Rapid Response Brief

December 2018

What can research evidence tell us about:

Strategies to improve the coverage of at least four antenatal care visits in Mukono district

Key messages

Current WHO recommendations emphasise that women attend at least 8 antenatal care visits during pregnancy. However, this appears to be a huge task for low-income countries that have struggled to increase coverage of at least four antenatal care visits.

Strategies that have been evaluated to increase the coverage of at least four antenatal care visits through increasing early care (before 12-16 weeks) and retention during care include those that are meant to:

1. Reduce the barriers to access at least four ANC visits e.g. community mobilisation, home visits, financial incentives, and male partner involvement
2. Change the behaviour of pregnant women to assure continuous contact with healthcare services e.g. mass media, financial incentives, sms/phone call reminders, mobile application reminders, participatory women groups.
3. Health system strengthening: improved availability of medicines, equipment and human resources to ensure quality services e.g. capacity building, integration of services, midwife-led continuity of care and task shifting.

- Implementing strategies as one e.g. only text message reminders or using peer mentors showed a consistent positive effect on the increasing the coverage of at least four antenatal care visits compared to combining them.

However, the contexts of these studies are so different from Mukono district that it is difficult to draw a firm conclusion on their effects in similar settings. But, if one were to implement either strategy, it is important to be responsive to the social-cultural dynamics of women attending antenatal care to increase seeking care early and retention, consider costs and resources for sustainability.

Where did this Rapid Response come from?

This document was created in response to a specific question from a policy maker in Uganda in 2018.
It was prepared by the Center for Rapid Evidence Synthesis (ACRES), at the Uganda country node of the Regional East African Community Health (REACH) Policy Initiative.

+ Included:

- **Key findings** from research
- **Considerations about the relevance** of this research for health system decisions in Uganda

✕ Not included:

- Recommendations
- Detailed descriptions

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Summary

Background:

Attending more antenatal visits is associated with better maternal and neonatal outcomes, and skilled birth attendant at delivery. However, the Uganda demographic health survey 2016 estimates that 97% have attended at least one ANC visit but only 70% to have attended at least four visits and 60% delivered from health facilities. In Mukono district, although over 90% are estimated to attend one ANC visit, it is estimated that less than 40% make at least the four visits which is much less than the national average. Among the several possible contributors to this abysmal attendance, it is noted that only about 20% of pregnant women in Mukono district attend ANC during their first trimester. Furthermore, only 50% are estimated to deliver from health facilities with a skilled birth attendant. The Mukono health district team is considering options on how it could reduce the loss to follow up during ANC and increase the number of women delivering in the health facilities.

Rapid Response Question:

What implementation strategies can be used to increase coverage of the at least four antenatal care visits in Mukono district, Uganda?

Findings:

WHO has previously changed its recommendations for ANC visits from 4 to 8 to further curb the persisting maternal mortality and morbidity. However, the low- and middle-income countries (LMICs) are still struggling to register high percentages of pregnant women attending the pre-requisite 4 ANC visits.

Strategies evaluated to increase the coverage of at least four antenatal care visits through increasing early care (before 12-16 weeks) and retention during care include:

1. Reduce the barriers to access at least four ANC visits e.g. community mobilisation, home visits, financial incentives, and male partner involvement
2. Change the behaviour of pregnant women to assure continuous contact with healthcare services e.g. mass media, financial incentives, sms/phone call reminders, mobile application reminders, participatory women groups.
3. Health system strengthening: improved availability of medicines, equipment and human resources to ensure quality services e.g. capacity building, integration of services, midwife led continuity of care and task shifting.

These strategies have been evaluated as either alone or in combination but only those implemented as single strategies have been shown to have a significant positive effect on the coverage of at least four antenatal care visits. Of those implemented singly, implementation of strategies involving text message reminders or using peer mentors provided a more consistent positive effect of at least more than twice the coverage of areas where this was not implemented.

Conclusion:

The contexts are so different from Mukono district that it is difficult to draw a firm conclusion on their effects in similar settings. But if one were to implement either strategy, it is important to be responsive to the cultural social dynamics of women attending antenatal care in order to increase seeking care early and retention and consider costs and resources for sustainability.

