
Joint Initiative on the MNH Essential Interventions in Uganda and Nepal

Improving the quality of maternal and newborn health care services
through accelerated implementation of the Essential Interventions
by the Health Care Professionals Associations



Substantive Report July 2013 to September 2014



Supported by
**The Partnership for Maternal,
Newborn & Child Health
(PMNCH)**

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Project Summary	
Implementing Partner	International Federation of Gynaecology and Obstetrics (FIGO) International Confederation of Midwives (ICM) International Pediatric Association (IPA)
Project Title	Improving the quality of maternal and newborn health care services through accelerated implementation of the Essential Interventions by the Health Care Professionals Associations
Existing members of FIGO and ICM staff fulfilled project roles deemed essential to the work being performed	• Prof Hamid Rushwan – FIGO Chief Executive – hamid@figo.org • Paul Mudali – FIGO Head of Finance – paul@figo.org • Amata Kwizera – FIGO Project Manager – amata@figo.org • Sue (Suryakala) Jacob – ICM Project Coordinator – jacobsue0@gmail.com
Current Reporting Period	July 2013 – September 2014

Joint Initiative on the MNH Essential Interventions

Improving the quality of maternal and newborn health care services through accelerated implementation of the Essential Interventions by the Health Care Professionals Associations

Substantive Report (July 2013 – September 2014)

Executive Summary

The International Federation of Gynecology and Obstetrics (FIGO), the International Confederation of Midwives (ICM) and the International Pediatric Association (IPA) jointly implemented this PMNCH funded project between July 2013 and September 2014, in Uganda and Nepal, aimed at providing a replicable model to complement the dissemination mechanisms of the multi-stakeholder consensus on “Essential Interventions, Commodities and Guidelines for RMNCH” (2011) which assembles packages of care across the continuum of care.

A robust Monitoring and Evaluation (M&E) Strategy for an implementation research was developed for the project by the Institute for Clinical Effectiveness and Health Policy (IECS – Instituto de Efectividad Clínica y Sanitaria) to test the effectiveness and impact of a package of activities to accelerate the implementation of selected essential interventions (EIs) in maternal and newborn health and promote joint working amongst health care professionals. Successful implementation was achieved in Uganda and active engagement of the national HCPAs has been secured in Nepal (which replaced Indonesia).

Achievements

In Uganda, the HCPAs worked in two health facilities and collaborated with the Ministry of Health, academic institutions, civil society and private partners. **A prospective interrupted times series (ITS) study**, for a total of 6 points in time, was used to assess the trend on the coverage of 8 EIs and the effect of the package of activities on this trend. The 6 points in time were spread across 3 months baseline (pre-intervention) and 3 months post-intervention. At mid-point the research intervention was introduced, consisting of the package of activities to be implemented in the post-intervention period. A total of 21 people received training on data collection and on the package of activities.

The **package of activities**, jointly developed by obstetricians, midwives and pediatricians, built on an evidence-based conceptual framework, supported by a communication strategy. It was cascaded to about 60% of the total 157 health providers working in childbirth and newborn care in the two hospitals and included six activities: dissemination workshops, development of reminders, birth simulation sessions, team building, case reviews and academic visits in the wards. A booklet for dissemination of 8 EIs was produced as well as a checklist and monitoring cards for the other activities.

Data collection was completed for **4750 deliveries**, 1731 corresponding to St. Rafael of St. Francis Nsambya Hospital in Kampala and 3019 to Mbarara Regional Referral Hospital in Mbarara, reflecting about 70% of total deliveries in those health facilities.

Results

Results revealed that 4 EIs already had high levels of coverage in both health facilities and maintained throughout the study (**social support during childbirth, prophylactic uterotonics, thermal care and CPAP** above 75% most of the study points in time). In contrast, more coverage variability was observed for the other 4 EIs – **prophylactic antibiotics, induction of labour for prolonged pregnancy and Kangaroo mother care (KMC), which are specific EIs, and for immediate breastfeeding**. Geographic and institutional differences in the two settings (Nsambya/private not for profit/urban vs. Mbarara/public/rural) must be considered to explain that variability. In Nsambya, data helped to identify deficiencies in the procedural and management of storage, administration and recording of antibiotics. In this urban setting immediate breastfeeding rates were low, remaining below 15% during most points in time and only in the last point increased to 55%. In contrast, Mbarara benefited from synergies with another project on PMTCT and showed rates close to 100%. Each hospital had differing coverages rates for induction of labour, Mbarara highest coverage rate was only 8% and Nsambya highest rate was 47.4%. Health providers alluded to women in the rural communities not attending or accessing facilities for induction of labour and, even in

the urban setting they do not always return for the appointment for induction. Kangaroo Mother Care (KMC) remained below 70% in Mbarara, which could be due to lack of space, and Nsambya experienced variations between 57% and 100%, which could be attributed to the difficulty in separating the numbers of babies requiring intensive care, for example CPAP and therefore not suitable for Kangaroo mother care.

Whilst the variation on EIs coverage could not be statistically attributed to the package of activities, due to the calculated power of the study and limited time-frame for the study design, the health providers (HP) survey (78 questionnaires completed at the end of study) and qualitative evidence demonstrate the **positive effect of the project to improve joint work, EIs compliance and documentation**. The HP survey results show that there were significant improvements in relationships between midwives and pediatricians, pediatricians' involvement in hospital activities and in the respectful attitude of obstetrician trainers. The vast majority of HP survey respondents rated their knowledge as good or excellent on each EIs before and after the project and evidence reveals that, after the project, there was a significant increase in the knowledge and confidence in relation to antibiotics for C-section, social support and CPAP. For KMC and breastfeeding there was a significant increase only in knowledge.

Challenges and constraints

Whilst the national team was motivated, and committed to the project activities, they required clarity and definition of their roles and revision of financial incentives. This led to the development of guidelines to ensure good governance and a detailed budget but more prescriptive aspects would need to be included, such as payment of incentives by activities and definition of detailed activities. The implementation research under such a limited time-frame did not allow for maximum advantage of the powerful research design to be taken. The cascading process of package of activities suffered from the limited face-to-face interaction between the national and international teams and other contextual factors such as difficulties in planning, inadequate facilities and confidence in undertaking the tasks. Finally integration of EIs in clinical practice is difficult to measure until the recording of these become integral part of clinical records.

Way forward and Recommendations

This first collaborative joint initiative has gone the extra mile to establish structures, systems and secure commitment of the three HCPAs to take ownership and contribute to the activities. Nevertheless it is apparent that midwives continue to lag behind in taking a lead in activities; and therefore it is recommended that ICM continues to invest in developing midwives leadership skills and visibility at national and local initiatives. As PMNCH was unable to provide funds for an additional period of time, it is advisable for the HCPAs to engage with other donors to continue with the phase 2 of the project.

The ownership taken by the Uganda team to facilitate the package of activities has given them the skills and confidence to disseminate essential intervention and involve wider stakeholders in developing reminders and team building. ***It is expected that the HCPAs continue to provide leadership and support to the facilities for consolidation of the package of activities and recording of EIs.***

Many lessons have been learnt by the international and national HCPAS. They have strongly collaborated to understand each other, respect each other and most importantly to jointly develop a toolkit (package of activities) to improve quality of care for mothers and newborn. After the end of this phase 1, ***it is strongly recommended that the project is continued to build on the momentum gained in Uganda and consolidate the experience in Nepal.***

In phase 2, the international team anticipates supporting the national HCPAs and selected health facilities to become key partners and centres of excellence to support other health facilities in scaling up the implementation of the essential interventions. Continuation of the project will allow obtaining stronger evidence from the testing of the package of activities, establishing a sustainable data collection system and disseminating robust results to advocate for the institutionalization of the package of activities and integration of the essential interventions in pre- and in-service education curricula.



Project Launch Meeting – Kampala, Uganda, September 2013



Visit to Rumah Sakit Cipto Mangunkusumo Hospital (RSCM) – Jakarta, Indonesia, September 2013



Inception Meeting – Kathmandu , Nepal, August 2014, FIGO – From left to right, FIGO Project Manager, Amata Kwizera, Presidents of Nepali HCPAs, Dr. Laxman/NEPAS, Dr. Pushpa/NESOG, Prof. Kiran/MIDSON

ACRONYMS

AOGU	Association of Obstetricians and Gynaecologists
EIs	Essential Interventions
FIGO	International Federation of Gynecology and Obstetrics
HCPAs	Health Care Professional Associations
ICM	International Confederation of Midwives
IECS	<i>Instituto de Efectividad Clinica y Sanitaria</i> - Institute for Clinical Effectiveness and Health Policy
IMCT	International Management and Coordination Team
IPA	International Pediatric Association
IRB	Institutional Review Board
ISC	International Steering Committee
ITS	Interrupted Times Series
MIDSON	Midwifery Society of Nepal
MNH	Maternal and Newborn Health
NEPAS	Nepal Paediatric Society
NESOG	Nepal Society Of Obstetricians and Gynaecologists
PMNCH	Partnership for Maternal, Newborn & Child Health
POGI	Indonesian Society of Obstetrics and Gynecology
PPIBI	Indonesian Midwives Association
PPIDAI	Indonesian Pediatric Society
RMNCH	Reproductive, Maternal, Newborn and Child Health
UPA	Ugandan Pediatric Association
UPMA	Uganda Private Midwives Associations
WHO	World Health Organization

Section 1 - Introduction

The first ever multi-stakeholder consensus on what works for Reproductive, Maternal, Newborn and Child Health (RMNCH), along the continuum of care, based on comprehensive scientific evidence, culminated in the development of the “Essential Interventions, Commodities and Guidelines for RMNCH” document in 2011¹. To accelerate the dissemination mechanisms of these guidelines, WHO and PMNCH urged the Health Care Professionals Associations (HCPAs) to lead a movement that would reach health workers and ensure a change in practice, with a focus on improving quality of care.

In line with this strategy two key constituencies of the Partnership for Maternal, Newborn & Child Health (PMNCH), namely the HCPAs constituency represented by the International Federation of Gynecology and Obstetrics (FIGO), the International Confederation of Midwives (ICM) and the International Pediatric Association (IPA), and the Academic constituency represented by the Institute for Clinical Effectiveness and Health Policy (IECS – *Instituto de Efectividad Clínica y Sanitaria* in Argentina), developed a proposal to test the effectiveness and impact of a package of activities to accelerate the implementation of selected Essential Interventions (EIs) in Maternal and Newborn Health (MNH) care by joint working, as outlined in the Goal, Outputs and Outcome below agreed for the project.

Goal

Improved maternal and newborn health resulting from the accelerated implementation of the 8 Essential Interventions relating to Child Birth and Postnatal (newborn) care through joint action by the Health Care Professionals Associations

Outputs

1. Collaborative action and knowledge sharing between multiple stakeholders, including the WHO, Ministries of Health, academia, civil society and the private sector to support the implementation of the selected Essential Interventions
2. A tested and replicable package of tools for implementing the selected Essential Interventions in low and middle income countries

Outcome

Increased capacity of the participating obstetricians, midwives and pediatricians to integrate the selected Essential Interventions into clinical practice

This one year extendable project, named “Improving the quality of maternal and newborn health care services through accelerated implementation of the essential interventions by the Health Care Professionals Associations”, started in July 2013 and was funded by PMNCH. A no cost extension was granted until September 2014.

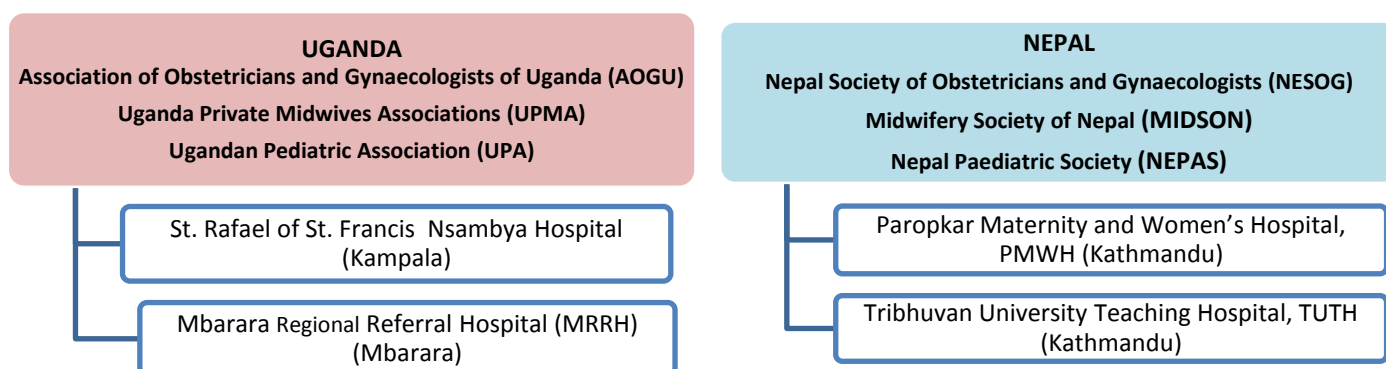
The project aimed to implement a replicable model for acceleration of essential interventions and joint working in one African country and one Asian country, using two health care facilities in each country, with the three national HCPAs providing governance and leadership on operational matters.

