel, 2003). Women who die because they carry pregnancies they and their husbands did not want represent the tip of an iceberg of health system failure. Moreover, within the realm of maternal and neonatal health, FP is far and away the MNH intervention that is already most likely to be promoted by and through the private sector. Indeed, 57% of the developing world’s expenditure on FP is made

Figure 3. Flow chart of abstract/paper review



by the private sector, primarily by consumers themselves. (Hendrix, 2006) The problem of unmet need for family planning signals a market failure and should provoke a search for distortions on both the supply side and the demand side.

It seems obvious that engaging the private sector to improve the efficiency of the market for contraceptive technology is the first best solution to a very large problem. There are ideological and sociological obstacles though. In policy circles the “family planning” constituency and the “maternal mortality” constituency have failed to unite over their common ground. Maternal health advocates survey a landscape of pregnant women in need of services and family planning advocates focus on the non-pregnant. A more fundamental issue is that contraceptive technology is too often divorced from the counselling, motivating and service components that need to accompany it. Markets for health commodities are notoriously vexed by their asymmetric information problem, and FP is no exception.

There are well-meaning interventions in family planning that may worsen the function of the market. A classic distortion is crowd-out of the private sector by subsidized or “free” contraceptive commodities. Analysis by Hanson and others indicates that the potential for crowd-out depends on how robust the private sector is to begin with. (Hanson, Kumaranayake, 2001). A related problem is to engage the private sector by subsidizing the contraceptive drugs and devices provided to private providers without subsidizing the private services, i.e. counselling that needs to accompany drugs and devices. We raise this point again when we discuss the role of social franchising in family planning.

On a related note, donors should be keenly interested in engaging the private sector further in FP because 1) donor funds have been increasingly redirected to HIV/AIDS over the last two to three decades directly at the expense of FP programmes, and consequently developing country public sector funding for FP has been declining as a result of the lower availability of donor funds and a reaction to global downward trends in fertility. (Cleland, 2005; Gillespie, 2009) From a policy perspective, in order to maintain the high levels of availability of FP it becomes essential that governments can target their limited FP budgets to subsidies and services to the poor while expanding access to private sector sources of contraceptives for everyone else. (Sharma, 2005)

Box 2: Case Study: The Gold Star Clinic Program

After years of investments by major donors and the government of Egypt into expanding access to FP services and commodities, USAID funded a major program to improve quality of FP services of the Egyptian Family Planning Association. This ‘Clinical Services Improvement Project’ provided in-service training at existing and new EFPA clinics and soon became models of care – so much so that the government was spurred to follow suit by implementing a similar program for its own clinics. The government’s efforts led to the development of a quality checklist against which public and private sector FP clinics were rated. ‘Gold Star’ clinics -- or those that passed the checklist – were awarded the gold star to display and given cash rewards that were often used to reinvest in the clinics.

The success of this project started a cascade of other projects supported by USAID to enhance FP service delivery through the private sector in Egypt and arguably contributed significantly to Egypt’s increase in CPR and ultimate decline in maternal mortality. (Robinson, 2007)

Critics of expanding private sector provision of contraceptives argue that the poor are marginalised in their ability to afford and access modern methods. But evidence exists to the contrary, that the modern contraceptive prevalence rate inequality actually decreases with an expansion of private sector provision as long as the public sector continues to supply means tested low or no-cost contraceptives for the poor. (Agha, 2008)

Private sector distribution of condoms and oral contraceptives has been operating with good results in several countries for decades. In addition, administration of injectable contraceptives by community health workers has also been successfully implemented in Asia and Latin America (Phillips, 1982; Fernandez, 1997; Leon, 2001; Garcia-Flores, 1998; McCarraher, 2000). Community based workers – which may be comprised of pharmacists, health workers, volunteers, dispensers, etc. – can safely and effectively administer injectable contraceptives at the household level (Stanback, 2007). The key issues that remain to be addressed include remuneration for these services, supply chain management to prevent stock outs and adequate training.

Much of the literature on expansion of access to FP through the private sector deals with the delivery models of franchising and social marketing. These modalities will be discussed in Section 3.2.

3.1.1.2 Safe abortion services

No fewer than 70,000 maternal deaths (about 13% of the total) occur annually that are the direct consequence of obtaining an unsafe abortion to terminate an unwanted pregnancy. The vast majority of these deaths occur in developing countries where access to both family planning and safe abortion services is limited (Cohen, 2009). While the public sector has expanded comprehensive abortion care in many settings, further reach through the private sector can achieve a more rapid decrease in the number of deaths occurring from unsafe abortion.

The main approaches to the private sector would be through training of providers in use of manual vacuum aspirators (MVA), training in medical methods such as administration of misoprostol or mifepristone, and training to improve family planning counselling. Training providers can occur in a franchise setting or otherwise, while distribution of MVAs and misoprostol/mifepristone can be promoted through branding and social marketing. (See Section 3.2 for a discussion of these approaches.)

In settings such as Pakistan where CPR is low and the popular understanding of the law is murky at best, but where abortion is legal for the 'health of the mother', private sector players such as Marie Stopes International and the Family Planning Association of Pakistan (part of IPPF) provide invaluable safe (and legal) abortion services with follow-up contraceptive counselling and provision. Moreover, in a recent estimation study which found that over 900,000 induced abortions occur annually in Pakistan, the Population Council noted that a wide range of private sector providers – be they trained obstetricians, nurses, traditional healers, TBAs or other – routinely perform induced abortions (Sathar, 2007). The potential to train the skilled private providers (and possibly franchise them) and supply them (through social marketing) with MVAs and/or medical abortifacents to expand access to safe and comprehensive abortion services is immeasurable.

3.1.2 Pieces of intervention packages

The Second Edition of *Disease Control Priorities for Developing Countries* clearly outlines the full array of recommended evidenced-based packages in MNH by level and types of interventions (Graham, 2006). The following sections of this paper directly address the pieces of those packages that may be scaled up through the private sector.

3.1.2.1 Training

The evidence on training of private sector providers to improve practice of essential MNH care skills is weak, at best. Little appears in the published literature to document the results of training efforts that are not associated with social franchising (to be covered later). Two descriptive studies from Nigeria (Chukudebelu) and India/Yemen (Geyoushi) discuss some positive results of very small-scale efforts to train hospital aides, and physicians and nurses respectively. A third, well conceived intervention from Indonesia that trained both TBAs as well as facility providers in combination with community mobilization describes TBAs' increased likelihood of referring complications, even if the overall rate of facility-based delivery remained low (Alisjahbana).

The Population Council conducted a very successful pilot of the *Safe Motherhood Applied Research and Training (SMART)* project in two districts of Pakistan (one intervention site, the other the control site) which combined training of TBAs and other community members, training of public sector health facility and bureaucratic staff and extensive community mobilization. The project saw dramatic results in terms of skilled attendance, ANC and TBA referral rates. However, the required intensity of the interventions and the lack of funds to do follow-on work suggest that this model is not sustainable without external subsidies (Population Council, 2006). To emphasize this point the leading examples in which on-going health worker training programs have become well-established occur for public sector's own staff, as for example, in Indonesia's *Bidan di desa* program, precisely because government revenue can subsidize the costs of training.

The incentive structures of private sector health workers frequently inhibit the support of fee-based training programs to improve the quality of services for mid-career health workers. This makes a strategy based on one-off trainings unlikely to work without outside subsidies. Indeed, the successful Indonesia case mentioned above was part of a vast government commitment -- known as the *Bidan di desa* programme -- to deploy trained midwives in almost every village across the country with the aim of increasing skilled birth attendance. This was combined with an extensive mass media campaign and strengthened family planning programme.

Box 3: Training TBAs: What does the research say?

Ever since the WHO changed its policy on TBAs in the early 90s, discouraging the full integration of TBAs into health systems and advising against any formal delivery training, researchers have turned to answering the question of what role TBAs can play in reducing mortality. Some argue that given the presence of a large number of TBA-assisted births in some countries, the appropriate role for TBAs is to accurately and promptly refer complications to a facility in order to prevent maternal death. Sibley et al suggest that the quality of studies around this question is poor, that the process of TBA danger sign recognition and referral is complex, and that overall, the effects of training on maternal outcomes and TBA behaviour may be small at best. (Sibley, 2004) A more comprehensive meta-analysis on TBA training and pregnancy outcomes reveals similar unimpressive results on referral and EmOC utilisation patterns. (Sibley, 2004) Jokhio et al found significant reductions in perinatal mortality in Pakistan attributable to TBA training but no analogous findings for reducing maternal deaths (Jokhio, 2005). Other than studies deploying misoprostol to TBAs, there is no body of literature that suggests that simply training TBA's is associated with reductions in maternal mortality. Thus the accessibility of quality comprehensive emergency obstetric care services remains essential to reduce maternal mortality even if TBAs are able to correctly make the referrals.

Nonetheless, TBAs may be engaged to promote well-defined limited interventions at the household level that do have impact on mortality and morbidity as described elsewhere in this section. The case of misoprostol is a leading example as discussed in the text.

3.1.2.2 Community-based misoprostol administration for treatment and prevention of PPH

The efficacy of misoprostol in the treatment of postpartum haemorrhage (PPH) has been established by the obstetrics research community for settings where oxytocin is not available (WHO, 2007). Recent studies have tested the safety and efficacy of administration of misoprostol at home births after training unskilled attendants.

Extensive evidence now exists to support expansion of efforts either through governments or through NGO partners to train TBAs and other community health workers to administer misoprostol to women in labor in the home either for treatment or prevention of PPH. (Prata, 2005, Prata, 2009, Pagel, 2009) Scale up of these efforts requires the implementation of safeguards to ensure that misoprostol is not administered until the third stage of labor⁴ and to ensure against diversion of misoprostol for alternative uses⁵. Second generation studies now abound which model deaths averted (Pagel, 2009, Sutherland, 2010) and costs saved of community-based TBA training in misoprostol administration, all of which confirm a high degree of cost effectiveness (Bradley, 2006, Prata, 2009, Sutherland, 2009, Sutherland, 2010). Sutherland et al have compared the cost effectiveness of use of misoprostol by TBAs to treat PPH compared with use for prevention of PPH – both of which are cost effective against the status quo of standard management of PPH, but the former of which is much cheaper for rapid scale up in resource-poor settings. (Sutherland, 2010)

⁴ Administration prior to the third stage is associated with a higher risk of uterine rupture

⁵ Misoprostol's potential use as an abortifacient has led to black market sales of the drug. Well-intentioned distribution of misoprostol to prevent maternal hemorrhage without safeguards could trigger removal of the drug in settings where anti-abortion activists are likely exploit any evidence of misoprostol diversion.

