Prevention of Postpartum Hemorrhage Initiative (POPPHI) Project

Final Semi-annual Report

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Final Semi-annual Report

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Abbreviations—English

ACCESS	Access to Clinical and Community Maternal, Neonatal, and Women's Health Services
AGOG	Asociación de Ginecologia y Obstetrica de Guatemala/Guatemala Association of Gynecology and Obstetrics
AIDS	Acquired Immunodeficiency Syndrome
AMTSL	active management of third stage of labor
ANC	antenatal care
ASFM	Association of Mali Midwives
AXxess	USAID bilateral project in Democratic Republic of Congo
BASICS	Basic Support for Institutionalizing Child Survival
BCC	Behavior Change Communication
BCO	Bangladesh Country Office
BIOL	Instituto Biologico Argentino
BJOG	British Journal of Obstetrics and Gynaecology
BMNC	basic maternal and newborn care
BNA	Bangladesh Nursing Association
BPP	Birth Preparedness Plan
BRAC	development organization founded by Dr. Fazle Hasan Abed in 1972
CA	Co-operating Agency
CAMBIO	name of Argentina Study: **C**hanging **AM**TSL **B**ehaviors **i**n **O**bstetrics
CARE	Cooperative for Assistance and Relief Everywhere, Inc.
CB	community-based
CCT	controlled cord traction
CD-ROM	compact disc-read only memory
CHO	Community Health Nurses/Officers
CHPS	Community Based Health Planning and Services
CHPS–TA	Community Based Health Planning and Services–Technical Assistance project
CMW	community midwives
COMIN	Central American OB/GYN Association
CONECTA	USAID funded project in Dominican Republic, focused in the areas of HIV/AIDS, tuberculosis, reproductive health, immunization, and community water systems
COP	Midwifery Association Peru
COTR	Contracting Officer's Technical Representative (USAID)
CRP	Complication Readiness Plan
CSBA	community skilled birth attendants
DGFP	Directorate General of Family Planning
DGHS	Director General of Health Services
DPM	Division for Pharmaceuticals and Medications
DRC	Democratic Republic of Congo
DSR	Reproductive Health Division (Malian National Health Department)
ECSA	East, Central, Southern, Africa Health Community, Family, and Reproductive Health Programme
EH	EngenderHealth
EML	Essential Medicine List
EOI	Expression of Interest
EONC	emergency obstetric and newborn care
ESD	Extending Service Delivery
FDA	Food and Drug Administration

FIGO	International Federation of Gynecology and Obstetrics
FITF	First Intervention Task Force
FWA	family welfare assistants
FWV	family welfare visitors
GH	global health
GHS	Ghana Health Services
GOB	Government of Bangladesh
GRMA	Ghana Registered Midwives Association
GYN	gynecology
HA	health assistant
HCI	Healthcare Improvement Project
HealthTech	HealthTech IV Cooperative Agreement
HF	Health Facility
HIDN	Office of Health, Infectious Diseases, and Nutrition (USAID)
HIP	Health Improvement Project
HIV	human immunodeficiency virus
HMIS	health management information system
HRU	Health Research Unit
HSP	Health Systems Project
HSSP	Health Services Support Project
IBI	Indonesian Midwives Association
ICDDRB	International Center for Diarrhoeal Disease Research Bangladesh
ICM	International Confederation of Midwives
ICMR	India Council of Medical Research
IFGO	International Federation of Gynecology and Obstetrics
IHI	IntraHealth International, Inc.
IM	intramuscular
IOM	International Organization on Migration
IP	Implementing Partner; Infection Prevention
IRB	Institutional Review Board
IU	international unit
IV	intravenous
IYCN	Infant and Young Child Nutrition
JHPIEGO	international non-profit health organization affiliated with Johns Hopkins University
JNPK	Indonesia's National Clinical Training Network
JPMC	Jinnah Post Graduate Medical Centre (Karachi, Pakistan)
JSI	John Snow Inc.
KATH	Komfe Anoche Teaching Hospital
KBTH	Korle Bu Teaching Hospital
LAC	Latin American and Caribbean
LDC	Less Developed Country
LGA	Local government authorities
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring and Evaluation
MCH	Maternal Child Health
MCHIP	Maternal Child Health Integrated Program
MIHP	Mother and Infant Health Project
MIS	management information systems
MMR	maternal mortality
MNCH	Maternal, Nutrition, and Child Health
MNTI	Maternal and Newborn Health Technology Initiative

