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Abbreviations:

PPC: Postpartum care

LMIC: Low and Middle Income Countries

MOMI: Missed Opportunities in Maternal and Infant Health

CHW: Community health worker

HFW: Health facility worker

CMO: Context-Mechanism-Outcome

IPT: Initial programme theory

MRT: Middle-range theory

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Abstract

Postpartum care (PPC) has remained relatively neglected in many interventions designed to improve maternal and neonatal health in sub-Saharan Africa. The Missed Opportunities in Maternal and Infant Health (MOMI) project developed and implemented a context-specific package of health-system strengthening and demand generation in four African countries, aiming to improve access and quality of postpartum care.

A realist evaluation was conducted to enable nuanced understanding of the influence of different contextual factors on both the implementation and impacts of the interventions. Mixed methods were used to collect data and test hypothesised context-mechanism-outcome configurations: 16 case studies (including interviews and observations), monitoring data, document analysis and participatory evaluation workshops. After evaluation in individual

countries, a cross-country analysis was conducted that led to the development of four middle-range theories.

Community health workers (CHWs) were key assets in shifting demand for PPC by 'bridging' communities and facilities. Because they were chosen from the community they served, they gained trust from the community and an intrinsic sense of responsibility. Furthermore, if a critical mass of women seek postpartum healthcare as a result of the CHWs bridging function, a 'buzz' for change is created, leading eventually to the acceptability and perceived value of attending for PPC that outweighs the costs of attending the health facility. On the supply side, rigid vertical hierarchies and defined roles for health facility workers (HFWs) impede integration of maternal and infant health services. Additionally, HFWs fear being judged negatively which overrides the self-efficacy that could potentially be gained from PPC training. Instead the main driver of HFWs' motivation to provide comprehensive PPC is dependent on accountability systems for delivering PPC created by other programmes.

The realist evaluation offers insights into some of the contextual factors that can be pivotal in enabling the community and service level interventions to be effective.

Keywords:

Postpartum care; maternal and infant health; realist evaluation; sub-Saharan Africa

Summary Box

- *What is already known about this topic?*

- Postpartum care (PPC) has remained relatively neglected in many interventions designed to improve maternal and neonatal health in Sub-Saharan Africa.

- Realist methods offer the opportunity for studying complexity of health systems and enhance understanding within the context of postpartum care, but are relatively uncharted territory methodologically for evaluating health system change in Low-and-Middle Income Country (LMIC) settings.

- *What are the new findings?*

- Influences on demand for PPC are related to two major mechanisms of social capital: bridging social capital enacted through the relationship between women and community health workers; and the development of bonding social capital or a "buzz".

- Healthcare workers' motivation to provide PPC is not driven by the training received but by accountability systems for delivering PPC in the wider policy context.

- Strict vertical hierarchies and defined roles for healthcare workers pose barriers to integration of maternal and infant services.

- *How might this influence practice*

- Community health worker interventions can create demand for care in the postpartum period.

- Need to tie quality indicators into routine reporting structures and supervision models to develop accountability for quality of care.

- Greater engagement and participation of the health systems leadership is necessary to bring about the changes needed for quality improvement and integration of maternal and infant services.

Introduction

An estimated 29.4% of 0.29 million maternal deaths occur after delivery on the birth day, and a further 33.5% occur during the rest of the first month after birth; these percentages are 18.5% and 33.3% for the combined total of 5.5 million neonatal deaths and stillbirths(1). Yet, postpartum care (PPC) has remained relatively neglected in many interventions designed to improve maternal and neonatal health in Sub-Saharan Africa(2,3). The Missed Opportunities in Maternal and Infant Health (MOMI) project ran from February 2011 until January 2016 in four African countries: Burkina Faso, Kenya, Malawi and Mozambique. The primary objective of the study was to improve maternal and newborn health through a focus on the postpartum period, adopting context-specific strategies to strengthen healthcare delivery and services at both facility and community level(4).

Using participatory methods in each study site – Kaya district in Burkina Faso, Kwale county in Kenya, Ntchisi district in Malawi and Chiúta district in Mozambique – a package of postpartum interventions (Table 1) was designed and developed, tailored to the implementation gaps identified from an initial situation analysis and country-specific participatory causal analysis workshops(5).

Table 1 Package of postpartum interventions in each study district*

Study site	Selected interventions
Burkina Faso – Kaya district	1. Enhance the delivery of immediate PPC in health facilities with focus on the detection and management of postpartum haemorrhage and sepsis and postpartum family planning (FP)

	2. Integration of maternal and infant services in the postpartum period
	3. Support mother and infant during the postpartum period through female community health workers (CHWs) conducting home visits, providing individual counselling and group health education on PPC (including FP) and by referring women to the health facility for scheduled PPC consultations and in case of complications
Kenya – Kwale County	1. Strengthening immediate PPC for mother and newborn by upgrading knowledge and skills of facility and community health workers on detection and management of common maternal and neonatal complications, promotion of exclusive breastfeeding, counselling and provision of FP and by providing postpartum home visits (conducted by CHWs)
	2. Increase knowledge on and uptake of postpartum FP during the first year after delivery using the dialogue model at community and facility level
Malawi – Ntchisi district	1. Strengthening clinical management of PPC (using clinical mentorship and quality care reviews)
	2. Increase utilisation of postpartum FP by providing counselling at health facility and community levels
	3. Strengthening community PPC management through home visits conducted by CHWs and through the establishment and use of men's, women's and youth groups
Mozambique – Chiúta district	1. Upgrade mother and newborn postpartum risk assessment and management at facility and community level through the use of checklists
	2. Scale up access to and use of postpartum FP through making immediate postpartum intrauterine device available
	3. Improve access to and use of maternal PPC and services by integrating maternal PPC in child clinics and outreach activities

*These were all assessed (to greater or lesser extent dependent on the data available) as part of the realist evaluation reported in this paper

MOMI's initial programme theory postulates that by strengthening PPC services, integrating maternal and child health services to optimise PPC delivery and increasing awareness of and demand for PPC services, processes for uptake and delivery of PPC would improve, thus enhancing the frequency and quality of PPC, leading eventually to improved maternal and infant outcomes. Evidence points to what is needed to influence the MOMI objectives of improving the uptake, and the frequency and quality of delivery of postpartum care but less is understood about for whom, how and under what circumstances interventions

are likely to work. A tailored design approach was chosen to take account of context in maximising intervention effectiveness. A realist method of evaluation was undertaken in order to answer the following questions: which contexts: 1) influence women's decisions to attend and benefit from the postpartum care that is on offer and 2) enable the frequency and quality of delivery of evidence-based PPC to be maximised; and which mechanisms lead to these outcomes. Country-specific findings as well as findings about the sustainability and replicability of the interventions, were described elsewhere(6). Here, the findings are presented across all four countries and the objective of our realist evaluation is to develop theory about how the interventions are thought to work.

Methods

Evaluation design & Data collection

The overall evaluation of the MOMI project involved quantitative impact evaluation, measurement of implementation strength, and analysis of programme theory using realist evaluation(6). In this paper we focus on the realist evaluation. We undertook a realist evaluation(7,8) so as to enable a more nuanced understanding of the influence of different contextual factors on both the implementation and impacts of the MOMI interventions, which are complex and operate at multiple levels: individual women and health workers, communities and health facilities. Realist evaluation was the principal evaluation methodology supported and informed by evaluation of implementation strength(6) and simple before and after analyses of facility monitoring data (antenatal, delivery, postnatal, and outpatient registers) and from Community Health Workers' (CHWs') records(6). This gave an indication of progress and trends in uptake of care, and outcomes (Appendix 2).

The first stage of the evaluation entailed developing the initial programme theory and the associated context (C), mechanism (M) and outcome (O) configurations propositions (Appendix 1) shaped by five periods of data collection – the baseline policy analysis(3), the situation analysis(9), a causal analysis workshop with key stakeholders in each country setting, the development of interventions(5) and the pilot evaluation data collected earlier in

the phase of intervention implementation. The CMO configurations sought to unpack how, when, under what circumstances and for whom interventions were presumed to exert an effect. We aimed to further our understanding of how the health system strengthening interventions acted both at a social network and individual behaviour change level. We therefore used substantive theories: Pawson's theory of health system change(10), Michie's Behaviour Change Wheel(11) and social capital theory(12,13), to frame the analyses of our primary data and to develop the testable programme theory.

The second stage of the evaluation involved testing and refining programme theories through embedded multiple-case studies(14). A case was defined as a community unit including a health facility, whereby daily observations at the health facility and in the community were conducted over a two-week period in conjunction with semi-structured interviews with health facility workers (HFWs), CHWs affiliated with the health facility and postpartum women from the local community served by the facility. Four cases were purposively selected in each country study site to maximise geographical variation and various degrees of implementation effectiveness. Bespoke "realist" data collection tools including interview topic guides and observation templates were designed to ensure that the theories were specifically tested(15). Cases were supplemented by semi-structured interviews with policymakers and MOMI implementers. In total, across the 16 case studies, 52 postpartum women, 40 CHWs, 46 HFWs as well as 36 policymakers and 15 MOMI implementers were interviewed. This wave of data collection further comprised monitoring data collected in each country throughout the implementation period, from the health facilities' registers and from CHWs' records(6). These indicators included cases of newborn and maternal complications and deaths from different causes, treatments given and interventions delivered, at both community and facility levels. Appendix 2 contains the data collection tools used in each country and details on how data was collected.

A more detailed overview of the study design and data collection is available elsewhere(6,16).

Data analysis

Qualitative and quantitative analyses were conducted. Interviews, observation logs as well as MOMI reports and transcripts from participatory evaluation workshops held in each country after the case studies(6) were analysed using thematic qualitative analysis. Codes were developed by the evaluation team and tested on a small sample of interviews (including interviews with women, HFWs and CHWs). Data was coded based on realist terms, i.e. Context, Resource, Reasoning and Outcome. CMO configurations were extracted as units by identifying outcomes first and then, for each outcome, the associated mechanism followed by the associated context(17). Simultaneously, each CMO extracted was assigned a theme identified in the programme theories to be tested (Appendix 1). Grouping under themes simplified comparison between case studies, traceability and triangulation with other data sources. All sources of qualitative data were analysed in NVivo 11 software and memos recording emerging themes were shared between the evaluation team.

Meanwhile, graphs of the trends in indicators by month for each of the facilities in each country were produced. In addition to visually relating the trends observed for each facility in these graphs with the intervention timelines, the trends were compared and contrasted with the findings from the realist evaluation case studies. The themes emerging from the qualitative analysis were compared to the quantitative data in the same facilities to determine if the programme theory was plausible given the data, and also to determine if the data was plausible given the programme theory. The quantitative and qualitative data were analysed separately initially, so as to avoid bias.

Findings were discussed and triangulated between the core evaluation team from UCL in weekly meetings during the final four months of the evaluation (October 2015 to January 2016). Additionally, the analysis was conducted in very close consultation with the research teams in-country who collected the data to cross-check interpretations and emerging findings.

Developing middle-range theories

Middle-range theories aim to find concepts with a sufficient level of abstraction from the empirical underlying mechanisms and context so as to provide a cumulative, logical explanation of the changes being observed(18). After refining the initial programme theories (IPTs) through data analysis and application of findings to initial CMOC configurations at the individual country level, the middle range theories were developed. Through a process of testing between countries and cross-referencing, the team were able to abstract the findings further and identify common propositions that were generalizable across different contexts to synthesise the four middle range theories (MRTs) presented. Identification of the facilitating or hindering contexts and their influence on realisation of the outcomes within the different countries enabled the MRTs to be reached. These were then checked through negotiation and interpretation of the data with members of the evaluation team and further checked and finalised with the rest of the MOMI consortium during the final programme management team meeting and with stakeholders during the MOMI dissemination conference (January 2016, Mombasa – Kenya).

Ethical considerations

Written informed consent was obtained from all participants interviewed during the evaluation. Ethical approval was gained in each study setting from: the Ethics Committee for Research in Health of Burkina Faso; the University of Nairobi/Kenyatta National Hospital ethical review committee (Kenya); the National Health Sciences Research Council (Malawi); the National Health Bioethics Council (Mozambique).

Results

We present here four broad middle range theories – named ‘Bridging Theory’, ‘Buzz Theory’, ‘Motivation by Accountabilities’ and ‘Together is Stronger’ – elicited from the evaluation data which underpinned whether or not the interventions implemented had an impact at the point of service delivery despite some variation in intervention choice, design

and delivery across settings and differences within the contexts and systems within which they were implemented.

Bridging theory

CHWs in all study sites were to conduct home visits during the postpartum period to engage with mothers about the importance of PPC, the identification of postpartum and postnatal danger signs and the need to attend the health facility for follow-up visits for both mother and infant. These home visits were complemented by community sensitisation events on PPC. In practice, the range of roles undertaken, the degree to which the CHWs were linked to the formal health sector and the way they were incentivised by the system and/or MOMI project varied in each of the four settings.

Yet, trust from the community was identified as a crucial element for the success of community interventions. CHWs gained the trust of the community because CHWs were perceived to belong to and were selected by the community they served. CHWs also gained trust and role identity from their CHW status within the community and influenced the uptake of PPC in the community. This gave CHWs a strong intrinsic sense of responsibility to their communities, and contributed to the community relying upon them, which contributed to their motivation to provide an effective bridging function.

> *"At first we were facing some difficulties. But over time trust was established. Because we were appointed to be CHWs, the population knows about us, plus since we are from the same community we benefit from some credibility."* (CHW – Burkina Faso)

> *"These are my people and I want the best for them. If I don't do my work they'll perish."* (CHW - Kenya)

> *"My relationship with the community is good because I am the son of the area and they already know and are used to me since I save many lives."* (CHW – Mozambique)

In order for CHWs to further fuel their motivation and to effectively forge links with the formal sector, their recognition here was also important and was established through different mechanisms such as training, close supervision and incentives – all of which built a

sense of belonging with the health facility. Local CHWs already hold the trust of the community and making the health facility links more visible reinforces this trust in the system and establishes connectivity. Visible signs of connection to the formal sector such as uniforms and MOMI bicycles, and the use of pictorial checklists appeared to work through this mechanism and be motivating for the CHWs.

> *"There is some women who want to come but maybe they are scared of the HFWs. But they tell themselves that if there is [a CHW] who works with health workers, who collaborates with health workers, if I am accompanied by her, all my problems, my worries would maybe diminish with her assistance"* (HFW – Burkina Faso)

> *"We are like the bridge linking the community to the health facility. If we are not there, they will not have any one sensitizing them on health matters. We act like ambassadors passing information back and forth."* (CHW – Kenya)

> "*CHWs have an important role in the community, if the mother has problems, it is them that are the first point of call. They act as a liaison between the community and health facility."* (HFW – Mozambique)

[Figure 1: Refined programme theory - Bridging]

Figure 1 shows the links between the different CMO configurations and how trust from the community and CHWs' motivation are pre-requisites for an effective bridging function that can lead to more women attending the health facility. In Burkina Faso, this bridging process was observed to be a more important driver of behaviour change in rural areas than in urban communities where the relationships of the community with CHWs and in particular satisfaction of the CHWs appear to be different. This is mainly because female CHWs are able to find more profitable activities in urban settings.

> *"MOMI, it's efforts that are not rewarded! This is the bag that they gave us to do the work, in which there is my blouse, but I preferred to leave it and invest myself in my business in order to satisfy my needs and those of my children. (…) The 2000 francs [compensation] can't cover the expenses so I decided to slow down the MOMI activities and focus on my profitable activities. (CHW – Burkina Faso)*

Yet, the retention for CHWs remained high even in urban settings, as CHWs were motivated all along the project through the mechanisms discussed. In Malawi, it was not possible to comment on the demand generation for PPC through the CHWs' bridging function due to the lack of implementation of the community interventions.

Buzz theory

Our refined theory through the MOMI evaluation suggests that influences on demand for PPC occurring at a community level are related to two major mechanisms of social capital (the relationships between people within the community) – (1) bridging social capital enacted through the relationship of women with the community health workers and (2) the development of bonding social capital or a "buzz", as illustrated in Figure 2. These factors appear to be leading initially to cognitive changes in the form of building on existing and new trust relationships, followed by behavioural changes resulting in an increase in healthcare demand.

[Figure 2: Refined programme theory - Buzz]

If community level interventions lead to postpartum healthcare seeking for a critical mass of women, a "buzz" for change is created. Reinforced by social cohesion and local dialogue, norms shift and appear to create a critical tipping point leading to a social movement that holds a collective belief in the acceptability of and perceived value of attending for PPC that outweighs the costs of attending the health facility.

In Burkina Faso, all CHWs and some postpartum women explained that women adopt the behaviour of other women. Therefore the women that first attended PPC consultations – following CHWs' recommendations – were satisfied and shared their experience with other women in their communities who then decided to also attend the health facility for PPC.

> *"These women who refused at first are now those who adhere the most because they saw the others who adhered and were well so they decided to adhere as well. (...) Those that refused at the beginning we didn't have to go*

sensitise them. It's the fact they saw the positive change in the life of the other women that made them decide to adhere too." (CHW – Burkina Faso)

"It's when the first women started to do it and we knew there was nothing bad to it but on the contrary it was to help us, that we started to get used to it little by little." (Postpartum woman – Burkina Faso)

As a result, MOMI community interventions led by CHWs, reinforced by a 'buzz' in the community, did increase demand for PPC, which was also supported by quantitative data (Appendix 3, Figure A3.1). Increases post-March-2014 (Appendix 3, Figure A3.1) could also be due to the pay-for-performance scheme piloted in the district.