While use of misoprostol in home births is not intended to discourage a movement towards more facility deliveries, it is a practicable, scalable, and relatively inexpensive intervention that can reduce severe, life threatening PPH. It can also buy a woman time to reach a facility for complications of PPH in settings where skilled attendance as the norm is still years away. Moreover, this intervention represents a serious way to engage with private sector TBAs – whose presence will remain a non-ignorable force in the culture of childbirth in many societies.

3.1.2.3 Promotion of Clean Delivery Kits at the community level

While many studies sing the praises of clean delivery kits (CDKs), two will be highlighted here for reference. Balsara et al have shown significant improvement of most delivery practices by TBAs and other birth attendants in Egypt after training on and provision of CDKs. Moreover, rates of ANC were found to have increased for those TBAs using the CDKs, indicating some value associated with the product for the consumer (Balsara, 2009). Darmstadt and colleagues were able to show a decrease in umbilical cord infections in the newborn with use of CDKs by TBAs and other birth attendants. (Darmstadt, 2009)

CDKs should be considered as a small but important facet of a wider program to work with community based workers to improve MNH. A few additional salient features of CDKs: a) they are easy to assemble using locally available materials, b) they are low cost and can be made sustainable as TBAs might be willing to pay a subsidized rate for them, given the potential for increasing clientele with their use, c) they can be piggy-backed on to any supply chain scheme reaching the community such as iron supplements and contraceptives, and d) they can easily be branded and marketed under social marketing programs for wider scale uptake. Donors have historically been eager to fund or at least subsidize distribution of CDKs and should continue to do so as part of a wider MNH strategy to engage the private sector.

3.1.2.5 Expanding skilled attendance at the community level

One of the most solid points of consensus around reduction of maternal mortality has been the central importance of skilled attendance at delivery with adequate obstetrician backup at a tertiary facility (Koblinsky, 2003).

In other countries, discussion has been underway about harnessing the collective skill of the private sector cadre of midwives to ameliorate the human resource crisis in skilled attendance. In South Asia, for example, thousands of trained midwives are either completely inactive, or active in the health sector doing everything BUT delivering babies. Midwives are not practicing their trade either because they are not employed by facilities to do so (they are hired more as nurses aides), or because it is difficult to start a private midwifery practice (DFID MNH consultation, 2005). Rolfe et al studied a small sample of retired midwives in Tanzania who had attempted to set up private practices, and found that most of them faced logistical and financial difficulties in doing so. (Rolfe, 2007)

In 2007, the government of Pakistan launched an ambitious initiative to train and deploy 25,000 midwives across the rural areas of the country. Of these, it was planned that a subset of graduates would be employed by the government as salaried civil servants, that another subset would be financially assisted to establish a practice and formally franchised under one of the currently operating national franchises, and that the remaining graduates would be left on their own to set up private practices with perhaps some start-up support (DFID MNH consultation, 2005). While the private sector options seem ambitious, to say the least, in a country where

female-led private enterprises are not abundant, this kind of a model, in theory, has great potential for scale up.

This is not to say that franchising of midwives has not occurred in Pakistan, and in other countries. Section 3.2 discusses the franchising modality in much greater detail.

3.1.2.6 Facility-based interventions

While we have thus far covered interventions at the household and community levels, virtually nothing is found in the peer-reviewed literature that speaks to intervention packages or pieces thereof that specifically target facility-based improvements in care. The next section of this paper outlines some supply-side financing schemes that have sought to improve quality of care at private sector facilities, but almost nothing is known about efforts by private sector providers to implement internationally recognized standards of care at the facility level as outlined in Disease Priorities for Developing Countries. Hence, we can comment on the strength of the evidence around the financing schemes but not of the clinical aspects of the delivery of care through private sector providers. This paucity of documentation around one of the most critical aspects of maternity care – i.e., private sector facility-based care – points to the need for better data collection and research studies around these issues.

3.2 Strategies to motivate: How to accommodate private sector incentives?

We now turn from knowledge and capacity based approaches to a discussion of strategies that address the motivation of the agents in the private sector. The profit motive enables the private sector to be the most powerful distributive institution in society. Engaging with the private sector can help to make its actions more responsive to the health needs of the population. Unlike the knowledge and capacity strategies discussed in section 3.1 where approaches involving training, devices, and drugs had some independence from context, there are no silver bullets to provide universal solutions to motivational issues. However, we have tried to highlight initiatives that boast the strongest evidence base for promising results for a variety of health systems contexts.

3.2.1 Demand-side motivators

3.2.1.1 Conditional cash transfers

Conditional cash transfers (CCTs) are programs that give money to a (usually) means-tested target group *conditional* on the recipients performing certain actions. CCTs have been operating for decades across the globe and have taken on more prominence as the World Bank and other agencies have increasingly promoted CCTs as part of aid and loan packages. The World Bank has been instrumental in conducting rigorous evaluations of CCTs, particularly those affiliated with the World Bank. Most of the evidence comes from large-scale, national CCT programs that have been implemented in Latin America with the primary objective of poverty alleviation. Other smaller, more targeted efforts may be found in Asia and Africa where CCTs have been employed to increase utilisation rates of particular services such as prenatal care, attended deliveries, immunization, TB-DOTS and girls school enrolment.

In many ways, CCTs are the antithesis of a laissez-faire approach to a private market for health services. CCTs target subsidies derived from governments and donors to increase household

demand for merit goods⁶. Their relevance for a chapter on engaging the private sector ensues from the large effect this demand shift can have on suppliers of the subsidized services. In many cases, the government has to involve private sector providers to boost the supply side because of inadequate public sector capacity. As an operational matter restricting CCT beneficiaries to receive services from only public or only private providers runs the risk of overburdening one sector in the short run., and possible undermining of one or both sectors in the long run. With respect to MNH, very few of the CCT evaluations directly address outcomes of interest. But enough data on proxy indicators can be gleaned from the studies to be able to make qualified recommendations about the potential for scale up of CCTs to improve MNH.

Mexico's *Oportunidades* started in 1997 and remains one of the largest, longest-running, and most documented CCT programs in the world. One of *Oportunidades*' aims has been to improve birth outcomes through better maternal nutrition and better quality and utilisation of ANC services. Several evaluations have been published from *Oportunidades*, most evaluations ask whether the government subsidy actually led to increased service uptake. Authors seldom examine effects of the CCT on the overall health system or on service quality. Typical results in the CCT literature unsurprisingly show that when people are paid to do something they will do it. In Barber et al (2008) the authors took the extra step of assessing quality in addition to utilization of ANC services impacted by *Oportunidades*. They found that providers who participated in the CCT program performed a significantly higher number of recommended ANC procedures than those from the control group. Barber et al used the number of procedures as a proxy for quality of care of ANC. They also found significant increases in utilisation of ANC services of the participating CCT providers by women who joined the CCT program. (Barber, 2008) Prior to Barber's work, Lagarde and colleagues did a systematic review of research on CCTs to study their impact on health and utilisation. Lagarde found only one study that focused on pregnant women where the findings reflected a statistically significant increase in ANC use with CCT participation. (Lagarde, 2007)

Barber et al also looked specifically at *Oportunidades*' impact on birth weight and found that not only did birth weight increase among program beneficiaries but the incidence of low birth weight (LBW) babies also significantly declined. These results can be directly attributed to the nutritional supplementation arm of the program, which all pregnant women had to use. (Barber, 2009)

Also from *Oportunidades*, Feldman et al studied the effect of participation in the CCT on family planning use and birth spacing. Using panel data from the CCT, they found small but significant positive effects on FP use and spacing at the first time point, but saw this effect disappear over time. Essentially the rural beneficiaries never achieved the same high level of CPR as the national average. (Feldman, 2009)

These findings on FP are somewhat echoed in Stecklov's review of Mexico's *Oportunidades*, as well as other CCTs in Honduras and Nicaragua and their effect on fertility. The programme in Honduras incentivized families to such an extent with child services benefits that fertility actually went up by 0.2 to 0.4 percentage points, which was an unintended consequence. The CCTs had no effect on fertility in Nicaragua and Mexico, signalling that other sociocultural dynamics are operating which have a greater bearing on contraceptive use than just financial and geographic access. (Stecklov, 2007)

⁶ A "merit good" is a commodity for which there has been a moral consensus that distribution should be necessarily according to basic needs, not by ability to pay.

Powell-Jackson et al undertook a qualitative study early on in the implementation of Nepal's Safe Delivery Incentive Programme which was a CCT specifically targeted at increasing skilled attendance at delivery. The programme had not been achieving the uptake that it had hoped so this study illuminated the key factors hindering progress including poor communication of the programme details to district level bureaucrats and families; unclear system for verifying eligibility; uncertainty of donor funding streams; and undermining of other areas of the health system. (Powell-Jackson, 2009)

Stecklov's demonstration that CCTs can lead to higher fertility is a caution about the importance of unanticipated reactions in a complex system. In the case of Mexico, the programme gives the money directly to the female head-of-household, promoting autonomy and empowerment of decision making about her own health and pregnancies. Facing lower prices to access safer deliveries and lower prices of child health, some families chose to have more children. The shift in prices can also shift consumers to brand switch between public and private sector provider leading to more competition on the basis of perceived amenities. As Barber concludes, participation as a CCT service provider can incentivize improvement of quality of care if the subsidies shift the market to compete more on quality than price. Many other lessons have been gleaned from the non-MNH related CCTs implemented throughout the world but summarizing this would move this chapter far afield. Interested readers can consult (CITE).