The project objectives were to:

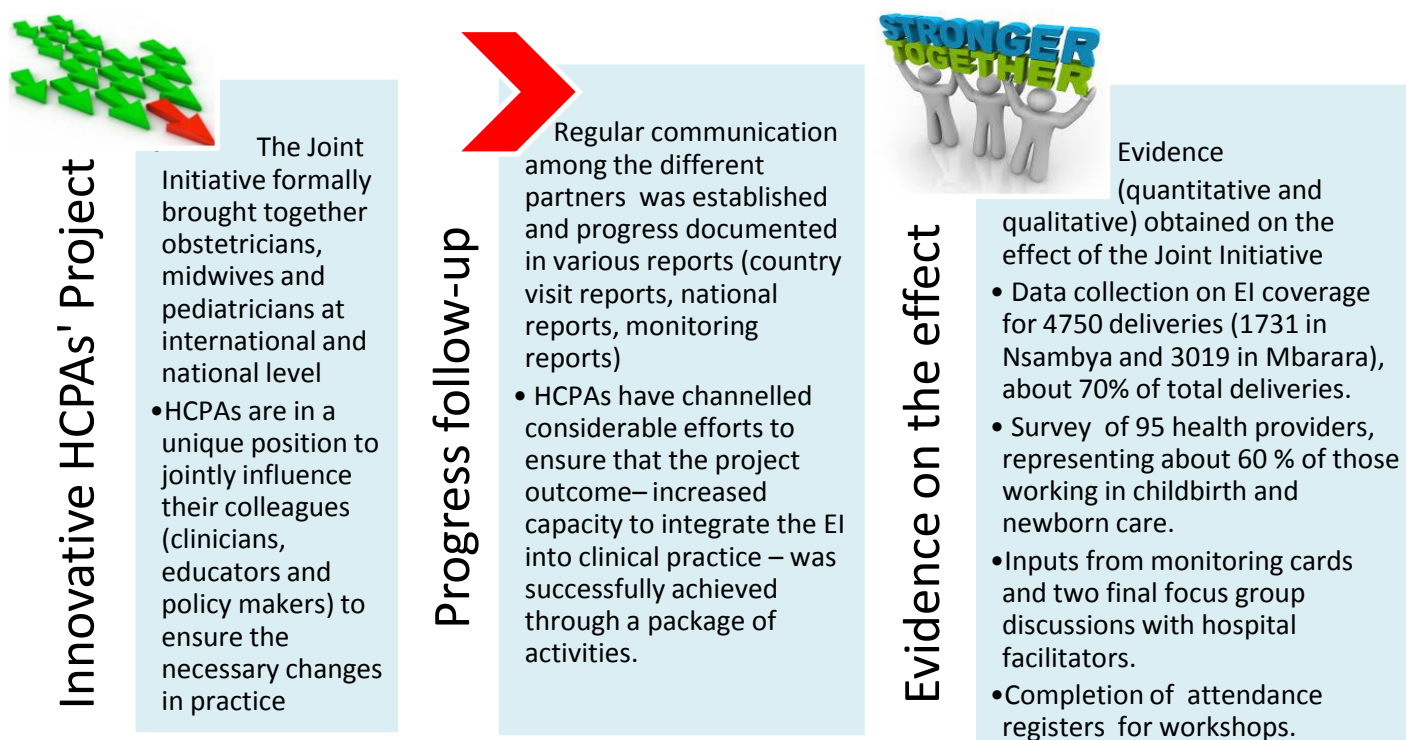
- Establish strong collaborative work between the three HCPAs, Ministries of Health, WHO, Civil Society, Academia and the Private Sector, for accelerating the implementation of the Essential Interventions.
- Accelerate the dissemination mechanisms for child birth and newborn essential interventions and its implementation through the active involvement of the three HCPAs in selected countries.
- Institutionalise quality implementation of the Essential Interventions through close collaborative work of the three HCPAs to ensure future sustainability.

During phase 1 (July 2013 – September 2014), successful implementation was achieved in Uganda, and active engagement of the national HCPAs has been secured in Nepal (which replaced Indonesia). The selected health facilities in Nepal provide scope for a fast-track implementation. As PMNCH was unable to provide funds for an additional period of time, it is advisable for the HCPAs to engage with other donors to continue with the phase 2 of the project. Phase 2 would serve to replicate the implementation model and consolidate the lessons learnt in Uganda and would focus on sustainability and integrating other partners in the implementation of the package of activities to improve the quality of care.

¹ The Partnership for Maternal, Newborn & Child Health. 2011. *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (RMNCH)*. Geneva, Switzerland: PMNCH.



Both Nepal and Uganda have been part of the LOGIC project funded by the Bill & Melinda Gates Foundation (2008-2013) whereby FIGO affiliates had benefited from capacity strengthening to improve policy and practice in maternal and newborn health. These two countries also had an opportunity for organisational development through the Royal College of Midwives Global Midwifery Twinning Project (RCM GMTP) supported by ICM using Midwifery Association Capacity Assessment Tool (MACAT) to strengthen midwifery associations to exercise the full scope of their role thus leading to improved outcomes for mothers and babies. Additionally, ICM's work with UNFPA on Investing in Midwives has enabled important lessons to be learned on effective approaches to changing provider behavior. IPA also had presence in both countries where it strengthened pediatricians through the Born Too Soon and Helping Babies Breathe projects.



This substantive report compiles the information from the three main narrative reports previously submitted to PMNCH² and from the last months of the project (phase 1), including key results from the Monitoring and Evaluation (M&E) final report by IECS which is also shared as a separate document. It highlights the major achievements of Phase 1 in relation to the project outputs and outcomes, followed by the inherent challenges and lessons learnt, and finally presents the way forward and recommendations for the future and for a Phase 2. This substantive report is accompanied by a financial report.

² Reports submitted to PMNCH: Project Launch Report, September 2013; Mid-Term Report July-December 2013; Progress Report January-May 2014

Section 2 - Project Achievements

Achievement 1: Collaboration between 3 health professional groups and stakeholders

Project Output 1: Collaborative action and knowledge sharing between multiple stakeholders, including the WHO, Ministries of Health, academia, civil society and the private sector to support the implementation of the selected Essential Interventions.

Throughout the different stages of the development and implementation of this Joint Initiative, the three international HCPAs have ensured the representation and voice of all three professions at each stage. Multiple stakeholders were highly involved at both national and international levels. This collaborative action and knowledge sharing empowered the implementers (international and national HCPAs, IECS) to jointly develop solutions and participate fully in decision-making processes. Although negotiations were lengthy at the beginning this yielded good governance and trust between colleagues involved in the project.

1.1. Launch of the project and continuous engagement of stakeholders

- The **project was launched in Indonesia and Uganda in September 2013 reaching approximately 70 people** during inception workshops organised by the international and national HCPAs. Participants included high-level representatives from IECS, WHO, the Ministry of Health (MoH), selected health facilities, civil society organisations and Academia. Furthermore the international team visited the selected health facilities, met with the MoH and worked with the national teams on setting up the initiative.

In Indonesia the project was launched by the MoH but the HCPAs did not obtain official approval to proceed in the selected health facilities. Consequently, Nepal was secured as the second project country in July 2014. The research proposal was immediately submitted to the local IRB and the project is due to start when additional funds are obtained.

Highlights on relationships with partners are presented below.

HCPAs' Leadership

International steering committee: three international HCPAs and IECS, in close collaborations with WHO and PMNCH established the foundations and strategic direction of the Joint Initiative

National steering committee: three national HCPAs working in coordination with key stakeholders (MoH, Jhpiego, Academia, WHO).

Private Partnerships

At the genesis of this Joint Initiative two foundations provided materials at no cost.

Laerdal Global Health: 10 Mama Natalie kits for trainings on both Help Mothers Survive (HMS) and Helping Babies Breathe (HBB)

The Global Library of Women's and Medicine: memory sticks with videos available via the GLOWM/Safer Motherhood section

Regular updates for stakeholders

In Uganda, the national HCPAs have on-going relationships with representatives of key stakeholders.

The International Coordination and Management team (FIGO/ICM) and the M&E team (IECS) took the opportunity to reinforce these collaborations during the country visits in December 2013, April 2014, and August 2014.

Synergies with other initiatives

In Uganda Safe Motherhood Project focusing on HIV has promoted initiation of breastfeeding in the first hour of birth: <http://www.avert.org/hiv-aids-uganda.htm>

In Nepal, the HCPAs are active members of the Newborn Health Alliance initiated by UNICEF in 2014.

There is ample scope to build synergies on planned advocacy activities and health facility implementation when the project will have funds to continue.

- During this collaborative project it was essential to develop an equal and respectful relationship in order to maximize contribution and expertise from for all three associations. This was facilitated by regular email communication and Skype calls between all partners. Additionally, the project manager (based at FIGO) and ICM coordinator worked together each week to refine and adapt resources, and to take joint actions to progress towards the project milestones. They are referred throughout this report as the International Management and Coordination and Team (IMCT).
- Overall, the project has not only contributed to raising health providers awareness of EIs but added other soft dimensions to the facility culture and organisation of care as reflected in the quotes below. In Uganda the involvement of all three HCPAs in conducting simulation training, allowed knowledge exchange and sharing to increase competence and confidence in clinical skills, and also contributed to a better understanding and appreciation of each other's roles and expertise. The learning environment during simulation broke down traditional hierarchical barriers by fostering trusting and respectful relationships between the three professional groups.
- It was pointed out that pediatricians are now working closer with their colleagues. Analysis of the health providers' survey shows that, when asked to rate relationship aspects before and after the project, a significant improvement was noted in the relationship between midwives and pediatricians. Pediatricians were also the ones who significantly increased their involvement in hospital activities. In addition it was perceived that obstetricians improved their respectful attitude as trainers.
- Quotes from participants illustrate the satisfaction with the training methodology and the team approach adopted throughout the project. The three professions gave and received training together and agreed on the most appropriate strategies to continue providing support to health providers after the training.

This is a good way to train together.

Monitoring Card: Feedback from trainer

The team approach has improved with this package of activities! People are calling for help when they get an emergency. Now if you get postpartum haemorrhage you don't have to handle it alone.

Midwife

We need to be less confrontational and give people information, then receive the feedback, demonstrate, let trainee do, re-demonstrate, not only tell what to do.

Pediatrician

What helped this programme is that we are now saying we are doing this together and it helps to move on.

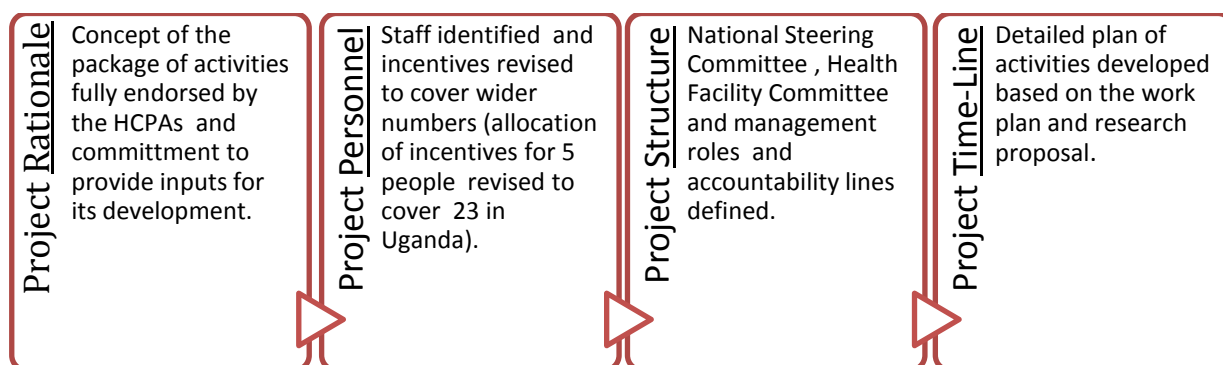
Obstetrician

1.2. Project Strategy and follow-up by Steering Committees

- Based on the project launch country visits and scientific evidence, the International Steering Committee (ISC) recommended that this project be focused on multifaceted interventions to be integrated within a **package of activities that would be easily replicable and be at the core of the national plans of action.** Guidance Papers 1 and 2, were developed to establish project operational structure, provide information and guidance on implementing the research model including the package of activities. These documents discussed with the national team during country visits, they can also serve other low and middle income countries where the HCPAs can work together to replicate the project model.

- The ISC continued to oversee the project implementation process and provide guidance to the IMCT. Besides the meetings held in person in September (country visit) and in October (revision of strategy in London), the three international HCPAs and IECS conducted four teleconference calls in April, May, July and November 2014.
- The HCPAs in Indonesia, had several meetings with different Indonesian MoH Directorates between November and May 2014, but no official authorisation could be obtained. Consequently the ISC selected Nepal as an alternative Asian country and this was approved by PMNCH in July 2014.
- The Ugandan and Nepali HCPAs endorsed the project strategy and revised the Project Operational Plan (see figure xx). In Uganda, it was implemented by the national coordinator at the end of the first semester of the project (December 2013), in close collaboration with the IMCT. In Nepal, although most project personnel had been identified by August 2014, they will only be recruited at the start of phase 2 at a date to be defined.

Project Operational Plan In-country



Uganda National Collaboration Highlights

8 Active Stakeholders	21 Project Staff		Characteristics of Hospitals 125 Providers (17.878 Deliveries)	
Inception Workshop and Project Interactions	National Technical Team	Hospital Team	Professional Representation ³	Annual deliveries (2012)
35 People - International and National HCPAs - IECS - WHO - UNICEF - Jhpiego - MOH - Selected Hospitals - Makerere University - ACHEST - Save the Children	4 People - 3 Focal People - 1 National Coordinator Supported by HCPAs Presidents and Joint Secretariat	Nsambya: 7 people - 1 Coordinator - 1 Data Manager - 2 Data Collectors - 4 Facilitators	91 health providers - 25 Obstetricians - 55 Midwives - 11 Pediatricians	7.878
		Mbarara: 10 people - 1 Coordinator - 1 Data Manager - 3 Data Collectors - 5 Facilitators	66 health providers - 31 Obstetricians - 15 Midwives - 20 Pediatricians	10.000

³ Doctors include consultants, residents and interns. Number of health providers in Mbarara could not be confirmed by an updated census.