In Mozambique, the CHWs were instrumental in encouraging some women from the community to attend PPC, although penetration into the community was not sufficient to generate the 'buzz' that was captured in Burkina Faso. This was thought to be due to geographical barriers to the community reaching the health facility and an insufficient number of CHWs to achieve good coverage of scattered and isolated communities. This precluded the development of the required social capital 'threshold' required to influence norms of behaviour and therefore achieve a critical mass to reinforce the sustainability of the CHW intervention. In Kenya, this mechanism for generating demand was not captured in the data while Malawi did not implement its community intervention.

Furthermore, it should be noted that to generate a positive 'buzz' about PPC, some contextual and implementation factors are crucial, in all settings: the active bridging function of CHWs; the support from community leaders; and especially a good PPC experience at the health facility once women make the decision to attend. Otherwise a 'buzz' might be generated to not attend the health facility for PPC (Figure 2).

"You know if one experiences badly, they will in turn go and tell others of what they experienced." (CHW – Kenya)

"A member of a MOMI community group reported than when she went for PPC check-up she had expectations that the nurse would check her but the nurse just checked the baby and nothing was done to the baby. (…) When the MOMI researchers followed up on this issue, they were told that the community is disappointed with the quality of services and the negative attitude of the health workers." (Field observations – Malawi)

Motivation by Accountabilities

In all four countries, HFWs were found to be constrained in their daily duties by many factors, including: lack of training, human and material resources; significant workload in maternal and child healthcare; high levels of bureaucracy; and isolation for those placed in rural sites. Furthermore, due to fixed hierarchies, innovation and initiative-taking amongst HFWs are often not rewarded. Performance of HFWs and the health facility overall is judged and rewarded by reported activity, rather than health system responsiveness or quality of care. HFWs fear being judged negatively which overrides the self-efficacy that could potentially be gained from PPC training. Although the MOMI training was very well received in all countries, it was not sufficient to increase the provision of comprehensive PPC. Rather, our findings suggest that HFWs' motivation to provide PPC is not related to the training received or other MOMI interventions but to accountability systems for delivering PPC in the wider policy context.

In Burkina Faso a pay-for-performance system was being piloted in Kaya district from March 2014 onwards that bought several national indicators including some relevant to PPC (PPC consultations at days 6 and 42; postpartum family planning (PPFP)). The system was in synergy with the MOMI interventions that increased women's attendance for PPC and supported an increase in activity, motivating HFWs to deliver PPC. Consultations at days 6 and 42 and offer of PPFP was increased as a result of introducing the MOMI interventions but this change was augmented with the introduction of the pay-for-performance pilot (Appendix 3, Figures A3.1 and A3.2).

Despite being able to demonstrate this increase in activity, it is not clear that this also resulted in improved quality. However, it did motivate HFWs to provide PPC.

> *"Well [PPC] was a care that was neglected before, we neglected postpartum women before. But now, with MOMI and* pay-for-performance*, this care is remunerated. So it means that currently there is enthusiasm."* (HFW – Burkina Faso)

In Mozambique, the number of referrals to higher-facilities was monitored and seemed to be in line with the MOMI checklists implemented whereby critical postpartum

complications cases were to be referred to a higher-level facility. However, HFWs were demotivated to send women and/or infants to the referral facility – even when the complication was correctly diagnosed – since they feared that this would be perceived at district or provincial level as a sign that the health facility and its workers were incapable. HFWs refused to comment on this in recorded interviews although it was observed on several instances that they were apathetic in emergency situations, delaying transfer to another facility or avoiding it all together leading sometimes to the death of the mother and/or infant.

> *"Serious cases are not treated as if they were urgent, and they keep on delaying transport for the patients to the referral hospital, and patients arrive at the hospital in critical condition."* (Field observations - Mozambique)

> *"[HFWs] are worried that referring will be interpreted as a sign of maybe being incapable."* (MOMI Implementer - Mozambique)

However, it was also observed that some HFWs did refer complications cases without reporting it to keep the referral numbers low (Appendix 3, Figure A3.3). This assumption was later confirmed during the participatory evaluation workshop.

In Malawi, there were no monitoring or accountability mechanisms in place to prevent staff shortages resulting from HFWs leaving their clinical duties to attend personal business or to undertake paid activities with non-governmental organisations and other stakeholders. Staff shortages in addition to a large workload for maternal and child services results in the remaining staff being overwhelmed and demotivated to implement and deliver PPC interventions.

> *"There are no consequences to whatever we [HFWs] do. You can neglect a patient, you can do whatever, but there are no consequences."* (Participatory Evaluation Workshop participant – Malawi)

> *"For instance MOMI, the way I heard about it, is the idea of giving PPC to a woman at one week postnatal check-up then, six weeks then three months was good. (...) But now it stopped due to lack of staff and everything ended there and then."* (HFW – Malawi)

Figure 3 illustrates illustrate which mechanisms are triggered depending on the different wider policy contexts.

[Figure 3: Refined programme theory – motivation by accountability]

Together is Stronger

Integration of services was planned in three out of four of the sites in order to utilise the infant vaccination visit as an opportunity to provide maternal care and family planning, as well as to capture postpartum women attending the health facility for other services. The aim was to deliver these service functions in one setting reducing fragmentation of the patient journey and potentially enhancing the number of services that the women were able to access contributing to the "increasing the frequency of delivery" aim of MOMI. In practice explicit integration of different elements of the interventions may have been poorly conceptualised at the outset and consequently the planning and execution of the integration of services did not initially involve the structural and organisational reconfigurations that were needed.

> *"When the health facility staff perceive the problem, the implementation of the suggestions, it works. But when the staff doesn't perceive the problem the same way than us, we often have to explain and re-explain."* (MOMI implementer – Burkina Faso)

This limited the extent to which integrated delivery could really be provided since the services are traditionally provided through different systems, financing arrangements and in physically different places. In our evaluation we were not able to study in more depth the contexts within which integration worked better or less well, except to develop theory about the relationship between size, complexity and level of resources the health facilities had – small, medium and larger facilities – and their prospects for delivering integrated care in the climate of limited resources. In general it was found that where integration had been attempted, the staff in the better resourced health facilities (six or more HFWs) were observed to have more clearly defined professional roles with little overlap between maternal and infant healthcare and therefore the combined provision of the services was less easily achieved.

> *"We noted that there is an interpretation that the services have to be broken down, where for example, the MCH nurse says she cannot vaccinate babies*

because it is the work of her colleague. Before she did it when there was no technician for the area." (Field observations – Mozambique)

Although the study sites planned integration as one of their interventions, this was not observed explicitly in any of the sites. Nonetheless given that a function of integration is to provide postpartum care to both mother and child, we were able to observe the different aspects of context that motivated co-delivery. In a smaller facility (3 or less HFWs) individual HFWs were often co-located, knew about each other's roles and expected to perform overlapping functions to account for absences. The opportunity for maternal care created by infant vaccination was perceived and performed more intuitively by HFWs in smaller rather than larger facilities. In essence, the smaller facilities were implicitly integrated just through the demand for greater diversification of roles and a need for flexibility. They were therefore more likely to offer opportunistically both maternal and infant care rather than depend on proactive attendance at two different settings (Figure 4).

[Figure 4: Refined programme theory – Together is stronger]

Discussion

Realist methods offer the opportunity for studying complexity and enhance understanding of context, but are relatively uncharted territory methodologically for evaluating health system change in LMIC settings(19). In addition the principle of MOMI was to implement a complex, and diffuse set of health system strengthening interventions to improve post partum care. Others have already recognised the challenge of understanding the inter-relationships between individual, interpersonal, organisational and institutional level effects, and moving up and down the levels of abstraction to reach a middle range theory that is both generalizable but also relevant to the design of future interventions(20). There were similarities and differences to the different countries and the theories reflected a level of abstraction that

captilised on commonalities whilst aiming not to be so abstract that they offered no useful new insights.

In many African countries, demand side interventions have been effective in shifting demand for care in the antenatal period(21). The MOMI project demonstrated the potential for replication in the postpartum period. CHWs were a key asset as the bridge between community and health sector. Two components were crucial to effective bridging: trust from the community and CHWs' intrinsic motivation. Choosing CHWs from the same community they served established trust with the community and gave CHWs an intrinsic sense of responsibility, motivating them to conduct their activities even when facing barriers. As other studies have shown in different settings(22–24), CHWs motivation is intrinsic but also driven by the elevated status gained in the community. Their status is reinforced by the support provided in terms of infrastructure, training, supervisions, incentives and connectedness with the formal health sector. Therefore broadening the scope of their work can provide a key resource for raising the profile of PPC and facilitating access to routine PPC.

This evaluation however indicates that the CHWs bridging function is interconnected with social capital mechanisms. Little is known, especially for sub-Saharan African countries, on the mechanisms through which social capital influence women's access to maternal care(25,26). Our MRT, in keeping with substantive theories of bonding and bridging social capital(27), suggest that forces of social cohesion have a powerful influence on healthcare behaviours and sheds some light on such mechanisms: if the CHWs intervention lead to postpartum healthcare seeking for a critical mass of women, a 'buzz' for change is created through existing social cohesion mechanisms. This 'buzz' was observed in Burkina Faso leading to further speculation that if the buzz theory gained enough ground it would become the overriding determinant of behaviour and the CHWs' bridging function might eventually not be needed. On the other hand, if the demand for PPC is not met by appropriate healthcare supply, a negative buzz might be generated to not attend the health facility for PPC as noted in Malawi.

Our third theory highlights that HFWs' motivation is mostly extrinsic due to the way the norms and values of the system operate where fixed hierarchies are valued more highly and initiative-taking amongst HFWs is not rewarded. There is a fear at all levels of being judged negatively and of sanctions(28) that overrides the self-efficacy that has the potential to be gained through training, coaching support or supervision(29). Therefore training and supervision on PPC – although well received – were not drivers to increase the provision of comprehensive PPC. A crucial determinant was instead contextual: accountability systems for delivering PPC. In settings where the accountability system worked in synergy with the MOMI project, HFWs were motivated to deliver the PPC interventions. In settings where it was not in synergy or absent, HFWs had no extrinsic incentives to implement the MOMI interventions. Investigating the reporting structure in place is thus necessary as it could be either an important facilitating or inhibiting implementation factor. However, there is no evidence from MOMI findings to suggest that increased activity through accountability systems necessarily translates into improved quality of care. Without tying quality indicators into routine reporting structures and supervision models – therefore developing accountability for quality(30) – it would be hard to achieve improvements in quality or indeed to measure them for an intervention that involves working within the existing constraints. Our findings are in agreement with an on-going systematic review of interventions to improve health worker performance, which finds training alone is insufficient and that accountability mechanisms are also needed (personal communication, Alexander K. Rowe, Centres for Disease Control and Prevention, 2017).

Studies on the effectiveness of integrating services in LMIC are limited(31,32). The results of our efforts towards integration are also limited due to defined job roles and strict vertical hierarchies, whereby challenging superiors is inconceivable. Integration was poorly understood by HFWs and was more intuitively performed in small facilities due to limited human resources. In larger facilities, HFWs were resistant to task-share and take on what was perceived to be other colleagues' responsibility. Integration of service delivery requires organisational and management integration and re-organisation of care practices as well as

training. Greater engagement and participation of the health systems leadership is necessary to bring about these changes and more time should be devoted to conceptualise integration before implementation. Thus, a whole systems approach (including community bridging actors) to improvement needs to be taken into consideration rather than an intervention-focussed approach(33).

Some women interviewed in our study settings would not answer freely some of the questions (e.g. around family planning themes, decision-making dynamics) making it difficult to elicit mechanisms of change. Some difficulties also arose with some HFWs refusing to be recorded for fear of being reported (even though confidentiality was assured) to their supervisors. Furthermore HFWs are not empowered to question leadership and hierarchy and most were reluctant to do so during interviews, limiting our ability to test programme theories around leadership. Finally, a certain degree of implementation strength is required for realist evaluation to test programme theories and to draw links between CMO configurations. In Malawi for example where implementation was delayed and limited, only a few programme theories could be tested.

Conclusions

While countries are making substantial progress in maternal and newborn health, further improvements can be achieved by implementing innovative interventions in the postpartum period. Strengthening health systems, integrating service delivery for the postpartum period and promoting demand for postpartum care through community interventions offers potential for success; and realist evaluation can help investigate how, where, for whom and in what circumstances such successful interventions work.

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Contributors:

ND was one of the evaluators; she coordinated and supervised data collection in all sites, designed the data analysis plan, led the qualitative data analysis and drafted the manuscript. SM was one of the evaluators; she designed the realist evaluation protocol, contributed to the qualitative data analysis and helped revise the paper, contributing intellectual content. BN was one of the evaluators; he contributed to evaluation design and analysis, and helped revise the paper, contributing intellectual content. PM coordinated the participatory evaluation workshops in all sites, contributed to the qualitative data analysis as part of the evaluation team and commented on earlier drafts. DM and HB contributed to the qualitative data analysis as part of the evaluation team. FYB, WMEY, CY and SB conducted the qualitative fieldwork in Burkina Faso. HT was involved in the implementation of the MOMI interventions in Burkina Faso, collected quantitative data and commented on earlier drafts. AC was involved in the implementation of the MOMI interventions in Burkina Faso and collected quantitative data. SK coordinated the MOMI research at the Burkina Faso study site and the quantitative monitoring at all four sites. VOM and OKM conducted the qualitative fieldwork in Kenya. VOM was also involved in the implementation of the MOMI interventions in Kenya. EI was involved in the implementation of the MOMI interventions in Kenya and contributed to the interpretation of the results during stakeholder workshops. PG coordinated the MOMI research at the Kenya study site and contributed to the interpretation of the results during stakeholder workshops. ZD and AK conducted the qualitative fieldwork in Malawi. ZD was also involved in the implementation of the MOMI interventions in Malawi. CM coordinated the MOMI research at the Malawi study site and contributed to the interpretation of the results during stakeholder workshops. JT, MGC and MM conducted the qualitative fieldwork in Mozambique. MM was also involved in the implementation of the MOMI interventions in Mozambique. SG coordinated the MOMI research at the Mozambique study site and helped revising the paper. NBO coordinated the MOMI research at the Mozambique study site and commented on drafts of the paper. SF was involved in the implementation of the MOMI interventions in Mozambique and contributed to the interpretation of the results during stakeholder workshops. EO coordinated the MOMI consortium along with ED and contributed to the interpretation of the results during stakeholder workshops. ED was the overall MOMI consortium scientific coordinator and helped revising the paper. TC was one of the evaluators; he designed and led the quantitative component of the evaluation, contributed to evaluation design and analysis, and helped revise the paper, contributing intellectual content. All authors read and approved the final version of the manuscript.

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Competing Interests:

All authors declare no competing interests.

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Integration of postpartum care in sub-Saharan Africa: realist evaluation of the Missed Opportunities in Maternal and Infant Health (MOMI) project

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Abbreviations:

PPC: Postpartum care

LMIC: Low and Middle Income Countries

MOMI: Missed Opportunities in Maternal and Infant Health

CHW: Community health worker

HFW: Health facility worker

CMO: Context-Mechanism-Outcome

IPT: Initial programme theory

MRT: Middle-range theory

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Abstract

Postpartum care (PPC) has remained relatively neglected in many interventions designed to improve maternal and neonatal health in sub-Saharan Africa. The Missed Opportunities in Maternal and Infant Health (MOMI) project developed and implemented a context-specific package of health-system strengthening and demand generation in four African countries, aiming to improve access and quality of postpartum care.

A realist evaluation was conducted to enable nuanced understanding of the influence of different contextual factors on both the implementation and impacts of the interventions. Mixed methods were used to collect data and test hypothesised context-mechanism-outcome configurations: 16 case studies (including interviews and observations), monitoring data, document analysis and participatory evaluation workshops. After evaluation in individual

countries, a cross-country analysis was conducted that led to the development of four middle-range theories.

Community health workers (CHWs) were key assets in shifting demand for PPC by 'bridging' communities and facilities. Because they were chosen from the community they served, they gained trust from the community and an intrinsic sense of responsibility. Furthermore, if a critical mass of women seek postpartum healthcare as a result of the CHWs bridging function, a 'buzz' for change is created, leading eventually to the acceptability and perceived value of attending for PPC that outweighs the costs of attending the health facility. On the supply side, rigid vertical hierarchies and defined roles for health facility workers (HFWs) impede integration of maternal and infant health services. Additionally, HFWs fear being judged negatively which overrides the self-efficacy that could potentially be gained from PPC training. Instead the main driver of HFWs' motivation to provide comprehensive PPC is dependent on accountability systems for delivering PPC created by other programmes.

The realist evaluation offers insights into some of the contextual factors that can be pivotal in enabling the community and service level interventions to be effective.

Keywords:

Postpartum care; maternal and infant health; realist evaluation; sub-Saharan Africa

Summary Box

- *What is already known about this topic?*

- Postpartum care (PPC) has remained relatively neglected in many interventions designed to improve maternal and neonatal health in Sub-Saharan Africa.

- Realist methods offer the opportunity for studying complexity of health systems and enhance understanding within the context of postpartum care, but are relatively uncharted territory methodologically for evaluating health system change in Low-and-Middle Income Country (LMIC) settings.