3.2.1.2 Vouchers

Like CCTs, voucher schemes subsidize merit goods. Voucher programmes distribute a 'coupon' that may partially or fully subsidise a service. Vouchers can be targeted to means-tested beneficiaries and targeted to quality-tested pre-specified suppliers. As with CCTs, governments may choose to contract with private sector service providers or product marketers, as well as with private sector voucher management agencies, which can be NGOs or other private firms. Three studies of voucher programmes are reviewed here – from Kenya, Cambodia and Nicaragua. While none of the papers reflect complicated analysis, the results are positive and unsurprisingly show that vouchers lead to higher use of subsidized services. Janisch et al have recently published preliminary findings from a voucher scheme – *Vouchers for Health* -- implemented by the Government of Kenya in five districts with the explicit aims of improving skilled birth attendance and contraceptive use (in addition to reducing gender-based violence). Janisch reports significant uptake and redemption of the vouchers for delivery services as well as for FP counselling and modern method adoption compared to prior to the launch of the voucher programme. Moreover, the authors attribute the initial success to a good system of eligibility verification and targeting; strong voucher management agencies in the five districts; and eager and engaged providers. The self-perceived quality of care (QOC) – while not a definitive measure of QOC – also improved as providers were able to buy new equipment and invest in their practice premises using the reimbursement money they received. Providers also attested to being motivated to improve quality as a result of the competition generated for voucher business. (Janisch, 2010)

Ir et al reviewed a voucher scheme implemented in three rural districts of Cambodia with the aim of increasing skilled attendance at birth. The authors note a 'sharp increase' in the utilisation of skilled service providers in voucher districts but because these districts also had a health equity fund scheme as well as a performance based contracting program operating, it is difficult to isolate the effect of the vouchers. (Ir, 2010)

Meuwissen and colleagues undertook a relatively small-scale evaluation of a large-scale voucher program in Nicaragua, specifically aiming to evaluate the effectiveness of the program in improving and sustaining FP service quality. Significant effects were seen for the indicators

of provision of FP product and joint (i.e. provider-client) decision-making on method adoption. (Meuwissen, 2006)

Voucher schemes spur engagement with the private sector. Inasmuch as the programme will allow vouchers to be redeemed by private providers, the scheme's sponsors have an opportunity to ensure and monitor quality of care as a minimum requirement for continued participation. Vouchers represent a financing and potentially a quality control mechanism provided the voucher programme invests in quality monitoring.

3.2.2 Microfinance

The provision of small-scale financial support to private sector providers to either establish or improve their practices has been implemented in many countries, but generally all at limited scale. Furthermore, only two published studies have been reviewed which assess the impact of microfinancing on any MNH outcomes.

Agha conducted a study of 15 private sector midwives in Uganda who received microfinancing to improve their practices. While the clients' perceived quality of care of the microfinanced clinics was not significantly different than that of the control clinics, women did continue to use the same intervention clinic at higher rates than did clients of the control clinics – signalling a higher degree of provider loyalty which is intrinsically linked to improved quality of care. (Agha, 2004)

Chee et al have evaluated microfinance support to one large medical center in Nairobi to specifically increase new acceptors of FP among its membership and to achieve a cost-effective intervention. The evaluation showed that the provider – AAR Health Services – found it less challenging to meet the terms of their financial agreement by attracting FP users from competitors rather than laboriously altering the FP utilization rates of its existing clients. New FP users primarily switched to AAR after learning of the improvements that the new financing enabled. Among the brand-switching clients, the microfinance initiative was found to be cost effective (Chee, 2003). However in the eyes of the donors who sought to transform microfinance into a pay for performance tool, the AAR experience failed to transform money into "new" FP users.

An unevaluated example of microfinancing in a different context is the provision of new clinic buildings by Greenstar Social Marketing to midwives and family health practitioners in the earthquake-struck areas of northern Pakistan. With support from the David and Lucile Packard Foundation, this initiative – which was carried out over the course of 18 months immediately following the earthquake of October 2005 – either helped to rebuild damaged clinics or construct completely new practices for providers who were formerly not active. Approximately 100 clinics were built, branded under the GoodLife family health franchise and supplied with basic MCH and FP commodities. The 'repayment' was contractually agreed to be in-kind in the form of a free clinic day every week for two years and fee caps, given the impoverished state of the population these providers were to serve. This quasi-microfinance scheme led to the provision of much needed FP and MCH services in an area where the public sector was much slower to rebuild, and NGO services were overstretched. The income generated for these providers contributed to the economic recovery of these communities. (Greenstar, 2007)

Microfinancing can be a powerful motivator to boost the supply of private sector services. The creditor-debtor relationship can offer lenders a platform to stipulate terms that can improve services for women and children. These agreements are only as good as the contracts, and

require institutional capacity to write and enforce good contracts. The power relationship could tempt the public-sector lender to overreach. For example, if the lenders in GoodLife had asked for free clinic days 2 days per week and even lower fee caps, they might have attracted borrowers who could not support their practices at such stringent terms. Perhaps the key to securing the biggest impact for women and newborns is to structure the contracts associated with the provision of microfinancing in such a way that providers are bound to perform certain pre-specified tasks – e.g., adhere to quality standards, improve the infrastructure, and/or agree to a fee structure. In the case of AAR in Kenya, the microfinancing agreement had a loophole that enabled the contractor to meet the terms of the contract in a manner that probably defeated the social objectives of the lender.

3.2.3 Insurance: Micro, Community-based, Obstetric Risk, National

Insurance coverage for health services can increase financial access to attended deliveries, by lowering the financial outlay at the point of service. Most insurance reforms and initiatives are not specific to MNH. Reviewing extensive details on health financing options is outside of our scope and readers are referred to Gottret and Schieber (2006). A general regularity is that insurance coverage really does promote higher service utilization, but developing countries face administrative challenges in getting insurance systems to function properly. More relevant to this chapter is whether health insurance affects maternal and neonatal health and whether there are viable stand-alone insurance products for MNH.

A project implemented by Abt Associates in Mali found that women who participated in the Community Based Health Insurance scheme there were more likely to attend ANC (58%) than their un-insured counterparts (35%). It is unclear from the study whether the insurance simply sorted families according to their propensity to use services or actually stimulated new utilization. Furthermore insurance was not associated with an increase in utilisation of skilled birth attendance (Franco, 2006). The MURIGAs program in Guinea was launched as a pilot in 1997 and now covers 17 districts of the country. The plan covers all women of reproductive age and guarantees ANC, transport for delivery, and facility delivery (vaginal or c-section) at a very low premium. Again, the evaluation of this promising scheme has not provided definitive results – significant increases were seen in ANC and skilled attendance in both MURIGAs and non-MURIGAs groups within the same time frame. Less than 10% of the target population has enrolled and there are serious infrastructural deficits in terms of availability of emergency obstetric care. (Ndaïye, 2008, Smith, 2005, Bennett, 2004)

An obstetric risk insurance plan – which strictly covers only pregnant women – in Mauritania has seen more promising results. The plan covers all elements of a pregnancy, childbirth (including emergencies) and postnatal care for a fixed fee of US\$22. It was launched in the capital city and has now spread to smaller cities with an increasing rate of enrolment. ANC and assisted delivery rates have seen sharp increases but the plan may be growing faster than the health system can handle. ANC facilities have been overutilized and the infrastructure of delivery facilities is deteriorating which suggest that insurance revenue is being preferentially allocated to salaries rather than capital maintenance in these areas (Renaudin, 2007, Smith, 2005, Bennett, 2004).

The spread of national insurance pools in low-income countries might be expected to improve access to MNH. However early in the spread of national insurance systems, finding evidence of better maternal health can be elusive. Ghana now has over 60% of its population enrolled in a national health insurance scheme, but there has been no accompanying rise in rates of institutional delivery there (Sulzbach, 2009). Analysis shows that people with higher SES are

more likely to enroll in the Ghanaian system. The richer people who enroll are also the same people who were already likely to have a facility delivery. However, participants are reporting lower out-of-pocket expenditures on ANC and delivery care.

3.2.4 Contracting services

One popular solution for expanding and improving health service delivery has been contracting. This has become a particularly attractive option for countries with very poor public health systems, post-conflict settings and more generally, where private providers are already plentiful or can be enticed to come in. Contracting arrangements are typically divided into two categories: 1) contracting out of services and management and 2) contracting in of technical assistance such as management and training.

Loevinsohn et al performed a critical global review of contracting of primary health care services in 2005 which, while not addressing MNH outcomes specifically, did conclude that in the contexts where it was used, contracted services were much more effective than government-run services as measured against a number of quality of care and other performance indicators. The study also suggests that contracting relationships that afford a greater degree of autonomy to the contractor yield better results than those with more government control (Loevinsohn, 2005). A general caveat is that contracting can only be examined where it is occurring and where it is occurring there is often some kind of limitation with government-run services. Thus the literature on contracting cannot be used to support universal claims of superiority of one administrative system or another.

Since Loevinsohn's 2005 review, several more studies have been undertaken to evaluate contracting for health. Those that address MNH outcomes are discussed here.

Box 4: Case Study: The Chiranjeevi Scheme

The Chiranjeevi Scheme – sponsored by the state government of Gujarat in India – represents one of the more recent and large-scale MNH private sector contracting success stories. After years of failed attempts at trying to improve the delivery facilities in the public sector to encourage women to opt for institutional deliveries, the Gujarat government decided to encourage hundreds of private sector obstetricians in the state to sign on to the Chiranjeevi Scheme to expand delivery services for poor women. The state would pay each of these doctors a fixed monthly sum for as many deliveries as they could conduct – irrespective of type (vaginal or c-section). This sum might be shifted depending on the volumes experienced by a particular doctor. The Scheme would then identify poor women (with means-testing) and give them a voucher for transport and delivery services at the facility of one of these contracted doctors. The fee received by the doctor would also include a pre-determined amount to be given to any TBA who refers and accompanies a woman to the facility. Over 850 obstetricians ended up contracting with the Government of Gujarat to participate in Chiranjeevi – a number much higher than was ever expected. (Mavalankar, 2009)

Two noteworthy reviews have been published on Chiranjeevi: one on service utilisation and one on expenditures and financial cover. Mavalankar et al have produced a largely descriptive study, which gives useful background and details of the processes involved in making the scheme work. The high rate of interest from private obstetricians can be attributed to the promise of significant additional income to their regular earnings from non-scheme deliveries. Moreover, even public sector doctors were able to benefit as they were able to provide

expanded services under the scheme. Perhaps most importantly, this analysis has determined that institutional deliveries have increased as a result of participation in the scheme. The authors have also developed a model to estimate the number of maternal and neonatal deaths averted through implementation of the scheme. They have calculated that the actual number of maternal deaths was only about 9% of the expected (in the absence of the scheme) and that only 30% of the expected neonatal deaths occurred. (Mavalankar, 2009)

Bhat et al have performed an economic analysis showing that the intervention has saved a significant amount of money (on average about US\$75) in out-of-pocket expenditures related to deliveries by each of the beneficiaries. Bhat has also shown that the targeting procedure has been effective in identifying poor people but has noted that not all poor people identified choose to use the services, indicating non-financial barriers operating as well. Qualitative interviews with clients have indicated overall satisfaction with the operation of the scheme. (Bhat, 2009)

Post-Taliban Afghanistan has seen one of the largest scale national programs to contract out primary health care services to, mainly, NGOs. Over 75% of the population lives in a district where services have been contracted. While the contracts address primary health care services, the burden of disease in Afghanistan is largely MCH-related – hence, we cover one related study here. Arur et al undertook an evaluation of three different contracting out models – all with varying degrees of autonomy for the contractor – and one model of contracting in and compared these with non-contracted government services. All of the contracting out models performed better than the other two comparators, though, like Loevinsohn, the authors were not able to show that any one contracting models was significantly more effective than the other. (Arur, 2010)