1.3. Communication Strategy and Conceptual Framework

- Building on the experience of the regional HCPAs workshops conducted by PMNCH in 2007-2009⁴, it was agreed that this Joint Initiative needed a **communication strategy to foster a clear sense of ownership and commitment by the HCPAs and on going commitment to improving MNH outcomes**. A wide literature review on implementation science, health management and capacity development was conducted to support the development of the project communication strategy. It was approved by the International and National steering committees who recommended that it become an integral part of the project implementation model (see annex 1).
- This communication strategy formalised the process of engaging the key partners in the implementation and dissemination of the project, and responded to the question “*How can we focus on getting the job done?*” using **5 major concepts: Understand, Contextualise, Inspire, Ensure Ownership, Ensure the Communication Flow**. These concepts grounded the team to find local solutions and bridge the know-do gaps. It also helped to define the communication objectives and informed the conceptual framework of the package of activities, providing an evidence-based justification to the principles underpinning the design and development of the package of activities.

1.4. Collaborative dissemination of the project

- At the start of this unique project, initial communication activities were conducted by the International HCPAs to disseminate information through their existing networks and resources (newsletters, website, press releases).
- Despite constraints on time and budget, **the international and national teams have made a concerted effort to engage partners** and to identify other opportunities to form alliances to harness advocacy and support for the project:
 - It was fortuitous for the project team to have an opportunity to share the project experience at the ICM Triennial Congress in Prague (June 2014), where FIGO’s CEO presented early findings.
 - Furthermore ICM, IPA and IECS have attended the Partners’ Forum in July 2014 and shared results with PMNCH and WHO. This first implementation model developed for the 8 EIs was highly welcomed during the PMNCH Board meeting and was recognized for its potential to be used for innovation uptake of other interventions within phase 2.
 - In Uganda, each HCPA has been using separate existing opportunities, for internal and external dissemination and, in August 2014 during the country visit by ICM and IECS, the three HCPAs gathered with key partners in a formal dinner to discuss the base-line results and the post-intervention experience.
- The strong research component of the project provides scope for joint publication by the three professions in scientific journals. The International and National Steering Committee will define the roles and responsibilities for the submission of articles with adequate representation of members of the team involved in the implementation research at international level and in Uganda.
- The toolkit developed to implement and monitor the uptake of package of activities has been printed and available on each of the international organisations websites: www.figo.org/figo-project-publications – see FIGO-ICM-IPA Essential Interventions Project – and also www.internationalmidwives.org and www.ipa-world.com. The ISC welcomes the opportunity to provide these publications for the PMNCH website.



⁴ Aga Khan University (2011). *Evaluation of regional workshops and follow up activities to strengthen the role of health care professional associations in achieving MDGs 4 and 5*. Karachi, Pakistan

Achievement 2: Package of Activities Tested

Project Output 2: A tested and replicable package of tools for implementing the selected Essential Interventions in low and middle income countries.

As part of the implementation research, a package of activities based on the shared experiences of health professionals was developed. The dissemination mechanism was devolved to national and local HCPAs (cascading of package of activities) to reach the maximum number of health providers and thus create a momentum to promote a change in practice.

2.1. Monitoring & Evaluation (M&E) Strategy – Implementation Research

- The Monitoring and Evaluation Strategy of this Joint Initiative was based on the novel discipline of implementation science which aims to test a research intervention. In this case the **package of activities was the research intervention applied to increase the coverage of the EIs and joint work of the three professions (obstetricians, midwives and pediatricians).**
- Eight EIs were selected for data collection, from the 17 EIs for childbirth and newborn care, taking into account the following criteria: General and Specific EIs; Compliance Rate; Prevalence; Feasibility of data collection; Acceptability of health workers.

Essential Interventions	Childbirth	Newborn
General At least 2 general interventions that apply to all women and newborn	Social support during childbirth (<i>this is a key intervention in addition to the 6 Essential Intervention defined by WHO</i>).	Promotion and provision of thermal care for all newborn to prevent hypothermia (Immediate drying, warming, skin to skin, delayed bathing)
	Prophylactic uterotonics to prevent postpartum haemorrhage	Promotion and support for early initiation and exclusive breast feeding (within the first hour)
Specific At least 1 specific intervention for both childbirth and newborn	Prophylactic antibiotics for caesarean section	Kangaroo mother care (KMC) for preterm and <2000g babies
	Induction of labour for prolonged pregnancy	Continuous positive airway pressure (CPAP) to manage preterm babies with respiratory distress syndrome

- The study design consisted of an Interrupted time series (ITS) for a total of 6 time points in the study spread across 3 months baseline (pre-intervention) and 3 months post-intervention. At mid-point the research intervention (package of activities) was introduced. This is the best design to respond to the research question “Is the joint work led by three HCPAs working together effective in the acceleration of the Essential Interventions?”.
- The research proposal was submitted for ethical approval to the local Institutional Review Board (IRB) of both health facilities in Uganda in November 2013. Data collection training was provided in December 2013. Once the ethical approval was obtained, the base-line data collection started immediately - March 2014 in St Rafael of St Francis Nsambya Hospital (Kampala) and April 2014 in Mbarara Regional Referral Hospital (MRRH) (Mbarara).
- Additional training on data uploading system was provided and three main supporting documents were shared: two Standard Operating Procedures (SOPs), including one for data collection and one for uploading; and one Manual of Operation. **A total of 12 people were trained in data collection.**

- All data collection forms were scanned by the Data Manager and uploaded to Dropbox allowing for synchronization with the Data Management Office in IECS (Argentina) where data was entered in the system. A quality assurance process was put in place, whereby the Data Manager in each health facility cross-checked, on a monthly basis, a sample of 10% of the data collection forms against the source documents (clinical record, anesthesia records, etc.). IECS liaised every two weeks with the health facilities to follow-up the data collection process and clarify queries such as missing data and inconsistencies. They also conducted two monitoring visits, in April 2014 during the base-line and in August 2014 during the post-intervention period. Several sessions of re-training were conducted by the national coordinator and/or by the data managers to keep high quality standards and address the concerns raised by IECS.
- The testing of the package of activities was successfully implemented in both Nsambya and Mbarara with a period of 14 weeks of base-line data collection, followed by a similar period for the post-intervention as illustrated below.

Research period in weeks	March 2014					April				May				June					July					August					September				October 2014			
Hospital 1 - Nsambya		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28							
Hospital 2 - Mbarara						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27				

- Data on EIs coverage is presented in section 3.2. and complete results can be found in the M&E report which accompanies this substantive report. Highlights of the efforts to guarantee a good data collection system are summarised below:

- 8 Essential Interventions translated into 21 Quality of Care indicators

The 21 indicators were collected during base-line and post-intervention periods (three months each) through data collection forms completed based on hospital records and interviews of mothers (see annex 2).

At the end of the project, a survey was applied to health providers and gave data on the effect of the package of activities on their knowledge and attitudes towards quality implementation of the 8 EI and joint work.

- Extra hospital sheet for EI records (Mbarara)

During the base-line period, whilst some of the indicators had no attributed space for recording, other indicators were simply not being systematically recorded (although there was space for it).

Consequently, in this rural public hospital, the introduction of the extra sheet by the Ugandan HCPAs served also as a reminder to reinforce the message to record all relevant EI (see annex 3).

- Revision of electronic records (Nsambya)

The introduction of an extra sheet for EI records raised concerns from the management on the cost-effectiveness if the project is not sustained and time needed for training staff in correct use of revised records.

This semi-private hospital opted to introduce change in the long-run and, at the end of the post-intervention period, started integrating EI records in the electronic information system which is being developed with assistance from another project.

2.2. Development and Cascade of the Package of Activities

- Evidence from implementation science confirms there is ample evidence to suggest that health providers are aware of knowledge and theory underpinning evidence but translating the knowledge into practice, making it happen, still remains a challenge. This project provided the perfect opportunity to **explore new ways to bridge this “Know-Do Gap”**.

- FIGO, ICM and IPA, consider it a professional responsibility to work with their member associations at country level to accelerate the dissemination of childbirth and newborn EIs. Taking on board this excellent opportunity to work together, the international and national team adapted the materials from the PMNCH Global Review of the Key RMNCH Interventions, particularly the summary document and the desk calendar designed for an audience of policy-makers⁵. With the intention to produce materials that would enable practitioners to effectively apply theory to practice, the IMCT integrated principles outlined below, to produce resources grounded in the reality of health facilities, the culture, capacity and capability of staff. It is anticipated that these tools will be invaluable in scaling up the implementation of selected eight EIs in other facilities and other countries. It also offers scope to extend the development of similar tools for other EIs.

Key Principles guiding the development and implementation of the package of activities

Theoretical Background	•Summary of Evidence for each EI in simplified language
Clear Practice Tips	•What is expected for each EI •How it can be done •Highlights of major changes in practice required •Bridge theory practice and bridge know –do gaps
Complementary and sustainable activities for dissemination	•Integration of EI discussion or observation in developmental activities that are common in health facility settings: simulation, audit review, visit to wards, continuous medical education (CME), etc.
Ownership of the process	•Empower national teams to develop standards, schedule, plan and implement the activities
Plan Do Study Act (PDSA) cycle	•Use package of activities as a platform to study and act on the EI •Use the cards to monitor the implementation of the package of activities and address challenges
Acknowledgment of Inspirational leaders	•Stimulate local champions to harness quality of care agenda
Open Communication	•Use both top down and peer to peer cascading process to ensure a wider participation of health providers and raise the profile of the Joint Initiative



Workshop on Package of Activities – Kampala, Uganda, April 2014

⁵ The Partnership for Maternal, Newborn & Child Health. 2011. *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (RMNCH)*. Geneva, Switzerland: PMNCH.

- In April 2014, the IMCT finalised the package of activities and the implementation guidelines in collaboration with members of the Ugandan HCPAs (9 people). They in turn trained a team of hospital facilitators (obstetrician, midwife, pediatrician, pediatric nurse) who were the ones deploying the package of activities in the health facilities. The activities included in this package had three main purposes:
 - Dissemination of EIs WHO standards (2012 guide-lines) through activity 1. Dissemination Workshop, and 2. Reminders;
 - Observation of clinical practice by a team of hospital facilitators through activity 3. Academic Visits
 - Discussion platforms joining the three professions through activities 4. Simulation, 5. Case Reviews, and 6. Team Building Sessions.

Completion of package of activities and training of HCPAs (April 2014)	HCPAs Preparation of training (May 2014)	Nsambya Cascade (June 2014)		Mbarara Cascade (July 2014)	
By International management and coordination team to Uganda team	By HCPAs designated members (2 AOGU, 1 UPMA, 2 UPA) and National Coordinator	By HCPAs Trainers to Hospital Facilitators	By Hospital Facilitators to Health Providers (Dissemination)	By HCPAs Trainers to Hospital Facilitators	By Hospital Facilitators to health providers (Dissemination)
9 people	Allocation of responsibilities and selection of trainers for simulation component	4 people	86 people	5 people	
- Ugandan HCPAs (focal people and designated members) - National Coordinator - Hospital Coordinator - Invited Hospital staff		- 1 Ob/Gyn - 1 Mid - 1 Ped - 1 Ped Nurse	- 14 Ob/Gyn - 47 Mid - 10 Ped - 15 Ped Nurse	- 2 Ob/Gyn - 1 Mid - 1 Ped - 1 Ped Nurse	

- The buy-in of the package of activities by the leadership of the Ugandan HCPAs was an incremental process. From the inception workshop to the cascading process, it became clear that while training is a common approach to improve practice, other activities introduced new concepts related to team work and supportive supervision had to be deconstructed based on the conceptual framework.
- It is widely acknowledged in implementation science literature and behavioural change studies that training alone is not effective in improving knowledge and skills. Bloom⁶ taxonomy provides a model to promote active learning and internalisation of knowledge to make a change in behaviour. Benner (2001)⁷ reinforces the importance of developing novice to expert pathway by sustained mentorship and opportunity to consolidate skills. When the international team conducted the monitoring visit (August 2014), additional meetings with the teams from the two health facilities were necessary to reinforce the major concepts and help to plan the next activities. This was then followed-up by the national coordinator who provided close support to make sure all components of the package of activities were adequately implemented.



⁶ <https://www.tes.co.uk/teaching-resource/New-Bloom-and-39-s-Taxonomy-6310522/>

⁷ Benner, P (2001) From Novice to Expert: Excellence and Power in Clinical Nursing Practice, Prentice Hall, New Jersey

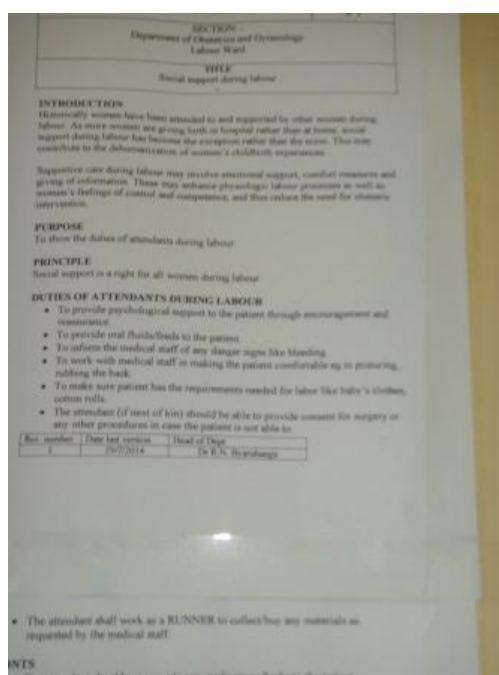
- A set of performance standards was developed to monitor the implementation of the package of activities which aimed at reaching at least 50% of health providers taking into account the limited time-frame of 12 weeks and the considerable workload. Responses to the health providers' survey questions "if in the last six months, in the health facility, any of the activities took place, if they had participated and if they heard about them from any colleague who has participated" are presented against the standards in table 1. Among this small sample of health providers (78 respondents), there was a satisfactory reach. Academic visits and team building sessions were the activities that involved a higher level of participation and awareness which is a sign that the concept of going beyond training was well engrained.