MOH	Ministry of Health
MPS	Making Pregnancy Safer – Division of WHO
MSH	Management Sciences for Health
MW	midwives
NA	not applicable
NGO	non-governmental organization
NHS	National Health Services
NICHD	National Institute of Child Health and Human Development
NIH	National Institutes of Health
NPOA	National Plan of Action
NSDP	National Service Delivery Program (Bangladesh)
OB	obstetrics/obstetrician
OB/GYN	obstetrician/gynecologist
OGSB	Obstetrical and Gynecological Society of Bangladesh
OI	Oxytocin Initiative
OIU	Oxytocin in Uniject
OP	Operational Plan
PAHO	Pan American Health Organization
PAIMAN	Pakistan Initiative for Mothers and Newborns
PMP	Performance Management Plan
PMSTL	physiologic management of the third stage of labor
PONED	Basic emergency obstetric and neonatal care (training in Indonesia)
POPPHI	Prevention of Postpartum Hemorrhage Initiative
PPH	Postpartum Hemorrhage
PPPH	Prevention of Postpartum Hemorrhage
PROMISE	PROmoting Maternal and Infant Survival and Excellence
PSI	Population Services International
PSTC	Population Services and Training Center
PVO	private voluntary organizations
QAP	Quality Assurance Project
QHP	Quality Health Partners
RACHA	Reproductive and Child Health Alliance
RH	reproductive health
RMD	Regional Medical Director
RPM Plus	Rational Pharmaceutical Management Plus
RTM	Research Training and Management (RTM) International
SAIN	site and individual training strategy
SBA	skilled birth attendant
SM	Safe Motherhood
SOGOG	Society of Obstetricians and Gynaecologists of Ghana
SOMAGO	Malian Society of Obstetricians and Gynecologists
SONIGOG	Nicaraguan Association of Obstetricians and Gynecologists
SPL	self-paced learning
SPS	Strengthening Pharmaceutical Systems
STG	standard treatment guidelines
TA	technical assistance
TAG	Technical Advisory Group
TBA	traditional birth attendant
TF	Task Force
TOT	training of trainers
TTI	time-temperature indicators

UC	University of California
UDD	Uterotonic Drugs and Devices
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
URC	University Research Company
US	United States
USAID	U.S. Agency for International Development
WG	working group
WHO	World Health Organization

Abbreviations—French

AQ	Accoucheur qualifié
ASACO	Association de Santé Communautaire
ASFB	Association des Sages-Femmes du Bénin
ASFM	Association des Sages Femmes du Mali
AT	Accoucheuse traditionnelle
ATN	Assistance Technique Nationale (Project of Abt Associates)
CAME	Direction de la Centrale d'Achat de Médicaments Essentiels
CCC	Communication pour le changement du comportement
CIVD	Coagulopathie intravasculaire disséminée
CMM	Consommation moyenne mensuelle
CNOSFM	Conseil National de l'Ordre de Sages Femmes du Mali
CNS	Consultation des nourrissons sains
COMIN	Central American OB/GYN Association
CPM	Chef de poste médical
CPN	Consultation Prénatale
CSCom	Centre de santé communautaire
CSRéf	Centre de santé de référence
DHN	désinfection de haut niveau
DNS	Direction Nationale de la Santé
DPM	Direction de la Pharmacie et du Médicament/ Division for Pharmaceuticals and Medications
DRC	Dépôt Répartiteur de Cercle
DRS	Direction Régional de la Santé
DSF	Direction de la Santé Familiale
DSR	Division Santé de la Reproduction/Reproductive Health Division (Malian National Health Department)
EOI	Expression of Interest
FELASCOM	Fédération Locale des Associations de Santé Communautaire
FENASCOM	Fédération Nationale des Associations de Santé Communautaire
FIGO	Fédération Internationale de Gynécologie et d'Obstétrique
FITF	First Intervention Task Force
GATPA	Gestion Active de la Troisième Phase d'Accouchement
IBI	Indonesian Midwives Association
IM	Intramusculaire
IOM	International Organization on Migration
IV	Intraveineuse
MS	Ministère de la santé
NPOA	National Plan of Action
OB/GYN	obstetrics/gynecology
OMS	Organisation Mondiale de la Santé
PHPP	Prévention de l'Hémorragie du Postpartum
PI	Prévention des infections
PISAF	Projet Intégré de Santé Familiale
PKC	Projet Keneya Ciwara (Project of Care International)
PMM	Prévention de la Mortalité Maternelle
POPPHI	Initiative pour la Prévention de l'Hémorragie du Postpartum
PPM	Pharmacie Populaire du Mali
PTME	Prévention de la transmission mère-enfant du VIH/SIDA

SIDA	Le Syndrome de l'Immunodéficience Acquise
SOMAGO	Société Malienne de Gynécologie et d'Obstétrique/Malian Society of Obstetricians and Gynecologists
SONU	Soins obstétricaux et néonatals d'urgence
TCC	Traction contrôlée du cordon
TME	Transmission mère-enfant du VIH/SIDA
TPA	Troisième période de l'accouchement
TTI	Indicateur temps-température
UI	Unité internationale
VIH	Virus d'Immuno-Deficience Humaine