- *What are the new findings?*

- Influences on demand for PPC are related to two major mechanisms of social capital: bridging social capital enacted through the relationship between women and community health workers; and the development of bonding social capital or a "buzz".

- Healthcare workers' motivation to provide PPC is not driven by the training received but by accountability systems for delivering PPC in the wider policy context.

- Strict vertical hierarchies and defined roles for healthcare workers pose barriers to integration of maternal and infant services.

- *How might this influence practice*

- Community health worker interventions can create demand for care in the postpartum period.

- Need to tie quality indicators into routine reporting structures and supervision models to develop accountability for quality of care.

- Greater engagement and participation of the health systems leadership is necessary to bring about the changes needed for quality improvement and integration of maternal and infant services.

Introduction

An estimated 29.4% of 0.29 million maternal deaths occur after delivery on the birth day, and a further 33.5% occur during the rest of the first month after birth; these percentages are 18.5% and 33.3% for the combined total of 5.5 million neonatal deaths and stillbirths(1). Yet, postpartum care (PPC) has remained relatively neglected in many interventions designed to improve maternal and neonatal health in Sub-Saharan Africa(2,3). The Missed Opportunities in Maternal and Infant Health (MOMI) project ran from February 2011 until January 2016 in four African countries: Burkina Faso, Kenya, Malawi and Mozambique. The primary objective of the study was to improve maternal and newborn health through a focus on the postpartum period, adopting context-specific strategies to strengthen healthcare delivery and services at both facility and community level(4).

Using participatory methods in each study site – Kaya district in Burkina Faso, Kwale county in Kenya, Ntchisi district in Malawi and Chiúta district in Mozambique – a package of postpartum interventions (Table 1) was designed and developed, tailored to the implementation gaps identified from an initial situation analysis and country-specific participatory causal analysis workshops(5).

Table 1 Package of postpartum interventions in each study district*

Study site	Selected interventions
Burkina Faso – Kaya district	1. Enhance the delivery of immediate PPC in health facilities with focus on the detection and management of postpartum haemorrhage and sepsis and postpartum family planning (FP)

	2. Integration of maternal and infant services in the postpartum period 3. Support mother and infant during the postpartum period through female community health workers (CHWs) conducting home visits, providing individual counselling and group health education on PPC (including FP) and by referring women to the health facility for scheduled PPC consultations and in case of complications
Kenya – Kwale County	1. Strengthening immediate PPC for mother and newborn by upgrading knowledge and skills of facility and community health workers on detection and management of common maternal and neonatal complications, promotion of exclusive breastfeeding, counselling and provision of FP and by providing postpartum home visits (conducted by CHWs) 2. Increase knowledge on and uptake of postpartum FP during the first year after delivery using the dialogue model at community and facility level
Malawi – Ntchisi district	1. Strengthening clinical management of PPC (using clinical mentorship and quality care reviews) 2. Increase utilisation of postpartum FP by providing counselling at health facility and community levels 3. Strengthening community PPC management through home visits conducted by CHWs and through the establishment and use of men's, women's and youth groups
Mozambique – Chiúta district	1. Upgrade mother and newborn postpartum risk assessment and management at facility and community level through the use of checklists 2. Scale up access to and use of postpartum FP through making immediate postpartum intrauterine device available 3. Improve access to and use of maternal PPC and services by integrating maternal PPC in child clinics and outreach activities

*These were all assessed (to greater or lesser extent dependent on the data available) as part of the realist evaluation reported in this paper

MOMI's initial programme theory postulates that by strengthening PPC services, integrating maternal and child health services to optimise PPC delivery and increasing awareness of and demand for PPC services, processes for uptake and delivery of PPC would improve, thus enhancing the frequency and quality of PPC, leading eventually to improved maternal and infant outcomes. Evidence points to what is needed to influence the MOMI objectives of improving the uptake, and the frequency and quality of delivery of postpartum care but less is understood about for whom, how and under what circumstances interventions

are likely to work. A tailored design approach was chosen to take account of context in maximising intervention effectiveness. A realist method of evaluation was undertaken in order to answer the following questions: which contexts: 1) influence women's decisions to attend and benefit from the postpartum care that is on offer and 2) enable the frequency and quality of delivery of evidence-based PPC to be maximised; and which mechanisms lead to these outcomes. Country-specific findings as well as findings about the sustainability and replicability of the interventions, were described elsewhere(6). Here, the findings are presented across all four countries and the objective of our realist evaluation is to develop theory about how the interventions are thought to work.

Methods

Evaluation design & Data collection

The overall evaluation of the MOMI project involved quantitative impact evaluation, measurement of implementation strength, and analysis of programme theory using realist evaluation(6). In this paper we focus on the realist evaluation. We undertook a realist evaluation(7,8) so as to enable a more nuanced understanding of the influence of different contextual factors on both the implementation and impacts of the MOMI interventions, which are complex and operate at multiple levels: individual women and health workers, communities and health facilities. Realist evaluation was the principal evaluation methodology supported and informed by evaluation of implementation strength(6) and simple before and after analyses of facility monitoring data (antenatal, delivery, postnatal, and outpatient registers) and from Community Health Workers' (CHWs') records(6). This gave an indication of progress and trends in uptake of care, and outcomes (Appendix 2).

The first stage of the evaluation entailed developing the initial programme theory and the associated context (C), mechanism (M) and outcome (O) configurations propositions (Appendix 1) shaped by five periods of data collection – the baseline policy analysis(3), the situation analysis(9), a causal analysis workshop with key stakeholders in each country setting, the development of interventions(5) and the pilot evaluation data collected earlier in

the phase of intervention implementation. The CMO configurations sought to unpack how, when, under what circumstances and for whom interventions were presumed to exert an effect. We aimed to further our understanding of how the health system strengthening interventions acted both at a social network and individual behaviour change level. We therefore used substantive theories: Pawson's theory of health system change(10), Michie's Behaviour Change Wheel(11) and social capital theory(12,13), to frame the analyses of our primary data and to develop the testable programme theory.

The second stage of the evaluation involved testing and refining programme theories through embedded multiple-case studies(14). A case was defined as a community unit including a health facility, whereby daily observations at the health facility and in the community were conducted over a two-week period in conjunction with semi-structured interviews with health facility workers (HFWs), CHWs affiliated with the health facility and postpartum women from the local community served by the facility. Four cases were purposively selected in each country study site to maximise geographical variation and various degrees of implementation effectiveness. Bespoke "realist" data collection tools including interview topic guides and observation templates were designed to ensure that the theories were specifically tested(15). Cases were supplemented by semi-structured interviews with policymakers and MOMI implementers. In total, across the 16 case studies, 52 postpartum women, 40 CHWs, 46 HFWs as well as 36 policymakers and 15 MOMI implementers were interviewed. This wave of data collection further comprised monitoring data collected in each country throughout the implementation period, from the health facilities' registers and from CHWs' records(6). These indicators included cases of newborn and maternal complications and deaths from different causes, treatments given and interventions delivered, at both community and facility levels. Appendix 2 contains the data collection tools used in each country and details on how data was collected.

A more detailed overview of the study design and data collection is available elsewhere(6,16).

Data analysis

Qualitative and quantitative analyses were conducted. Interviews, observation logs as well as MOMI reports and transcripts from participatory evaluation workshops held in each country after the case studies(6) were analysed using thematic qualitative analysis. Codes were developed by the evaluation team and tested on a small sample of interviews (including interviews with women, HFWs and CHWs). Data was coded based on realist terms, i.e. Context, Resource, Reasoning and Outcome. CMO configurations were extracted as units by identifying outcomes first and then, for each outcome, the associated mechanism followed by the associated context(17). Simultaneously, each CMO extracted was assigned a theme identified in the programme theories to be tested (Appendix 1). Grouping under themes simplified comparison between case studies, traceability and triangulation with other data sources. All sources of qualitative data were analysed in NVivo 11 software and memos recording emerging themes were shared between the evaluation team.

Meanwhile, graphs of the trends in indicators by month for each of the facilities in each country were produced. In addition to visually relating the trends observed for each facility in these graphs with the intervention timelines, the trends were compared and contrasted with the findings from the realist evaluation case studies. The themes emerging from the qualitative analysis were compared to the quantitative data in the same facilities to determine if the programme theory was plausible given the data, and also to determine if the data was plausible given the programme theory. The quantitative and qualitative data were analysed separately initially, so as to avoid bias.

Findings were discussed and triangulated between the core evaluation team from UCL in weekly meetings during the final four months of the evaluation (October 2015 to January 2016). Additionally, the analysis was conducted in very close consultation with the research teams in-country who collected the data to cross-check interpretations and emerging findings.

Developing middle-range theories

Middle-range theories aim to find concepts with a sufficient level of abstraction from the empirical underlying mechanisms and context so as to provide a cumulative, logical explanation of the changes being observed(18). After refining the initial programme theories (IPTs) through data analysis and application of findings to initial CMOC configurations at the individual country level, the middle range theories were developed. Through a process of testing between countries and cross-referencing, the team were able to abstract the findings further and identify common propositions that were generalizable across different contexts to synthesise the four middle range theories (MRTs) presented. Identification of the facilitating or hindering contexts and their influence on realisation of the outcomes within the different countries enabled the MRTs to be reached. These were then checked through negotiation and interpretation of the data with members of the evaluation team and further checked and finalised with the rest of the MOMI consortium during the final programme management team meeting and with stakeholders during the MOMI dissemination conference (January 2016, Mombasa – Kenya).

Ethical considerations

Written informed consent was obtained from all participants interviewed during the evaluation. Ethical approval was gained in each study setting from: the Ethics Committee for Research in Health of Burkina Faso; the University of Nairobi/Kenyatta National Hospital ethical review committee (Kenya); the National Health Sciences Research Council (Malawi); the National Health Bioethics Council (Mozambique).

Results

We present here four broad middle range theories – named 'Bridging Theory', 'Buzz Theory', 'Motivation by Accountabilities' and 'Together is Stronger' – elicited from the evaluation data which underpinned whether or not the interventions implemented had an impact at the point of service delivery despite some variation in intervention choice, design

and delivery across settings and differences within the contexts and systems within which they were implemented.

Bridging theory

CHWs in all study sites were to conduct home visits during the postpartum period to engage with mothers about the importance of PPC, the identification of postpartum and postnatal danger signs and the need to attend the health facility for follow-up visits for both mother and infant. These home visits were complemented by community sensitisation events on PPC. In practice, the range of roles undertaken, the degree to which the CHWs were linked to the formal health sector and the way they were incentivised by the system and/or MOMI project varied in each of the four settings.

Yet, trust from the community was identified as a crucial element for the success of community interventions. CHWs gained the trust of the community because CHWs were perceived to belong to and were selected by the community they served. CHWs also gained trust and role identity from their CHW status within the community and influenced the uptake of PPC in the community. This gave CHWs a strong intrinsic sense of responsibility to their communities, and contributed to the community relying upon them, which contributed to their motivation to provide an effective bridging function.

> *"At first we were facing some difficulties. But over time trust was established. Because we were appointed to be CHWs, the population knows about us, plus since we are from the same community we benefit from some credibility."* (CHW – Burkina Faso)

> *"These are my people and I want the best for them. If I don't do my work they'll perish."* (CHW - Kenya)

> *"My relationship with the community is good because I am the son of the area and they already know and are used to me since I save many lives."* (CHW – Mozambique)

In order for CHWs to further fuel their motivation and to effectively forge links with the formal sector, their recognition here was also important and was established through different mechanisms such as training, close supervision and incentives – all of which built a

sense of belonging with the health facility. Local CHWs already hold the trust of the community and making the health facility links more visible reinforces this trust in the system and establishes connectivity. Visible signs of connection to the formal sector such as uniforms and MOMI bicycles, and the use of pictorial checklists appeared to work through this mechanism and be motivating for the CHWs.

> *"There is some women who want to come but maybe they are scared of the HFWs. But they tell themselves that if there is [a CHW] who works with health workers, who collaborates with health workers, if I am accompanied by her, all my problems, my worries would maybe diminish with her assistance"* (HFW – Burkina Faso)

> *"We are like the bridge linking the community to the health facility. If we are not there, they will not have any one sensitizing them on health matters. We act like ambassadors passing information back and forth."* (CHW – Kenya)

> "*CHWs have an important role in the community, if the mother has problems, it is them that are the first point of call. They act as a liaison between the community and health facility."* (HFW – Mozambique)

[Figure 1: Refined programme theory - Bridging]

Figure 1 shows the links between the different CMO configurations and how trust from the community and CHWs' motivation are pre-requisites for an effective bridging function that can lead to more women attending the health facility. In Burkina Faso, this bridging process was observed to be a more important driver of behaviour change in rural areas than in urban communities where the relationships of the community with CHWs and in particular satisfaction of the CHWs appear to be different. This is mainly because female CHWs are able to find more profitable activities in urban settings.

> *"MOMI, it's efforts that are not rewarded! This is the bag that they gave us to do the work, in which there is my blouse, but I preferred to leave it and invest myself in my business in order to satisfy my needs and those of my children. (…) The 2000 francs [compensation] can't cover the expenses so I decided to slow down the MOMI activities and focus on my profitable activities. (CHW – Burkina Faso)*

Yet, the retention for CHWs remained high even in urban settings, as CHWs were motivated all along the project through the mechanisms discussed. In Malawi, it was not possible to comment on the demand generation for PPC through the CHWs' bridging function due to the lack of implementation of the community interventions.

Buzz theory

Our refined theory through the MOMI evaluation suggests that influences on demand for PPC occurring at a community level are related to two major mechanisms of social capital (the relationships between people within the community) – (1) bridging social capital enacted through the relationship of women with the community health workers and (2) the development of bonding social capital or a "buzz", as illustrated in Figure 2. These factors appear to be leading initially to cognitive changes in the form of building on existing and new trust relationships, followed by behavioural changes resulting in an increase in healthcare demand.

[Figure 2: Refined programme theory - Buzz]

If community level interventions lead to postpartum healthcare seeking for a critical mass of women, a "buzz" for change is created. Reinforced by social cohesion and local dialogue, norms shift and appear to create a critical tipping point leading to a social movement that holds a collective belief in the acceptability of and perceived value of attending for PPC that outweighs the costs of attending the health facility.

In Burkina Faso, all CHWs and some postpartum women explained that women adopt the behaviour of other women. Therefore the women that first attended PPC consultations – following CHWs' recommendations – were satisfied and shared their experience with other women in their communities who then decided to also attend the health facility for PPC.

> *"These women who refused at first are now those who adhere the most because they saw the others who adhered and were well so they decided to adhere as well. (...) Those that refused at the beginning we didn't have to go*

sensitise them. It's the fact they saw the positive change in the life of the other women that made them decide to adhere too." (CHW – Burkina Faso)

"It's when the first women started to do it and we knew there was nothing bad to it but on the contrary it was to help us, that we started to get used to it little by little." (Postpartum woman – Burkina Faso)

As a result, MOMI community interventions led by CHWs, reinforced by a 'buzz' in the community, did increase demand for PPC, which was also supported by quantitative data (Appendix 3, Figure A3.1). Increases post-March-2014 (Appendix 3, Figure A3.1) could also be due to the pay-for-performance scheme piloted in the district.

In Mozambique, the CHWs were instrumental in encouraging some women from the community to attend PPC, although penetration into the community was not sufficient to generate the 'buzz' that was captured in Burkina Faso. This was thought to be due to geographical barriers to the community reaching the health facility and an insufficient number of CHWs to achieve good coverage of scattered and isolated communities. This precluded the development of the required social capital 'threshold' required to influence norms of behaviour and therefore achieve a critical mass to reinforce the sustainability of the CHW intervention. In Kenya, this mechanism for generating demand was not captured in the data while Malawi did not implement its community intervention.

Furthermore, it should be noted that to generate a positive 'buzz' about PPC, some contextual and implementation factors are crucial, in all settings: the active bridging function of CHWs; the support from community leaders; and especially a good PPC experience at the health facility once women make the decision to attend. Otherwise a 'buzz' might be generated to not attend the health facility for PPC (Figure 2).

"You know if one experiences badly, they will in turn go and tell others of what they experienced." (CHW – Kenya)

"A member of a MOMI community group reported than when she went for PPC check-up she had expectations that the nurse would check her but the nurse just checked the baby and nothing was done to the baby. (…) When the MOMI researchers followed up on this issue, they were told that the community is disappointed with the quality of services and the negative attitude of the health workers." (Field observations – Malawi)

Motivation by Accountabilities

In all four countries, HFWs were found to be constrained in their daily duties by many factors, including: lack of training, human and material resources; significant workload in maternal and child healthcare; high levels of bureaucracy; and isolation for those placed in rural sites. Furthermore, due to fixed hierarchies, innovation and initiative-taking amongst HFWs are often not rewarded. Performance of HFWs and the health facility overall is judged and rewarded by reported activity, rather than health system responsiveness or quality of care. HFWs fear being judged negatively which overrides the self-efficacy that could potentially be gained from PPC training. Although the MOMI training was very well received in all countries, it was not sufficient to increase the provision of comprehensive PPC. Rather, our findings suggest that HFWs' motivation to provide PPC is not related to the training received or other MOMI interventions but to accountability systems for delivering PPC in the wider policy context.

In Burkina Faso a pay-for-performance system was being piloted in Kaya district from March 2014 onwards that bought several national indicators including some relevant to PPC (PPC consultations at days 6 and 42; postpartum family planning (PPFP)). The system was in synergy with the MOMI interventions that increased women's attendance for PPC and supported an increase in activity, motivating HFWs to deliver PPC. Consultations at days 6 and 42 and offer of PPFP was increased as a result of introducing the MOMI interventions but this change was augmented with the introduction of the pay-for-performance pilot (Appendix 3, Figures A3.1 and A3.2).