Table 1: Package of activities – targets planned vs. estimated reach of health providers by each activity

Activity	Frequency / Time	Target of Staff Reach	Source of records	HP Survey Responses		
				Knew it took place	Participated in activity	Heard from colleague
1. Els dissemination	Every 6 weeks 1.5 days	70%	Attendance registers	75%	55%	62%
2. Reminder	Every 4 weeks Combined with academic visits	50%	Reminder card	69%	63%	58%
3. Academic visit	Every 4 weeks 1hour-20 min per provider	50%	Academic card	93%	67%	76%
Simulation - Session - Usage	3 days <u>training sessions</u> <u>Self practice</u> as often as possible	80%	Log-book	82%	51%	67%
				67%	56%	55%
5. Case Reviews	Weekly 20 mins	60%	Attendance registers	72%	60%	63%
6. Team Building	Every 4 weeks 1 hr	50%	Attendance registers	90%	70%	75 %

3.1. Acceleration of the EI through the Package of Activities

- Highlights of **experiences with the implementation of the package of activities** from participants and notes from cards, presented in the quotes below, illustrate the importance of follow-up visits and development of reminders after the dissemination workshop. For example midwives developed a visual illustration and a senior obstetrician (AOGU focal person) supported the visual image by writing text to enhance the reminder on social support during childbirth.



Conducive environment for **peer to peer learning**, by breaking barriers of traditional formal teaching and learning settings.

*In the beginning midwives were scared about the cards. They asked do they want to report me? Look for my bad area? But then when you talk to them and **build that confidence** in them, they come up with the truth, what she has done, and not done, and then you also advise how to tackle it, so it is working out!*

Midwife

Reminders provided a positive scope for joint learning and **empowerment of the midwives.**

*As part of the development of reminder, the midwives developed a standard operating procedure (SOP) for normal delivery, step by step, because they are the experts in that area! Midwives need to embrace behaviour change when new information that is evidence-based comes, they need to **own their area and be experts.***
Obstetrician

Informal learning has promoted **critical thinking** and encouraged staff to consider changing models of care.

Skin-to-skin is done but duration is the problem! When there are no tears, that's when the mother doesn't get a chance to keep her baby for a long time! You want to clean the mother, for which the mother needs to turn around, and it's more difficult to clean the mother while she holds her baby, but we need to practice more.

Midwife

- The information from the cards used for academic visits and check for usage of reminders, shows how the hospital facilitators conducted observation of EIs in practice, supportive supervision and mentorship while addressing challenging aspects of behaviour change. Extracts from the cards are transcribed below and grouped under two categories and scans of cards are also presented:

1) Opportunity to reinforce the application of theory to practice in clinical setting

Breast feeding and thermal care

- Discussed advantages of early breastfeeding and thermal care. Observed that midwife place baby in incubator. Agreed that all babies must be with the mother in the bed and must be attached to the breast in 1st hour of life.
- Baby not put on breast up to 95 min and had to intervene. Baby not shown to the mother, was taken straight to the warmer. Promised to remember.
- Knew of need to do early breastfeeding but wanted mother to rest first.
- Wet cloth changed. Baby taken to warmer, not skin to skin. No cap and stockings.
- Discussed steps of thermal care with the nurse students. Agreed to make a poster for management of the newborn in labour Suite.

PPH prophylactic oxytocic

- Knew about it and when to give it but had not prepared it and the site for infection was not clean.

2) Identification of positive changes in practice

CPAP

- Using ward-made (improvised) CPAP with oxygen tubings and water, with oxygen cylinder as oxygen source – demonstrated the administration of CPAP for a 30 week old (gestational age) premature. Successfully done.

Social support

- The husband was allowed in labour ward. It helped in progress of labour. Mother feels OK when the care taker is around. It prevents assisted deliveries.

- Care taker allowed to support as it helps in progression of labour and management of stress after delivery.

Reminder on thermal care

- Many also liked the knowledge on the way newborns lose heat (mechanisms) and how to prevent heat loss.

Reminder on prophylactic antibiotics for C/Section

- Discussed the need for a check list for steps for preparing a mother for C/S and the things that need to be done.

Visit number 1 Facilitator: 1. Obstetrician ☐ 2. Midwife ☐ 3 **Individual**
Date (d/m/y): 30/09/2014 3. Pediatrician ☐ 4. Ped Nurse ☐
Time of visit (24:00): 10: AM
Please indicate: Name of health provider & Actions and Comments on visit and EI addressed

Health Provider 1 Name Nurse EI addressed 6
6. Early Initiation of Breastfeeding: Nurse able to help mother sit up and supports mother to position baby for proper breastfeeding. Latching initially difficult but with guidance, latching successful.

Health Provider 2 Name Nurse EI addressed 8
8. CPAP to manage preterm baby with RDS -
Using ward-made (improvised) CPAP with oxygen tubings and water with oxygen cylinder as oxygen source - demonstrated the administration of CPAP for a 30 week old (gestational age) preterm - Successfully done.

Health Provider 3 Name Nurse EI addressed 7
7. Thermal care -
Observed nurse using warm, ^{cotton} sheets to cover/wrap newborn on arrival in the Paed ward after being delivered in Maternity ward. Activity - Successful.

Check number _____ Facilitator: 1. Obstetrician ☐ 2. Midwife ☐ 2 **Individual**
Date (d/m/y): _____ 3. Pediatrician ☐ 4. Ped Nurse ☐
Time of visit (24:00): _____
Please indicate: Name of health provider & Actions and Comments on visit and EI addressed

Health Provider 1 Name _____
Health Provider 2 Name Registered Midwife
at rural ward
to Florence & Nanyaka Baw
Health Provider 3 Name Off TB services

Reminder on EI: Thermal support
Midwives are making good progress in ensuring that mothers are properly covered and wrapped in the labour ward and in the delivery room. The midwives must be encouraged to ensure that the mother is covered and wrapped in the delivery room.

Reminder on EI: Thermal care & Exclusive breastfeeding
Early breastfeeding is crucial for newborns. However, many mothers are not aware of the importance of early breastfeeding. Midwives must be encouraged to ensure that the mother is covered and wrapped in the delivery room.

Reminder on EI: CS prophylactic antibiotics
The doctor in charge of operation must emphasize to the anaesthetist the importance of giving prophylactic antibiotics and documenting the time it is given.

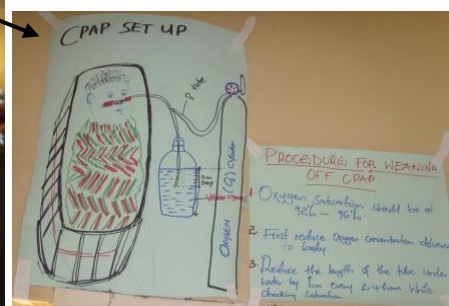
Achievement 3: Increased Professional Capacity

Project Outcome 1: Increased capacity of the participating obstetricians, midwives and pediatricians to integrate the selected Essential Interventions into clinical practice

The systems and structures established and nurtured to promote collaboration between all partners (Output 1) and to test the package of activities (Output 2) set the context and readiness of the national health providers for building capacity to improve the quality of care and improve the uptake of essential interventions (Outcome 1). It was recognized at the inception workshop that whilst the EIs were already being implemented in the selected health facilities, however deficient information systems could not provide accurate data on levels of compliance. The results of the health providers' survey provide an overview of respondents' self-perceptions on which EI improved during the project, their perspectives on the relationships between the three professions, engagement with activities and documentation of clinical care relating to the EIs. The results from the base line and post intervention data collection demonstrate the variations in EIs coverage throughout the project period. In order to sustain and maintain high levels of EIs coverage, the hospital facilitators and senior colleagues have made a commitment to incorporate aspects of the package of activities in their on-going roles. They confirmed the added benefits offered through project and increased hospitals commitment to the project.



Simulation training



CPAP reminder

3.1. Self-perceptions on Increased Capacity

- Results from the HP survey highlight the EIs that present significant changes in terms of knowledge and confidence to perform the procedure during the project. 95 questionnaires were returned and results are presented for the first 78 questionnaires received for analysis, about 50% of the 157 of health providers working in childbirth and newborn care. The start of the project was defined as the base-line period when the project team raised awareness on the importance of EIs documentation. This allowed measuring self-perceptions of change even for those who had not been directly reached by the package of activities but somehow felt that their performance had improved.
- Whilst the variation on EIs compliance could not be statistically attributed to the package of activities (see section 3.2.), the health providers acknowledge that the tools helped to guarantee good clinical practice. This is supported by the HP results from questions relating to knowledge and confidence about EIs presented in Tables 2 and 3 below. For the EIs where there was a significant positive change after the project, the p-value is highlighted in red to show the level of significance of <0.05 (statistics used for hypothesis testing).

- **Knowledge about EIs:** This was already quite high before the project started, the vast majority of respondents rated their knowledge as good or excellent on each of the EI. There was a significant increase of health providers' knowledge for 5 EIs: antibiotics for C-section, social support, immediate breastfeeding, KMC, and CPAP. For example: CPAP had significant change with a p-value below the level of significance of <0.05 in both statistical tests performed. While before the project 58% of health providers rated their knowledge on this EI as good or excellent, after the project this number raised to 76%.

Table 2 - Health providers level of Knowledge rate (N=78), good or excellent per EI.

	Knowledge of Procedure (good of excellent)		p _ value	p ** value
	Mean % (IC 95%)			
	BEFORE	AFTER		
Active management of third stage of labor	85.9(78.0-93.8)	88.5(81.2-95.7)	0.471	0.479
Administration of prophylactic antibiotics for C- section	64.1(53.1-75.0)	75.6(65.9-85.4)	0.018	0.039
Induction of labor for prolonged pregnancy	78.2(68.8-87.6)	83.3(74.9-91.8)	0.227	0.206
Promotion of social support during childbirth	73.1(63.0-83.1)	82.0(73.3-90.7)	0.040	0.052
Promotion of breastfeeding within the first hour after childbirth	73.1(63.0-83.1)	87.2(79.6-94.8)	0.0002	0.008
Promotion and provision of thermal care for all newborns	83.3(74.9-91.8)	91.0(84.5-97.5)	0.018	0.083
Promotion of Kangaroo mother care for preterm and low weight newborns	67.9(57.3-78.5)	80.8(71.8-89.7)	0.033	0.018
Continuous positive airway pressure (CPAP) to manage preterm babies with respiratory distress syndrome	57.7(46.5-68.9)	75.6(65.9-85.3)	0.0002	0.001

*One sample test binomial proportion

**McNemar's Test

- **Confidence to perform EIs:** It is well documented that change in knowledge takes time to translate into change in practice. This item demonstrates the relationship between knowledge and confidence, thus translating into theory-practice and know-do synergies. Out of those 5 EIs where knowledge improved, results show there also was a significant increase of health providers' confidence to perform 3 EIs, namely antibiotics for C-section, social support and CPAP.

Table 3 - Health providers level of Confidence rate (N=78), good or excellent per EI.

	Confidence to Perform (good of excellent)		p *	p **
	Mean % (IC 95%)			
	BEFORE	AFTER	value	value
Active management of third stage of labor	82.5(73.3-90.7)	87.2(79.6-94.8)	0.173	0.205
Administration of prophylactic antibiotics for C- section	70.5(60.1-80.9)	82.0(73.3-90.7)	0.008	0.020
Induction of labor for prolonged pregnancy	80.8(71.8-89.7)	84.6(76.4-92.8)	0.348	0.317
Promotion of social support during childbirth	74.3(64.4-84.3)	83.3(74.9-91.8)	0.034	0.052
Promotion of breastfeeding within the first hour after childbirth	83.3(74.9-91.8)	85.9(78.0-93.8)	0.514	0.479
Promotion and provision of thermal care for all newborns	82.0(73.3-90.7)	89.7(82.8-96.6)	0.026	0.083
Promotion of Kangaroo mother care for preterm and low weight newborns	75.6(65.9-85.4)	82.0(73.3-90.7)	0.143	0.132
Continuous positive airway pressure (CPAP) to manage preterm babies with respiratory distress syndrome	51.3(39.9-62.6)	71.8(61.6-82.0)	<.0001	0.0006

*One sample test binomial proportion

**McNemar's Test

3.2. Documentation of EIs coverage

- The three professions, despite several contextual limitations, have made joint efforts to improve quality implementation of the EIs and their capacity to improve documentation. As part of quality assurance process the M&E team provided continual reinforcement and assistance to health providers to improve the documentation relating to the 8 Essential Interventions.
- The research design allows measuring the **change on the EIs coverage along 6 points in time** during the total study period (3 initial points for base-line, and 3 remaining points for the post-intervention). Although it is hard to show relevant statistical significant variation because of the study design and the calculated power of the study, there is complementary evidence from the HP survey, monitoring cards and focus group discussions on the positive effect of the package of activities on improving the compliance of selected EIs. Most importantly this was the first time that these hospitals obtained electronic data on the EIs and the hospital project team and HCPAs consider that these data will be very useful to discuss aspects that need to be addressed to improve record keeping systems and EIs compliance.

3.2.1 Childbirth Essential Interventions

- Results from baseline data and post intervention period on each of the EI is presented with interpretations and explanations gained during discussions conducted with hospital teams at the time of monitoring and supervision visits. These preliminary statistical results were interpreted cautiously since the data for the post interventions period was still incomplete at the time of writing this report. Geographic and institutional differences in the two settings (Nsambya/private not for profit/urban vs. Mbarara/public/rural) must be considered when interpreting the results. The M&E report compiled by IECS provides additional details on the nature of statistical analysis completed, the source of data, variable definition and construction.
- Data was obtained from clinical records and from exit interviews with mothers as specified in the narrative after each table. The column UK corresponds to data from Uganda, Kampala (St Rafael of St Francis Nsambya Hospital), and column UM is from Uganda Mbarara (Regional Referral Hospital, MRRH), these will be respectively referred to as Kampala and Mbarara. The column N presents all eligible women or babies for that intervention (denominator) then the numerator are all the ones that actually received the intervention.
- For example, looking at table 4, for period 1 in Kampala, out of the 260 women eligible for social support, a proportion of 97.7% (corresponding to 254 women) actually indicated in the exit interview (mother's questionnaire) that they received the intervention. Looking at table 5, for period 1 in Mbarara, out of the 380 women eligible for prophylactic uterotonics, data obtain from clinical records shows that 99.7% (corresponding to 378 women) received the intervention.