Background

Maternal mortality ratio is an important tracer indicator for the sustainable development goals especially for low and middle income countries [1]. The United Nations Convention on human rights recognises that access to available quality sexual and reproductive health care services is a basic human right [1]. Globally, countries especially the low and middle income countries have prioritised the reduction of maternal and neonatal mortality in their development plans [1-3]. As such death of a pregnant woman often makes headlines in the low income countries. The World Health Organization (WHO) estimates that over 300,000 still die globally due to pregnancy related complications that are easily preventable[1]. The Uganda Demographic survey 2016 estimated that at the current fertility rate every 2 in 100 women will die of pregnancy related complications [2].

How this Rapid Response was prepared

After clarifying the question being asked, we searched for systematic reviews, local or national evidence from Uganda, and other relevant research. The methods used by the SURE Rapid Response Service to find, select and assess research evidence are described here: www.evipnet.org/sure/rr/methods

There are a number of simple, effective and affordable interventions such as Antenatal Care (ANC) for the reduction of maternal and newborn mortality [4-6]. Many women in low income countries have their first contact with the healthcare service delivery during ANC. Antenatal care (ANC) provides a platform for health prevention, promotion, birth preparedness, and triage and service delivery during pregnancy [3]. There is evidence that attending at least one ANC visit reduces perinatal morbidity, maternal mortality and neonatal mortality and morbidity [1, 3]. It is argued that attending more antenatal visits is associated with better maternal and neonatal outcomes, and skilled birth attendant at delivery [1, 5].

Pregnant women are expected to attend at least four (4) "focused" ANC visits [1, 3]. Each of these visits is structured to provide an opportunity for close monitoring and screening of mothers and their babies for any potential problems or conditions that might complicate the pregnancy [1]. Furthermore, the proportion of pregnant women attending at least four antenatal visits is a proxy indicator for the quality, coverage and utilisation of ANC services [3]. A number of international partners like the World Bank and WHO have used this indicator to assess the progress of countries towards sustainable development goals and utilisation of healthcare services and payment for performance models [2, 3].

The coverage of at least four ANC visits is suboptimal compared to that of at least one visit [1, 3, 7, 8]. It is estimated that over 95% of pregnant women attend at least one ANC visit but only 53% return for the fourth visit [1]. This has presented a challenge to programme managers who continuously report on the underperformance of this indicator. The worry of trying to increase the coverage of the fourth ANC visit is only compounded by the current WHO recommendation that states a pregnant woman should have at least eight (8) ANC contacts to optimise the prenatal care benefits [1]. WHO argues that requiring women to make more visits plus improving the quality of services provided will increase the coverage and utilisation of ANC services [1].

The Uganda demographic health survey 2016 estimates that 97% have attended at least one ANC visit but only 70% to have attended at least four visits and 60% delivered from health facilities [2]. In Mukono district, although over 90% are estimated to attend one ANC visit, it is estimated that less than 40% attend four visits which is much less than the national average. This is further compounded by the paucity 20% pregnant women who attend ANC during their first trimester. Furthermore, only 50% are estimated to deliver from health facilities with a skilled birth attendant. The Mukono health district team is considering options on how it could reduce the loss to follow up during ANC and increase the number of women delivering in the health facilities.

Therefore, this rapid response brief answers the question:
What implementation strategies can be used to increase coverage of at least four antenatal care visits in Mukono district, Uganda?