1. Progress

1.1 Summary of Activities and Achievements

The Prevention of Postpartum Hemorrhage Initiative (POPPHI) project has completed its final five months (August 1–December 31, 2009) and ended this project, having successfully met all objectives and deliverables. This reporting period combined a final strong effort to complete important global activities as well as to focus on project close-out. POPPHI continued to provide strong global leadership and to assist in planning for future activities in postpartum hemorrhage (PPH) prevention and early treatment. POPPHI has again met or exceeded all of its targets for this reporting period. A summary table of performance is included in ***Exhibit 1***. Highlights for this reporting period include:

- Repeat active management of third stage of labor (AMTSL) surveys in Ghana found a nine-fold increase (from 3% to 27%) in the use of AMTSL, and the surveys in Indonesia found an increase from 31% to 40%.
- POPPHI successfully hosted the meeting: *Tackling the biggest maternal killer: Progress and challenges in reducing postpartum hemorrhage*, which brought together 120 participants and presenters from 13 countries on November 20, 2009. Numerous organizations shared their work and their progress and challenges on PPH prevention and early treatment, and suggested the way forward with the ending of POPPHI.
- Bangladesh, Ghana, and Mali Ministry of Health (MOH) representatives highlighted their national commitment to PPH prevention efforts during the November 20, 2009, POPPHI meeting.
- The Guatemala pilot on oxytocin in Uniject™ has successfully wrapped up its activities (the interviews of health workers who used oxytocin in Uniject were completed December 11, 2009). The interviews were performed by the MOH and the Associación de Ginecologia y Obstetrica de Guatemala (AGOG), with funds from the Healthcare Improvement Project (HCI) and POPPHI. As a follow-on to POPPHI project activities, analysis and report writing will be completed in early 2010 by PATH, MOH, and AGOG. Discussions are underway with the Guatemalan MOH and the U.S. Agency for International Development (USAID) about scaling up oxytocin in Uniject in Guatemala.
- An evaluation, conducted independently of the POPPHI project, of the site and individual training strategy (SAIN) methodology in Ghana found that 81 providers had been trained in 3 months and that the SAIN methodology at the district level for this set of Ghana trainings was more cost effective than the traditional group-based residential trainings. Refer to **Appendix H** for more details.

- POPPHI collaborated with the World Health Organization (WHO) to host a meeting on November 17, 2009, on an indicator for AMTSL/PPH prevention and has disseminated the meeting results. Refer to **Appendix D** for the meeting minutes and attendee list. Follow-up meetings were held with the WHO Making Pregnancy Safer (MPS) staff in Geneva on December 15, 2009, to make plans for continuation of this effort, and additional meetings were held in December 2009 with the Maternal and Child Health Integrated Project (MCHIP) to transition the follow-on activities with MCHIP.
- Summary data indicate that an average of 90% of AMTSL coverage in USAID-supported facilities in 16 countries covered 640,000 births, from July 2008 to June 2009. Additionally, POPPHI has had impact or a "footprint" in over 40 countries related to PPH prevention efforts.

POPPHI has continued to be an effective resource and has provided guidance on multiple fronts. POPPHI collaborated regularly with MCHIP and has worked towards a seamless transition of POPPHI activities to that project. Refer to **Section 1.5** for more details of the transition activities. The first PPH Consortium meeting was held on November 19, 2009, and was one such transition activity completed during this reporting period. Follow-on activities from POPPHI in Mali and the Democratic Republic of Congo (DRC) were initiated during this reporting period, and Latin American and Caribbean (LAC) activities should commence soon. S. Engelbrecht worked closely with the MOH and USAID/Mali to follow up on national use of oxytocin in Uniject. Additionally, meetings were held at the POPPHI meeting on November 20, 2009, between Dr. B. Keita, Mali, and the HealthTech IV Cooperative Agreement (HealthTech) staff to identify next steps for scale-up of oxytocin in Uniject in Mali.

On the policy front, POPPHI collaborated with WHO to host a meeting on PPH prevention indicators under the auspices of the Making Pregnancy Safer (MPS) Division's *Quality Facility Childbirth Initiative*. The meeting was held November 17, 2009, in Washington, DC, and provides guidance to WHO for a larger technical consultation. The meeting also served as the first in what is planned to be a series of meetings on indicators for the major causes of maternal and neonatal mortality. A draft Joint Statement on AMTSL was provided to WHO–MPS Division to finalize and obtain approval from the United Nations Children's Fund (UNICEF) and the United Nations Population Fund (UNFPA).