Table 4: Social Support during childbirth

period	UK		UM	
	N	SS	N	SS
1	260	97.7%	403	98.8%
2	272	98.2%	541	99.6%
3	379	95.3%	689	99.4%
4	316	78.8%	509	99.8%
5	288	75.3%	588	100%
6	208	90.4%	263	100%

- Findings show that both of the health facilities had a high coverage rate to the priority interventions chosen for this study (mother questionnaire). It can be observed that in period 4 and 5, Kampala decreased its coverage to 78.8% and 75.3% increasing by the end of the study period. This could be attributed to better understanding and knowledge of social support as a concept by the mothers, their companions and also the health providers.

Table 5: Prophylactic uterotonics to prevent postpartum haemorrhage

period	UK		UM	
	N	Uterotonics	N	Uterotonics
1	242	99.6%	380	99.7%
2	272	100%	534	99.4%
3	380	100%	669	99.1%
4	316	100%	508	99.6%
5	289	100%	588	100%
6	208	100%	264	100%

- Findings show that this EI had total coverage rates (100%) within health professionals before the intervention period as well as after the intervention (clinical records). This can be attributed to the impact of previous projects that reinforced the practice of active management of third stage of labour and thus reflected in the 100 % compliance with the practice of giving prophylactic uterotonics.

Table 6: Prophylactic antibiotics for caesarean section

period	UK		UM	
	N	ATB	N	ATB
1	66	42.4%	55	87.3%
2	96	3.1%	35	80%
3	154	0%	115	81.7%
4	141	1.4%	114	99%
5	57	7.0%	148	100%
6	2	100%	77	100%

- There is a great variability among centers (clinical records). Mbarara varied from 87.3% to 100% throughout the study period. In contrast, Kampala decreased in a large percentage throughout period 2 to 5, increasing substantially in the last period with only two caesarian sections. From the table below it can be noted that in period 5 in Kampala that only 7% received antibiotics, while in Mbarara 100% of all caesarian sections received the intervention. The Project team in Uganda identified procedural and administration barriers not only in records but also in storage of antibiotics.

Table 7: Induction of labour for prolonged pregnancy

period	UK		UM	
	N	Induction	N	Induction
1	52	26.9%	57	3.5%
2	38	47.4%	77	2.6%
3	62	38.7%	88	8%
4	55	27.3%	65	0%
5	27	37.0%	105	3.8%
6	24	20.8%	25	0%

- Induction of labor had great variability (clinical records), not only among health facilities, but also within the hospital. Mbarara highest coverage was only 8% in opposition to Kampala where the highest rate was 47.4%, both obtained during the pre-intervention period. A number of explanations were offered by health providers, these include that women do not attend the facility for induction of labour, additionally the facilities are already overstretched with limited monitoring facilities to accommodate the women for induction of labour.

3.2.2 Newborns Essential Interventions

Table 8: Promotion and provision of thermal care for all newborn to prevent hypothermia (Immediate drying, warming, skin to skin, delayed bathing)

Period	UK		UM	
	N	Thermal C	N	Thermal C
1	176	84.7%	292	85.3%
2	202	68.3%	406	92.1%
3	309	68.3%	446	87.2%
4	204	77.5%	352	83.2%
5	197	84.8%	381	94.5%
6	164	82.3%	193	87.6%

- The study found that in Kampala, before the intervention, the coverage rate was almost 70%, while during the post-interventions period this rate was not only superior but consistently above that value for the three study periods (77.5%; 84.8% and 82.3% - mother questionnaire). In contrast, Mbarara sustained high constancy percentages during the course of the study. The health providers consistently reiterated that the thermal care was given to most babies, but it could not be reflected in the results.

Table 9: Promotion and support for early initiation and exclusive breast feeding (within first hour)

period	UK		UM	
	N	Breastfeeding	N	Breastfeeding
1	31	9.7%	158	94.9%
2	29	3.4%	251	97.6%
3	36	11.1%	397	97.2%
4	40	5.0%	429	99.1%
5	27	7.4%	548	99.8%
6	47	55.3%	254	98.0%

- The low number of participants seen in Kampala is mainly due to the data collection process (clinical records). While Mbarara systematically collected this information, Kampala didn't. Furthermore Kampala is in the capital city of Uganda, an urban setting, where women might not be as receptive to immediate breast-feeding as women in Mbarara which is in the rural area. Additionally the lack of space and the volume of women requiring the use of labour ward beds, made it extremely difficult to accommodate women for the duration of 1 hour.

Table 10: Kangaroo mother care (KMC) for preterm and <2000g babies

period	UK		UM	
	N	KMC	N	KMC
1	7	71.4%	4	50%
2	8	100%	3	66.7%
3	10	90.0%	3	66.7%
4	7	57.1%	6	66.7%
5	3	66.7%	2	0%
6	2	100%	0	

- KMC for preterm and < 2000g babies (mother questionnaire) had steady coverage rates (66.7%) in Mbarara up to period 4 of the study. No data was available for the last two periods at the moment of completion of this report. Kampala, on the other hand, had higher coverage rates varying its values from 57% to 100%. It can be observed that in both centers the eligible population for this specific essential intervention is very low. This could be attributed to the difficulty in separating the numbers requiring intensive care for example CPAP and therefore not suitable for Kangaroo mother care.

Table 11: Continuous positive airway pressure (CPAP) to manage preterm babies with respiratory distress syndrome

period	UK		UM	
	N	CPAP	N	CPAP
1	6	100%	2	0%
2	9	100%	2	100%
3	13	100%	3	100%
4	12	92%	1	100%
5	8	100%	0	
6	7	100%	0	

- As well as the above EI, the prevalence of preterm babies with RDS that required CPAP was very low. (clinical records) Despite this, and the absence of data for the last two periods in Mbarara, the coverage is optimal.

3.2.3. Before and After regression analysis

An ordinary least square regression analysis was performed to observe the effect of time over the intervention eliminating its trend. From table below we can conclude that only the EI for prophylactic antibiotics for cesarean section had a significant coefficient.

Table 12: before and after regression analysis for 8 EIs

	Coefficient	P>t	[95% Conf. Interval]	
Thermal Care				
Time*Intervention	0.035	0.664	-0.266	0.337
Breastfeed				
Time*Intervention	-0.061	0.258	-0.228	0.106
KMC				
Time*Intervention	-0.248	0.653	-2.289	1.793
CPAP				
Time*Intervention	-0.242	0.070	-0.533	0.048

	Coefficient	P>t	[95% Conf. Interval]	
Induction				
Time*Intervention	-0.060	0.289	-0.242	0.121
SS				
Time*Intervention	-0.014	0.811	-0.242	0.214
Uterotonics				
Time*Intervention	0.002	0.297	-0.005	0.010
ATB				
Time*Intervention	0.616	0.024	0.197	1.034

Note:

$$EI = \alpha + \beta_1 * \text{Time} + \beta_2 * \text{intervention} + \beta_3 \text{Time} * \text{Intervention}$$

EI: Essential intervention

- In the post-intervention period, in addition to the package of activities, the National or Hospital Coordinator completed a monthly checklist for monitoring the implementation of EIs, with particular emphasis on the gate conditions, general and specific equipment for the labour/delivery room, and drugs in the labour/delivery and neonatal unit. These revealed that the hospitals ensured that all the conditions were in place for the acceleration of EIs.
- Data collection activity itself and the results provided a powerful tool for staff to engage in implementing and accelerating the EIs. Attention has been drawn to the importance of documenting care that is provided especially if continuity of care is to be sustained and also if there is any legal recourse. Data collection and data sharing activities provided visible evidence to the health providers of which EIs that were doing well and those that were lagging behind. Furthermore academic visits provided an additional opportunity to observe the deficiencies in record keeping (see quotes below). Through identification, acknowledgement and discussion of specific barriers it is anticipated that documentation will continue improve and thus reveal the good practices that already exist in Uganda.

Gave the antibiotic in time but she did not document. Patient was wheeled to OT within 30 minutes."

Note from monitoring card
CS prophylactic antibiotic

People are beginning to understand that we are doing more than what we are recording. We need to be able to show this is the amount of work that we do.

Obstetrician

- The emphasis on documentation is also evident in the responses from HP survey, where the results show that there has been statistically significant improvement in documentation by all three professions (table 13). The EIs that show significant improvement in documentation before and after the start of the study period are: social support (54% vs. 72% p=0.004); breastfeeding (60% vs. 74% p=0.004); thermal care (65.5% vs. 79.5% p= 0.002); KMC (60% vs. 74% p= 0.004) and CPAP (51% vs 73% p<.0001) (table 14).

Table 13: Providers perception on attitudes of each profession (N=78)

		Provider perceptions Mean (IC 95%)		p *
		BEFORE	AFTER	Value
Involvement of each profession in activities in health facility (good or excellent)	Midwives	83.3(74.9-91.8)	88.5(81.2-95.7)	0.157
	Obstetricians	82.0(73.3-90.7)	85.9(78.0-93.8)	0.257
	Pediatricians	64.1(53.2-75.0)	78.2(68.8-87.6)	0.0004
Willingness to change clinical practice and go the extra mile. (good or excellent)	Midwives	76.9(67.4-86.5)	83.3(74.9-91.8)	0.132
	Obstetricians	76.9(67.4-86.5)	82.0(73.3-90.7)	0.157
	Pediatricians	71.8(61.6-82.0)	78.2(68.8-87.6)	0.165
Respectful Attitude of Trainers who are (good or excellent)	Midwives	83.3(74.9-91.8)	88.5(81.2-95.7)	0.206
	Obstetricians	75.6(65.9-85.4)	84.6(76.4-92.8)	0.052
	Pediatricians	76.9(67.4-86.5)	80.8(71.8-89.7)	0.405
Relationship between professions (good or excellent)	Obstetricians / Midwives	80.8(71.8-89.7)	84.6(76.4-92.8)	0.365
	Pediatricians/ Midwives	69.2(58.7-79.7)	80.8(71.8-89.7)	0.020
	Obstetricians / Pediatricians	69.2(58.7-79.7)	75.6(65.9-85.4)	0.165
Relationship among professions (good or excellent)	Midwives / Midwives	84.6(76.4-92.8)	85.9(78.0-93.8)	0.763
	Obstetricians / Obstetricians	79.5(70.3-88.6)	82.0(73.3-90.7)	0.527
	Pediatricians / Pediatricians	71.8(61.6-82.0)	75.6(65.9-85.4)	0.365
Documentation of care given by each profession (good or excellent)	Midwives	61.5(50.5-72.6)	84.6(76.4-92.8)	0.0001
	Obstetricians	69.2(58.7-79.7)	85.9(78.0-93.8)	0.0029
	Pediatricians	62.8(51.8-73.8)	76.9(67.4-86.5)	0.0045

*Mc Nemar Test

Table 13 - Health providers level of Documentation rate (N=78), good or excellent per EI.

	Recording documentation Mean (IC 95%)		p *	p **
	BEFORE	AFTER	value	value
Active management of third stage of labor (good or excellent)	74.3(64.4-84.3)	76.9(67.4-86.5)	0.594	0.083
Administration of prophylactic antibiotics for C- section (good or excellent)	65.4(54.6-76.2)	75.6(65.9-85.4)	0.036	0.059
Induction of labor for prolonged pregnancy (good or excellent)	76.9(67.4-86.5)	84.6(76.4-92.8)	0.060	0.083
Promotion of social support during childbirth (good or excellent)	53.8(42.5-65.1)	71.8(61.6-82.0)	0.0004	0.001
Promotion of breastfeeding within the first hour after childbirth (good or excellent)	60.2(49.1-71.4)	74.3(64.4-84.3)	0.004	0.011
Promotion and provision of thermal care for all newborns (good or excellent)	65.4(54.6-76.2)	79.5(70.3-88.6)	0.002	0.007
Promotion of Kangaroo mother care for preterm and low weight newborns (good or excellent)	60.2(49.1-71.4)	74.3(64.4-84.3)	0.004	0.007
Continuous positive airway pressure (CPAP) to manage preterm babies with respiratory distress syndrome (good or excellent)	51.3(39.9-62.6)	73.1(63.0-83.1)	<.0001	0.0004

*One sample test binomial proportion

**McNemar's Test

3.3. Integration of the Package of Activities in Practice

- The three professional groups took ownership of the package of activities, from the development stages to the implementation in the selected hospitals. Towards the end of the project, the hospital facilitators identified various options of **how the tools could be used to support the on-going activities** in their existing roles and indicated that other like-minded senior colleagues were also on-board. Examples are presented below based on quotes from hospital facilitators and extract from a monitoring card.

Check-lists and monitoring cards used for teaching and supervision

*"For **appraisals**, I can schedule every quarter to check on one aspect so that at the end of the year I can say this one is very good at delivery, he provides good thermal care, gives good social support, and all that! It's objective and then I can ask what other creative things they did during that one year, for example if they developed reminders. It's transparent! We can identify things that need continuous medical development."*

Pediatrician

*"This booklet can be used for the introduction/**orientation** of new students; it will help to show them that you need to do this, you need to do that."*

Obstetrician

*"The cards helped me as a manager. It has accelerated my rate of **supervision**. I know that I need to go there and ask about this and supervise, look at it!"*

Midwife

"Uses it but not read it repeatedly. Claims knows steps. Agreed that she should present the chart and steps to the students when they come."

Note from monitoring card - usage of AMTSL reminder

- Hospital facilitators adopted a leadership role to promote the acceleration of the EIs and became role models for their peers. They indicated that the **"space given to look at the process of implementation of EIs, rather than the traditional focus on decision making"**, was an interesting perspective to address attitude change. Some of these factors that facilitated attitude change were highly valued, particularly by midwives. This highlights the concept of "inspiration" which was part of the conceptual framework that guided the development of the package of activities to encourage creativity within the context.