Despite being able to demonstrate this increase in activity, it is not clear that this also resulted in improved quality. However, it did motivate HFWs to provide PPC.

> *"Well [PPC] was a care that was neglected before, we neglected postpartum women before. But now, with MOMI and* pay-for-performance*, this care is remunerated. So it means that currently there is enthusiasm."* (HFW – Burkina Faso)

In Mozambique, the number of referrals to higher-facilities was monitored and seemed to be in line with the MOMI checklists implemented whereby critical postpartum

complications cases were to be referred to a higher-level facility. However, HFWs were demotivated to send women and/or infants to the referral facility – even when the complication was correctly diagnosed – since they feared that this would be perceived at district or provincial level as a sign that the health facility and its workers were incapable. HFWs refused to comment on this in recorded interviews although it was observed on several instances that they were apathetic in emergency situations, delaying transfer to another facility or avoiding it all together leading sometimes to the death of the mother and/or infant.

> *"Serious cases are not treated as if they were urgent, and they keep on delaying transport for the patients to the referral hospital, and patients arrive at the hospital in critical condition."* (Field observations - Mozambique)

> *"[HFWs] are worried that referring will be interpreted as a sign of maybe being incapable."* (MOMI Implementer - Mozambique)

However, it was also observed that some HFWs did refer complications cases without reporting it to keep the referral numbers low (Appendix 3, Figure A3.3). This assumption was later confirmed during the participatory evaluation workshop.

In Malawi, there were no monitoring or accountability mechanisms in place to prevent staff shortages resulting from HFWs leaving their clinical duties to attend personal business or to undertake paid activities with non-governmental organisations and other stakeholders. Staff shortages in addition to a large workload for maternal and child services results in the remaining staff being overwhelmed and demotivated to implement and deliver PPC interventions.

> *"There are no consequences to whatever we [HFWs] do. You can neglect a patient, you can do whatever, but there are no consequences."* (Participatory Evaluation Workshop participant – Malawi)

> *"For instance MOMI, the way I heard about it, is the idea of giving PPC to a woman at one week postnatal check-up then, six weeks then three months was good. (...) But now it stopped due to lack of staff and everything ended there and then."* (HFW – Malawi)

Figure 3 illustrates illustrate which mechanisms are triggered depending on the different wider policy contexts.

[Figure 3: Refined programme theory – motivation by accountability]

Together is Stronger

Integration of services was planned in three out of four of the sites in order to utilise the infant vaccination visit as an opportunity to provide maternal care and family planning, as well as to capture postpartum women attending the health facility for other services. The aim was to deliver these service functions in one setting reducing fragmentation of the patient journey and potentially enhancing the number of services that the women were able to access contributing to the "increasing the frequency of delivery" aim of MOMI. In practice explicit integration of different elements of the interventions may have been poorly conceptualised at the outset and consequently the planning and execution of the integration of services did not initially involve the structural and organisational reconfigurations that were needed.

> *"When the health facility staff perceive the problem, the implementation of the suggestions, it works. But when the staff doesn't perceive the problem the same way than us, we often have to explain and re-explain."* (MOMI implementer – Burkina Faso)

This limited the extent to which integrated delivery could really be provided since the services are traditionally provided through different systems, financing arrangements and in physically different places. In our evaluation we were not able to study in more depth the contexts within which integration worked better or less well, except to develop theory about the relationship between size, complexity and level of resources the health facilities had – small, medium and larger facilities – and their prospects for delivering integrated care in the climate of limited resources. In general it was found that where integration had been attempted, the staff in the better resourced health facilities (six or more HFWs) were observed to have more clearly defined professional roles with little overlap between maternal and infant healthcare and therefore the combined provision of the services was less easily achieved.

> *"We noted that there is an interpretation that the services have to be broken down, where for example, the MCH nurse says she cannot vaccinate babies*

because it is the work of her colleague. Before she did it when there was no technician for the area." (Field observations – Mozambique)

Although the study sites planned integration as one of their interventions, this was not observed explicitly in any of the sites. Nonetheless given that a function of integration is to provide postpartum care to both mother and child, we were able to observe the different aspects of context that motivated co-delivery. In a smaller facility (3 or less HFWs) individual HFWs were often co-located, knew about each other's roles and expected to perform overlapping functions to account for absences. The opportunity for maternal care created by infant vaccination was perceived and performed more intuitively by HFWs in smaller rather than larger facilities. In essence, the smaller facilities were implicitly integrated just through the demand for greater diversification of roles and a need for flexibility. They were therefore more likely to offer opportunistically both maternal and infant care rather than depend on proactive attendance at two different settings (Figure 4).

[Figure 4: Refined programme theory – Together is stronger]

Discussion

Realist methods offer the opportunity for studying complexity and enhance understanding of context, but are relatively uncharted territory methodologically for evaluating health system change in LMIC settings(19). In addition the principle of MOMI was to implement a complex, and diffuse set of health system strengthening interventions to improve post partum care. Others have already recognised the challenge of understanding the inter-relationships between individual, interpersonal, organisational and institutional level effects, and moving up and down the levels of abstraction to reach a middle range theory that is both generalizable but also relevant to the design of future interventions(20). There were similarities and differences to the different countries and the theories reflected a level of abstraction that

captilised on commonalities whilst aiming not to be so abstract that they offered no useful new insights.

In many African countries, demand side interventions have been effective in shifting demand for care in the antenatal period(21). The MOMI project demonstrated the potential for replication in the postpartum period. CHWs were a key asset as the bridge between community and health sector. Two components were crucial to effective bridging: trust from the community and CHWs' intrinsic motivation. Choosing CHWs from the same community they served established trust with the community and gave CHWs an intrinsic sense of responsibility, motivating them to conduct their activities even when facing barriers. As other studies have shown in different settings(22–24), CHWs motivation is intrinsic but also driven by the elevated status gained in the community. Their status is reinforced by the support provided in terms of infrastructure, training, supervisions, incentives and connectedness with the formal health sector. Therefore broadening the scope of their work can provide a key resource for raising the profile of PPC and facilitating access to routine PPC.

This evaluation however indicates that the CHWs bridging function is interconnected with social capital mechanisms. Little is known, especially for sub-Saharan African countries, on the mechanisms through which social capital influence women's access to maternal care(25,26). Our MRT, in keeping with substantive theories of bonding and bridging social capital(27), suggest that forces of social cohesion have a powerful influence on healthcare behaviours and sheds some light on such mechanisms: if the CHWs intervention lead to postpartum healthcare seeking for a critical mass of women, a 'buzz' for change is created through existing social cohesion mechanisms. This 'buzz' was observed in Burkina Faso leading to further speculation that if the buzz theory gained enough ground it would become the overriding determinant of behaviour and the CHWs' bridging function might eventually not be needed. On the other hand, if the demand for PPC is not met by appropriate healthcare supply, a negative buzz might be generated to not attend the health facility for PPC as noted in Malawi.

Our third theory highlights that HFWs' motivation is mostly extrinsic due to the way the norms and values of the system operate where fixed hierarchies are valued more highly and initiative-taking amongst HFWs is not rewarded. There is a fear at all levels of being judged negatively and of sanctions(28) that overrides the self-efficacy that has the potential to be gained through training, coaching support or supervision(29). Therefore training and supervision on PPC – although well received – were not drivers to increase the provision of comprehensive PPC. A crucial determinant was instead contextual: accountability systems for delivering PPC. In settings where the accountability system worked in synergy with the MOMI project, HFWs were motivated to deliver the PPC interventions. In settings where it was not in synergy or absent, HFWs had no extrinsic incentives to implement the MOMI interventions. Investigating the reporting structure in place is thus necessary as it could be either an important facilitating or inhibiting implementation factor. However, there is no evidence from MOMI findings to suggest that increased activity through accountability systems necessarily translates into improved quality of care. Without tying quality indicators into routine reporting structures and supervision models – therefore developing accountability for quality(30) – it would be hard to achieve improvements in quality or indeed to measure them for an intervention that involves working within the existing constraints. Our findings are in agreement with an on-going systematic review of interventions to improve health worker performance, which finds training alone is insufficient and that accountability mechanisms are also needed (personal communication, Alexander K. Rowe, Centres for Disease Control and Prevention, 2017).

Studies on the effectiveness of integrating services in LMIC are limited(31,32). The results of our efforts towards integration are also limited due to defined job roles and strict vertical hierarchies, whereby challenging superiors is inconceivable. Integration was poorly understood by HFWs and was more intuitively performed in small facilities due to limited human resources. In larger facilities, HFWs were resistant to task-share and take on what was perceived to be other colleagues' responsibility. Integration of service delivery requires organisational and management integration and re-organisation of care practices as well as

training. Greater engagement and participation of the health systems leadership is necessary to bring about these changes and more time should be devoted to conceptualise integration before implementation. Thus, a whole systems approach (including community bridging actors) to improvement needs to be taken into consideration rather than an intervention-focussed approach(33).

Some women interviewed in our study settings would not answer freely some of the questions (e.g. around family planning themes, decision-making dynamics) making it difficult to elicit mechanisms of change. Some difficulties also arose with some HFWs refusing to be recorded for fear of being reported (even though confidentiality was assured) to their supervisors. Furthermore HFWs are not empowered to question leadership and hierarchy and most were reluctant to do so during interviews, limiting our ability to test programme theories around leadership. Finally, a certain degree of implementation strength is required for realist evaluation to test programme theories and to draw links between CMO configurations. In Malawi for example where implementation was delayed and limited, only a few programme theories could be tested.

Conclusions

While countries are making substantial progress in maternal and newborn health, further improvements can be achieved by implementing innovative interventions in the postpartum period. Strengthening health systems, integrating service delivery for the postpartum period and promoting demand for postpartum care through community interventions offers potential for success; and realist evaluation can help investigate how, where, for whom and in what circumstances such successful interventions work.

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Contributors:

ND was one of the evaluators; she coordinated and supervised data collection in all sites, designed the data analysis plan, led the qualitative data analysis and drafted the manuscript. SM was one of the evaluators; she designed the realist evaluation protocol, contributed to the qualitative data analysis and helped revise the paper, contributing intellectual content. BN was one of the evaluators; he contributed to evaluation design and analysis, and helped revise the paper, contributing intellectual content. PM coordinated the participatory evaluation workshops in all sites, contributed to the qualitative data analysis as part of the evaluation team and commented on earlier drafts. DM and HB contributed to the qualitative data analysis as part of the evaluation team. FYB, WMEY, CY and SB conducted the qualitative fieldwork in Burkina Faso. HT was involved in the implementation of the MOMI interventions in Burkina Faso, collected quantitative data and commented on earlier drafts. AC was involved in the implementation of the MOMI interventions in Burkina Faso and collected quantitative data. SK coordinated the MOMI research at the Burkina Faso study site and the quantitative monitoring at all four sites. VOM and OKM conducted the qualitative fieldwork in Kenya. VOM was also involved in the implementation of the MOMI interventions in Kenya. EI was involved in the implementation of the MOMI interventions in Kenya and contributed to the interpretation of the results during stakeholder workshops. PG coordinated the MOMI research at the Kenya study site and contributed to the interpretation of the results during stakeholder workshops. ZD and AK conducted the qualitative fieldwork in Malawi. ZD was also involved in the implementation of the MOMI interventions in Malawi. CM coordinated the MOMI research at the Malawi study site and contributed to the interpretation of the results during stakeholder workshops. JT, MGC and MM conducted the qualitative fieldwork in Mozambique. MM was also involved in the implementation of the MOMI interventions in Mozambique. SG coordinated the MOMI research at the Mozambique study site and helped revising the paper. NBO coordinated the MOMI research at the Mozambique study site and commented on drafts of the paper. SF was involved in the implementation of the MOMI interventions in Mozambique and contributed to the interpretation of the results during stakeholder workshops. EO coordinated the MOMI consortium along with ED and contributed to the interpretation of the results during stakeholder workshops. ED was the overall MOMI consortium scientific coordinator and helped revising the paper. TC was one of the evaluators; he designed and led the quantitative component of the evaluation, contributed to evaluation design and analysis, and helped revise the paper, contributing intellectual content. All authors read and approved the final version of the manuscript.

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Competing Interests:

All authors declare no competing interests.

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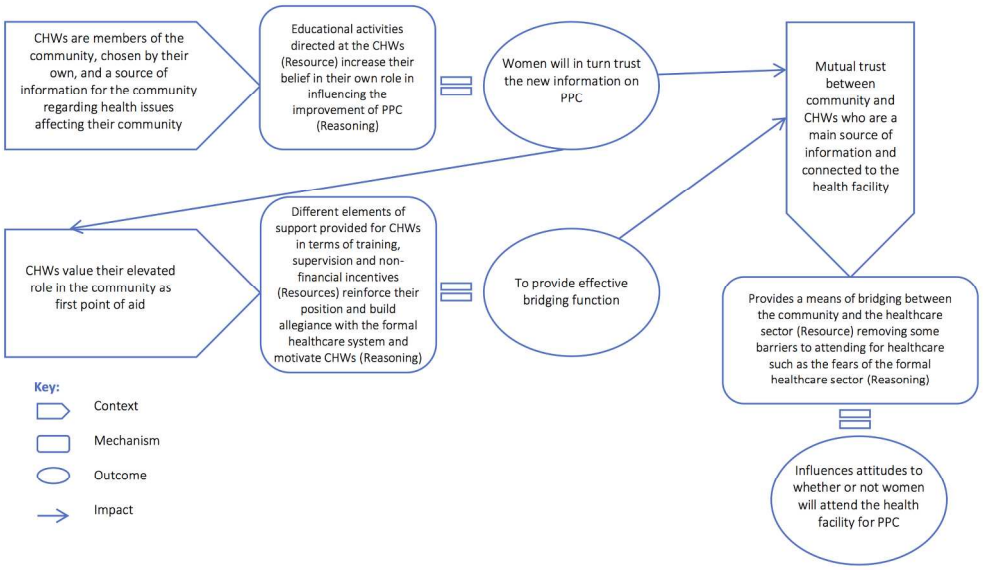


Figure 1: CMO configurations for the bridging theory

831x477mm (72 x 72 DPI)

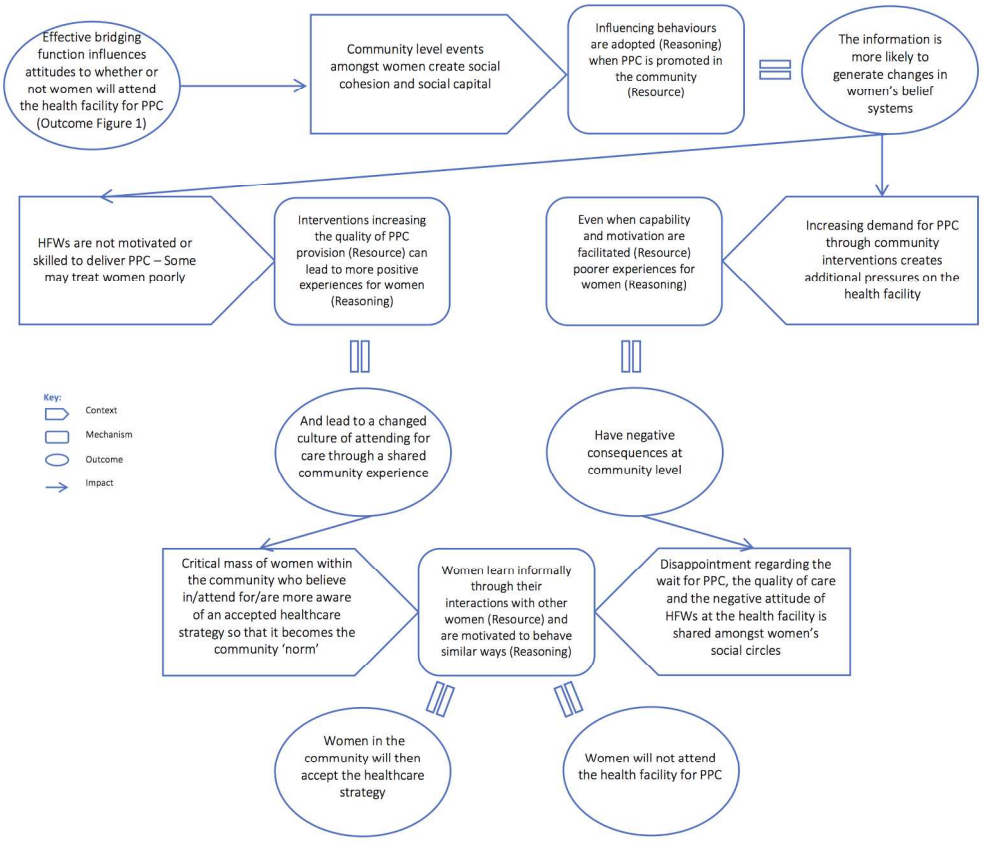


Figure 2: CMO configurations for the buzz theory

829x715mm (72 x 72 DPI)