POPPHI's partnering, collaboration, and dissemination efforts continued to extend its geographic reach with additional requests coming from Comoros and from the Namakkal and Salem districts in Tamil Nadu state in India that want to develop programs to decrease PPH in their respective areas. POPPHI staff also presented at the Best Practices national meeting in Pakistan on October 1, 2009. Students working on theses for master's degrees in public health continued to contact POPPHI for the most current data on PPH. POPPHI's work on induction and augmentation in low-resource settings led to a new article accepted by the *International Journal of Gynecology and Obstetrics* entitled,

"Uterotonic Use in Home Births in Low-Income Countries: A Structured Literature Review."

Task 1: Expand AMTSL through Non-training Approaches to Improve Provider Practice

The International Federation of Gynecology and Obstetrics (FIGO) and the International Confederation of Midwives (ICM) were very active during these 5 months with visits to both Benin and Ghana to provide support to the local associations in their PPH prevention work and to POPPHI. Both countries launched a Joint Statement on PPH prevention and treatment in collaboration with the MOH. These statements made a high-level commitment to continue and expand their work to prevent women from dying of PPH. These Joint Statements are found in **Appendix C**.

ICM finalized a statement on physiologic management (see **Appendix C**) after completion of an extensive literature review. However, the final decision made by FIGO and ICM is that no separate Joint Statement on physiologic management will be approved, but that ICM and FIGO would combine all Joint Statements into one and include physiologic management. See **Appendix C** for the document. A poster on management of PPH was produced by FIGO, in collaboration with POPPHI, and can be found in **Appendix C**.

FIGO and ICM representatives attended and presented at the November 20, 2009, meeting in Washington, DC.

The POPPHI Web site continued to generate requests for guidance and information and to make new material and documents available. The AMTSL training materials have been printed and are currently being distributed. Additionally, the following materials were distributed during this reporting period.

POPPHI materials distributed from August 1 to December 31, 2009	Total materials distributed over the life of POPPHI
50 condensed PPH toolkits	total of 3,092 condensed PPH toolkits
149 CD-ROMs in English	total of 3,558 CD-ROMs in English
48 CD-ROMs in French	total of 700 CD-ROMs in French
57 CD-ROMs in Spanish	total of 876 CD-ROMs in Spanish
165 posters in English	total of 5,858 posters in English
219 fact sheets in English	total of 4,213 fact sheets in English
93 posters in French	total of 4,060 posters in French
62 fact sheets in French	total of 3,049 fact sheets in French

POPPHI materials distributed from August 1 to December 31, 2009	Total materials distributed over the life of POPPHI
66 posters in Spanish	total of 3,474 posters in Spanish
81 fact sheets in Spanish	total of 3,086 fact sheets in Spanish

All small grants were closed. For more detailed information on small grants, see section 1.3 Activities Ongoing and Completed by Task, Task 1, #4.

Regarding policy changes during this reporting period, the protocol changes on AMTSL, uterotonic drug use, and storage in Benin were finalized. Misoprostol was also registered in Pakistan.

Monitoring and Evaluation (M&E) activities were completed and data on AMTSL was collected from partners in scale-up countries (See **Appendix D**). The POPPHI M&E specialist also coordinated efforts to provide data for the Operational Plan for USAID.

Task 2: Improve the Quality and Availability of AMTSL at the Facility Level

Training Activities

During this final reporting period, the SAIN training materials in both English and French were put on the Web site. Basic Support for Institutionalizing Child Survival (BASICS) has put the *Integrated Maternal and Newborn Care* training package, authored by S. Engelbrecht, POPPHI, and I. Narayanan, from BASICS on their Web site, and POPPHI has also included a version of these training materials on their Web site. Ghana completed the final SAIN trainings in December 2009. In Peru, POPPHI provided technical assistance (TA) to the Midwifery Association in Peru (COP) to conduct 4 AMTSL workshops in those regions with high maternal mortality due to PPH, that were not completely covered with POPPHI's small grant trainings. G. Metcalfe and the COP planned a 2-day workshop focused on practice, using a competency-based methodology with anatomical models, in Lima, Trujilo, Piura, and Puno, Peru. A total of 120 midwives participated in the 4 workshops, 30 per workshop in Lima (October 12–13), Piura (October 15–16), Trujillo (October 18–19), and Puno (October 21–22). Refer to **Appendix B** for the more detailed trip report. S. Engelbrecht worked with the MCHIP team on developing a work plan for DRC to facilitate the transition of POPPHI activities into MCHIP activities. In August 2009, she traveled to DRC and met with MOH, USAID, and USAID partners, including USAID-funded Project AXxes, World Vision, and Populations Services International (PSI), on potential upcoming MCHIP activities. All training activities were completed either before or during this reporting period.