Examples of attitude and practice change

Role Modeling: *"Most midwives wanted to first weigh and dress the baby; even in mothers it's engrained that the baby needs to be dressed... It helps when senior colleagues do skin-to-skin, because it helps to stick in everyone's minds!" - Midwife*

Trusting relationships: *"This project has helped in team work, team building, nobody is fearing each other, things are really good, we are enjoying" - Midwife*

Interpretation of evidence to find benefits for health providers: *"It has been emphasised that it's good for the mother to hold her baby. For us [midwives], if you give the mother her baby when you're suturing, it eases the work of suturing because these mothers protect their babies and concentrate on the baby while you suture, so the mother won't focus on what you're doing. - Midwife*

Section 3 - Challenges and Lessons Learnt

- The Joint Initiative experienced numerous challenges and constraints relating to the limited time-frame of the project. The project was ambitiously designed in order to achieve all deliverables within one year of implementation; however the reality of a multi-stakeholder project, the country contexts, and the complex research intervention envisaged identified that only limited results could be obtained by the end of that period and hence a No Cost Extension of three months was approved.
- Although the post-intervention data collection period was completed, inconsistent reliability of technology infrastructure, workload and limited financial reimbursements hindered outcomes under phase 1, for example institutionalisation of the package of activities for sustained quality implementation of EIs, and wider involvement of stakeholders to endorse this package.
- Achievements during the 15 months of this Joint Initiative show that the project has successfully engaged the HCPAs (international and national) in taking ownership and active participation in the project activities. Qualitative evidence reveals that this Joint Initiative has provided a valid model to engage HCPAs to accelerate the implementation of EIs which has the potential to be scaled up in different settings utilising HCPAs expertise and extended networks. However without additional funds, international team support and despite all the initial investment, it is unrealistic to expect that the national HCPAs will proceed autonomously with the consolidation or expansion of this model to accelerate EIs in other health facilities.
- The main challenges and lessons learnt for activities are summarized below and are related to the three main achievements described in the previous section 2. Detailed information on challenges experienced between July 2013 and May 2014 is available in the previous progress reports.

Activities	Challenges and constraints	Lessons Learnt and Actions
Project Governance Achievement 1 – Collaboration	Difficulties in establishing the basis for good governance with clear roles: - Clarity of terms of reference took time to define due to revision of project strategy after the inception workshop - Turn-over and change of staff - Reporting systems put in place did not provide good quality of feedback - Delay in adjusting budgets to accommodate the agendas of all stakeholders and ensuring good understanding of costs allocated	Recommended project pathway, with initial country visit prior to launch, has now been applied in Nepal and other lessons from Uganda served as examples of good practices: - Secure high level commitment, accountability and responsibility of different actors - Consider HR contingencies for replacing staff, re-training, adding people if needed - Provide clear guide-lines on implementation processes and costs (procurement, transports, daily allowances, training fees, etc.) - Importance of oral feedback over the phone and recording of discussions during country visits. Additional lessons to ensure good governance include: - Need to redefine and give tasks for different roles (for example focal people) - Balance between national ownership from the start vs. prescriptive partnership - Appropriate and timeliness of information

Ambitious project with limited time-frame:

- The project initially planned for two years, was reduced to one year without taking into account the **time needed for ethical approval of the research**. This considerably delayed the start of data collection and limited the time of the post-intervention period to three months when the M&E plan recommended a minimum of four months. It was **not possible to allocate time and costs for a needs analysis**.
- The **package of activities was developed over a short period of time** and lacked adequate information on existing activities relating to improving quality of care and updating staff.
- At the time of submission of the current substantive report (December 2014), analysis was conducted over an incomplete data set for the post-intervention period, as resolution of final queries could not be completed on time.

Cascading process of package of activities suffered from limited face-to-face interaction between national and international team and other contextual factors:

- Only **one country visit** was conducted to work on the development of the package of activities. Although specific steps were agreed for the cascading process, several delays were experienced and there was a lack of cohesion in developing the schedule for commencing package of activities
- **Inadequate facilities for use of simulators and of educational videos on EIs** and lack of coordination with existing skills laboratory
- There was a **tendency to direct most efforts on training** as usual.
- **Heavy workload hindered regular health facility committee** meetings between hospital coordinator and facilitators, for revision of EIs coverage and implementation of package of activities. Group cards and monthly monitoring forms were not completed.
- **Near-miss case reviews were not implemented** as frequently as expected and criteria were not clear.
- **Presentation of cases by midwives** in a joint meeting with doctors remains a challenge.
- In Mbarara **audit meetings are conducted separately by pediatricians vs. Obstetricians/midwives** due to lack of space.

A longer time frame and budget for country visits is necessary to guarantee a better follow-up of the post-intervention period. The following aspects should be integrated in the future:

- **Needs analysis**
- **Longer time-frame** for the post-intervention period and clarification of all M&E queries.
- **Prescriptive guidance** on monitoring of package of activities – Besides the workshop on the content of the package of activities, more time needs to be allocated on the monitoring component and how to define priority EIs to be addressed based on data on EIs coverage
- **Regular group meetings/communication** to discuss the identified constraints and their impact, and to exchange ideas on how to better build synergies with on-going activities (skills lab, CME)
- **Allocate responsibility and accountability** for reporting to one facilitator acting as a team leader rather than rotating secretary

Contextual factors that hindered the implementation of near-miss case reviews were presented at the end of the post-intervention period. Inputs obtained show that this activity will need to be re-framed in order to:

- Agree on **criteria** (clarify what is near-miss vs. suboptimal care) and **responsibility** of each profession to define and present the case
- Develop **guidelines** for facilitation of near miss cases
- Navigate hospital **hierarchies** where, in joint meetings, presentation is usually done by residents for evaluation purposes while midwives provide clarifications and contribute passively.

Need to develop a separate proposal around building midwives' capacity to take leadership and learn to challenge the traditional doctor domination model through active learning styles and action learning models. This requires dedicated roles to introduce informal learning models to improve individualised learning styles and aspiration of organisations to transform their priority to becoming learning organisations.

Difficult to show significant change in short periods of time therefore quantitative results on EIs compliance should be interpreted carefully.

Clinical records are deficient in that a number of EIs are not systematically recorded – thermal care, breast feeding (Nsambya), prophylactic antibiotics. Even though data was obtained from an exit interview with the mother, results lack data validation system to show fidelity of the data (e.g. social support). Quality of data was initially poor with high rates of missing and don't know categories (see annex 4).

It wasn't possible to obtain regular feedback from national team on discussion and **interpretation of results of EIs** compliance throughout the post-intervention period, nevertheless the following constraints were pointed out:

- Practice of **inducing labour for prolonged pregnancy does not happen systematically** encouraged due to limited monitoring facilities and also mothers are reluctant to come to overcrowded facilities for induction of labour
- **Data on prophylactic antibiotic was of particular concern** especially in Nsambya. Whilst staff assert it is given during operation, the clinical records fail to register this action. The access to antibiotics is difficult as they are stored in theatre making it impossible for midwives to give them prophylactically. The clinicians are mindful of this flaw in storage of antibiotics and records and are negotiating with management to rectify it.

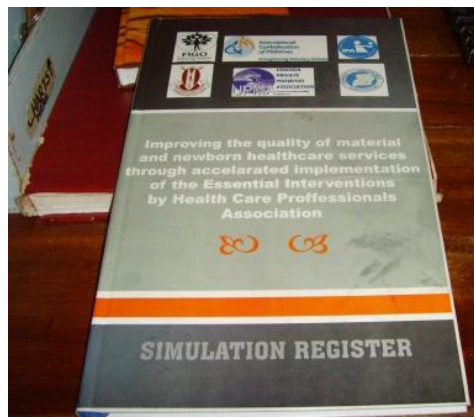
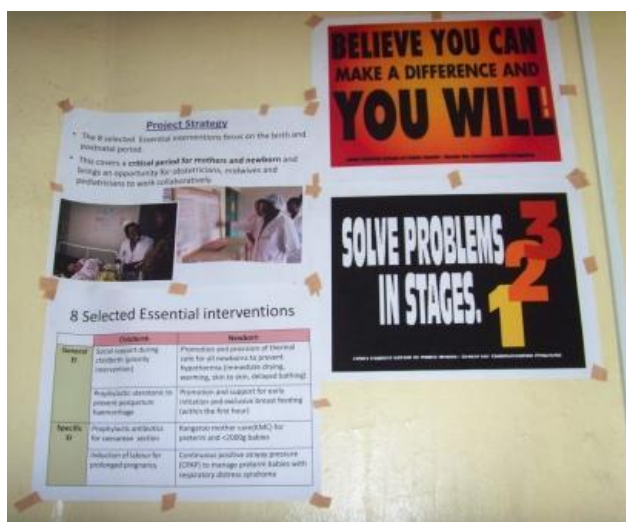
Behavioral change needs more time therefore realistic project time-frame will be necessary for the second country.

Although statistical changes were not identified, final results on variations in EIs coverage were valued by hospital teams as this is the first time they have electronic data on a set of EIs. **Further local interpretation of results will help to improve clinical practice and engage in advocacy discussion with the hospital management and the MoH.**

Standard operating procedures for data collection needed to be reinforced by face to face re-trainings as **culture of following instructions from manual and email communication is not embedded**. Considerable time and efforts was necessary to ensure reduction of missing and don't know categories in data collection.

The following aspects should be integrated in the future:

- Close **scrutiny of clinical records** and rectifying them before commencement of base line data collection.
- Recognising local limitations in clinical decision making power. **Understanding additional barriers that hinder quality of care.**
- Check the availability of and **access to equipment.**
- Developing data collection tools that best capture the **existing practice in relation to essential interventions**



Section 4 – Way Forward and Recommendations

- This first collaborative joint initiative has gone the extra mile to establish structures, systems and secure commitment of the three HCPAs to take ownership and contribute to the activities. The HCPAs have secured a buy in from local facilities and also embraced UPMA despite it being a unique organisation with no involvement within the two facilities, as an equal partner to participate in the governance and decision making roles. It has broken traditional professional barriers and this change needs to be sustained. Whilst every effort has been made at association and facility level to engage midwives, it is apparent from participation, facilitator and monitoring records midwives continue to lag behind in taking a lead in activities. ***It is a big ask from this project for midwifery associations and the ICM to invest in developing midwives' leadership skills and visibility at local and national projects. global initiatives***
- The ownership taken by the Uganda team to facilitate the package of activities has given them the skills and confidence to continue with refining the cascading process and building health providers' capacity to disseminate essential intervention, assist with simulation activities and academic visits, involve wider stake holders in developing reminders and team building. ***It is expected that the HCPAs will continue to provide leadership and support to the facilities for consolidation of the package of activities and data collection.***
- It is anticipated that existing platforms and activities developed during the joint initiative for learning, will continue to include near miss cases, encourage midwives to present cases and use the simulation models and share the findings from data collection. ***It is recommended that these actions to be integrated into health facility quality of care improvement plan.***
- Considerable investment in terms of time, expertise, and personal commitment has been made as a gesture of good will by international and national team to develop a robust model. It is recommended that additional funding be made available to scale up the implementation model to generate conclusive and reliable evidence.
- Many lessons have been learnt by the international and national HCPAS. The three HCPAS have collaborated and gone the first mile to understand each other, respect each other and most importantly to develop together a toolkit (package of activities) to improve quality of care for mothers and newborn. ***It is strongly recommended that the project is continued to build on the momentum gained in Uganda and consolidate the experience in Nepal.*** Continuation of the project will provide the scope for the two facilities to extend the institutionalisation process by involving academics and training institutions to integrate the essential interventions in pre registration curricula.
- Opportunities to build on existing information system to record data on maternity episodes of care will not only develop capacity to generate facility specific data, learn from them but also develop a culture of critical analysis of existing clinical practice
- Finally when funds are obtained for phase 2, the international team anticipates supporting the national team and health facilities to become key partners and centres of excellence in scaling up the implementation of essential interventions to facilities within Uganda and progress to Nepal and other countries.

Evidence on the effect of this package of activities will inform real world factors that influence innovation uptake by health providers and help others to replicate the Joint Initiative implementation model. Based on the constraints experienced under Phase 1 and recommendations above, more time needs to be allocated to:

- **Obtain stronger evidence from the testing of the package of activities**

Under phase 1, the implementation research only took place in Uganda while the research proposal is awaiting approval in Nepal. Moreover, in Uganda, the initial delays with the approval of the research proposal reduced the amount of time usually required for this type of implementation research, and so did not allow the team to take full advantage of the scope of the strong research design (ITS). After the introduction of the Package of Activities there is a critical period of time required for the changes induced by the intervention to impact on maternal and newborn health outcomes and achieve

sustained cultural and normative behavioural change. In addition, it is **strongly recommended that the package of activities' toolkit is tested in a second country** to verify the replicability and make any adjustments for an effective scale up in other low and middle income countries.

It was noted that at the time of writing the current substantive report, the data set for the post interventions period was still incomplete and not all HP surveys were included in the analysis (78 out of 93 received by November 2014), therefore interpretations presented here may alter in the future. Collaboration between IECS and members of international and national HCPAs will continue in 2015 in order to produce scientific articles which will bring final results accompanied by more conclusive discussions.

- **Establish a sustainable data collection system**

Even though capacity building on data-entry and analysis has been provided to ensure that systems remain in place for the future sustainability of EIs acceleration, the health facilities in Uganda would benefit from additional supportive supervision after they start to conduct data-entry and analysis of the selected EIs.

This would ensure that high quality standards are met and that data continues to be used as part of the PDSA cycle in order to guarantee that the hospital teams are fully equipped to use evidence to take action. Therefore, with accurate data available, the HCPAs could enrich their advocacy role and help to address the challenges experienced with EIs coverage.

- **Disseminate results and advocate for the institutionalisation of the package of activities**

During Phase 1, priority was attributed to ensure the implementation research to the detriment of the joint meetings of the enlarged national steering committee composed by the HCPAs, MoH, WHO, Academia, CSO and Private Sector.