While at least nine countries have large-scale contracting of health services (serving 50,000 to 30 million people), only the Cambodia experience has afforded a randomization design where districts were randomly assigned to contracting out, contracting in or no contracting arrangements to deliver care through a mix of private and public sector facilities. Bloom et al undertook an evaluation of this project in 2006, which did include key MNH indicators. The most striking, relevant and statistically significant findings include a 36 percentage point increase in ANC visits in the contracting in districts and a 18 and 30 percentage point increase in delivery at a health facility for contracting in and contracting out districts respectively. Contracting in also showed lower out-of-pocket expenditures while the contracting out model showed no difference compared to the non-contracted districts. The results between contracting in and contracting out were mixed across indicators so the authors were unable to conclude that one was more efficient than the others. (Bloom, 2006)

Box 5: Innovation in contracting: Pay for Performance

Within the scope of service delivery and management contracts, governments have been experimenting with a characteristically for-profit sector incentive strategy -- pay for performance (or 'P4P'), a scheme of provider bonuses based on improvements in utilisation and quality of care. Basinga et al have recently published the first rigorous evaluation of a P4P scheme implemented in a low-income country – Rwanda. The authors have found statistically significant improvements in the MNH indicators of institutional delivery and quality of prenatal care which increased by 21% and 7.6% respectively over baseline in the P4P districts. P4P did not seem to effect having any ANC at all or on completing four ANC visits – not surprising given the smaller monetary payoffs for these services. The impact, if any, on neonatal health seems to be harder to tease out.

P4P not only incentivizes providers to perform better, but actually makes more resources available to invest in improving the quality of care in substantive ways. This appears to be a promising conduit for donor funds to improve MNH at scale.

The range of evidence attests to the flexibility of the contracting mechanism to adapt to local conditions. Clearly, the Chiranjeevi model can work only in locales where private providers are abundant and where the public sector is particularly weak. In contrast, Afghanistan and Cambodia both represent post-conflict contexts at different levels of recovery and capacity of the public sector. In all cases, the poor appear to have benefited in terms of increased access to critical services and, in some case, in decreased household expenditure on healthcare.

3.2.5 Franchising

Social franchising represents another type of ‘contracting’ whereby a (typically) private provider agrees to join a branded franchised chain and maintain certain quality standards and often an agreed fee structure. In exchange, the franchising agent may offer demand generation activities such as interpersonal communication and mass media advertising; training; product supply; and/or equipment. Franchise members usually agree to join and stay as active participants because of the promise of increased business.

Three studies on franchising have been reviewed here though MNH is not their primary focus. Stephenson et al performed a comparative review of three franchise experiences from Ethiopia, Pakistan and India. The authors reported mixed results for almost every indicator of interest across the three settings except for increased family planning client volumes, which were uniformly associated with franchise establishments compared with non-franchised establishments. Only in Pakistan were franchised clinics also associated with higher volumes of other reproductive health needs clients – such as for ANC, delivery, tetanus toxoid immunization. Despite large sample sizes, the study gives conflicting results for each program and for almost every indicator, sometimes with diametrically opposed effects when controlling for SES, parity, etc. This can only indicate the difficulty of recommending a ‘one size fits all’ solution to health access through franchising given the variability and sensitivity of country contexts in determining client response. (Stephenson, 2004)

Agha undertook a study of an FP franchise network in Nepal with equally unimpressive results. The authors show that while quality of care improved under franchising, uptake of reproductive health services did not improve, most likely due to the availability of a range of other RH services. Agha was able to demonstrate that uptake of curative care services overall increased under the franchise model. (Agha, 2007)

Finally, Koehlmoos et al recently executed a systematic review of franchising for health, covering over 2200 abstracts. The authors were not able to find even a single paper that qualified for evaluation under the review given the absence of strong study design (e.g., randomized community trial, interrupted time series, case control, etc.). This is a valuable study if only for the attention it draws to the acute need of competent health systems research in the area of franchising which appears to be expanding globally despite the lack of solid evidence. (Koehlmoos, 2009)

Box 6: Franchising as Regulation: The Greenstar Case

Social franchising represents a promising avenue to expand access to MNH services, especially with a view to improving quality of care, given the self-regulatory principles underlying the model. In settings like the ones reviewed above, and, indeed, across much of the developing world, government regulation of the private sector is practically non-existent, and consumers have no way of knowing whether a provider is competent or not.

In Pakistan, Greenstar Social Marketing established its Sabz Sitara (meaning 'Green Star' in Urdu) franchise network in the 1990s with the help of Population Services International to expand access to family planning counselling, products and services – particularly for methods requiring a skilled provider such as IUD insertion and sterilisation. Greenstar's monitoring and supervision staff boast nearly 100 physicians, mostly women, who first train all of the providers in FP counseling and methods (depending on qualification level) and then visit the franchise providers approximately once a quarter to do direct observation, ensure supply of commodities, reinforce infection control practices, and offer on-the-job and classroom training. Nearly two decades and significant inputs of mass media and interpersonal communications (IPC) efforts later, the Sabz Sitara logo is a nationally recognized symbol for family planning, and market surveys indicate that clients perceive high quality FP services when they see one of the franchise sign boards (Greenstar report, 2008). The franchise has now grown to include nearly 10,000 providers with a new Family Health franchise – Good Life – launched in 2006 to address maternal and child health needs (including FP) at a much broader scale. The demand generation side of the operation reaches over a million people a year through IPC. The down side to the Greenstar model is that the contracts carry no punitive measures in the event of failing performance. Also, maintenance of quality standards becomes an increasingly challenging management task as the franchise expands to cover more providers and more rural locales. The model is extremely human resource, media and, naturally, cash intensive. Sustainability of the program is doubtful in the absence of donor funds, though the private practices would carry on. A rigorous evaluation has yet to be executed of Greenstar's franchises (Discussions with Greenstar and PSI senior management, 2009).

3.2.6 Social marketing

Social marketing represents a process of design and modification of health promotion interventions. Social marketing incorporates the known theories of behaviour change combined with commercial market practices to promote concepts, products and behaviours that carry some value – in this case, public health value. Social marketing programs, in theory, should lend themselves to rigorous evaluations because one can easily keep track of sales figures for products, advertising spots, market share and brand and message recognition. While these are all process measures, outcomes may be analyzed through smaller household surveys as well as large-scale national surveys such as the DHS with tagged questions on intention to use and product preference and actual product utilisation.

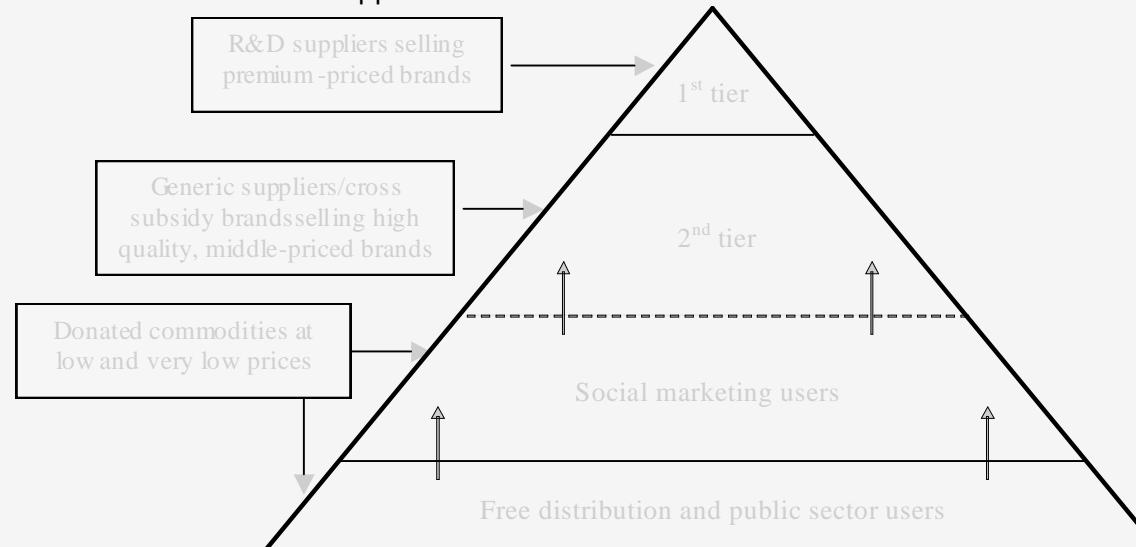
In the FP world, social marketing has unquestionably contributed to increasing CPR in various countries. Phillip Harvey notes that contraceptive social marketing (CSM) contributed over 4 million couple years of protection (CYPs) in Bangladesh and 10 million CYPs in India in 2005 alone. (Harvey, 2008) In Pakistan, social marketing has been averaging about 2.5 million CYPs per year over the last three to four years (Greenstar project report, 2009). Harvey makes the

case that the number of couples using socially marketing contraceptives has increased by 800% over the period 1985-2005 compared to the only 100% increase overall of couples using modern methods.

The large social marketing sponsors tend to be international NGOs such as Population Services International, DKT and the Futures Group. For PSI, for example, some of their products represent over 50% of market share of the particular FP method in certain countries (PSI, 2008). In Pakistan, Greenstar Social Marketing now has about 80% of the market share in condoms (Govt of Pakistan MOPW report, 2009), which is a direct reflection of how much the total market for condoms has grown over time as a result of social marketing efforts (see related text box on Total Market Approach below).

Box 7: Contraceptive Social Marketing: The Total Market Approach

Because social marketing is sponsored by not-for-profit companies who have larger societal aims, commercial marketing strategies are utilized to expand the total market for contraceptives as opposed to simply taking over the public sector or commercial sector's share of the market. This 'total market approach' seeks to bring new users into the contraceptive market through the entry product – the condom – and have them move up the method chain to increasingly more reliable methods. As a consumer's income increases and/or preferences grow more sophisticated, he/she will want to switch up to more 'higher end' products within the same method category, which will be higher priced to cross-subsidise the lower end products for a greater number of consumers (Harvey, 2008). Eventually, the social marketing product user may graduate completely to a for-profit, full priced, commercial sector product, while the poorest of the poor and those not in the cash economy will still continue to rely on the free products offered by the public sector. The diagram below shows the rationale behind the total market approach.