Overview of Scale-up Countries

Mali Activities. During this final reporting period, W. Dufour, POPPHI consultant, and S. Engelbrecht completed the write-up of the evaluation report. S. Engelbrecht planned

for and traveled to Mali in October 2009, to lead the evaluation of AMTSL practice and coverage, and uterotonic drug use and storage in selected districts where the SAIN learning approach had been implemented. Unfortunately, the regions cancelled the activity at the last minute due to unforeseen and conflicting ongoing activities.
S. Engelbrecht also worked with the MCHIP team on developing a work plan to facilitate the transition of POPPHI activities in Mali into MCHIP activities. In October 2009, she traveled to Mali and met with MOH, USAID, Save the Children, and USAID partners, including Assistance Technique National (ATN) Plus and IntraHealth, on potential upcoming MCHIP activities. She also discussed possible scale-up of oxytocin in Uniject in Mali with the USAID Mission. Refer to **Appendix B** for more details.

Ghana Activities. During this final reporting period, S. Engelbrecht traveled twice to Ghana to first provide supervisory support to PROMISE hospitals implementing the SAIN learning approach, and then worked with H. Rippey, consultant, to evaluate progress made and experience with the SAIN learning approach. The assessment showed that providers had successfully completed the self-paced modules and were practicing AMTSL to standard. Facilities had developed mechanisms to follow AMTSL coverage, and more than 95% of women who had vaginal births at the facilities were offered and received AMTSL. During this reporting period, the **C**hanging **AM**TSL **B**ehaviors **i**n **O**bstetrics (CAMBIO) intervention was completed and a second survey (endline) was completed by the Ghana Health Services Health Research Unit. The findings indicate an increase from 12% to 28% (at one minute) and 34% (at three minutes) over the 3- to 4-month implementation phase. Additionally, a repeat national AMTSL survey found a nine-fold increase in the use of AMTSL—from 3% to 27% use. Refer to **Appendix B** for more details.

Bangladesh Activities. During this final reporting period, N. Darcy traveled to Bangladesh (October 13–October 22, 2009) to conduct a review of the M&E data collection and provide supportive supervision. The findings indicated that the majority of women received AMTSL; AMTSL is systematically recorded in the delivery record; job aids on AMTSL were posted in most delivery rooms; and there were oxytocin storage issues identified. Refer to **Appendix B** for more details. The lessons learned from the PPH prevention activities and the work in Bangladesh included the following:

- AMTSL is practiced by trained maternity service providers but not consistently reported: practice and documentation need to go hand in hand.
- Evidence from 2 hospitals visited showed that AMTSL is reducing the incidence of PPH.
- Misoprostol can be safely distributed by the Government of Bangladesh (GOB) and non-governmental organization (NGO) field workers, but additional distribution channels need to be found to enlarge coverage.
- The misoprostol pilot has encouraged the government and the PPH Task Force to implement other evidence-based interventions.

- Interventions have shown the importance of strong GOB commitment and active participation, together with detailed monitoring to achieve success and maintain potential for scale-up.

Dr. A. Faisel presented on "Towards National Impact of PPH Prevention: Bangladesh Experience" at the November 20, 2009, POPPHI meeting. Refer to http://wilsoncenter.org/index.cfm?topic_id=116811&fuseaction=topics.event_summary&event_id=563966 for more details.

Indonesia Activities. During this final reporting period, the AMTSL survey was repeated in Indonesia and showed an increase from 31% use to 40% use of AMTSL. Additionally, the MOH reactivated the National Plan of Action for PPH Prevention (without the misoprostol component). Included in the plans are the scale-up of oxytocin in Uniject.

Benin Activities. During this final reporting period, S. Engelbrecht and B. Carbonne traveled to Benin to facilitate a workshop on PPH prevention and treatment. Presentations at the workshop included results of a study on uterotonic drug usage in Benin, rational use of uterotonic drugs in the facility, practical aspects of training in AMTSL, progress report on scaling up of AMTSL in Benin, validation of updated protocols for prevention and treatment of PPH, and the signing of a Joint Statement for the prevention and treatment of PPH. Refer to **Appendix B** for more details.

Guatemala/Honduras Activities. Staff and consultants of HealthTech and POPPHI visited the 6 facilities in the region of Alta Verapaz in Guatemala (in late October to early November 2009) along with MOH and HCI staff. POPPHI staff observed and found out that oxytocin in Uniject is correctly used and very well accepted, but it was necessary to reinforce the steps for AMSTL in 5 of the 6 visited facilities (see attached trip report in **Appendix B**). No activities were possible in Honduras to date because of the political situation.

In **Nicaragua**, the Nicaraguan Association of Obstetricians and Gynecologists (SONIGOG) met its objective to improve skills in prevention and management of PPH of birth assistance providers, such as doctors and nurse midwives at the three hospitals that give pre- and in-service trainings: the National Hospital of Women in Managua, which is the national reference hospital; Maternal and Children's Hospital in Managua; and the Training Hospital in Leon. SONIGOG, along with the MOH, selected 13 trainers from among the leaders and key positions within the MOH, HCI, Medicine School of Leon, hospital directorship, and SONIGOG to conduct 2 workshops in Leon and Managua. The workshops included 2 days of review of the evidence, practice on anatomic models, and 3 days of practice in the labor and birthing rooms. A total of 146 providers were trained: 45 obstetricians (OBs), 34 OB residents, 19 general practitioners, 18 nurse midwives, 23 nurses, and 7 medical students.