An enlarged joint meeting will be necessary for dissemination of results and strengthening of alliances in order to advocate for the institutionalization of the Essential Interventions through the HCPAs package of activities. These new alliances would harness advocacy and support for the project, particularly for establishing training centres and updating pre and in-service education curricula. This Joint Initiative implementation model will be disseminated as an example that can be easily replicated in other low-resourced settings.

Success Story

Both Uganda and Nepal, acknowledge sustainability of EIs acceleration is associated with good documentation. In both health facilities, hospital management teams have shown their commitment in maintaining adequate supplies of commodities and high level of documentation of EIs. The HCPAs in both countries valued this project because of its strong implementation research component and indicated that only with regular tracking and analysis of EIs coverage will it be possible to advocate for improved practice and quality of care.

Hospital commitment

Supplies: in Mbarara, it coincided that from the start of the project, replenishing of emergency trays was more active "people are more conscious that emergency trays must always be ready".

Sustainability of EI records: both hospitals examined how they can continue analysing data after the end of the project:

- The extra sheet introduced in Mbarara for the project was kept .

- In Nsambya a separate project is improving the existing electronic system and all EI have been integrated.

Accountability of Information: For example, in Nsambya discussions have initiated on how best to record the provision of antibiotics, possibly changing the accountability from the theatre to the labour ward.

Advocacy by National HCPAs

The HCPAs are confident that results from this project can be used for advocacy on EI acceleration at national level, particularly because:

- The two selected health facilities provide a good **representation of different settings** of tertiary health facilities in Uganda, one urban and semi-private and the second rural and public, thus data will be extremely useful for the MoH.

- **Members from the three HCPAs are working in the MoH and in health facilities all over the country.** They could easily disseminate results and promote discussions on the replicability of the joint work and package of activities in other health facilities.

Conclusion

This project has strived to maintain the authenticity of the context, involve the national HCPAs and the health providers throughout all stages. The national team has taken ownership, provided creative solutions and has identified other ways of consolidating and sustaining activities from the package. In order to **consolidate and accrue the long term benefits from the initial one year's investment, continuation of this project is encouraged.**

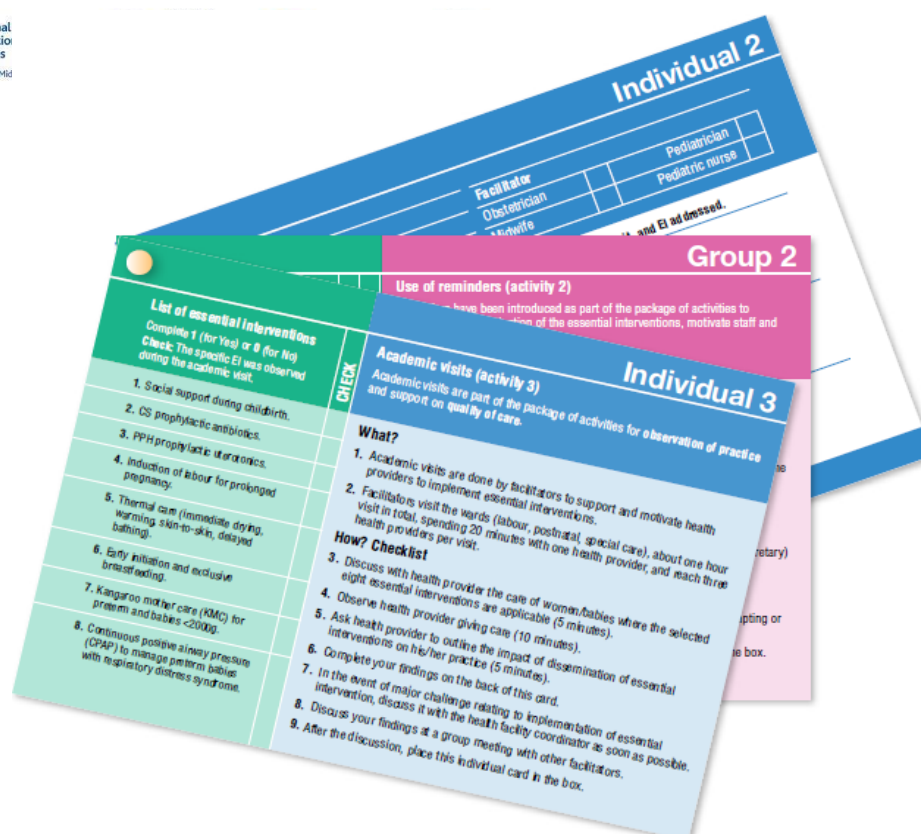
Our experience with this project concludes that an extended two year period in Uganda and Nepal will:

- Guarantee a longer post-intervention period to **sustain quality implementation and monitoring of the Essential Interventions**, providing stronger evidence to consolidate this model of innovation uptake by health providers through the HCPAs.
- Ensure the dissemination of project results and strategies to **establish the selected hospitals as centres of excellence** and institutionalise this model in other health facilities.
- Reinforce the collaboration with relevant stakeholders on issues related to the selected Essential Interventions, in particular for the **development of updated pre and in-service education curricula.**

In order to maximise the potential of the investment made in Phase 1, the three HCPAs and IECS request additional funds to support Phase 2 to build on the continuity of successful engagement of national and international HCPAs and avoid shelving of strategies and tools to support the implementation of a model to accelerate innovation uptake by health providers.



International
Confederation
of Midwives
Strengthening Mid



ANNEXES

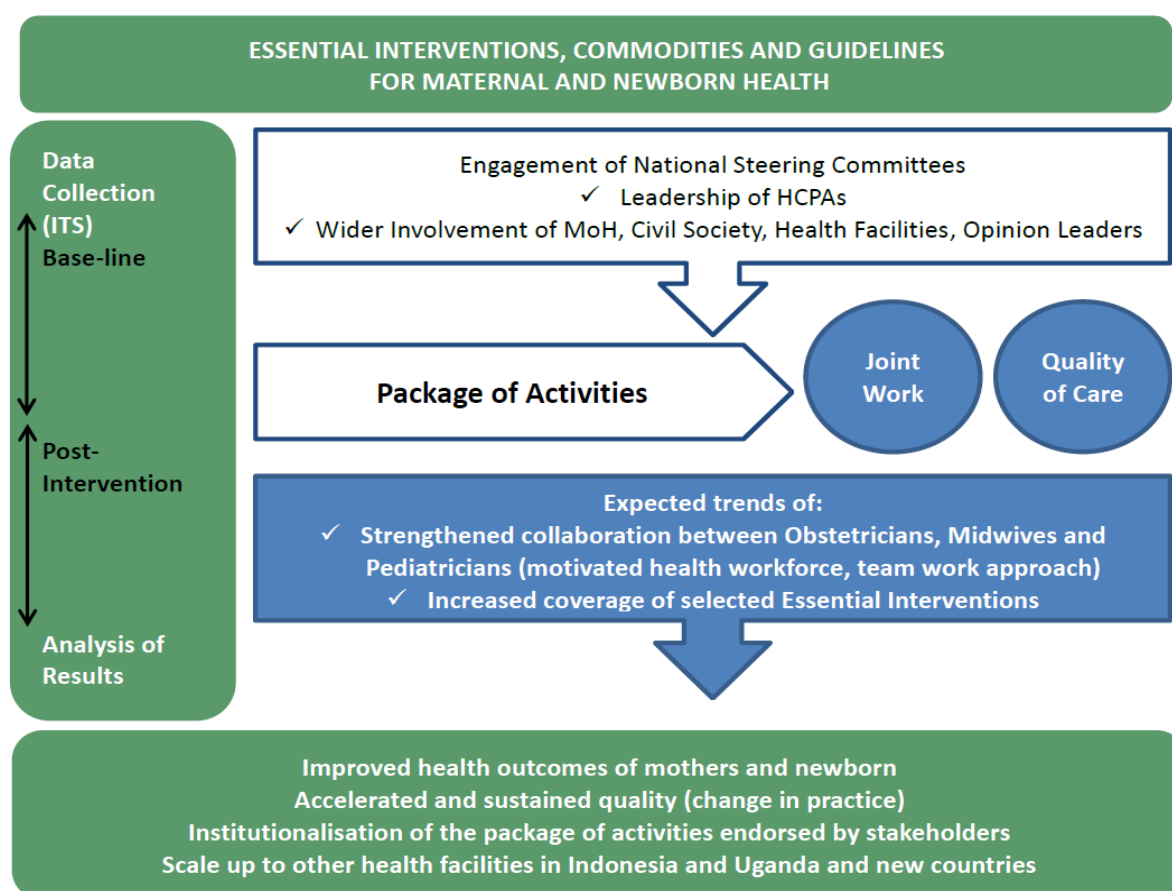
- 1. Project Implementation Model**
- 2. Diagram of data collection tools and definition of QoC Indicators**
- 3. Extra data collection sheet used in Mbarara**
- 4. Snapshot of EIs during study period**
- 5. List of documents available on drop-box**
- 6. Team Members**

Annex 1. Project Implementation Model

Rationale

The United Nations launched in 2010 a Global Strategy for Women's and Children's Health which emphasises the investment in monitoring and evaluation systems to improve the availability and quality of data. It also holds health care workers and their professional associations accountable to provide the highest-quality care, grounded on evidence-based medicine, share best practice, test new approaches, use the best tools possible and audit clinical practice. This project recognises that engaging HCPAs, health facilities and civil society is vital in dissemination and implementation of Essential interventions as they provide stability, structures, systems and commitment to reach providers at grass roots level.

Project Overview



Selection Criteria for data collection:	General and Specific Essential Interventions; Compliance Rate; Prevalence; Feasibility of data collection; Acceptability of health workers.	
Essential Interventions	Childbirth	Newborn
General At least 2 general interventions that apply to all women and newborn	Social support during childbirth (<i>this is a key intervention in addition to the 6 Essential Intervention defined by WHO</i>). Prophylactic uterotonics to prevent postpartum haemorrhage	Promotion and provision of thermal care for all newborn to prevent hypothermia (Immediate drying, warming, skin to skin, delayed bathing) Promotion and support for early initiation and exclusive breast feeding (within the first hour)
Specific At least 1 specific intervention for both childbirth and newborn	Prophylactic antibiotics for caesarean section Induction of labour for prolonged pregnancy	Kangaroo mother care (KMC) for preterm and <2000g babies Continuous positive airway pressure (CPAP) to manage preterm babies with respiratory distress syndrome

Communication Strategy

The success of the implementation of package of activities is reliant on involvement, engagement and ownership of the activities by the HCPAs, and health providers. The project team will use a range of independent and collaborative learning and working strategies to engage the HCPAs and the health providers through the concepts which underpin the **objectives of the communication strategy** for the project as presented below.

Aim of the Communication Strategy: Engage the key partners and stakeholders in the implementation and dissemination of the project “Improving the quality of maternal and newborn health care services through accelerated implementation of the Essential Interventions by the Health Care Professionals Associations” (Joint Initiative on the MNH Essential Interventions)

Objectives of the Communication Strategy

- A. Create acceptable and enabling conditions** for the implementation of the communication strategy of the Joint Initiative (Major concepts: Understand, Contextualise)
- B Inspire, inform and consult key stakeholders** on processes, content and results of the Joint Initiative (Major concept: Inspire)
- C Stimulate and support the mobilisation** of all stakeholders for an effective implementation of the Joint Initiative (Major concept: Ownership)
- D Strengthen existing partnerships and collaborate with new partners** engaged in maternal and newborn health
(Cross-Cutting Concept: Communication Flow)

Conceptual Framework of the Package of Activities	
Concept 1 UNDERSTAND 	✓ Human Resources Roles & Responsibilities ✓ Capacity Development Needs ✓ Knowledge and evidence linked to selected EIs ✓ Skills in practice
Dissemination of EIs	• Expose to evidence based practice • Change practice
Concept 2 CONTEXTUALISE 	✓ Development of a Best Fit Approach ✓ Build on National Health policies and drivers for MDG4&5 ✓ Consider health facility culture / resources / leadership style/ innovation
Case reviews Team building	• Improve quality of care standards • Promote collaborative working
Concept 3 INSPIRE 	✓ Supporting Leadership creates space for change ✓ Building Capabilities to achieve a sustained change ✓ Independent and collaborative learning and working ✓ Raising profile / improved outcomes ✓ New ways of working
Reminders Academic visits	• Bridging know – do gap • Observe application of evidence to practice
Concept 4 ENSURE OWNERSHIP 	✓ Locally driven process ✓ Organisational Mission internalised ✓ Building on existing structures to improve QoC ✓ Using a process of cascading training followed by structured monitoring
Simulation/Drills Case reviews	• Changing practice • Motivation to improve quality of care

Concept 5 ENSURE COMMUNICATION FLOW 	✓ Performance Oriented Management Style ✓ Co-Production of Knowledge and Ideas ✓ Involving health care professionals at all levels
Academic Visits Case reviews Team building	• Sustained communication • Improve quality of care • Impact of research intervention on practice

Package of Activities

A multifaceted package of activities has been developed to integrate and build on existing systems and structures to support staff to improve quality and evidence based care. The design and approaches used in the package of activities is envisaged to:

- Increase coverage of the selected essential interventions by at least 30%
- Improve joint work of the three professions at the health facility level
- Bridge “Know –Do” gaps
- The activities, described in detail below, have three main purposes:
 - Dissemination of EIs WHO standards (2012 guide-lines) through activity 1.Dissemination Workshop, and 2.Reminders;
 - Observation of clinical practice by a team of hospital facilitators through activity 3.Academic Visits
 - Discussion platforms joining the three professions through activities 4.Simulation, 5.Case Reviews, and 6. Team Building Sessions.

1. Dissemination of Essential Interventions⁸

In December 2011, PMNCH with World Health Organization, Aga Khan University and 14 partners shared the first ever consensus and evidence-based list in a report called: Essential Interventions, Commodities and Guidelines for Reproductive, Maternal, Newborn and Child Health (RMNCH). The document provides information on key selected RMNC survival interventions that should be made available to women and children, as well as information on the type of professional health worker required for their delivery, key commodities required; and corresponding available guidelines.