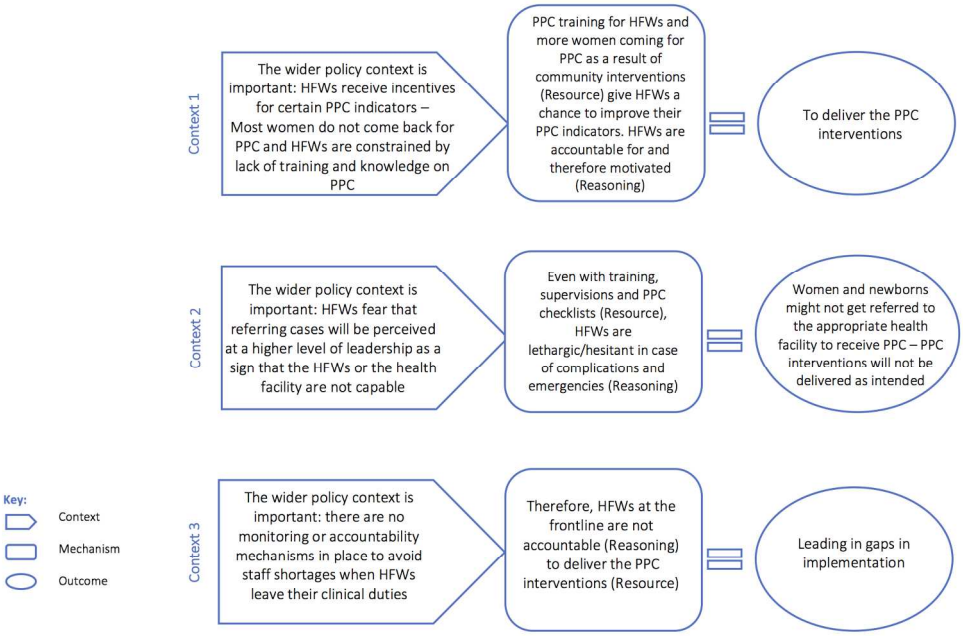


Figure 3: CMO configurations for the motivation by accountability theory

741x490mm (72 x 72 DPI)

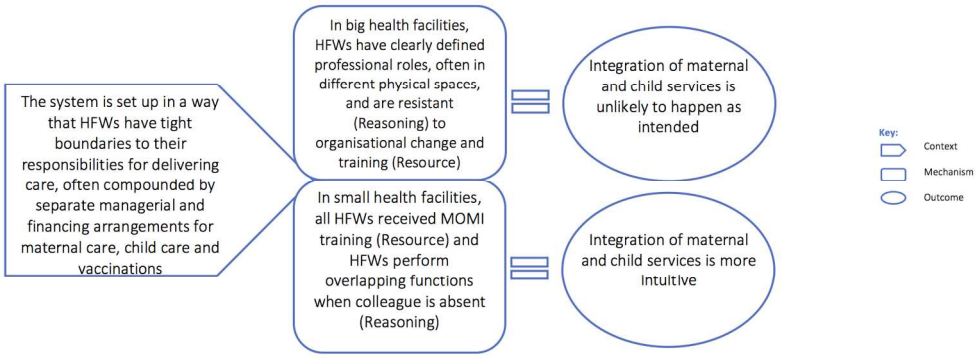


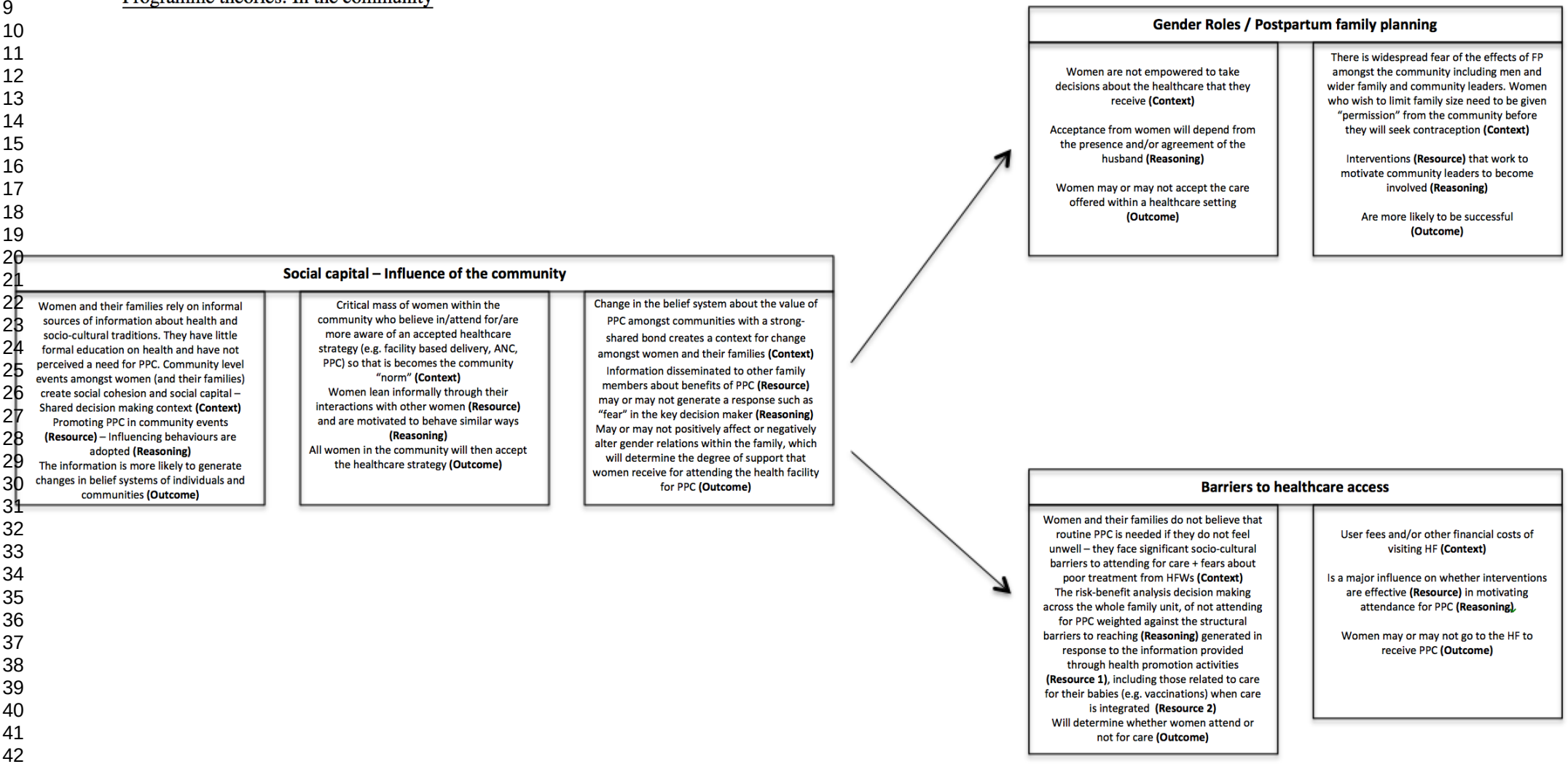
Figure 4: CMO configurations for the motivation by accountability theory

686x264mm (72 x 72 DPI)

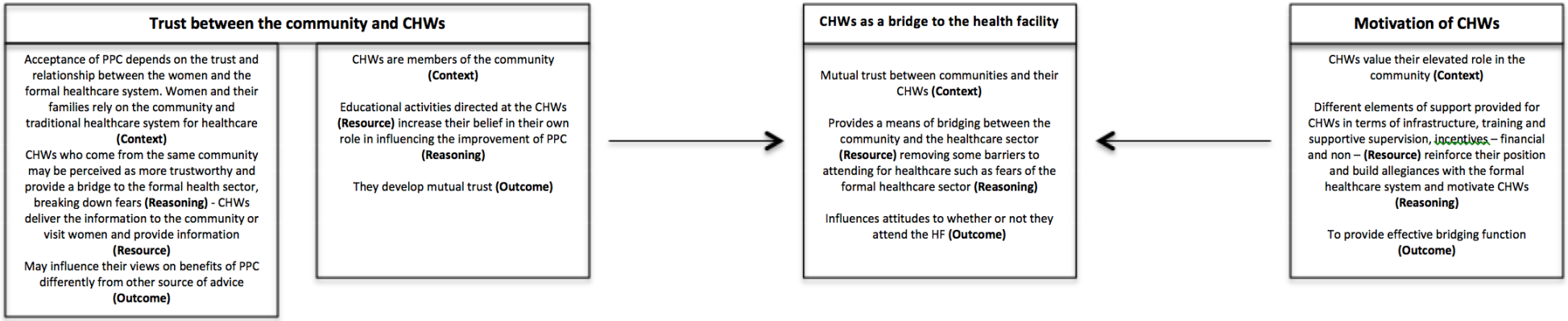
Appendix 1. Programme theories represented by Context (C) – Mechanism (M) – Outcome (O) Configurations

These configurations were theorised based on the first wave of data collection and tested with the data collected in the second wave of data collection.
Mechanisms are broken down into Resources and Reasoning[28]. Arrows indicate how a set of CMO is hypothesised to impact the context of another set of CMO.

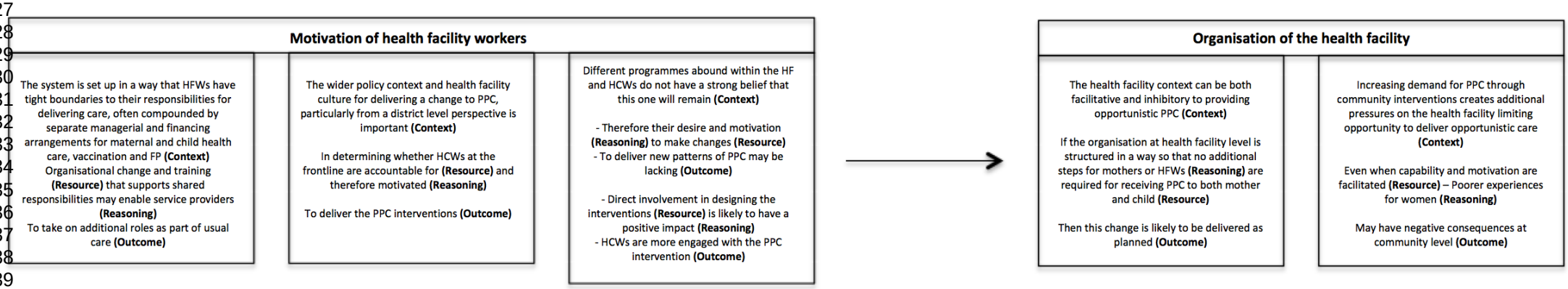
Programme theories: In the community



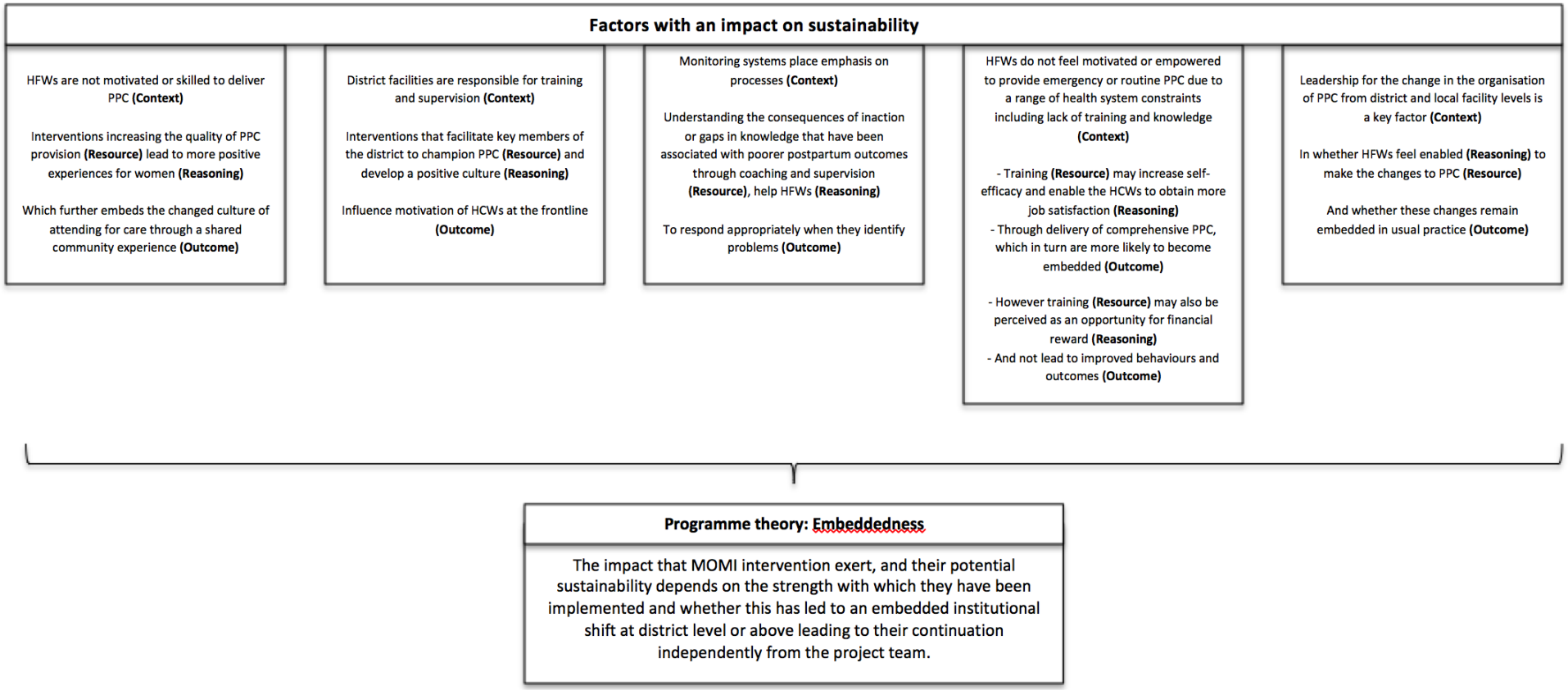
Programme theories: The link between the community and the health facility



Programme theories: In the health facility



Programme theories: From the health facility towards sustainability



MOMI Work package 5

Guidelines for monotoring of the implementation of MOMI postpartum interventions

September 2013

The main objective of this guideline is to provide an overview of the monotoring of the activities and outcomes of the MOMI project at the four MOMI sites

www.momiproject.eu

Prof Seni Kouanda Institut de Recherche en Sciences de la Santé (IRSS), Ouagadougou (Burkina Faso)

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a) Responsible 5

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e) Data analysis 6

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1) The compliance of the management to the protocol for postpartum hemorrhage : *6*

2) The compliance of the management to the protocol for postpartum infections : *7*

3) The compliance of the management to the protocol for postpartum anemia: *7*

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ABBREVIATION:

WP	Work package
IRSS	Institut de Recherche en Sciences de la Santé
UCL	University college of London
ICRH	International Centre for Reproductive Health of the Ghent University

Introduction

The fifth work package (WP5) is the third phase of the research project whose objectives are the following:

Overall objective

Implement and monitor interventions used in order to improve maternal health in the postpartum and newborn care at the study sites.

Specific objectives

- Integrate the selected interventions in the health system of each site of the project.
- Monitor the implementation of the intervention packages at each site through a set of indicators.
- Evaluate the process of implementation of the interventions and if necessary make recommendations for overcoming obstacles.

The expected outcome of WP5 is to have an optimal implementation of intervention packages at each of the study sites, and for this a methodology has been developed. At each site an implementation and monitoring plan has been developed. This plan includes the programming of the activities that are necessary for the implementation of the project's interventions.
For the monitoring, a set of realistic indicators were selected. Most of these indicators are site-specific and tailored to the selected intervention packages.

Tools for the collection of these indicators at each site were developed.

This paper proposes a methodology for the collection of these indicators.

Methodology:

1) Preparing for data collection

a) Health workers information: Inform the health workers on the indicators to be collected, on their appropriateness, the frequency of collection, the potential sources of information, and the need to have sufficient documentation for a collection of quality (this could done during the training workshops).

b) Tools piloting: each site should pilot the monitoring tools on at least one health facility to ensure the feasibility of collecting the indicators chosen: for each indicator, make sure that

there is a source of information reliable and updated to collect it (availability of source documents for the collection of all data, adequate documentation of information sources).

Propose alternatives for the collection of indicators where existing sources are insufficient.

c) Focal point: At each facility identify a key person who will daily ensure the resilience of sources of information and prepare the documents necessary for the data collection before each visit of the person in charge of the data collection.

2) Data collection

a) Responsible: Each team will designate among its members a person who will be in charge of data collection and this person will be in close contact with the focal points to plan and prepare field trips for data collection.

At the end of each collection, documented feedback on the collection made : positives and areas for improvement will be done to each focal point, on the basis of this feedback relevant and realistic consensus recommendations (to maintain or improve the quality of data) with specific deadlines for implementation and responsible for monitoring should be proposed. This feedback and recommendations arising from this will be brought to the knowledge of all health workers by the focal point during the usual staffs.

It is important to maintain regular contact with the various focal points for promptness in resolving any difficulties. This contact may be provided by phone and regular field visits. At each visit a report on the state of implementation of the recommendations made during previous visits must be made by the person in charge of data collection and the focal point. At the end of each collection visit a synthesis report summarizing the feedback and recommendations proposed at each site will be sent to the the district team and the research team and each team will send quarterly an monitoring report to the team responsible for WP5 (IRSS).

b) Data collection: Indicators should be collected monthly at each study site.

c) Sources of data collection

It could be: register of delivery, postnatal care, family planning, prenatal care, counseling and healthy infant immunization, and village midwives' activities reports.