Under MCHIP, activities will continue in Honduras and Guatemala, as will support to midwifery pre-service education in Peru and Paraguay. Plans are also in place to replicate the Argentina CAMBIO research in a LAC country (to be determined) under MCHIP.

Task 3: Improve the Quality and Availability of AMTSL at the Community Level

Strengthening and improving access to community-based PPH prevention strategies has remained a priority for POPPHI during this final reporting period, as illustrated with the work being completed in Guatemala with the oxytocin in Uniject pilot, and support for misoprostol activities or pilots in Bangladesh and Ghana. There were hopes that activities in Honduras would begin during this reporting period, but the political situation remained unchanged. The misoprostol pilot in Ghana has moved forward; the application and protocols were submitted to the ethics committee in Ghana; and Venture Strategies has hired an in-country coordinator for the misoprostol pilot. Bangladesh continues its rapid roll-out of misoprostol strategy.

Task 4: Make Uterotonic Drugs and Devices (UDDs) Available at Low Cost to Countries

S. Engelbrecht and N. Darcy led this assessment of the cost effectiveness of the SAIN and group training approaches for AMTSL. POPPHI compared the traditional face-to-face AMTSL training approach (group) with the blended AMTSL training approach (SAIN) to determine if the SAIN approach was more cost effective in terms of provider practice of AMTSL. This assessment was constrained by the lack of sufficient detail on several of the cost components for each training model. Based on the data available, it is not possible to definitively state that the SAIN approach is more cost effective than the group approach. In Mali, however, we were able to compare only district level costs for each model; information to cost regional- and national-level inputs to training was not available. This comparison showed that when considering only district-level input costs, the SAIN approach costs 50% less than the group approach. As the number of providers to be trained increases, the other non-district cost components for each training approach become a smaller percentage of the overall training costs and the cost advantage of the SAIN approach would be expected to increase. Comparable information on the effectiveness of each training model was also not available. Refer to **Appendix F** for more details and a detailed narrative that explains all the cost components for both the SAIN and group approach.

Under Task 4, POPPHI was mandated to identify investments (work) that are required to develop adequate storage and logistics systems for uterotonic drugs. Recognizing the expertise of Management Sciences for Health (MSH), USAID asked MSH to work with POPPHI to address this task as part of its Strengthening Pharmaceutical Systems (SPS) project. MSH has developed a 2-page briefing paper on this topic that will define requirements and information that governments will find useful. For the cost comparisons

of uterotonic drugs, injection equipment and devices, and cold chain storage, reports from Mali and DRC are complete and Ghana data is being analyzed.

SPS has been looking at broader obstetric medicines, including oxytocin, and developing a guide on steps for quantifying and forecasting OB medicines. SPS is aware that POPPHI has closed, and will provide the materials to USAID during 2010.

1.2 Looking to the Future

POPPHI ended on December 31, 2009, and all PPH prevention and early treatment activities will continue under the USAID MCHIP program. As noted earlier, POPPHI staff have actively worked to ensure a smooth transition from POPPHI to MCHIP. The following activities were included in the MCHIP work plan:

- Follow-up on the Guatemala oxytocin in Uniject pilot;
- Follow-up with Peruvian midwifery schools and AMTSL;
- Initiation of oxytocin in Uniject and misoprostol pilots in Honduras when country stabilizes;
- Initiation of the CAMBIO intervention in a LAC country;
- Follow-up of PPH prevention activities in Mali by S. Engelbrecht, to include national scale-up of oxytocin in Uniject, if possible; and
- Follow-up of PPH prevention of activities in DRC by S. Engelbrecht.

Additionally, the completion of the Joint Statement on AMTSL between WHO, UNICEF, and UNFPA, and the final identification of a PPH prevention/AMTSL indicator by WHO, will occur after POPPHI has ended.

POPPHI staff participated with the maternal health MCHIP team to host a PPH Consortium meeting (connected to the Gates/MCHIP-sponsored Preeclampsia Working Group Meeting on November 19, 2009), with objectives to discuss and make suggestions about the future of the PPH prevention Web site and the annual meeting on PPH. A decision was made to support PATH's continued maintenance of the www.pphprevention.org Web site with input, support, and guidance from a number of the collaborating organizations at the meeting. The annual meeting on PPH will continue, funded by the Oxytocin Initiative project, but organized by a number of organizations who volunteered to work together at the meeting.