The dissemination of guidelines is structured to engage health care professionals at national association level, dedicated selected champions and at health provider levels to maximise its coverage. It is suggested that this is done as a workshop setting to review existing policies, protocols, adapt them and give priority to integrate the selected lifesaving interventions promote the scaling-up of these interventions.

2. Reminders

Whilst there is limited evidence to support the notion that reminders accelerate improvement in performance⁹. These are short messages to remind providers to consider the practices recommended in the guidelines. A variety of visual and verbal tools will be developed to maintain the momentum of implementation and also to assist the health care professionals to remain actively engaged despite their busy schedules and responsibilities in the departments.

⁸ The Partnership for Maternal, Newborn & Child Health. 2011. *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (RMNCH)*. Geneva, Switzerland: PMNCH.

⁹ Baker, D.W., Persell, S.D., Kho, A.N., Thompson, J.A., and Kaiser, D. (2011). *The marginal value of pre-visit paper reminders when added to a multifaceted electronic health record based quality improvement system*. J Am Med Inform Assoc, 2011;18:6 805-811.

3. Academic Visits

Academic visits to health facility departments should be viewed as supportive, they are recommended to allow facilitators to see exactly the processes and strategies used by providers to scale up implementation. It also provides an opportunity to reinforce the key messages relating to the content of guidelines, their implementation and improving the quality of care to mothers and babies. These should be done at least 2 weeks after disseminating the guidelines

4. Simulation of clinical procedures using models

We recommend an area be designated in clinical setting for simulation models and be accessible to all staff have an opportunity to practice clinical skills with support and supervision. Additional resources could be added to promote independent learning such as videos. A register to record the names, time spent and its' useful to be completed by practitioner after each session. This area can also be integrated as part of teaching / learning by medical students, student midwives, objective and structured clinical examination (OSCE) and continuing professional development by working in collaboration with academics, clinical experts and other partners such as Laerdal or Glowm. This activity strives as an inclusion strategy for all staff to benefit and further promote shared learning and joint working.

5. Case Reviews

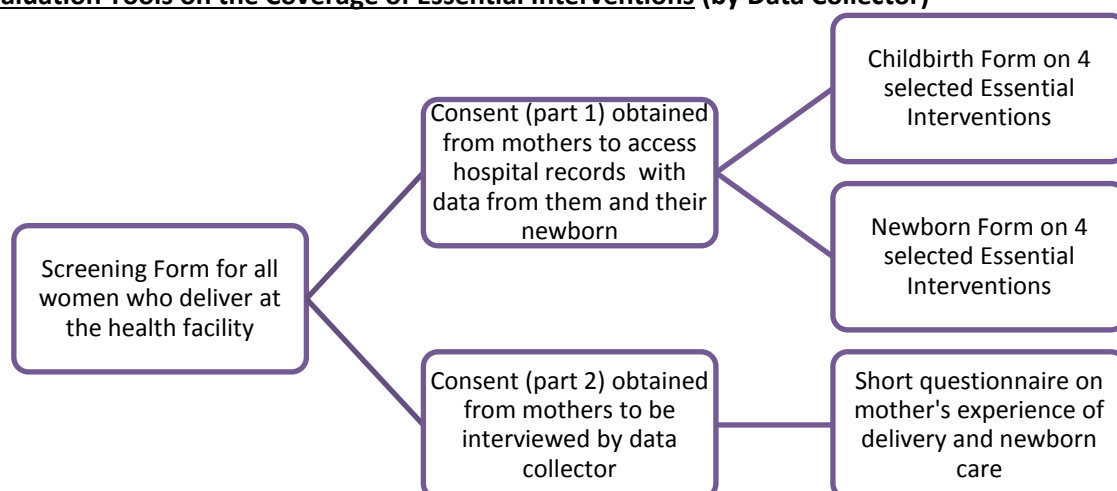
This activity is aimed to enable the three professions to review maternal or newborn near miss cases. It is recommended that facilitation of each case is shared – by obstetrician, midwife and paediatrician. Standardisation in organisation of discussion/ facilitation encourages open honest learning without apportioning of blame.

6. Team Building sessions

The aim of this activity is to motivate, inspire staff, agree on advocacy strategies and tools and influence change of culture within the facility. The attendance needs to reflect equal numbers from all three professions. Use of active learning/ participatory methods of facilitation will be used during the activities. Guidelines will be developed for sharing, future reference.

Annex 2. Diagram of data collection tools and definition of QoC Indicators

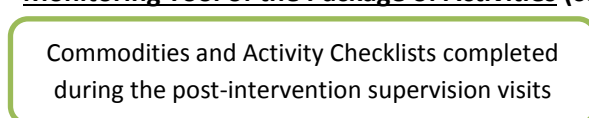
Evaluation Tools on the Coverage of Essential Interventions (by Data Collector)



Evaluation Tools on the Joint Work



Monitoring Tool of the Package of Activities (completed by National Coordinator)



Definition of 21 QoC indicators for childbirth, newborn and definition of outcomes

Definition of Childbirth Indicators (6)	Definition of Newborn Indicators (15)
% of women with an Induced Initiation of labour	% of live births whose temperature was taken
% of women with elective C-Section	% of live births receiving immediate drying
% of women with C-Section	% of live births placed on mother's abdomen
% of women receiving prophylactic antibiotic for C-Section	% of live births with delayed cord cutting
% of women receiving uterotonic immediately after birth	% of live births placed on mother's chest
% of women referred after delivery	% of live births with delayed bathing
	% of live births breastfed within 1 hour after delivery
	% of live births involving hand washing and other hygiene on cord management
	% of live births with delayed cord clamping
	% of live births receiving Chlorhexidine for cord hygiene
	% of live births with <2000 g receiving Kangaroo mother care (KMC)
	% of live births with Respiratory Distress Syndrome receiving Continuous positive airway pressure (CPAP)
	% of live births referred
	% of live births dead after delivery before hospital discharge/referral
	% of live births admitted to NICU
Definition of Childbirth outcomes	
% of women died after labour/delivery before hospital discharge	
Definition of Newborn outcomes	
% of stillbirths	
% of preterm birth	
% of newborn with low birth weight	
% of newborn with symptoms of Respiratory Distress Syndrome	

Annex 3. Extra data collection sheet used in Mbarara

Patient name: _____ Inpatient number: _____ Date: _____

CLINICAL NOTES ANNEX: MATERNAL NEW BORN HEALTH INTERVENTIONS

ACTIVITY PERFORMED		YES	NO	SIGNATURE
Social support for the mother	Did we give information to the mother's birth companions to support the mother throughout labor?			
	Did we allow the mother to have a companion of her choice to provide social support?			
Prolonged pregnancy	Was labor induction done for prolonged pregnancy, at 41 weeks or more?			
Prophylactic antibiotic for caesarean section	Were antibiotics administered within 2 hours of starting C-section? Please check anesthetic records If given, mention antibiotic (s):----- -----			
Prophylactic uterotonic to prevent PPH	Were uterotonics administered as part of active management of thirds stage of labour / immediately after delivery? If yes, which uterotonics did the woman receive? -----			
Thermal Care	Was the baby dried with a towel or cloth immediately after birth?			
	Was the baby placed on the mother's abdomen immediately after birth ?			
	Was the cutting of the cord delayed for 3mins after birth?			
	Was the temperature taken in the newborn within 2 hours?			
	Was the baby placed on the mother's chest immediately after birth for at least 2 hours?			
	Was the baby bathing delayed 24 hours after being born?			
Breastfeeding	Did the newborn breastfeed within 1 hour after birth ?			
Newborn cord hygiene and skin care practices.	Were hand washing and other hygiene practices observed before delivery?			
	Was chlorhexidine used for hygiene practices?			

Patient name: _____ Inpatient number: _____

Date: _____

CLINICAL NOTES ANNEX: NEWBORN CARE ANNEX FORM 2014

This additional sheet has been designed to improve quality of clinical records and capture all procedures undertaken to improve quality of care ACTIVITY PERFORMED	YES	NO	STAFF SIGNATURE
Birth weight __ __ __ __ grams			
Was the newborn admitted to the Neonatal Intensive Care Unit (NICU)?			
Was the mother given demonstration of Kangaroo care?			
Did the mother provide Kangaroo care to her baby?			
Did the newborn present with symptoms of Respiratory Distress Syndrome?			
Did the newborn receive continuous positive airway pressure (CPAP)?			

Annex 4. Snapshot of EIs during study period

Outcome Variables (%)	Nsambya Hospital, Kampala, Uganda (N=1710, March-October 2014)				Mbarara Hospital, Uganda (N=3019, March-October 2014)			
	Yes (%)	No (%)	Don't know (%)	Missing (%)	Yes (%)	No (%)	Don't know (%)	Missing (%)
	(Done)	(Not done)	(No chart)	(No data)	(Done)	(Not done)	(No chart)	(No data)
1.Social support (SS)	2.48	96.24	0.23	1.04	1.16	60.78	34.58	3.48
•Companion (SS related)	3.47	93.82	1.79	0.92	0.56	94.83	1.13	3.48
•Information (SS related)	3.18	0.75	5.26	90.81	0.23	0.10	0.13	99.54
2.Uterotonics (PPH)	98.90	0.06	0.98	0.06	97.85	0.40	1.76	0.00
3. Antibiotics (CS)	5.91	70.75	22.75	0.59	49.32	3.70	46.60	0.39
4.Induction of labour ¹⁰	-	-	-	-	-	-	-	-
5. Thermal Care, baby:								
•dried or clothed	77.13	1.52	21.29	0.06	77.60	0.99	21.37	0.03
•in abdomen mother	61.23	25.73	12.81	0.23	67.07	7.82	24.84	0.27
•in chest mother	33.57	60.18	6.14	0.12	1.82	96.67	1.37	0.14
•bath delay	90.99	3.92	4.68	0.41	96.05	3.05	0.65	0.24
6. Breastfeeding	2.27	10.12	86.63	0.99	69.23	1.23	29.54	0.00
7.KMC	77.50	17.50	2.50	2.50	38.46	30.77	30.77	0.00
8.CPAP	90.00	1.67	3.33	5.00	58.33	16.67	25.00	0.00

Outcome Variables (%)	Uganda Total (N=4729, March-October 2014)			
	Yes (%)	No (%)	Don't know (%)	Missing (%)
	(Done)	(Not done)	(No chart)	(No data)
1.Social support (SS)	1.64	73.71	22.06	2.59
•Companion (SS related)	1.62	94.46	1.37	2.55
•Information (SS related)	1.31	0.34	2.00	96.36
2.Uterotonics (PPH)	98.23	0.27	1.47	0.02
3. Antibiotics (CS)	32.08	30.32	37.13	0.47
4.Induction of labour ¹⁰	-	-	-	-
5. Thermal Care, baby:				
•dried or clothed	77.43	1.19	21.34	0.04
•in abdomen mother	64.91	14.44	20.39	0.26
•in chest mother	13.56	83.18	3.14	0.13
•bath delay	94.18	3.37	2.14	0.30
6. Breastfeeding	44.38	4.53	50.72	0.37
7.KMC	62.12	22.73	13.64	1.52
8.CPAP	84.72	4.17	6.94	4.17

¹⁰ Data collection did not include disaggregation among same categories and therefore is not presented here.

Annex 5. List of documents available on drop-box

<https://www.dropbox.com/sh/1zl6hcdkthdaaz0/AADqnef6PjhxKvHBTxUodesWa?dl=0>

- Substantive Report July 2013-September 2014
- M&E Final Report (Appendix to Substantive Report)
- Project Launch Report - Sept 2013
- Guidance Paper 1 and Appendixes
- Guidance Paper 2
- Joint Initiative Toolkit: guide booklet and cards

Annex 6. Joint Initiative Team Members

Category and position	Name
International Steering Committee	
FIGO Chief Executive	Hamid Rushwan
ICM President	Frances Day-Stirk
IPA Treasurer	Peter Cooper
IECS M&E Advisor	Jose Belizan
International Management and Coordination	
FIGO Project Manager	Amata Kwizera
ICM Coordinator	Sue Jacob
IECS M&E Team	
M&E Consultant	Ezequiel García-Elorrio
M&E Consultant	Cintia Spira
Data Manager	Mabel Berrueta
M&E Consultant	Alemán, Alicia
M&E Consultant	Mac Mullen, Mercedes
Uganda Country Team	
AOGU President	Charles Kiggundu
UPMA President	Mary Gorret Musoke
UPA President (Secretariat)	Jane Achan
AOGU Focal Person	Romano Byaruhanga
UPMA Focal Person	Christine Kasirye / Disan Mugumya
UPA Focal Person	Violet Okaba
National Project Coordinator	Dinah Amongin
Admin and Finance officer (Secretariat/UPA)	Juliet Biculi
Health Facility Coordinator, Nsambya	Charles Namisi
Data Manager, Nsambya	Godfrey Kizito
Data Collector, Nsambya	Doreen Namuyanja
Data Collector, Nsambya	Immaculate Nabwami
Hospital Facilitator, Ob, Nsambya	Musana othiniei
Hospital Facilitator, Ped, Nsambya	Shiba Nahurira
Hospital Facilitator, Ped N, Nsambya	Barbara Kantanyi
Hospital Facilitator, Mid, Nsambya	Akello Margaret
Health Facility Coordinator, Mbarara	Joseph Ngonzi
Data Manager, Mbarara	Ismail Mutabazi Bahati
Data Collector, Mbarara	Wilfred Inzama
Data Collector, Mbarara	Alice Tinkasimire
Data Collector, Mbarara	Getrude Busingye
Hospital Facilitator, Ob, Mbarara	George Wasswa Muganwa Ssalongo
Hospital Facilitator, Ob, Mbarara	Farjardo Yarine Ternes
Hospital Facilitator, Ped, Mbarara	Elias Kumbakumba
Hospital Facilitator, Mid, Mbarara	Judith Kyarisiima