Summary of findings

In 2012, there was a new thinking at WHO that 10 ANC visits could not provide comparable benefits to four "goal-oriented" visits [1, 9]. Each of the four ANC visits each had a specific goal that was to be achieved at each contact with the health facility. The packages received at each visit included [1]:

- ANC Visit 1: In the first trimester at 8- 12 weeks. Activities include determining women's medical and obstetric history, performing basic examinations (such as pulse and respiratory rates, blood pressure, temperature etc.), determining gestational period beyond the first trimester, HIV counselling among others.
- ANC Visit 2: In the second trimester at 24-26 weeks. Activities include addressing any complaints and concerns pertaining to the pregnancy, urine analysis, reviewing and potentially modifying individualised care plan, and give advice on any sources of social and financial support in the community.
- ANC Visit 3: In the third trimester at 32 weeks. Activities include directing attention to signs of multiple pregnancies, reviewing birth preparedness and complication readiness, urinalysis, and advise on family planning.
- ANC Visit 4: In the third trimester at 36-38 weeks. Activities include confirming fetal life and presentation, individualising birth planning, and providing women with advice on signs of normal labour and pregnancy-related emergencies.

Despite encouraging countries to ensure that pregnant women attend to all the four ANC visits, WHO has now changed the recommendations to at least 8 ANC visits largely because of the slow progress in reducing pregnancy related maternal mortality and morbidity[10]. However, increasing the ANC visits will likely be stymied by the already existing poor coverage and utilisation of antenatal care in developing countries.

There are a number of barriers that pregnant women face in accessing ANC services. A systematic review including 21 qualitative studies from 15 countries summarised the reasons for attending ANC late or not returning as perception of pregnancy as a social and psychological state with pregnancy considered as a healthy state so there is no need to see a health professional if there is nothing wrong, uncertainty about when someone is pregnant, role of social cultural leaders and family in seeking ANC services, costs involved whether direct like paying for prescription drugs or indirect like time lost for work, lack of equipment and drugs at facilities, show of empathy during care by the health professionals [8].

There a number of strategies that can be considered to increase coverage of at least four ANC visits and these can be categorised as a two pronged approaches:

- Early access to ANC services: This is because it is argued that women who attend ANC as early as their first trimester (before 12 or 16 weeks) are more likely to have at least four contact visits
- Ensuring adherence to the ANC recommendations: This ensures that there is minimal loss to follow up of pregnant women once they are enrolled in ANC programme at a health facility.

These strategies for the above approaches are to [11-16]:

1. Reduce the barriers to access at least four ANC visits e.g. community mobilisation, home visits, financial incentives, and male partner involvement
2. Change the behaviour of pregnant women to assure continuous contact with healthcare services e.g. mass media, financial incentives, sms/phone call reminders, mobile application reminders, participatory women groups.
3. Health system strengthening: improved availability of medicines, equipment and human resources to ensure quality services e.g. capacity building, integration of services, midwife led continuity of care and task shifting.

The effect of these interventions on the coverage of at least four ANC visits have been assessed in a systematic review as either one intervention or combination of interventions compared to no or a single intervention respectively. This could imply that implementing either of the interventions above can give a range of similar effects on the coverage of at least four ANC visits

a) **One intervention versus no intervention** [11]:

Implementing one of the interventions has been shown to marginally improve the ANC coverage by at least **11%** odds ratio (OR) 1.11, 95% confidence interval (CI) 1.01 to 1.22; studies = 10; 45,022 women. A separate

systematic review evaluating the effect of text messages indicated that there was a consistent positive on focused antenatal care when text messages were used to remind women to return for antenatal care [16]. However, the studies differed greatly in context and intervention and the systematic review was of moderate quality because of the indirectness of the results. All the studies included had coverage of at least four ANC visits as a secondary outcome. Of the studies included a consistent positive effect was seen in studies assessing the effect of automated text messages and marginally when using peer mentors. Most of these studies were in settings different from Mukono in terms of culture, socioeconomic and demographic characteristics like Mexico, Honduras, United Kingdom and Bangladesh.