This is a non-exhaustive list of data source and each team must identify the appropriate sources for data collection.

Regarding indicators for assessing the compliance of pick norms and standards, local teams should define quality standards of care and ensure the availability of documentation for this assessment. Also training of health workers should be based on the norms and standards that will serve as reference for the evaluation of care.

d) Management of data collected

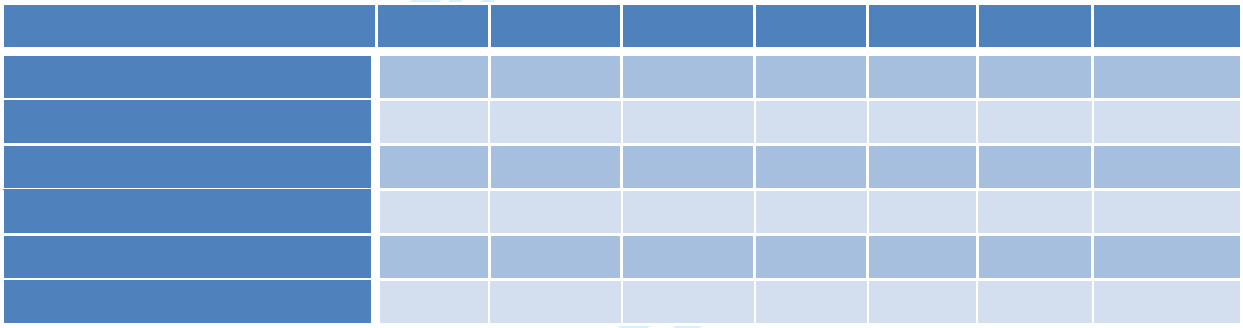
Data will be send monthly to IRSS team. Monitoring reports should be submitted every six months by the research teams to IRSS team (responsible for monitoring), UCL team (in charge of evaluation) and ICRH team (responsible for coordination).

Based on the findings of these reports, plans for implementation can be adapted to strengthen the process of implementation.

e) Data analysis

IRSS team will make each six month a report to all teams on the development of indicators.

3) Planning



Quality of care criteria regarding Burkina Faso's indicators

1) The compliance of the management to the protocol for postpartum hemorrhage :

It will be judged on the following criteria:

- The implementation of preventive measures AMTSL
- Notification of the occurring time of the hemorrhage for the cases occurring in health facility and the arrival time of the woman at the health facility for those occurring at home
- Evaluation of the impact on the general state: state of consciousness, state of the conjunctiva, vital signs (blood pressure, pulse)
- Approach for etiological diagnosis: a review of the genital tract (cervix, vagina, perineum), check of the placenta
- Compliance of the diagnosis

- Support:

- General measure: placing a venous, uterine massage, oxytocin 10 IU intramuscularly
- Specific treatment according to the founding cause

- Time of reference for the cases referred to the regional hospital
- Promptness of the reference

***2) The compliance of the management to the protocol for postpartum infections* :**

It will be judged on the following criteria:

- Notification of the date, place and time of delivery
- Evaluation of the impact on the general state: state of consciousness, state of the conjunctiva, vital signs (blood pressure, pulse, temperature)
- Approach for etiological diagnosis: seeking thrill of smelly vaginal discharge, abdominal or pelvic pain sensitivity of the uterus
- Compliance of the final diagnosis
- Support:

- General measures: installation of intravenous, administration of broad-spectrum antibiotic
- Specific treatment according to the founding cause

- Time of the reference for the cases referred to the regional hospital
- Promptness of the reference

3) The compliance of the management to the protocol for postpartum anemia:

It will be judged on the following criteria:

- Notification of the date, place and time of delivery
- Evaluation of the impact on the general state: state of consciousness, state of the conjunctiva, vital signs (blood pressure, pulse, temperature), edema of the lower limbs

- Approach for etiological diagnosis: search current or previous vaginal bleeding
- Support:
  - General measures: prescription of an anti-anemic
  - Specific treatment according to the founding cause
- Time reference for the cases referred
- Promptness of the reference for the cases referred to the regional hospital

4) The compliance of the management protocol for newborn infection:

It will be judged on the following criteria:

- Notification of the date, place and time of delivery
- Examination of the newborn: consciousness, color, respiratory rate, temperature, condition of the cord, purulent discharge from the eyes, hypotonia, icteria, unexplained crying
- Compliance of the diagnosis
- Support: Essential care for newborn and reference to regional hospital.

***5) The compliance of the management protocol for preterm infants*:**

It will be judged on the following criteria:

- Notification of the date, place and time of delivery
- Examination of the newborn: looking for signs of danger, notification of the weight and the gestational age at birth
- Support: Essential care of newborn and reference to regional hospital

Codes for Burkina Faso

1) Codes for the persons in charge of the monitoring:

- Dr Halima TOUGRI code : **001**
- Dr Abou COULIBALY code **: 002**

- Dr Charles KABORE code **: 003**

2) Codes for data entry operators *:*

- First data entry operator code: **01A**
- Second data entry operator code: **01B**

3) Codes for health facilities :

Table 2: Codes for health facilities

Health facility	**Code**
Basnéré	**001**
Damesma	**002**
Delga	**003**
Kalambaogo	**004**
Lebda	**005**
Namsigui	**006**
Napalgué	**007**
Tangasgo	**008**
Secteur 1	**009**
Secteur 4	**010**
Secteur 6	**011**
Secteur 7	**012**

Fiche de monitoring des activités des agents de santé

Variable	Question	Réponse	Codes
FRSFS 01	Nom de la personne en charge du monitoring	.....	|___|___|___|
FRSFSH 02	Date du monitoring (jj/mm/aaaa)	|__|__|/|__|__|/20|__|__|	
FRSFSH 03	Nom de la formation sanitaire	.....	|___|___|___|
FRSFSH 04	Mois faisant l'objet du monitoring (mm/aaaa)	|__|__|/20|__|__|	
FRSFSH 05	Nombre d'accouchements non gémellaires ayant eu lieu dans la formation sanitaire au cours de la période	|___|___|___|	
FRSFSH 06	Nombre d'accouchements gémellaires ayant eu lieu dans la formation sanitaire au cours de la période	|___|___|___|	
FRSFSH 07	Nombre d'accouchements à domicile au cours de la période	|___|___|___|	
FRSFSH 08	Nombre de naissances vivantes au cours de la période	|___|___|___|	
FRSFSH 09	Nombre d'accouchées dans la formation sanitaire ayant développé une HPP	|___|___|___|	
FRSFSH 10	Nombre d'accouchées dans la formation sanitaire pour lesquelles le protocole de prise en charge de HPP a été respecté	|___|___|___|	
FRSFSH 11	Nombre d'accouchées dans la formation sanitaire décédées à la suite d'une HPP	|___|___|___|	
FRSFSH 12	Nombre d'accouchées dans la formation sanitaire ayant développé une infection du post-partum	|___|___|___|	
FRSFSH 13	Nombre d'accouchées dans la formation sanitaire pour lesquelles le protocole de prise en charge des infections du post-partum a été respecté	|___|___|___|	
FRSFSH 14	Nombre d'accouchées dans la formation sanitaire décédées à la suite d'une infection du post-partum	|___|___|___|	
FRSFSH 15	Nombre d'accouchées dans la formation sanitaire ayant développé une anémie du	|___|___|___|	

	post-partum		
FRSFSH 16	Nombre d'accouchées dans la formation sanitaire pour lesquelles le protocole de prise en charge des anémies du post-partum a été respecté	|___|___|___|	
FRSFSH17	Nombre d'accouchées dans la formation sanitaire décédées d'une anémie du post-partum	|___|___|___|	
FRSFSH18	Nombre de nouveau-nés ayant développé une infection néonatale.	|___|___|___|	
FRSFSH19	Nombre de nouveau-nés avec une infection néonatale ayant bénéficié d'une prise en charge conforme au protocole	|___|___|___|	
FRSFSH20	Nombre de nouveau-né décédés d'une infection néonatale	|___|___|___|	
FRSFSH21	Nombre de nouveau-né prématurés	|___|___|___|	
FRSFSH22	Nombre de nouveau-né prématurés pour lesquels la prise en charge a été conforme au protocole	|___|___|___|	
FRSFSH23	Nombre de nouveau-né décédés de prématurité	|___|___|___|	
FRSFSH24	Nombre de couple mère-enfant ayant bénéficié de soins post-partum à J6-10	|___|___|___|	
FRSFSH25	Nombre de couple mère-enfant ayant bénéficié de soins post-partum à S6-8	|___|___|___|	
FRSFSH26	Nombre de couple mère-enfant ayant bénéficié de soins post-partum à M9-12	|___|___|___|	
FRSFSH27	Nombre d'accouchées ayant bénéficié d'une proposition de méthode de PF	|___|___|___|	
FRSFSH28	Nombre de femmes utilisant une méthode de PF dans le post-partum	|___|___|___|	
FRSFSH29	Nom du 1er agent de saisie	.....	|__|__|__|
FRSFSH30	Date de la 1ère saisie (jj/mm/aaaa)	|__|__|/|__|__|/20|__|__|	
FRSFSH31	Nom du 2ème agent de saisie	.....	|__|__|__|
FRSFSH32	Date de la 2ème saisie (jj/mm/aaaa)	|__|__|/|__|__|/20|__|__|	

Rencontre avec le point focal de la formation sanitaire : synthèse des difficultés rencontrées et recommandations proposées.		
Synthèse des principales difficultés rencontrées dans la mise en œuvre des activités: **1)** ..... **2)** ..... **3)** ..... **4)** ..... **5)**		
Recommandations proposées		
recommandation	**Délai de mise en œuvre [jj/mm/20aa]**	**Responsable**

Fiche de monitoring des activités des AV

Variable	Question	Réponse	Code
FRSAV 01	Nom de la personne en charge du monitoring	.....	|__|__|__|
FRSAV 02	Date du monitoring (jj/mm/aaaa)	|__|__|/|__|__|/20|__|__|	
FRSAV 03	Nom de la formation sanitaire	..... .	|__|__|__|
FRSAV 04	Mois faisant l'objet du monitoring (mm/aaaa)	|__|__| /20|__|__|	
FRSAV 05	Nombre d'accouchées ayant reçu la visite d'une AV à domicile	|___|___|__|	
FRSAV 06	Nombre d'accouchées ayant reçu la visite d'une AV à domicile dans les 7 jours ayant suivi l'accouchement	|__|__|__|	
FRSAV 07	Nombre d'accouchées ayant reçu la visite d'une AV à domicile entre la 6ème et la 8ème semaine après l'accouchement	|__|__|__|	
FRSAV 08	Nombre d'accouchées ayant reçu la visite d'une AV à domicile entre le 9ème et le 12ème mois après l'accouchement	|__|__|__|	
FRSAV 09	Nombre de femmes ayant accouché à domicile et ayant reçu des soins post-partum dans une formation sanitaire dans les 24h ayant suivi l'accouchement	|__|__|__|	
FRSAV 10	Nom du 1er agent de saisie	.....	|__|__|__|
FRSAV 11	Date de la 1ère saisie (jj/mm/aaaa)	|__|__|/|__|__|/20|__|__|	
FRSAV 12	Nom du 2ème agent de saisie	.....	|__|__|__|
FRSAV 13	Date de la 2ème saisie (jj/mm/aaaa)	|__|__|/|__|__|/20|__|__|	

Rencontre avec les AV relevant de l'aire de la formation sanitaire : synthèse des difficultés rencontrées et recommandations proposées.

Synthèse des principales difficultés rencontrées dans la mise en œuvre des activités:

6) .....

7) .....

8) .....

9) .....

10) .....

Recommandations proposées		
recommandation	**Délai de mise en œuvre [jj/mm/20aa]**	**Responsable**

MOMI Work package 5

Guidelines for monotoring of the implementation of MOMI postpartum interventions (Kenya)

September 2013

The main objective of this guideline is to provide an overview of the monotoring of the activities and outcomes of the MOMI project at the four MOMI sites

www.momiproject.eu

Prof Seni Kouanda Institut de Recherche en Sciences de la Santé (IRSS), Ouagadougou (Burkina Faso)

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3) Codes for health facilities: 6

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ABBREVIATION:

WP	Work package
IRSS	Institut de Recherche en Sciences de la Santé
UCL	University college of London
ICRH	International Centre for Reproductive Health of the Ghent University

Introduction

The fifth work package (WP5) is the third phase of the research project whose objectives are the following:

Overall objective

Implement and monitor interventions used in order to improve maternal health in the postpartum and newborn care at the study sites.

Specific objectives

- Integrate the selected interventions in the health system of each site of the project.
- Monitor the implementation of the intervention packages at each site through a set of indicators.
- Evaluate the process of implementation of the interventions and if necessary make recommendations for overcoming obstacles.

The expected outcome of WP5 is to have an optimal implementation of intervention packages at each of the study sites, and for this a methodology has been developed. At each site an implementation and monitoring plan has been developed. This plan includes the programming of the activities that are necessary for the implementation of the project's interventions. For the monitoring, a set of realistic indicators were selected. Most of these indicators are site-specific and tailored to the selected intervention packages. Tools for the collection of these indicators at each site were developed. This paper proposes a methodology for the collection of these indicators.

Methodology:

1) Preparing for data collection

a) Health workers information

Inform the health workers on the indicators to be collected, on their appropriateness, the frequency of collection, the potential sources of information, and the need to have sufficient documentation for a collection of quality (this could done during the training workshops).

b) Tools piloting

Each site should pilot the monitoring tools on at least one health facility to ensure the feasibility of collecting the indicators chosen: for each indicator, make sure that there is a source of information reliable and updated to collect it (availability of source documents for the collection of all data, adequate documentation of information sources). Propose alternatives for the collection of indicators where existing sources are insufficient.

c) Focal point

At each facility identify a key person who will daily ensure the resilience of sources of information and prepare the documents necessary for the data collection before each visit of the person in charge of the data collection.

2) Data collection

a) Responsible

Each team will designate among its members a person who will be in charge of data collection and this person will be in close contact with the focal points to plan and prepare field trips for data collection. At the end of each collection, documented feedback on the collection made : positives and areas for improvement will be done to each focal point, on the basis of this feedback relevant and realistic consensus recommendations (to maintain or improve the quality of data) with specific deadlines for implementation and responsible for monitoring should be proposed. This feedback and recommendations arising from this will be brought to the knowledge of all health workers by the focal point during the usual staffs.

It is important to maintain regular contact with the various focal points for promptness in resolving any difficulties. This contact may be provided by phone and regular field visits. At each visit a report on the state of implementation of the recommendations made during previous visits must be made by the person in charge of data collection and the focal point. At the end of each collection visit a synthesis report summarizing the feedback and recommendations proposed at each site will be sent to the the district team and the research team and each team will send quarterly an monitoring report to the team responsible for WP5 (IRSS).

b) Data collection

Indicators should be collected monthly at each study site.

c) Sources of data collection

It could be: register of delivery, postnatal care, family planning, prenatal care, counseling and healthy infant immunization, and village midwives' activities reports. This is a non-exhaustive list of data source and each team must identify the appropriate sources for data collection. Regarding indicators for assessing the compliance of pick norms and standards, local teams should define quality standards of care and ensure the availability of documentation for this assessment. Also training of health workers should be based on the norms and standards that will serve as reference for the evaluation of care.

d) Management of data collected

Data will be sent monthly to IRSS team. Monitoring reports should be submitted every six months by the research teams to IRSS team (responsible for monitoring), UCL team (in charge of evaluation) and ICRH team (responsible for coordination). Based on the findings of these reports, plans for implementation can be adapted to strengthen the process of implementation.

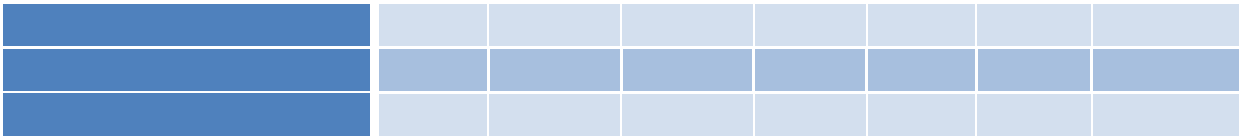
e) Data analysis

IRSS team will make each six month a report to all teams on the development of indicators.