Social marketing, of course, can be applied to address a whole host of health – and MNH – issues. A series of papers have been published on a public-private partnership extending across several countries of Southeast Asia to produce and market iron-folic acid supplements to women of reproductive age. Unfortunately, each of the studies suffer from limitations, but they

all confirm findings of successful brand recognition and increased use of the supplements by women. The studies also attest to the potential effectiveness of forging a partnership between government and industry to produce and promote iron-folic acid. (Berger, 2005, Garcia, 2005, Kanal, 2005).

The following MNH commodities are socially marketed around the world today:

- Manual vacuum aspirators for safe abortion and post-abortion care service
- Contraceptives
- Misoprostol for medical abortion
- Misoprostol for prevention of PPH at home deliveries
- Clean delivery kits
- Iron and folic acid supplements

These commodities are viewed by some as merit goods whose distribution should be occurring independent of ability to pay. Those who share this view are willing to underwrite social marketing efforts to realize this goal. In the interstices of social marketing and government distribution channels lies the pervasive force of private markets where allocation will occur based on supply, demand, and ability to pay. In MNH, it is seldom the case that social marketing offers 100% of the supply, and the typical situation is one where both the subsidized channels and the private channels co-exist.

The primary challenges around social marketing relate to the huge budgets required for mass media advertising without which large scale uptake cannot be achieved. Once products have achieved a critical mass of brand recognition and use, it is conceivable that continued marketing of products could be sustainable from the revenue generated. However, many social marketing efforts are joined with subsidized pricing of the product at retail prices below manufacturing costs leaving no revenue for packaging, sales and marketing.

For donors who are committed to the distribution of critical MNH/FP products as merit goods, social marketing offers a useful alternative to having the government agencies support the spread of these products on their own. For high priced commodities (e.g. those still under patent), commercial sector prices are prohibitively high to achieve coverage of most of the target population. And as Barberis and Harvey have estimated from a review of 14 large family planning service delivery programs, CSM still remains the second most cost effective delivery modality, behind sterilisation. (Barberis, 1997)

4.0 Framework for accountability: Fostering an enabling environment

What can governments and donors do to create, nurture and encourage vibrant private sector participation in improving MNH in developing countries? For that matter, what mechanisms should be put into place or already exist that can take private sector agents to task and make them accountable when things go wrong – i.e., when contracts are broken, when quality is not up to snuff, when consumers have no choice? Yes, everyone accepts that regulation typically tends to be the weakest (or non-existent) link in monitoring the private sector in low-income countries. But what can governments and donors do to change this dynamic, as opposed to continue to work around it?

4.1 Regulation

The evidence reviewed above is notable for the glaring absence of one seemingly critical ingredient for ensuring the success of private sector engagement in MNH – regulation. Very little has been published in the public health literature about the successes and failures of government attempts to put regulatory frameworks into place to ensure that the private sector is delivering what it is supposed to. What has been examined – and not very critically --mostly concerns evaluations of government efforts to regulate private pharmacies and does not specifically address MNH at all. (Smith, 2009; Wijesinghe, 2007; Goodman, 2007)

4.2 Accreditation

We know that even the most poor countries have professional associations of physicians and nurses, which largely relate to the pre-service training institutions and in-service training programs (if any). These associations set standards of accreditation for all practitioners of their trade, whether private or public. But we also know from anecdotes and observation that these accreditation bodies often have little capacity to enforce licensing and maintenance of licenses, or even to update accreditation standards to reflect advancements in healthcare. In many cases, the standards of accreditation for a particular country fall woefully short of what international WHO standards might be. For example, the leadership of the National Commission on Maternal and Neonatal Health of Pakistan has often been quoted as stating that midwifery graduates in some areas of Pakistan can get their licences without having delivered a single baby. (DFID MNH consultation, 2005)

Again, as with regulation, very little critical analytical work has been published that might inform us as to how to incorporate issues around accreditation within the wider discourse on health sector reform for better MNH outcomes. One study has shed some light on how the accreditation process might be set up or greatly redesigned to secure positive results for midwifery. Smith et al of JHPIEGO have done a thorough descriptive analysis of the process of accreditation of midwifery education in post-Taliban Afghanistan. They provide a detailed account of the steps involved in establishing 19 new midwifery schools around the country and the hurdles jumped in order to pull quality of education up to the newly revamped accreditation standards. The paper champions the notion of rapid scale-up of this seemingly daunting task in a difficult post-conflict, resource-poor setting. (Smith, 2008)

4.3 Other routes of accountability

The *World Development Report 2004: Making services work for poor people* posits a framework for governance and accountability which service delivery programs in different contexts can adapt for better results in MNH.

Short route of accountability

The *WDR* stresses the role of user fees in enabling consumers to demand some accountability from providers whose services for which they pay out-of-pocket. In an ideal setting with ample competition for client business, if the services are not satisfactory in the clients' estimation, they may take their business elsewhere. This is a fairly straightforward model to continue to support to the extent that user fees are charged by and women are paying to private sector providers.

We can also envision employing the accountability mechanisms that are inherently embedded within the structure of some of the financing modalities described earlier. Essentially, wherever

some type of a ‘contract’ is in place, implying monetary value, between a provider and the sponsor of a financing scheme, some standards may be set around service quality, data reporting and client services that have a reasonable chance of being followed simply because of the financial incentive that is at stake. This represents a form of regulation that is entirely practicable given the manageable scale of interventions and the management structures that can be put in place to monitor every provider.

In the context of health insurance schemes -- be they community based, obstetric risk or national insurance programmes – as long as providers are invited to participate in the scheme based on their ability to comply with the pre-determined requirements, the sponsor of the scheme, in theory, should be able to deny participation to non-performing or non-compliant providers. The same dynamic would apply to voucher schemes and the different modalities of contracting for services. This, of course, becomes harder to implement in areas where no other providers exist, in which case, poor women would ultimately lose out if the scheme sponsor were to be punitive as oppose to offering ways to improve performance to be able to continue providing services. But in most cases the limiting factor that inhibits linking payments to performance is not the power of the providers, but the underinvestment by the payers in continuously monitoring relevant performance indicators. It takes human resources to be regularly gathering information on outcomes and processes of care. Too many donors see the acute needs of the population and mistakenly conclude that devoting resources to service monitoring diverts resources from direct service provision. Governments reach the same conclusion, but for slightly different reasons. The political process rewards direct service provision much more than it rewards service quality improvements.

Franchising systems could also, engender a level of accountability between the franchise sponsor and the franchisee. Ejection from a franchise is really a last resort. Many providers respond positively to gentle coaching, or interventions as simple as informing where their performance stands relative to their peers. Unfortunately if it comes to ejection, the reality is that most health care franchise memberships do not generate sufficient revenue streams to make ejection a credible threat. Incentives to join a health care franchise are only partly made for profit, with professional identity and recognition featuring heavily in many decisions to join.

The contracts or arrangements need to have some value to the provider. In Greenstar’s case in Pakistan, most of the providers are primary care nurses and doctors who make the bulk of their earnings doing curative care and not family planning which will always constitute a small part of their business. While the Greenstar franchisees still benefit from ‘free advertising’ and IPC, chances are their businesses would not be significantly hurt if Greenstar were to revoke franchise status and tear down their sign boards. In contrast, it is likely that Greenstar’s new family health franchise Good Life will be able to motivate franchise members to perform well using the same incentives simply because the maternal and child health business will constitute a major share of providers’ incomes and clientele. (Discussions with Greenstar and PSI senior management, 2009)

Alternatively, in the case of Chiranjeevi in Gujarat, obstetricians clearly saw the benefit of joining the scheme and following the requirements as 1) their reimbursements were tied to compliance, and 2) participation in the scheme gave them a certain level of ‘guaranteed’ business and raised their client levels overall. The incentives can also work in another way: in a place like Afghanistan where hundreds of NGOs are operating and competing for donor funds, if a contracted agency does not deliver services at adequate levels, the contract can be easily re-bid and awarded to the next agency in line on the next round of contracting.

Long route of accountability

The long route of accountability that the WDR discusses largely revolves around getting service delivery as a key agenda item on the voting ballot, and the advocacy (or ‘voice channel’) that would necessarily have to accompany this approach. In order to have this apply to improvements of MNH service delivery by the private sector, voters would have to become engaged with issues of regulation in general which is a context dependent cultural feature. Engaging grass roots community members in concern about their health facilities was once part of the primary health care movement that began in Alma Ata (CITE Taylor, 2007) This approach is making a revival as new methods for data collection on facility performance (Peters Balance Score card) and dissemination (find E-health paper) come into play.

The perennial issue is strengthening regulatory institutions and processes both in collecting data on the processes and outcomes and in acting on data. A critical insight is that regulatory work is not the exclusive province of governments. Professional associations, NGOs, as well as private hospitals and group practices all practice regulation on a small scale. Private sector agents, particularly in the service sector are realizing that they all stand to gain from solving their own lemons problem⁷. Again, from the literature and from anecdotal evidence at the country level, this seems to be an uphill task, given the significant capacity deficits in developing countries in this area. This is not to say that improved regulation should not be a long-term goal of governments, but it does make the case that donors should use the leveraging power inbuilt in service delivery contracts and the like to improve accountability of providers in the medium-term.

5.0 Entry points for donor engagement [WIDE OPEN TO REVISION]

Given the extensive review of the evidence on private sector engagement to improve MNH outcomes, what then would be the most effective conduits for donor investments to move this agenda forward? We define a few broad parameters here before proposing specific recommendations:

1. Donor investments should mostly support the aim of taking strategies that work to scale – i.e., to achieve national coverage or 100% coverage of the poor. Most NGOs cannot, by virtue of their limited capacity, achieve scale, and all other non-NGO private actors would not be able to organize themselves without the framework of a donor/government-supported scheme.
2. Donors can provide or facilitate critical inputs of technical expertise in areas where governments typically lack capacity – e.g., insurance management; establishment of financing modalities, service delivery contracts and voucher schemes; regulation; accreditation.
3. Donors should support research efforts to produce further evidence in areas related to private sector service delivery where key scientific and operational questions remain and where knowledge gaps currently exist.

5.1 Specific recommendations

⁷ The “lemons problem” refers to US slang in which a “lemon” is a used car with hidden defects. The lemons problem is the observation that a popular perception that all used car salesmen are dishonest can destroy the entire market for used cars.

Keeping in mind the parameters laid out above, specific recommendations for donor engagement to promote private sector initiatives in M NH are as follows.