Study ID	**Country and setting**	**Study design**	**intervention**	**Effect**	**Assumptions and Applicability**	**Context**
Mori et al 2015 [11]	Mongolia, Bulgan	Cluster Randomised Controlled Trials	Maternal and child health handbooks were distributed during pregnancy. The MCH handbook logged maternal health and personal information, pregnancy, delivery and postpartum health and weight, dental health, parenting classes, child developmental milestones from 0-6 years, immunisation records and height and weight charts for children. The control group received standard antenatal care	**25% higher coverage** of at least four ANC visits. Not statistically significant **OR 1.25 95% CI (0.31,5.00)**	Uganda already provides a child health handbook (Mama Passport). Even if this were to be considered, one would have to assume that there the records are properly and consistently taken, kept and always available when needed. These books have been attributed to abuse from the health workers if a pregnant woman comes to a facility without it.	The settings and culture of Mongolia are very different from Mukono district. However there are similarities in the financial structure of the two regions both being LMICs.
Lund et al 2012 [11]	Zanzibar, Ungujar, Tanzania; government health	Cluster Randomised Controlled Trials	This included automated text messages service health information and appointment reminders,	**2.39 times higher coverage** of at	The assumptions are that; 1) the women have phones	The study was in a similar setting as Uganda financially.

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and Applicability	Context
	facilities		mobile phone vouchers to enable women to contact health services. The content of messages depended upon gestational age. Women received 2 messages/month < 36 weeks and then 2 per week. Only women with registered phone numbers received text messages; women without received only vouchers with mobile credit	least four ANC visits. Statistically significant **OR 2.39 95% CI (1.031,5.55)**	and they can be reached as and when necessary. 2) the women will use the vouchers responsibly and reach the health facility when needed. 3) The health information is packaged and in language that is accessible to the women	However, there are differences in culture, norms and values compared to Mukono district. Zanzibar is an Island with Islam the predominant faith and strictly followed. The study was done in government health facilities which compares to the context of mukono.
Richter et al 2004 [11]	South Africa, Kwa-Zulu Natal	Cluster Randomised Controlled trials	This was known as an enhanced intervention (EI) that consisted of an initial assessment and 4 antenatal and 4 postnatal small group sessions led by Peer Mentors. The intervention targeted 5 domains: HIV prevention, infant health, healthcare and health monitoring, mental health and parenting tasks. control arm received standard care.	**2.17 times higher coverage** of at least four ANC visits. Marginally statistically significant **OR 2.17 95% CI (0.96,4.88)**	This can only be extrapolated to Mukono with the assumption that: 1) staff (peer mentors) are available and 2) well facilitated to run the group sessions. 3) Supervision is properly and consistently conducted	The financial settings are similar to Mukono, however with differences in culture and administrative structures of the health system.

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and Applicability	Context
Morris et al 2004 [11]	Honduras, municipalities	Cluster Randomised controlled trials	Group 1 included a household-level package consisted of monetary vouchers paid to women in households whose residence are in the beneficiary municipalities had been recorded in a special census done in mid-2000. Group 2: financial resources to local health teams combined with a community based nutrition intervention involving the training of lay nutrition promoters. Group 3 included both packages and in the last group neither package was received	**21% higher coverage** of at least four ANC visits. Not statistically significant **OR 1.21 95% CI (0.77,1.90)**	The main assumptions are that: 1) adequate resources are available for this program in a long term (both human and operating resources). 2) There is well maintained register of all eligible women in the district to be considered for the incentives. 3) The vouchers will be used responsibly and appropriately.	This model is more project like and would be hard to sustain at a district level without continuous external support.
Walker et al 2013 [11]	Mexico, states of Oaxaca and Guerrero	Cluster Randomised controlled trials	the addition of an obstetric nurse or professional midwife to the physician-based team in rural health clinics	**80% higher coverage** of at least four ANC visits. It is statistically significant **OR 1.80 95% CI (1.18,2.79)**	The assumption here is that 1) the patient population is manageable for a small number of physician based team. 2) Mid wives lead the obstetric care of women at lower health	1) Obstetric care in Uganda is led by a midwife and clinical officer at Health center IIIs. 2) The doctor to patient ratio in facilities is too low and may not be