3) Planning

Table 1: Activity scheduling

acitivity							



Codes for Kenya

1) Codes for the persons in charge of the monitoring:

- First person code : **001**
- Second person code **: 002**
- Third person code **: 003**

2) Codes for data entry operators *:*

- First data entry operator code: **01A**
- Second data entry operator code: **01B**

3) Codes for health facilities:

Table2: Codes for health facilities

Name of Health facility	**Code**
Kwale DH	**001**
Tiwi HC (2 CUs)	**002**
Mkongani HC	**003**
Kizibe Disp	**004**
Magodzoni Disp	**005**
Matuga Disp	**006**
Mazumalume Disp	**007**
Mwaluphamba Disp	**008**
Vyongwani	**009**
Ngombeni	**010**

Annexes

Monitoring tool (A) for health facilities (Kenya)

Variable	Question	Response	codes
01	Name of the data collector		|__|__|__|
02	Monitoring date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|	
03	Name of the health facility		|__|__|__|
04	Period covered by the monitoring (dd/mm/yyyy) to (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__| to |__|__|/|__|__|/20|__|__|	
Strengthening immediate PPC for mother and newborn			
05	Number of women who delivered in the facility	|__|__|__|	
06	Number of women who received PPC within 48 hours of delivery at the facility	|__|__|__|	
07	Number of women diagnosed with PPH	|__|__|__|	
08	Number of women diagnosed with postpartum pregnancy induced hypertension	|__|__|__|	
09	Number of women diagnosed with puerperal sepsis	|__|__|__|	
10	Number of newborns in the facility	|__|__|__|	
11	Number of newborns who received PPC within 48 hours of delivery at the facility	|__|__|__|	
12	Number of newborns diagnosed with birth asphyxia	|__|__|__|	
13	Number of newborns diagnosed with neonatal sepsis	|__|__|__|	
14	Number of newborns diagnosed as premature	|__|__|__|	

15	Number of newborns diagnosed with low birth weight	|__|__|__|	
16	Number of maternal deaths occurring within 48 hours delivery at the facility	|__|__|__|	
17	Number of maternal deaths occurring after 48 hours and within 6 weeks after delivery	|__|__|__|	
18	Number of neonatal deaths occurring within 48 hours after delivery at the facility	|__|__|__|	
19	Number of neonatal deaths occurring after 48 hours and within 6 weeks after delivery at the facility	|__|__|__|	
20	Number of women started on FP (including long acting methods being IUDs, implants and Depo-Provera) at the facility	|__|__|__|	
21	Number of mothers referred from the community to the facility who received PPC	|__|__|__|	
22	Number of newborns referred from the community to the facility who received PPC	|__|__|__|	
Increasing knowledge on and uptake of PPFP during the first year after delivery using the dialogue model at community and facility level			
23	Number of facility based health care workers sensitized on the dialogue model	|__|__|__|	
24	Number of CHWs and other CORPS sensitized on the dialogue model	|__|__|__|	
25	Number of dialogue sessions held at facility level	|__|__|__|	
26	Number of dialogue sessions held at community level	|__|__|__|	
Meet the focal points of the intervention: Synthesis of challenges and decisions			

Summary of positive points raised during the supervision:

1) .....
2) .....
3) .....
4) .....
5) .....

Summary of the main difficulties encountered in the implementation of the activities:

1) .....
2) .....
3) .....
4) .....
5) .....

Decisions made	**Implementation period [dd/mm/yyyy]**	**Person responsible**

Name of the first data entry operator		…….	|__|__|__|
First data entry date (dd/mm/yyyy)		|__|__|/|__|__|/20|__|__|	
Name of the second data entry operator		…….	|__|__|__|
Second data entry date (dd/mm/yyyy)		|__|__|/|__|__|/20|__|__|	

Monitoring tool (B) for CHW activities (Kenya)

Variable	Question	Response	Codes
01	Name of the monitors	1)	__|__|__|
		2)	__|__|__|
		3)	__|__|__|
02	Monitoring date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|	
03	Name of the health facility	.....	|__|__|__|
04	period covered by the monitoring (dd/mm/yyyy) to (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__| to |__|__|/|__|__|/20|__|__|	
05	Number of women who delivered at home	|__|__|__|	
06	Number of women who delivered at home who had a home visit by a CHW before 48 hours PP	|__|__|__|	
07	Number of live newborns	|__|__|__|	
08	Number of newborns who had a home visit by a CHW before 48 hours PP	|__|__|__|	
09	Number of women started on FP at the community	|__|__|__|	
10	Number of maternal deaths occurring within 48 hours after delivery at the community	|__|__|__|	
11	Number of maternal deaths occurring after 48 hours and within 6 weeks after delivery at the community	|__|__|__|	
12	Number of maternal deaths occurring after 6 weeks and within 1 year after delivery at the community	|__|__|__|	
13	Number of neonatal deaths occurring within 48 hours after delivery at the community	|__|__|__|	
14	Number of neonatal deaths occurring after 48 hours and within 6 weeks after delivery at the community	|__|__|__|	

15	Number of neonatal deaths occurring after 6 weeks and within 1 year after delivery at the community	|__|__|__|	
16	Number of women referrals from the community to the health facility for post-partum care within 48h	|__|__|__|	
17	Number of newborn referrals from the community to the health facility	|__|__|__|	

Meet the focal points of the intervention: Synthesis of challenges and decisions

Summary of positive points raised during the supervision:

1) .....
2) .....
3) .....
4) .....
5) .....

Summary of the main difficulties encountered in the implementation of the activities:

6) .....
7) .....
8) .....
9) .....
10) .....

Decisions made	**Implementation period [dd/mm/yyyy]**	**Person responsible**	

Name of the first data entry operator	.....	|__|__|__|
First data entry date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|	
Name of the second data entry operator	.....	|__|__|__|
Second data entry date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|	

MOMI Work package 5

Guidelines for monotoring of the implementation of MOMI postpartum interventions

September 2013

The main objective of this guideline is to provide an overview of the monotoring of the activities and outcomes of the MOMI project at the four MOMI sites

www.momiproject.eu

Prof Seni Kouanda Institut de Recherche en Sciences de la Santé (IRSS), Ouagadougou (Burkina Faso)

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Annexes 6

ABBREVIATION:

WP	Work package
IRSS	Institut de Recherche en Sciences de la Santé
UCL	University college of London
ICRH	International Centre for Reproductive Health of the Ghent University

Introduction

The fifth work package (WP5) is the third phase of the research project whose objectives are the following:

Overall objective

Implement and monitor interventions used in order to improve maternal health in the postpartum and newborn care at the study sites.

Specific objectives

- Integrate the selected interventions in the health system of each site of the project.
- Monitor the implementation of the intervention packages at each site through a set of indicators.
- Evaluate the process of implementation of the interventions and if necessary make recommendations for overcoming obstacles.

The expected outcome of WP5 is to have an optimal implementation of intervention packages at each of the study sites, and for this a methodology has been developed. At each site an implementation and monitoring plan has been developed. This plan includes the programming of the activities that are necessary for the implementation of the project's interventions.
For the monitoring, a set of realistic indicators were selected. Most of these indicators are site-specific and tailored to the selected intervention packages.

Tools for the collection of these indicators at each site were developed.

This paper proposes a methodology for the collection of these indicators.

Methodology

1) Preparing for data collection

a) Health workers information
Inform the health workers on the indicators to be collected, on their appropriateness, the frequency of collection, the potential sources of information, and the need to have sufficient documentation for a collection of quality (this could done during the training workshops).

b) Tools piloting

Each site should pilot the monitoring tools on at least one health facility to ensure the feasibility of collecting the indicators chosen: for each indicator, make sure that there is a source of information reliable and updated to collect it (availability of source documents for the collection of all data, adequate documentation of information sources).

Propose alternatives for the collection of indicators where existing sources are insufficient.

c) Focal point

At each facility identify a key person who will daily ensure the resilience of sources of information and prepare the documents necessary for the data collection before each visit of the person in charge of the data collection. (To use use Statistical Clerks or Senior Health Surveillance Assistant responsible for data at each facility)

2) Data collection

a) Responsible

Each team will designate among its members a person who will be in charge of data collection and this person will be in close contact with the focal points to plan and prepare field trips for data collection.

At the end of each collection, documented feedback on the collection made : positives and areas for improvement will be done to each focal point, on the basis of this feedback relevant and realistic consensus recommendations (to maintain or improve the quality of data) with specific deadlines for implementation and responsible for monitoring should be proposed. This feedback and recommendations arising from this will be brought to the knowledge of all health workers by the focal point during the usual staffs.

It is important to maintain regular contact with the various focal points for promptness in resolving any difficulties. This contact may be provided by phone and regular field visits. At each visit a report on the state of implementation of the recommendations made during previous visits must be made by the person in charge of data collection and the focal point. At the end of each collection visit a synthesis report summarizing the feedback and recommendations proposed at each site will be sent to the the district team and the research team and each team will send quarterly an monitoring report to the team responsible for WP5 (IRSS).

b) Data collection

Two tools are available. Tool A is for collecting data from health facilities and tool B from CHW. Indicators should be collected monthly at each study site.

c) Sources of data collection

It could be: register of delivery, postnatal care, family planning, prenatal care, counseling and healthy infant immunization, and village midwives' activities reports.

This is a non-exhaustive list of data source and each team must identify the appropriate sources for data collection.

Regarding indicators for assessing the compliance of pick norms and standards, local teams should define quality standards of care and ensure the availability of documentation for this assessment. Also training of health workers should be based on the norms and standards that will serve as reference for the evaluation of care.

d) Management of data collected

Data will be send monthly to PACHI team. Monitoring reports should be submitted every six months by the research teams to IRSS team (responsible for monitoring), UCL team (in charge of evaluation) and ICRH team (responsible for coordination).

Based on the findings of these reports, plans for implementation can be adapted to strengthen the process of implementation.

e) Data analysis

IRSS team will make each six month a report to all teams on the development of indicators.

Annexes

Monitoring tool (A) of health workers activities (Malawi)

Variable	Question	Answer
01	Name of the person in charge of the monitoring	See codes |__|__|__|
02	Monitoring date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|
03	Name of the health facility	See codes |__|__|__|
04	Month covered by the monitoring (dd/mm/yyyy) to (dd/mm/yyyy)	|__|__|/20|__|__|
05	Number of women who delivered	|__|__|__|
06	Number of women who delivered who were diagnosed with anaemia	|__|__|__|
07	Number of women diagnosed with anaemia for whom the anaemia management protocol was followed	|__|__|__|
08	Number of women who delivered who were diagnosed with PP sepsis	|__|__|__|
09	Number of women diagnosed with PP sepsis for whom the PP sepsis management protocol was followed	|__|__|__|
10	Number of women who delivered who died of PP sepsis	|__|__|__|
11	Number of women who delivered who were diagnosed with HIV	|__|__|__|
12	Number of women diagnosed with HIV for whom the HIV management protocol was followed	|__|__|__|
13	Number of women who delivered who were counselled on FP and provided contraceptives	|__|__|__|
14	Number of women who delivered who had a nutrition check and counselling	|__|__|__|
15	of women who had a nutrition check who have a BMI <18.5 or >25	|__|__|__|
16	Number of newborn who were diagnosed with PP sepsis	|__|__|__|
17	Number of newborn diagnosed with PP sepsis for whom the PP sepsis management protocol was followed	|__|__|__|
18	Number of newborn who died of PP sepsis	|__|__|__|
19	Number of infants seen at the health facility	|__|__|__|
20	Number of infants seen at the health facility who had a growth monitoring check	|__|__|__|
21	Number of infants seen at the health facility who have low height for age - measured as HAZ<2 (Height for Age Z-score, more than 2	|__|__|__|

	standard deviations below normal growth curve)	
22	Number of infants seen at the health facility whose mothers had counseling on infant feeding and nutrition counseling	|__|__|__|
23	Number of infants seen at the health facility who were diagnosed with pneumonia	|__|__|__|
24	Number of infants diagnosed with pneumonia for whom the pneumonia management protocol was followed	|__|__|__|
25	Number of infants seen at the health facility who died of pneumonia	|__|__|__|
26	Number of men attending ANC who were counselled on FP and for which their wife was provided contraceptives	|__|__|__|
27	Number of men attending the health facility who were counselled on FP and for which their wife was provided contraceptives	|__|__|__|
28	Number of men visited at home for FP counselling and for which their wife was provided contraceptives	|__|__|__|
29	Number of men meeting in groups to discuss FP and contraception	|__|__|__|
30	Number of mothers initiating family planning within 1 year post-partum (PPFP)	|__|__|__|
31	Number of women delivered at Ntchisi District Hospital who received PPIUD	|__|__|__|
32	Name of the first data entry operator	See codes |__|__|__|
33	First data entry date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|
34	Name of the second data entry operator	See codes |__|__|__|
35	Second data entry date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|

Meet the focal points of the intervention: synthesis of challenges and decisions.

Summary of positive points raised during the supervision:

1) .....

2) .....

3) .....

4) .....

5) .....

Summary of the main difficulties encountered in the implementation of the activities:

1) .....

2) .....

3) .....

4) .....

5) .....

Decisions		
Decision	Period of implementation [dd/mm/20yy]	Responsible

Monitoring tool (B) of the CHW activities (Malawi)

Variable	Question	Responses
01	Name of the person in charge of the monitoring	See codes|__|__|__|
02	Monitoring date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|
03	Name of the health facility	See codes |__|__|__|
04	Month covered by the monitoring (dd/mm/yyyy)	|__|__|/20|__|__|
05	Number of men visited at home	|__|__|__|
06	Number of men visited at home for FP counseling who were provided contraceptives	|__|__|__|
07	Number of men meeting in groups to discuss FP and contraception	|__|__|__|
08	Number of men (estimated from census)	|__|__|__|
09	Number of pregnancies registered at community level	|__|__|__|
10	Number of pregnant women who were counselled on FP during their third trimester	|__|__|__|
11	Number of pregnant women who were counselled on birth preparedness during their third trimester	|__|__|__|
12	Number of pregnant women tested for HIV	|__|__|__|
13	Number of women who had a baby who were counselled on nutrition during their first week PP	|__|__|__|
14	Number of women who had a baby who were counselled on hygiene during their first week PP	|__|__|__|
15	Number of women who had a baby who were counselled on danger signs during their first week PP	
16	Number of pregnant women who were counselled on breastfeeding during their third trimester pregnancy	|__|__|__|
17	Number of babies exclusively breast-fed up to 6 months	|__|__|__|
18	Number of women who had a baby who were counselled on immunizations for the baby	|__|__|__|
19	Number of babies fully immunised at month 5	|__|__|__|
20	Number of women who had a baby who were counselled on warmth for the baby	|__|__|__|
21	Number of babies getting hypothermia	|__|__|__|
22	Number of women who had a baby who were counselled on hygiene for the baby	|__|__|__|
23	Number of babies getting sepsis	|__|__|__|
24	Number of women who had a baby who were counselled on danger signs for the baby	|__|__|__|
25	Number of babies getting any other complication	|__|__|__|
26	Number of women who had a baby who were counselled on	|__|__|__|

	complementary feeding after 6 months and preparation of weaning food for their baby	
27	Name of the first data entry operator	See codes |__|__|__|
28	First data entry date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|
27	Name of the second data entry operator	See codes |__|__|__|
28	Second data entry date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|

Meet the focal points of the intervention: synthesis of challenges and decisions.

Summary of positive points raised during the supervision:

6) .....

7) .....

8) .....

9) .....

10) .....

Summary of the main difficulties encountered in the implementation of the activities:

6) .....

7) .....

8) .....

9) .....

10) .....

Decisions

Decision	Period of implementation [dd/mm/20yy]	Responsible

MOMI Work package 5

Guidelines for monotoring of the implementation of MOMI postpartum interventions (Mozambique)

September 2013

The main objective of this guideline is to provide an overview of the monotoring of the activities and outcomes of the MOMI project at the four MOMI sites

www.momiproject.eu

Prof Seni Kouanda Institut de Recherche en Sciences de la Santé (IRSS), Ouagadougou (Burkina Faso)

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ABBREVIATION:

WP	Work package
IRSS	Institut de Recherche en Sciences de la Santé
UCL	University college of London
ICRH	International Centre for Reproductive Health of the Ghent University

Introduction

The fifth work package (WP5) is the third phase of the research project whose objectives are the following:

Overall objective

Implement and monitor interventions used in order to improve maternal health in the postpartum and newborn care at the study sites.

Specific objectives

- Integrate the selected interventions in the health system of each site of the project.
- Monitor the implementation of the intervention packages at each site through a set of indicators.
- Evaluate the process of implementation of the interventions and if necessary make recommendations for overcoming obstacles.

The expected outcome of WP5 is to have an optimal implementation of intervention packages at each of the study sites, and for this a methodology has been developed. At each site an implementation and monitoring plan has been developed. This plan includes the programming of the activities that are necessary for the implementation of the project's interventions.
For the monitoring, a set of realistic indicators were selected. Most of these indicators are site-specific and tailored to the selected intervention packages.

Tools for the collection of these indicators at each site were developed.

This paper proposes a methodology for the collection of these indicators.

Methodology:

1) Preparing for data collection

a) Health workers information

Inform the health workers on the indicators to be collected, on their appropriateness, the frequency of collection, the potential sources of information, and the need to have sufficient documentation for a collection of quality (this could done during the training workshops).

b) Tools piloting

Each site should pilot the monitoring tools on at least one health facility to ensure the feasibility of collecting the indicators chosen: for each indicator, make sure that there is a source of information reliable and updated to collect it (availability of source documents for the collection of all data, adequate documentation of information sources).

Propose alternatives for the collection of indicators where existing sources are insufficient.

c) Focal point

At each facility identify a key person who will daily ensure the resilience of sources of information and prepare the documents necessary for the data collection before each visit of the person in charge of the data collection.

2) Data collection

a) Responsible

Each team will designate among its members a person who will be in charge of data collection and this person will be in close contact with the focal points to plan and prepare field trips for data collection.

At the end of each collection, documented feedback on the collection made : positives and areas for improvement will be done to each focal point, on the basis of this feedback relevant and realistic consensus recommendations (to maintain or improve the quality of data) with specific deadlines for implementation and responsible for monitoring should be proposed. This feedback and recommendations arising from this will be brought to the knowledge of all health workers by the focal point during the usual staffs.