5.1.1 Strategies

5.1.1.1 Family Planning

Ample evidence exists that family planning programmes must be continued to be supported as a key strategy to improve M NH outcomes, and that family planning ideally lends itself to scale up through the private sector. Giving a couple that does not want another pregnancy better access to the technology to realize this goal can stop women from dying while carrying unwanted pregnancies. The FP community and the M NH community have historically not seen their common ground on this issue. In this context, both social marketing and social franchising modalities for FP should be funded by donors whose interests are primarily maternal health. Investments can include supporting mass media, IPC and commodities – all big money items that are integral to the success of FP programmes. While governments can and should be encouraged to include at least commodities procurement for social marketing agencies within its own budget, in practice, many governments leave it to donors to fill this gap. Hence, to promote the sustainability agenda, donors should press on with the dialogue of getting at least commodities for social marketing funded by governments for social marketing while funding it themselves in the interim. Donors should ensure that governments continue to support public sector FP service delivery for the poorest of the poor so that social marketing, franchising and other private sector initiatives may target the rest of the market.

5.1.1.2 Safe abortion services

Ideally, where family planning is funded and promoted for scale up, so should safe abortion services be as the two complement each other. Moreover, integration of safe abortion with skilled FP provision is rational and cost effective as the same provider can be trained to do both (i.e., perform medical and/or surgical abortions and insert IUDs or perform surgical sterilisation). Again, providers may be brought into a family planning or family health franchise that trains and sponsors safe abortions as part of its menu of services. And social marketing companies can be funded to promote MVAs and misoprostol/mifepristone to providers.

On a related note, donors may gently push the abortion legalization agenda by sponsoring symposia, conferences, etc. to get the discourse moving and advocacy promoted with key stakeholders (including potential opponents) and provide technical assistance to get the legal frameworks in place.

5.1.1.3 Misoprostol at home deliveries for prevention of PPH

Donors may want to promote scale up of community-based misoprostol administration for prevention of PPH *where access to oxytocin does not exist*. Programs promoting misoprostol use by community-level informal and formal sector providers may be implemented and monitored by the government through its existing health facility structure and outreach staff, and/or by NGO networks.

Researchers continue to test new home-based delivery systems for oxytocin, as this is still the preferred drug for prevention of PPH. In the future auto-inject devices may bring this drug into more widespread outpatient use.

5.1.1.4 Expanding skilled birth attendance

There are two facets to expanding the availability of skilled attendance at birth: 1) at the community level and 2) at the facility level. The community level expansion of midwifery cannot possibly be effective at reducing maternal and neonatal morbidity and mortality without the existence of competent services for comprehensive emergency obstetric care at the facility level. To this end, donors should support governments to expand skilled delivery service provision through the private sector at the community level – through midwifery training programs or through obstetricians where they exist. Donor support can go specifically towards 1) training programs (pre-service and in-service), 2) financing of private practice establishment, 3) franchising and/or 4) strengthening accreditation.

As noted earlier, in terms of the facility level component, it is clear that very little is known about what is happening in private sector facilities. Donors should remedy this by supporting studies to add to the knowledge base about facilities infrastructure, human resource composition, data collection and maintenance systems, fee structures, community outreach (if any), and ties to community level birth attendants. Qualitative studies should also be fielded to understand the challenges faced by the providers in maintaining quality of care and in serving the poor, while attempts should be made to solicit clients' perceptions of and experiences with private sector service providers.

5.1.2 Motivational factors in the health system

5.1.2.1 Vouchers

Voucher schemes present a promising and innovative route for enhancing the private sector's role in improving MNH outcomes. Donor support can go towards financing these schemes through governments and/or NGO partners as well as in the provision of technical assistance to design the schemes, set up monitoring and regulation systems and conduct operations research.

5.1.2.2 Health insurance

Donor investments can be targeted to achieve scale in coverage of health insurance schemes. Especially in resource poor settings, health insurance schemes are typically not sustainable in the absence of a steady stream of donor funds as the premiums are too low to cover all services. As mentioned earlier, donor support could also be extremely useful in training managers of health insurance programs as this constitutes a technical skill set that is often not found in poor countries with no prior experience with insurance.

5.1.2.3 Contracting

Governments can benefit from donor inputs of financing and technical assistance to scale up contracting service delivery for MNH care, particularly in settings where public sector infrastructure and human resources are weak. Moreover, as mentioned earlier, contracts afford the opportunity to regulate, or at least monitor, the performance of the contracted party even in the absence of strong legal institutions.

5.2 Non-financial role for donors

In addition to the obvious role of financier and technical resource, donors can play the part of a catalyst in pressing governments to continue to make progress towards achieving MDG 5, particularly through meaningful engagement with the private sector. This has not been an easy sell in many countries where governments are very protective of their own public sector empires and cannot imagine ceding some of their turf to the private sector, much less divorcing themselves altogether from the role of service delivery. As part of their bilateral/multilateral assistance programmes, donors can keep the private sector agenda alive in the discussions around national level MNH reform. After all, financing of private sector strategies in MNH will only work to the extent that the client governments have wholeheartedly bought in to the idea that the private sector can and should be engaged to help save women's lives.

6.0 Conclusions

Private sector engagement in MNH is happening and happening on a large scale. Pregnant women are choosing private sector sources of care in developing countries across the globe every day. Given this fact, a concerted effort must be made by the safe motherhood community, by donors and by governments to engage in meaningful ways with the private sector to ensure that its contribution to MNH is effective, based on science and practicable.

The evidence base for private sector engagement in MNH is not uniformly enlightening, nor does it answer all questions of what interventions and strategies to deliver and how to deliver them. Certainly, to this end, one conclusion of this review points to the need for ongoing and more well designed research to answer the still unanswered questions.

Having said this, the evidence also points quite strongly to a number of strategies and modalities that should be advocated for and supported financially with a view to rapid scale-up. These have been outlined in the previous section. While it is widely agreed that most countries will be unable to achieve MDG 5 by the target date of 2015, including private sector strategies in the context of MNH reform *at scale* will go a long way towards reducing the number of maternal deaths in the decades to come.

Annex 1: References for background

- Hogan, MC, Foreman, KJ, Naghavi, M, Ahn SY et al. Maternal mortality for 181 countries 1980-2008: a systematic analysis of progress towards Millennium Development Goal 5. *Lancet*. 2010 (epub ahead of print).
- Ronsman, Carine and Wendy Graham. Maternal mortality: who, when, where, and why. *Lancet*. 2006. 368: 1189-200.
- Khan, KS, Wajdyla, D, Say, L, Gulmezolu, AM et al. WHO analysis of causes of maternal death: a systematic review. *Lancet*. 2006. 367: 1066-74.
- Koblinsky, MA, ed. *Reducing maternal mortality: Learning from Bolivia, China, Egypt, Honduras, Indonesia, Jamaica, and Zimbabwe*. Washington DC: World Bank. 2003.
- Guttmacher Institute. *Facts on induced abortion worldwide*. Oct 2009. New York.
- Stover, John and John Ross. How increased contraceptive use has reduced maternal mortality. *Maternal and Child Health Journal*. 2009. [epub ahead of print]
- Antarsh, L. *The case for family planning*. Report submitted to the UNFPA. 2004.
- Winikoff B and M Sullivan. Assessing the role of family planning in reducing maternal mortality. *Stud Fam Planning*. 1997. 18, 128-143.
- Daniel I and A Rivera. 2003. Honduras, 1990-1997. In MA Koblinsky (Ed.), *Reducing maternal mortality: Learning from Bolivia, China, Egypt, Honduras, Indonesia, Jamaica, and Zimbabwe*. World Bank. Human Development Network.
- Hendrix P van Dalen and Daniel Reijer. Projections of funds for population and AIDS activities, 2005-2007. The Hague. 2006.
- Phillips JF, Stinson W, Bhatia S, Rahman M, Chakraborty J. The demographic impact of the Family Planning Health Services Project in Matlab, Bangladesh. *Stud Fam Plann* 1982; 13: 131-140.
- Fernandez VH, Montufar E, Ottolenghi E. Injectable contraceptive service delivery provided by volunteer community promoters. [unpublished] Population Council, 1997.
- Leon F. Utilizing operations research solutions: a case study in Peru. [unpublished] Population Council, 2001.
- Garza-Flores J, Del Olmo AM, Fuziwara JL, et al. Introduction of Cyclofem once-a-month injectable contraceptive in Mexico. *Contraception* 1998; 58: 7-12.
- McCarraher D, Bailey P. Bolivia: Depo-Provera provision by community-based distribution workers and other CIES staff in El Alto. [Unpublished] Family Health international, 2000.
- Cohen Susan A. Facts and Consequences: Legality, Incidence and Safety of Abortion Worldwide. *Guttmacher Policy Review*. 2009, Volume 12, Number 4.

Sathar, Zeba A, Singh S, Fikree F. Estimating the incidence of abortion in Pakistan. 2007. *Studies in Family Planning*. 38(1): 11-22.

Graham, WJ, Cairns, J, Bhattacharya, S, Bullough, CHW et al. Chapter 26: Maternal and perinatal conditions. In *Disease Control Priorities for developing Countries, Second Edition*. Jamison, DT et al (eds). Washington DC: 2006.

Population Council. *Safe Motherhood Applied Research and Training (SMART) Reports*. 2006. Islamabad, Pakistan.

World Health Organization. *WHO recommendations for the prevention of postpartum haemorrhage*. 2007. Geneva.

Department for International Development. National consultation on MNH. 2005. Islamabad, Pakistan.

Greenstar Social Marketing, Pakistan. *Packard Foundation Earthquake Reconstruction Project Reports*. 2006-7. Islamabad.

Ndiaye P, Kaba S, Kourouma M, Barry AN, Barry A & Criel B (2008), MURIGA in Guinea: An experience of community health insurance focused on obstetric risks. In *Reducing financing barriers to obstetric care in low-income countries*, Richard F, Witter S & DeBrouwere V, eds.

Franco L, Simpara C, Sidibe O, Kelley A et al. (2006). *Equity Initiative in Mali: Evaluation of the Impact of Mutual Health Organizations on Utilization of High Impact Services in Bla and Sikasso Districts in Mali*. Partners for Health Reformplus, Abt Associates Inc., Bethesda, MD.

Smith KV, Sulzbach S. (2005). Community-based health insurance and access to maternal health services: evidence from three West African countries. *Social Science & Medicine* 66(12): 2460-73.

Bennett S, Kelley A. (2004). 21 questions on CBHF: an overview of community-based health financing. Partners for Health Reformplus, Abt Associates Inc., Bethesda, MD.

Renaudin P, Prual A, Vangeender-huysen C, Abdelkader MO, Vall MO, El Joud DO. (2007). Ensuring financial access to emergency obstetric care: Three years of experience with Obstetric Risk Insurance in Nouakchott, Mauritania. *International Journal of Gynecology and Obstetrics* 99: 183–190.