1.3 Activities Completed by Task

General

Activities completed or in process during this period include the following:

- Maintain master calendar of events.
  - POPPHI hosted its final meeting on November 20, 2009, in Washington, DC. This meeting, entitled Tackling the Biggest Maternal Killer: Progress and Challenges in Preventing Postpartum Hemorrhage, focused on the work POPPHI and its partners have done over the past 5 years, while also looking to the future of PPH prevention. Refer to **Appendix E** for more details.
  - POPPHI continued to support the listserv on PPH prevention.
- Facilitate the exchange of information and coordinate with Implementing Partners (IPs).
  - POPPHI partners (RTI International; PATH; and EngenderHealth, with FIGO and ICM), continued to hold monthly teleconferences to share information on project activities, discuss issues and concerns, and plan activities.
  - N. Darcy closed out the work with IPs and organizations listed on USAID's Operational Plans and finalized data collection. Refer to ***Exhibit 5*** below for more details.
  - The following documents have been posted on the Web site:
    - Training of mentor trainers (in English and French)
    - Training of mentors (in English and French)
    - SAIN learning materials (in English and French)
    - Letter of support for misoprostol to be added to WHO's Essential Medicine List (EML) for PPH prevention: (http://www.pphprevention.org/briefs_newsletters.php#EML)
    - Oral Misprostol in Preventing Postpartum Haemorrhage in Resource-Poor Communities: a Randomized Controlled Trial**:** (http://www.pphprevention.org/briefs_newsletters.php#oralmisoprostol)
    - Job Aid: Delivery Care Practices for Maternal and Newborn Health and Nutrition**:** (http://www.pphprevention.org/job_aids.php)
    - Links to the following Web sites: The Global Library of Women's Medicine (*http://www.glowm.com*), Misoprostol (*http://www.misoprostol.org*), Maternal Health Task Force (*http://www.maternalhealthtaskforce.org*).
    - The final POPPHI Document: *Tackling the Biggest Maternal Killer: How the Postpartum Hemorrhage Initiative Strengthened Efforts around the World*.

- AMTSL Learning Materials: (1) the *Reference Manual*, (2) a *Facilitators' Guid*e, and (3) *Participant's Spanish Notebook*: (http://www.pphprevention.org/AMTSLlearningmaterials.php)
- AMTSL job aids for low-literate birth attendants: (http://www.pphprevention.org/job_aids.php)

The POPPHI team led the development of an AMTSL questionnaire to solicit feedback from country implementers on their current AMTSL Pathway status. Information was received from Ghana, Mali, Benin, DRC, Senegal, Ukraine, Honduras, Bangladesh, Nicaragua, and Indonesia. Refer to **Appendix G** for details of the country situational analysis for the AMTSL Pathway, including policy, provider practice, provider training, logistics (drugs and supplies), and M&E. See the following link for more information (http://wilsoncenter.org/index.cfm?topic_id=116811&fuseaction=topics.event_summary&event_id=563966)

- Identify and track current and ongoing research and country implementation related to AMTSL and misoprostol.
- A member of the POPPHI team continued to serve on the Technical Advisory Group (TAG) and steering committee of the new WHO AMTSL study.

Reporting

- POPPHI worked with USAID on reporting on Operation Plan information during November 2009.
- POPPHI submitted its *Semi-annual Report* (February 27, 2009, to July 31, 2009) to USAID on schedule.
- POPPHI continued to submit quarterly financial reports to USAID.

Task 1: Expand AMTSL through Non-training Approaches to Improve Provider Practice

Collaborate with FIGO and ICM to promote the use of AMTSL and other PPH prevention/early treatment activities

1. Collaborate with FIGO, ICM, and in-country professional organizations to promote the use of AMTSL and community-based PPH prevention strategies

- POPPHI continued to collaborate with FIGO and ICM during this reporting period. All planned activities were completed, and these are described for each of the relevant sub-tasks.

2. Distribute revised AMTSL toolkit, CD-ROMs, job aids, and other training materials.

- POPPHI continued to work with the Pan American Health Organization (PAHO); Access to Clinical and Community Maternal, Neonatal, and Women's Health Services (ACCESS); and other organizations to distribute translated Spanish and French AMTSL CD-ROMs, posters, and fact sheets, as

well as the condensed version of the PPH Toolkit. See **Appendix A** for complete details.