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and Applicability	Context
					facilities.	feasible.
Fottrel et al 2013	Bangladesh,, districts with an active Diabetic Association of Bangladesh's offices	Cluster Randomised controlled trials	Women's participatory groups vs no action; effect on monthly learning and action cycle focus on maternal and child health. The study focused on the incorporation of traditional birth attendants (TBAs) in ANC services delivery.	**37% higher coverage** of at least four ANC visits. Not statistically significant **OR 1.37 95% CI (0.99,1.90)**	Availability and willingness of the TBAs to participate in the mainstream ANC activities. The women will be active and consistent in the groups. The message used in the groups will be appropriate and consistent at all occassions	The study used TBAs to perform ANC activities. This would require targeting TBAs and incorporating them into the mainstream ANC activities. The health system in Uganda does not support TBAs
Kenyon et al 2012[11]	United Kingdom, 3 primary health care trusts in Birmingham	Randomised controlled trials	Community volunteers provided support, including home visits, organised antenatal care and advised on lifestyle changes, emotional support and health related support. They also helped with financial, legal or benefit problems and with housing compared to standard ANC and post	**No difference** in the coverage of at least four ANC visits. **OR 1.03 95% CI (0.82,1.29)**	Assumptions are; 1) there are community volunteers who are willing 2) there are individuals to train the community volunteers and 3) the health facilities are well equipped and facilitated to perform the ANC activities.	United Kingdom is a high income country, with higher numbers of literate people and different culture from Mukono.

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and Applicability	Context
			natal care			
Kirkwood et al 2013 [11]	Ghana, residential zones	Cluster Randomised controlled trials	Training of community based surveillance volunteers to identity pregnant women in the community compared to no intervention	**13% higher coverage** of at least four ANC visits. Not statistically significant **OR 1.13 95% CI (0.97,1.32)**	Assumptions are; 1) there are community volunteers who are willing 2) there are individuals to train the community volunteers and 3) the health facilities are well equipped and facilitated to perform the ANC activities. 4) The volunteers are accepted in the communities and in homes. 5) There is more sensitive method of identifying pregnant women without invasion of privacy and the volunteers are well trained in applying it.	Ghana is similar to Uganda in many contexts.
Basinga et al 2011 [11]	Rwanda, districts without pre-	Cluster Randomised	In one group Pay for performance schemes	**No difference in coverage** of	This is possible as a supplement to	The Ministry of Health is currently

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and Applicability	Context
	existing pay for performance (P4P) managed by non-governmental organisations	Controlled trials	were paid directly to health facilities to use at their discretion to supplement primary health center's input based budgets compared to traditional input based financing	at least four ANC visits. **OR 1.01 95% CI (0.94,1.08)**	already existing health system financing. 2) There is proper, consistent and accurate record keeping at the health facilities	phasing into pay for performance schemes for health facilities.
Barber et al 2008 [11]	Mexico, rural	Cluster Randomised controlled trials	Provided conditional cash transfer every 2 months for specific positive health behaviour. Specifically, pregnant women had to attend antenatal care at least 5 times. This was compared to the traditional ANC strartegy.	No difference in coverage of at least four ANC visits. OR 1.02 95% CI (0.97,1.08)	This is an applicable strategy provided the health centres are well equipped and facilitated. Furthermore, there should be funds to facilitate the cash transfers.	Rural Mexico is similar to Mukono district in terms of health service delivery and financial status, therefore the results can extended to the Mukono setting.

b) A combination of interventions versus no intervention

Implementing a combination of the interventions had a 48% difference in the ANC coverage of at least four visits when compared to no intervention but this was not consistent across the studies included in the review (average OR 1.48, 95% CI 0.99 to 2.21; studies = 6; 7840 women) [11]. The studies included had high risk of bias and also had substantial differences within and between them. The systematic review was judged to be of moderate quality because of the indirectness of the interventions to the number of ANC visits made by pregnant women. All the studies included had coverage of at least four ANC visits as a secondary outcome. It might be difficult to draw comparison in the studies that undertook such an implementation strategy because of the disparate settings when compared to Mukono district such as Detroit, USA, Pakistan and South Africa.