Sulzbach S, Chankova S, Hatt L et al. (2009). *Evaluating the Effects of the National Health Insurance Act in Ghana: Final Report*. Health Systems 20/20, Abt Associates Inc., Bethesda, MD.

Bloom E, Bhushan, I, Clingingsmith D et al. *Contracting for Health: Evidence from Cambodia*. 2006. Brookings Institute, Washington DC.

Population Services International. *Annual Health Impact Report*. 2008. Washington D.C.

Greenstar Social Marketing Pakistan. 2007. *Final report to USAID on Social Marketing Program*. Islamabad.

Discussions with Greenstar Social Marketing Pakistan and PSI senior management. Karachi, Pakistan. 2009.

Government of Pakistan Ministry of Population Welfare. *Monthly report*. August, 2009.

Annex 2: References from Evidence Review

- Agha, S. (2000). Is low income a constraint to contraceptive use among the pakistani poor? *Journal of Biosocial Science*, 32(2), 161-175.
- Agha, S., Balal, A., & Ogojo-Okello, F. (2004). The impact of a microfinance program on client perceptions of the quality of care provided by private sector midwives in uganda. *Health Services Research*, 39(6 Pt 2), 2081-2100.
- Agha, S., & Do, M. (2008). Does an expansion in private sector contraceptive supply increase inequality in modern contraceptive use? *Health Policy and Planning*, 23(6), 465-475.
- Agha, S., & Do, M. (2009). The quality of family planning services and client satisfaction in the public and private sectors in kenya. *International Journal for Quality in Health Care : Journal of the International Society for Quality in Health Care / ISQua*, 21(2), 87-96.
- Agha, S., Karim, A. M., Balal, A., & Sosler, S. (2007). The impact of a reproductive health franchise on client satisfaction in rural nepal. *Health Policy and Planning*, 22(5), 320-328.
- Alisjahbana, A., Williams, C., Dharmayanti, R., Hermawan, D., Kwast, B. E., & Koblinsky, M. (1995). An integrated village maternity service to improve referral patterns in a rural area in west-java. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, 48 Suppl, S83-94.
- Ambegaokar, M., & Lush, L. (2004). Family planning and sexual health organizations: Management lessons for health system reform. *Health Policy and Planning*, 19 Suppl 1, i22-i30.
- Anwar, I. (2009). Perceptions of quality of care for serious illness at different levels of facilities in a rural area of bangladesh. *Journal of Health, Population, and Nutrition*, 27(3), 396-405.
- Balsara, Z. P., Hussein, M. H., Winch, P. J., Gipson, R., Santosham, M., & Darmstadt, G. L. (2009). Impact of clean delivery kit use on clean delivery practices in beni suef governorate, egypt. *Journal of Perinatology : Official Journal of the California Perinatal Association*, 29(10), 673-679.
- Barber, S. L., & Gertler, P. J. (2008). The impact of mexico's conditional cash transfer programme, oportunidades, on birthweight. *Tropical Medicine & International Health : TM & IH*, 13(11), 1405-1414.
- Barber, S. L., & Gertler, P. J. (2009). Empowering women to obtain high quality care: Evidence from an evaluation of mexico's conditional cash transfer programme. *Health Policy and Planning*, 24(1), 18-25.
- Barberis, M., & Harvey, P. D. (1997). Costs of family planning programmes in fourteen developing countries by method of service delivery. *Journal of Biosocial Science*, 29(2), 219-233.

- Basinga, P., Gertler, P. J., Binagawho, A., Soucat, A. L. B., Sturdy, J. R., & Vermeersch, C. M. J. (2010). *Paying primary health care centers for performance in rwanda* (Policy Research Working Paper Series No. WPS5190). Washington DC: World Bank. doi:January 2010
- Berger, J., Thanh, H. T., Cavalli-Sforza, T., Smitasiri, S., Khan, N. C., Milani, S., et al. (2005). Community mobilization and social marketing to promote weekly iron-folic acid supplementation in women of reproductive age in vietnam: Impact on anemia and iron status. *Nutrition Reviews*, 63(12 Pt 2), S95-108.
- Bhat, R., Mavalankar, D. V., Singh, P. V., & Singh, N. (2009). Maternal healthcare financing: Gujarat's chiranjeevi scheme and its beneficiaries. *Journal of Health, Population, and Nutrition*, 27(2), 249-258.
- Bradley, S. E., Prata, N., Young-Lin, N., & Bishai, D. M. (2007). Cost-effectiveness of misoprostol to control postpartum hemorrhage in low-resource settings. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, 97(1), 52-56.
- Brugha, R., & Pritze-Aliassime, S. (2003). Promoting safe motherhood through the private sector in low- and middle-income countries. *Bulletin of the World Health Organization*, 81(8), 616-623.
- Chee, G. (2003). Using financing to motivate a for-profit health care provider to deliver family planning services: Is it a cost-effective intervention? A study of AAR health services in kenya. *The International Journal of Health Planning and Management*, 18(3), 205-220.
- Chowdhury, M. E., Ahmed, A., Kalim, N., & Koblinsky, M. (2009). Causes of maternal mortality decline in matlab, bangladesh. *Journal of Health, Population, and Nutrition*, 27(2), 108-123.
- Chukudebelu, W., Ikeme, A., Okaro, J., Egbuciem, P., Onah, B., Okeke, V., et al. (1997). Involving the private sector in improving obstetric care, anambra state, nigeria. the enugu PMM team. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, 59 Suppl 2, S107-12.
- Cleland, J., & Sinding, S. (2005). What would malthus say about AIDS in africa? *Lancet*, 366(9500), 1899-1901.
- Darmstadt, G. L., Hassan, M., Balsara, Z. P., Winch, P. J., Gipson, R., & Santosham, M. (2009). Impact of clean delivery-kit use on newborn umbilical cord and maternal puerperal infections in egypt. *Journal of Health, Population, and Nutrition*, 27(6), 746-754.
- Feldman, B. S., Zaslavsky, A. M., Ezzati, M., Peterson, K. E., & Mitchell, M. (2009). Contraceptive use, birth spacing, and autonomy: An analysis of the oportunidades program in rural mexico. *Studies in Family Planning*, 40(1), 51-62.
- Free, M. J. (2004). Achieving appropriate design and widespread use of health care technologies in the developing world. overcoming obstacles that impede the adaptation and diffusion of priority technologies for primary health care. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, 85 Suppl 1, S3-13.

- Garcia, J., Datol-Barrett, E., & Dizon, M. (2005). Industry experience in promoting weekly iron-folic acid supplementation in the philippines. *Nutrition Reviews*, 63(12 Pt 2), S146-51.
- Geyoushi, B. E., Matthews, Z., & Stones, R. W. (2003). Pathways to evidence-based reproductive healthcare in developing countries. *BJOG : An International Journal of Obstetrics and Gynaecology*, 110(5), 500-507.
- Gillespie, D., Maguire, E. S., Neuse, M., Sinding, S. W., & Speidel, J. J. (2009). International family-planning budgets in the "new US" era. *Lancet*, 373(9674), 1505-1507.
- Goldie, S. J., Sweet, S., Carvalho, N., Natchu, U. C. M., & Hu, D. (2010). Alternative strategies to reduce maternal mortality in india: A cost-effectiveness analysis. *PloS Medicine*, 7(4), e1000264.
- Goodman, C., Kachur, S. P., Abdulla, S., Bloland, P., & Mills, A. (2007). Drug shop regulation and malaria treatment in tanzania--why do shops break the rules, and does it matter? *Health Policy and Planning*, 22(6), 393-403.
- Gribble, J. N., Sharma, S., & Menotti, E. P. (2007). Family planning policies and their impacts on the poor: Peru's experience. *International Family Planning Perspectives*, 33(4), 176-181.
- Gulzar, L., & Henry, B. (2005). Interorganizational collaboration for health care between nongovernmental organizations (NGOs) in pakistan. *Social Science & Medicine* (1982), 61(9), 1930-1943.
- Harper, M. J. (1999). The promise of public/private sector collaboration in the development of new contraceptives: The experience of CICCR. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, 67 Suppl 2, S23-30.
- Harvey, P. D. (2008). Social marketing: No longer a sideshow. *Studies in Family Planning*, 39(1), 69-72.
- Houweling, T. A., Ronmans, C., Campbell, O. M., & Kunst, A. E. (2007). Huge poor-rich inequalities in maternity care: An international comparative study of maternity and child care in developing countries. *Bulletin of the World Health Organization*, 85(10), 745-754.
- Howard, D. H., & Roy, K. (2004). Private care and public health: Do vaccination and prenatal care rates differ between users of private versus public sector care in india? *Health Services Research*, 39(6 Pt 2), 2013-2026.
- Huff-Rousselle, M., & Pickering, H. (2001). Crossing the public-private sector divide with reproductive health in cambodia: Out-patient services in a local NGO and the national MCH clinic. *The International Journal of Health Planning and Management*, 16(1), 33-46.
- Hutchinson, P., Lance, P., Guilkey, D. K., Shahjahan, M., & Haque, S. (2006). Measuring the cost-effectiveness of a national health communication program in rural bangladesh. *Journal of Health Communication*, 11 Suppl 2, 91-121.