It is important to maintain regular contact with the various focal points for promptness in resolving any difficulties. This contact may be provided by phone and regular field visits. At each visit a report on the state of implementation of the recommendations made during previous visits must be made by the person in charge of data collection and the focal point. At the end of each collection visit a synthesis report summarizing the feedback and recommendations proposed at each site will be sent to the the district team and the research team and each team will send quarterly an monitoring report to the team responsible for WP5 (IRSS).

b) Data collection

Two tools are available: Tool A for health facilities and tool B for TBA monitoring activities. Indicators should be collected monthly at each study site.

c) Sources of data collection

It could be: register of delivery, postnatal care, family planning, prenatal care, counseling and healthy infant immunization, and village midwives' activities reports and checklist (community risk assessment TOOL)

This is a non-exhaustive list of data source and each team must identify the appropriate sources for data collection.

Regarding indicators for assessing the compliance of pick norms and standards, local teams should define quality standards of care and ensure the availability of documentation for this assessment. Also training of health workers should be based on the norms and standards that will serve as reference for the evaluation of care.

d) Management of data collected

Data will be send monthly to IRSS team. Monitoring reports should be submitted every six months by the research teams to IRSS team (responsible for monitoring), UCL team (in charge of evaluation) and ICRH team (responsible for coordination).

Based on the findings of these reports, plans for implementation can be adapted to strengthen the process of implementation.

e) Data analysis

IRSS team will make each six month a report to all teams on the development of indicators.

3) Planning

Table 1: Activity scheduling

acitivity							

Definitions of terms

- ✓ Checklist at community level is community assessment tool used by the CHW during the home visit
- ✓ Checklist at health facility level is the guideline which show how to take care of women in the post partum
- ✓ Women in high risk are women who developed during the post partum one or more of the following sign:
  - sepsis
  - postpartum haemorrhage
  - mental/emotional status
  - anaemia
- ✓ Babies in high risk are babies who developed a sepsis, anaemia, and babies whom mother are seropositive for HIV/STI

Codes for Mozambique

1) Codes for the persons in charge of the monitoring:

- First person code : **001**
- Second person code **: 002**
- Third person code **: 003**

2) Codes for data entry operators *:*

- First data entry operator code: **01A**
- Second data entry operator code: **01B**

3) Codes for type of health facilities:

- Type 2, peripheral HF code: **2**
- Type 1, reference hospital code:**1**

4) Codes for health facilities :

Name of Health facility	**Code**
	001
	002
	003
	004
	005
	006
	007
	008
	009
	010

Annexes

Monitoring tool (A) of health facilities

Variable	Question	responses	codes
01	Name of the data collector		|__|__|__|
02	monitoring date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|	
03	Name of the health facility		|__|__|__|
04	Type of facility	|__|	2= peripheral HF 1 :reference hospital
05	period covered by the monitoring (dd/mm/yyyy) to (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__| to |__|__|/|__|__|/20|__|__|	
Upgrade mother and newborn postpartum risk management at facility level			
06	Number of women who gave birth in the HF	|__|__|__|	
07	Number of women who gave birth in the HF who had post-partum care where the checklist was used	|__|__|__|	
08	Number of women who were checked at the HF who were found to be at high risk	|__|__|__|	
09	Number of women who were found to be at high risk after checking who were referred to HF (type 1) or to the provincial hospital within 12 hours	|__|__|__|	
10	Name of refereence hospital	|__|__|__|	
11	number of women refered to each referencial facilities	……..	
12	Name of reference hospital	|__|__|__|	
13	Number of women refered to this hospital	|__|__|__|	
14	Name of referencial hospital	|__|__|__|	
15	Number of women refered to this hospital	|__|__|__|	
16	Number of babies who were born in HF	|__|__|__|	
17	Number of babies who were born in the HF who had post-partum care where the checklist was used	|__|__|__|	

18	Number of babies who were checked at the HF who by using check list were found to be at high risk	|__|__|__|	
19	number of babies who were found to be at high risk after checking HC who were referred to another HF within 12 hours	|__|__|__|	
20	Name of reference HF		
21	Number of women refered to this HF		
22	Name of referencial HF		
23	Number of women refered to this HF		
24	Name of reference HF		
25	Number of women refered to this HF		
Scale-up access to and use of family planning methods during PP period through making immediate PP IUD insertion available at all district HFs			
26			
27	Number of women who use an Family Planning method during this period	|__|__|__|	
28	Number of women who got IUD insertion	|__|__|__|	
29	Number of women with IUD insertion within a period of 1 year after delivery	|__|__|__|	
30	Number of IUD insertion within 48 hours among total IUD inserted in women up to 1 year after delivery	|__|__|__|	
Improve access to and use of maternal PP care and services by integrating maternal PPC in child clinics			
31	Number of women attending the child vaccination	|__|__|__|	
32	Number of mothers with babies less than 1 year attending the child vaccination clinic who had a MCH consultation on HIV/STI at child clinic at HF	|__|__|__|	
33	Number of mothers with babies less than 1 year attending the child vaccination clinic who had a MCH consultation on FP at child clinic at HF	|__|__|__|	
34	Number of mothers with babies less than 1 year attending the child vaccination clinic who had a MCH consultation on Anaemia at child clinic at HF	|__|__|__|	
35	Number of mothers with babies less than 1 year attending the child vaccination clinic who had a MCH consultation on Emotional status at child clinics at HF	|__|__|__|	
36	Number of mothers with babies less than 1 year attending the child vaccination clinic who had a MCH consultation on Counseled on exclusive BF at	|__|__|__|	

	child clinic at HF		
37	Number of mothers with babies less than 1 year attending the child vaccination who had a MCH consultation on HIV/STI at Outreach child clinics		
38	Number of mothers with babies less than 1 year attending the child vaccination who had a MCH consultation on FP at Outreach child clinics		
39	Number of mothers with babies less than 1 year attending the child vaccination clinic who had a MCH consultation on Anaemia at Outreach child clinics	|__|__|__|	
40	Number of mothers with babies less than 1 year attending the child vaccination clinic who had a MCH consultation on Emotional status at Outreach child clinics	|__|__|__|	
41	Number of mothers with babies less than 1 year attending the child vaccination clinic who had a MCH consultation on Counseled on exclusive BF at Outreach child clinics	|__|__|__|	
42	Number of mothers with babies less than 1 year old who had consultation on HIV/STI at child clinic at 2 months of baby age	|__|__|__|	
43	Number of mothers with babies less than 1 year old who had consultation on HIV/STI at child clinic at 6 months of baby age	|__|__|__|	
44	Number of mothers with babies less than 1 year old who had consultation on HIV/STI at child clinic at 9 months of baby age	|__|__|__|	
45	Number of mothers with babies less than 1 year old who had consultation on FP at child clinic at 2 months of baby age	|__|__|__|	
46	Number of mothers with babies less than 1 year old who had consultation on FP at child clinic at 6 months of baby age	|__|__|__|	
47	Number of mothers with babies less than 1 year old who had consultation on FP at child clinic at 9 months of baby age	|__|__|__|	
48	Number of mothers with babies less than 1 year	|__|__|__|	

	old who had consultation on Anaemia at child clinic at 2 months of baby age		
49	Number of mothers with babies less than 1 year old received attention on Anaemia at child clinic at 6 months of baby age	|__|__|__|	
50	Number of mothers with babies less than 1 year old who had consultation on Anaemia at child clinic at 9 months of baby age	|__|__|__|	
51	Number of mothers with babies less than 1 year old who had consultation on Emotional status at child clinic at 2 months of baby age	|__|__|__|	
52	Number of mothers with babies less than 1 year old who had consultation on Emotional status at child clinic at 6 months of baby age	|__|__|__|	
53	Number of mothers with babies less than 1 year old who had consultation on Emotional status at child clinic at 9 months of baby age	|__|__|__|	
54	Number of mothers with babies less than 1 year old who had consultation on Counselled on exclusive BF at child clinic at 2 months of baby age	|__|__|__|	
55	Number of mothers with babies less than 1 year old who had consultation on Counselled on exclusive BF at child clinic 6 months of baby age	|__|__|__|	
56	Number of mothers with babies less than 1 year old who had consultation on Counselled on exclusive BF status at child clinic at 9 months of baby age	|__|__|__|	
57	Number of babies up to 6 months age on Exclusive BF	|__|__|__|	
58	Number of babies up to 2 months received BCG and Polio Zero,	|__|__|__|	
59	Number of babies from 2 months up to 1 year checked for HIV	|__|__|__|	
60	Number of babies at 9 month fully immunized	|__|__|__|	
61	Number of babies from 2 up to 1 year who had growth control visits.	|__|__|__|	
Meet the focal points of the intervention: synthesis of challenges and decisions.			
Summary of positive points raised during the supervision: 1)			

..

2) .....
..

3) .....
.

4) .....

5) .....

Summary of the main difficulties encountered in the implementation of the activities:

1) .....
..

2) .....
..

3) .....
.

4) .....

5) .....

Decisions			
Decision	Period of implementation [dd/mm/20yy]	Responsible	
	Name of the first data entry operator		|__|__|__|

		……	
	First data entry date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|	
	Name of the second data entry operator	……	|__|__|__|
	Second data entry date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|	

Monitoring tool (B) of the CHW activities

Upgrade mother and newborn postpartum risk management at community level

Variable	Question	responses	codes
01	Name of the monitoring team	.....	|__|__|__|
02	Name of the monitors	1..... 1) ..... 2)	|__|__|__| |__|__|__| |__|__|__|
03	Monitoring date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|	
04	Name of the health facility	.....	|__|__|__|
05	period covered by the monitoring (dd/mm/yyyy) to (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__| to |__|__|/|__|__|/20|__|__|	
06	Number of women who gave birth	|__|__|__|	
07	Number of women who gave birth that had a home visit where the checklist was used	|__|__|__|	
08	Number of women who were checked using checklist during the home visit who were found to be high risk	|__|__|/|__|__|/20|__|__|	
09	Number of women who were checked using checklist during the home visit who were found to be high risk and who were referred to a HF	|__|__|__|	
10	Number of live newborn	|__|__|__|	
11	Number of babies that had a home visit where the checklist was used	|__|__|__|	
12	number of babies who were checked by the checklist during the home visit who were found to be high risk	|__|__|__|	
13	Number of babies who were checked by the checklist during the home visit and who were found to be high risk and who were referred to a HF	|__|__|__|	
Meet the focal points of the intervention: synthesis of challenges and decisions.			
Summary of positive points raised during the supervision: 6) ..... 7)			

8) .....

9) .....

10) .....

Summary of the main difficulties encountered in the implementation of the activities:

6) .....

7) .....

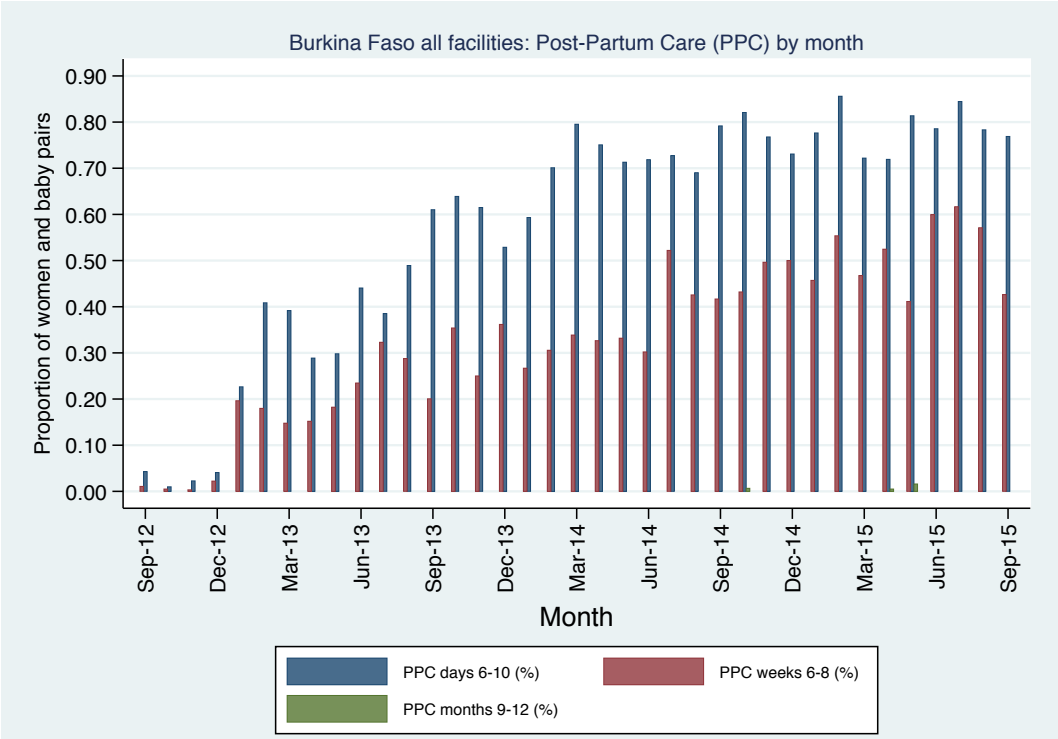
8) .....

9) .....

10) .....

Decisions			
Decision	**Period of implementation [dd/mm/20yy]**	**Responsible**	
	Name of the first data entry operator	.....	|__|__|__|
	First data entry date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|	
	Name of the second data entry operator	.....	|__|__|__|
	Second data entry date (dd/mm/yyyy)	|__|__|/|__|__|/20|__|__|	

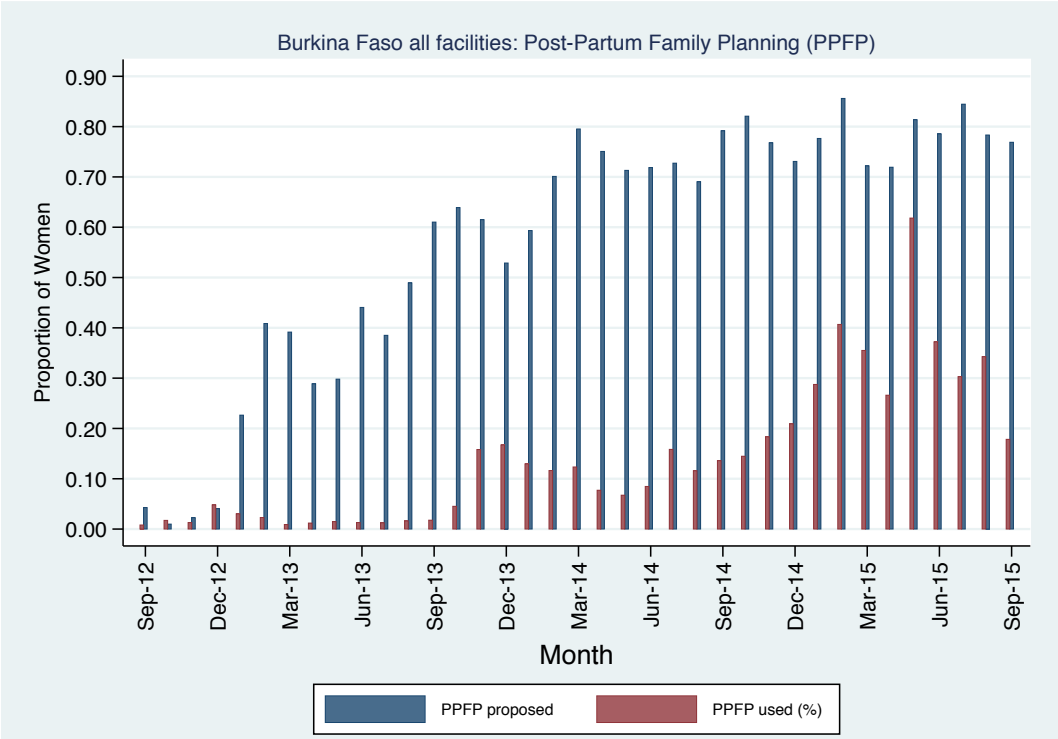
Figure A3.1 – Postpartum care attendance in health facilities in Kaya district, Burkina Faso



Trends in PPC: proportions of women who delivered attending PPC at 6-10 days, 6-8 weeks, and 9-12 months. Numbers of women attending PPC at 6-10 days ranged from 4 in October 2012 to 380 in October 2014.

The timeline for the intervention can be summarised as: July 2013: preparatory meeting female community health workers (CHW) and district health care team; Sep 2013: 72 CHW trained on PPC and start of implementation of community MOMI intervention; Nov 2013: Information meetings with 262 community leaders and 98 male CHWs; Jan–Feb 2014: development, distribution and explanation of use of health education material (pictures) and checklist for CHWs; Mar–Apr 2014: Implementation of non-financial incentives system for CHWs through MOMI: distribution of 70 bags and overcoats; May 2014: distribution of 70 bicycles among CHWs; Jul 2014: development, distribution and explanation of use of ideogram (pictures) for CHWs to collect data regarding their activities; Aug 2014: Refresher training: 65 CHWs participated; Dec 2014: CHW data collection through ideogram; Jun 2015: TBAs activities data collection through ideogram (pictures), card and MOMI register. Supervision visits were done in Oct 2013, Jan-Feb, Mar-Apr, July, Oct 2014, Apr and July 2015. A pay-for-performance results-based finance scheme started in March 2014.

Figure A3.2 – Postpartum family planning for all facilities in Kaya, Burkina Faso by month



Trends in PPFP: proportions of women delivering for whom PPFP was proposed, and used. Numbers of women using PPFP ranged from 3 in September 2012 to 272 in May 2015.

Figure A3.3 – Facility checklist use and referral for mothers by month, Chiúta district, Mozambique