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and applicability	Context
Bhutta et al 2011 [11]	Pakistan, Hala and Matriari sub districts	Cluster randomised trials	The intervention package was delivered by trained LHWs through group sessions consisted of promotion of ANC and maternal health education, use of clean delivery kits, facility births, immediate newborn care, identification of danger signs, and promotion of care seeking	51% higher coverage of at least four ANC visits. Not statistically significant OR 1.51 95% CI (0.50,4.59)		
Laken et al 1995 [11]	USA, Detroit	Randomised controlled trials	In the first group, women received gift certificates for each prenatal appointment, for the second group, women received gift certificates and a chance to win in a $100 raffle and the last group did not receive any financial incentive	No difference in coverage of at least four ANC visits. OR 1.05 95% CI (0.02,53.71)	This is an applicable strategy provided the health centres are well equipped and facilitated. Furthermore, there should be funds to facilitate the cash transfers.	USA is a high-income country and thus different in context with Mukono.
Le Roux et al 2013 [11]	South Africa	Cluster Randomised controlled trials	home visits by CHWs once during pregnancy in addition to standard care	No difference in coverage of at least four ANC visits. OR 1.00 95% CI (0.74,1.35)	The assumptions are; 1) the CHWs are available to make the home visits, 2) the CHWs will be received ny the pregnant women in the community 3)	South Africa has a different health care delivery and givernanace structure as compared to Uganda. Hiwever, there are similarities in the

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and applicability	Context
					the health facilities are well equipped and facilitated. This is applicable since it does not involve outsourcing, and there are already existing CHWs in Mukono district. However, there is a need to train the CHWs on what information to deliver and how to package it to the pregnant women.	setting of the population in terms of finances and population structure. These results can be extrapolated to Mukono district.
Morris et al 2004 [11]	Honduras, municipalities	Cluster Randomised controlled trials	1 (20 clusters): a household-level package consisted of monetary vouchers paid to women in households whose residence in the beneficiary municipalities had been recorded in a special census done in mid-2000 3 (20 clusters): financial resources to local health teams combined with a community based	39% higher coverage of at least four ANC visits. Not statistically significant OR 1.39 95% CI (0.68,2.81)	assumption is that the health facilities are adequately facilitated (both human and operating resources). There is well maintained register of all eligible women	This model is more project like and would be hard to sustain at a district level without continuous external support.

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and applicability	Context
			nutrition intervention involving the training of lay nutrition promoters 2 (10 clusters): both packages. **Arm 2** (20 clusters): neither package		in the district to be considered for the incentives.	
Wahlstrom et al 2011 [11]	Laos, rural	Cluster randomised controlled trials	10 community awareness-raising meetings over 6 months; provision of basic ANC equipment to health centres; a refresher course for healthcare providers	2.49 times higher coverage of at least four ANC visits. Statistically significant OR 2.49 95% CI (1.49,4.08). However effect reduced after 2 years of the implementation	This is applicable in Mukono district. Main assumption is that individuals will turn uo for the community awareness-raising meetings	Laos is different from Mukono and thus the results observed in this study might not hold true if the strategy was implemented in Mukono district.
Wu et al 2011 [11]	Eastern China, Anhui province	Cluster randomised controlled trials	The intervention had 3 health system components: training of community midwives, a public awareness campaign with posters and leaflets about prenatal care, and provision of equipment to health centres	69% higher coverage of at least four ANC visits. Not statistically significant OR 1.69 95% CI (0.70,4.11)	There are no community midwives in Mukono district, thus using this strategy would require the recruitment of community midwives. The assumptions are 1) the community members will read	This cannot be contextualised to Mukono district as result of the differences in the financial, social and political differences between Uganda ad Eastern China.

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and applicability	Context
					the posters and the leaflets 2) Community midwives are available and willing to train	

c) Combined interventions compared to one intervention

When a combination of interventions was compared to one intervention, there was no difference in the coverage of at least four ANC coverage visits (average OR 0.99, 95% CI 0.70 to 1.40; studies =two. These two studies that included a community education intervention and facility strengthening component for health systems in Bangladesh and Uganda were substantially different and had high risk of bias. The systematic review was of moderate quality because of the indirectness in the outcome. All the studies included had coverage of at least four ANC visits as a secondary outcome.