- Ir, P., Horemans, D., Souk, N., & Van Damme, W. (2010). Using targeted vouchers and health equity funds to improve access to skilled birth attendants for poor women: A case study in three rural health districts in cambodia. *BMC Pregnancy and Childbirth*, 10(1), 1.
- Janisch, C. P., Albrecht, M., Wolfschuetz, A., Kundu, F., & Klein, S. (2010). Vouchers for health: A demand side output-based aid approach to reproductive health services in kenya. *Global Public Health*, , 1-17.
- Jokhio, A. H., Winter, H. R., & Cheng, K. K. (2005). An intervention involving traditional birth attendants and perinatal and maternal mortality in pakistan. *The New England Journal of Medicine*, 352(20), 2091-2099.
- Kanal, K., Busch-Hallen, J., Cavalli-Sforza, T., Crape, B., Smitasiri, S., & Cambodian Weekly Iron-Folic Acid Program Team. (2005). Weekly iron-folic acid supplements to prevent anemia among cambodian women in three settings: Process and outcomes of social marketing and community mobilization. *Nutrition Reviews*, 63(12 Pt 2), S126-33.
- Kaufman, J., & Jing, F. (2002). Privatisation of health services and the reproductive health of rural chinese women. *Reproductive Health Matters*, 10(20), 108-116.
- Khan, M. M., & Ahmed, S. (2003). Relative efficiency of government and non-government organisations in implementing a nutrition intervention programme--a case study from bangladesh. *Public Health Nutrition*, 6(1), 19-24.
- Koehlmoos, T. P., Gazi, R., Hossain, S. S., & Zaman, K. (2009). The effect of social franchising on access to and quality of health services in low- and middle-income countries. *Cochrane Database of Systematic Reviews (Online)*, (1)(1), CD007136.
- Kruk, M. E., Galea, S., Prescott, M., & Freedman, L. P. (2007). Health care financing and utilization of maternal health services in developing countries. *Health Policy and Planning*, 22(5), 303-310.
- Lagarde, M., Haines, A., & Palmer, N. (2007). Conditional cash transfers for improving uptake of health interventions in low- and middle-income countries: A systematic review. *JAMA : The Journal of the American Medical Association*, 298(16), 1900-1910.
- Lane, S. D. (1997). Television minidramas: Social marketing and evaluation in egypt. *Medical Anthropology Quarterly*, 11(2), 164-182.
- Loevinsohn, B., & Harding, A. (2005). Buying results? contracting for health service delivery in developing countries. *Lancet*, 366(9486), 676-681.
- Maral, I., Durukan, E., Albyrak, S., Oztimur, N., Biri, A., & Bumin, M. A. (2007). Induced abortion frequency in ankara, turkey, before and after the legal regulation of induced abortion. *The European Journal of Contraception & Reproductive Health Care : The Official Journal of the European Society of Contraception*, 12(3), 279-288.

- Marek, T., Diallo, I., Ndiaye, B., & Rakotosalama, J. (1999). Successful contracting of prevention services: Fighting malnutrition in senegal and madagascar. *Health Policy and Planning*, 14(4), 382-389.
- Matijasevich, A., Santos, I. S., Silveira, M. F., Domingues, M. R., Barros, A. J., Marco, P. L., et al. (2009). Inequities in maternal postnatal visits among public and private patients: 2004 pelotas cohort study. *BMC Public Health*, 9, 335.
- Mavalankar, D., Singh, A., Patel, S. R., Desai, A., & Singh, P. V. (2009). Saving mothers and newborns through an innovative partnership with private sector obstetricians: Chiranjeevi scheme of gujarat, india. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, 107(3), 271-276.
- Meuwissen, L. E., Gorter, A. C., Kester, A. D., & Knottnerus, J. A. (2006). Does a competitive voucher program for adolescents improve the quality of reproductive health care? A simulated patient study in nicaragua. *BMC Public Health*, 6, 204.
- Nayar, K. R., & Razum, O. (2003). Health co-operatives: Review of international experiences. *Croatian Medical Journal*, 44(5), 568-575.
- O'Donnell, O. (2007). Access to health care in developing countries: Breaking down demand side barriers. *Cadernos De Saude Publica / Ministerio Da Saude, Fundacao Oswaldo Cruz, Escola Nacional De Saude Publica*, 23(12), 2820-2834.
- Oye-Adeniran, B. A., Adewole, I. F., Umoh, A. V., Oladokun, A., Gbadegesin, A., Odeyemi, K. A., et al. (2005). Sources of contraceptive commodities for users in nigeria. *PLoS Medicine*, 2(11), e306.
- Pagel, C., Lewycka, S., Colbourn, T., Mwansambo, C., Meguid, T., Chiudzu, G., et al. (2009). Estimation of potential effects of improved community-based drug provision, to augment health-facility strengthening, on maternal mortality due to post-partum haemorrhage and sepsis in sub-saharan africa: An equity-effectiveness model. *Lancet*, 374(9699), 1441-1448.
- Paulino, L. S., Angeles-Agdeppa, I., Etorma, U. M., Ramos, A. C., & Cavalli-Sforza, T. (2005). Weekly iron-folic acid supplementation to improve iron status and prevent pregnancy anemia in filipino women of reproductive age: The philippine experience through government and private partnership. *Nutrition Reviews*, 63(12 Pt 2), S109-15.
- Peters, D. H., Mirchandani, G. G., & Hansen, P. M. (2004). Strategies for engaging the private sector in sexual and reproductive health: How effective are they? *Health Policy and Planning*, 19 Suppl 1, i5-i21.
- Phillips, J. F., Hossain, M. B., & Arends-Kuenning, M. (1996). The long-term demographic role of community-based family planning in rural bangladesh. *Studies in Family Planning*, 27(4), 204-219.
- Powell-Jackson, T., Morrison, J., Tiwari, S., Neupane, B. D., & Costello, A. M. (2009). The experiences of districts in implementing a national incentive programme to promote safe delivery in nepal. *BMC Health Services Research*, 9, 97.

- Prata, N., Mbaruku, G., Campbell, M., Potts, M., & Vahidnia, F. (2005). Controlling postpartum hemorrhage after home births in tanzania. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, 90(1), 51-55.
- Prata, N., Sreenivas, A., Greig, F., Walsh, J., & Potts, M. (2010). Setting priorities for safe motherhood interventions in resource-scarce settings. *Health Policy (Amsterdam, Netherlands)*, 94(1), 1-13.
- Prata, N., Sreenivas, A., Vahidnia, F., & Potts, M. (2009). Saving maternal lives in resource-poor settings: Facing reality. *Health Policy (Amsterdam, Netherlands)*, 89(2), 131-148.
- Robinson, WC., & El-Zanaty, FH. The evolution of population policies and programs in the Arab Republic of Egypt. In *The global family planning revolution: Three decades of population policies and programs*. Robinson, WC. & Ross, JA., eds (2007). Washington, DC.
- Rolfe, B., Leshabari, S., Rutta, F., & Murray, S. F. (2008). The crisis in human resources for health care and the potential of a 'retired' workforce: Case study of the independent midwifery sector in tanzania. *Health Policy and Planning*, 23(2), 137-149.
- Schmidt, J. O., Ensor, T., Hossain, A., & Khan, S. (2010). Vouchers as demand side financing instruments for health care: A review of the bangladesh maternal voucher scheme. *Health Policy (Amsterdam, Netherlands)*,
- Schurmann, A. T., & Johnston, H. B. (2009). The group-lending model and social closure: Microcredit, exclusion, and health in bangladesh. *Journal of Health, Population, and Nutrition*, 27(4), 518-527.
- Schurmann, A. T., & Mahmud, S. (2009). Civil society, health, and social exclusion in bangladesh. *Journal of Health, Population, and Nutrition*, 27(4), 536-544.
- Sharma, S., & Dayaratna, V. (2005). Creating conditions for greater private sector participation in achieving contraceptive security. *Health Policy (Amsterdam, Netherlands)*, 71(3), 347-357.
- Sharma, S., Gribble, J. N., & Menotti, E. P. (2005). Creating options in family planning for the private sector in latin america. *Revista Panamericana De Salud Publica = Pan American Journal of Public Health*, 18(1), 37-44.
- Sharma, S., McGreevey, W., Kanjilal, B., & Hotchkiss, D. R. (2002). Reproductive and child health accounts: An application to rajasthan. *Health Policy and Planning*, 17(3), 314-321.
- Shefner-Rogers, C. L., & Sood, S. (2004). Involving husbands in safe motherhood: Effects of the SUAMI SIAGA campaign in indonesia. *Journal of Health Communication*, 9(3), 233-258.
- Sibley, L., & Ann Sipe, T. (2004). What can a meta-analysis tell us about traditional birth attendant training and pregnancy outcomes? *Midwifery*, 20(1), 51-60.

- Sibley, L., Sipe, T. A., & Koblinsky, M. (2004). Does traditional birth attendant training improve referral of women with obstetric complications: A review of the evidence. *Social Science & Medicine* (1982), 59(8), 1757-1768.
- Smith, F. (2009). Private local pharmacies in low- and middle-income countries: A review of interventions to enhance their role in public health. *Tropical Medicine & International Health : TM & IH*, 14(3), 362-372.
- Smith, J. M., Currie, S., Azfar, P., & Rahmanzai, A. J. (2008). Establishment of an accreditation system for midwifery education in afghanistan: Maintaining quality during national expansion. *Public Health*, 122(6), 558-567.
- Spieler, J. (1999). Public/private-sector collaboration in contraceptive research and development: Summary and historical perspective. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, 67 Suppl 2, S13-22.
- Stanback, J., Mbonye, A. K., & Bekiita, M. (2007). Contraceptive injections by community health workers in uganda: A nonrandomized community trial. *Bulletin of the World Health Organization*, 85(10), 768-773.
- Stanback, J., Spieler, J., Shah, I., Finger, W. R., & Expanding Access to Injectable Contraceptives Technical Consultation Participants. (2010). Community-based health workers can safely and effectively administer injectable contraceptives: Conclusions from a technical consultation. *Contraception*, 81(3), 181-184.
- Stecklov, G., Winters, P., Todd, J., & Regalia, F. (2007). Unintended effects of poverty programmes on childbearing in less developed countries: Experimental evidence from latin america. *Population Studies*, 61(2), 125-140.
- Stephenson, R., Tsui, A. O., Sulzbach, S., Bardsley, P., Bekele, G., Giday, T., et al. (2004). Franchising reproductive health services. *Health Services Research*, 39(6 Pt 2), 2053-2080.
- Stuer, F. (1998). Enhancing health programme efficiency: A cambodian case study. *Health Policy and Planning*, 13(3), 263-276.
- Sutherland, T., & Bishai, D. M. (2009). Cost-effectiveness of misoprostol and prenatal iron supplementation as maternal mortality interventions in home births in rural india. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, 104(3), 189-193.
- Sutherland, T., Meyer, C., Bishai, D. M., Geller, S., & Miller, S. (2010). Community-based distribution of misoprostol for treatment or prevention of postpartum hemorrhage: Cost-effectiveness, mortality, and morbidity reduction analysis. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, 108(3), 289-294.

- Vora, K. S., Mavalankar, D. V., Ramani, K. V., Upadhyaya, M., Sharma, B., Iyengar, S., et al. (2009). Maternal health situation in india: A case study. *Journal of Health, Population, and Nutrition*, 27(2), 184-201.
- Werner, W. J. (2009). Corporate social responsibility initiatives addressing social exclusion in bangladesh. *Journal of Health, Population, and Nutrition*, 27(4), 545-562.
- Werner, W. J. (2009). Micro-insurance in bangladesh: Risk protection for the poor? *Journal of Health, Population, and Nutrition*, 27(4), 563-573.
- Wijesinghe, P. R., Jayakody, R. L., & De A Seneviratne, R. (2007). An assessment of the compliance with good pharmacy practice in an urban and rural district in sri lanka. *Pharmacoepidemiology and Drug Safety*, 16(2), 197-206.