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and applicability	Context
Azad et al 2010 [11]	Bangladesh	Cluster Randomised controlled trials	a facilitator convened groups of pregnant women every month to support participatory action and learning for women, and to develop and implement strategies to address maternal and neonatal health problems. Some of the clusters became TBA intervention clusters and 4 became controls. 482 TBAs were given basic training in undertaking clean and safe deliveries, providing safe	20% lower coverage of at least four ANC visits. Not statistically significant OR 0.80 95% CI (0.55, 1.17)	Assumptions are; 1) availability of women willing to be trained to become TBAs, 2) the community will accept the women trained as TBAs to peform their their tasks 3) the trained women actually perform their roles as TBAs in the community. This is practical in Mukono provided there is sufficient sensitisation of the community to the presence of the trained TBAs and their roles in the community.	Bangladesh is different from Uganda in most aspects of their settings and thus these results cannot be guaranteed to be replicated in Mukono district.

Study ID	Country and setting	Study design	intervention	Effect	Assumptions and applicability	Context
			delivery kits, recognising danger signs in mothers and infants, making emergency preparedness plans, accompanying women to facilities, and undertaking mouth-to-mouth resuscitation. They also received additional training in neonatal resuscitation with bag valve mask			
Waiswa et al 2015 [11]	Uganda, Uganda Newborn study	Cluster randomised controlled trials	CHWs made 5 home visits (2 prenatal and 3 postnatal) with extra visits for sick or small newborns. Health facility strengthening in all facilities (both arms) to improve quality of care. Facility strengthening included: "6-day in-service training, provision of a once-off catalytic supply of equipment and medicines, as well as collaboration with the district health team to continuously improve the quality of care provided to mothers and newborns"	15% higher coverage of at least four ANC visits. Not statistically significant OR 1.15 95% CI (0.91,1.45)	The main assumption os the presence of CHWs willing to participate in the home visits that are aiming at improving ANC activities. The second assumption is that these CHWs wil be allowed in the homes of the pregnant women. This is practical as there is no need of hiring new human resource as there already exists CHWs in Mukono district. All that is needed is to train them.	The study being done in Uganda is most likely to give the same results if the strategy was deployed in Mukono district.

d) Comparing a combination of different interventions

In this assessment, one trial was included. This trial was conducted in Nepal and it compared women in addition to standard ANC, who attended education sessions alone in one group, in the second group women attended education sessions with their husbands and in the last group, the women received health educational flyers. There were no group differences in women's attendance of at least four antenatal care visits (average OR 0.77, 95% CI 0.41 to 1.43). This study had coverage of at least four ANC visits as a secondary outcome.

Other reviews have evaluated several methods that have been used to increase the demand of the ANC services such as financial incentives and mass media [14, 15]. Financial incentives include the following categories:

- Conditional cash payments: Attendance of antenatal care was the conditionality for payments. This had a 10 percentage point increase estimated in the uptake of ANC services [15]
- Unconditional cash payments: Payments were distributed to women in districts with highest rates of child mortality and morbidity after a given period of time. No evidence of impact of the intervention[15]
- Use of vouchers: These payments were made retrospectively and on a small, defined number of occasions. Increase in mean number of antenatal visits and increase in number of women with 3 or more antenatal visits. Results suggest a very limited (but possibly positive) effect of intervention.[15]
- Short term cash payments to offset costs: Vouchers targeted to poor women, distributed free of charge and entitled the holder to 3 ANC, child birth and 1 PNC services. Others included caesarean section, transport costs and a gift box to the mother. Also encompassed payments to health care providers for care. Increase in number of women attending to 3 or ANC visits in all the studies. Overall 5 percentage point increase were estimated in the uptake of ANC services [15]

Mass media has been shown to have a positive effect in improving utilisation of health services including antenatal care [14]. Therefore, using mass media for health promotion and education messages about the importance of antenatal care might be helpful in increasing early care and retention during care.

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SURE Rapid Responses address the needs of policymakers and managers for research evidence that has been appraised and contextualised in a matter of hours or days, if it is going to be of value to them. The Responses address questions about arrangements for organising, financing and governing health systems, and strategies for implementing changes.

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Glossary

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None known.

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