3. Link or collaborate with other organizations to expand the use of AMTSL.

- Work with WHO, UNICEF, and UNFPA to obtain a statement in support of AMTSL that will be sent to country offices for their inclusion in priority activities.
  - A meeting was held with WHO in August 2009, to discuss a Joint Statement between WHO, UNICEF, and UNFPA on AMTSL, and a meeting was held to identify an indicator for PPH prevention/AMTSL. A draft Joint Statement was provided to WHO, but there was insufficient time to finalize it. This activity has been transitioned from POPPHI to MCHIP. The indicator meeting was held in Washington, DC, on November 17, 2009. (See **Appendix D** for the draft meeting notes summary).
- Follow up and maintain activities that support a continued relationship with the cooperating agencies and their Contracting Officer's Technical Representatives (COTRs) to encourage the use of the two outcome indicators.
  - N. Darcy closed out data collection with all USAID cooperating agencies that work in maternal health to collect data and reports on AMTSL and PPH prevention activities.
  - See ***Exhibits 3, 4,*** and ***5*** below.
- Africa 2010 and the Health Care Improvement (HCI) projects, as well as others who are working in the scale-up countries, joined POPPHI and presented their work at the November 20, 2009, meeting.

4. Wrap-up and close-out small grants activities.

Visit http://www.pphprevention.org/small grants.php for information on small grants.

- Additional activities related to small grants:
  - The Bangladesh small grant has been closed out.
  - The Ghana Registered Midwives Association (GRMA) grant was closed and POPPHI received member endline data (although this cannot be linked to the original member baselines).
  - POPPHI received final endline data from Peru.
  - Monitored progress of grants, in collaboration with FIGO and ICM.
  - Twelve usable national baseline surveys have been received: Benin, Bolivia, Burkina Faso, Cameroon, Ghana, Malawi, Nepal, Pakistan, Uganda, Indonesia, Peru, and Bangladesh.

- Six national endline surveys have been received to date: Pakistan, Benin, Uganda, Indonesia, Peru and Cameroon, with additional confirmation from Bolivia that no changes have occurred from the national baseline. Received two AMTSL questionnaire surveys for Ghana and Bangladesh that include relevant information from the national endline survey.
- POPPHI has received usable results of the member baseline surveys from 14 countries to date: Benin, Bolivia, Burkina Faso, Cameroon, Ghana, Malawi, Nepal, Pakistan, Tanzania, Uganda, the Dominican Republic, Peru, Bangladesh, and Indonesia.
- POPPHI has received usable results of the member endline surveys from eleven countries: Burkina Faso, Tanzania, Pakistan, Benin, Malawi, Nepal, Bolivia, Indonesia, Ghana, Peru, and Uganda to date.
- N. Darcy completed the input of baseline and endline data for all small grant awardees/national associations data.

Task 2: Improve Quality and Availability of AMTSL at the Facility Level

1. Evaluate training and non-training approaches designed to improve provider skills in AMTSL.

- Convene Training Task Force meetings
  - Completed in the prior reporting period. Activity details are available in the Semi-annual Report from February 1, 2009, to July 31, 2009.
- Share SAIN strategy with other countries for possible implementation
  - Completed. POPPHI shared the SAIN materials via the POPPHI Web site and responded to email requests.
- SAIN strategy introduced to Ghana under the PROmoting Maternal and Infant Survival and Excellence (PROMISE) program during the prior reporting period. S. Engelbrecht and Ghanaian facilitators carried out a training of mentors in Korforidua in July 2009 to initiate the program.
  - Completed in the prior reporting period. Activity details are available in the Semi-annual Report from February 1, 2009, to July 31, 2009.
- Evaluate SAIN alternative learning strategy in Mali (renamed mentoring or blended-learning approach).
  - Completed. Refer to **Appendix H** for more details.
- Assess provider AMTSL practice in selected Bangladesh facilities.
  - N. Darcy traveled to Bangladesh to review the M&E data collection and provide supportive supervision. Results are included in the trip report in **Appendix B.**
- Include SAIN strategy documents and materials on the Web site.

  - SAIN learning materials in English are now available on the Web site. French materials were evaluated by W. Dufour and are now available on the Web site.

- Develop a cost model for AMTSL training (costs for different training types).
  - S. Engelbrecht and N. Darcy led this assessment of the cost effectiveness of the SAIN and group training approaches for AMTSL. POPPHI compared the traditional face-to-face AMTSL training approach (group) with the blended AMTSL training approach (SAIN) to determine if the SAIN approach was more cost-effective in terms of provider practice of AMTSL. This assessment was constrained by the lack of sufficient detail on several of the cost components for each training model; based on the data available, it is not possible to definitively state that the SAIN approach is more cost effective than the group approach. In Mali, however, we were able to compare district level costs only for each model. This comparison showed that considering district-level costs alone (i.e., not considering the costs of regional- and national-level inputs to the trainings), the SAIN approach costs 50% less than the group approach. As the number of providers to be trained increases, the other non-district cost components for each training approach become a smaller percentage of the overall training costs, and the cost advantage of the SAIN approach would be expected to increase. Refer to **Appendix F** for more details, and a detailed narrative that explains all the cost components for both the SAIN and group approach.
  - H. Rippey, Consultant, and S. Engelbrecht traveled to Ghana to conduct a practical evaluation of the SAIN model and completed a one-page summary of this evaluation, as well as a detailed report. An assessment of the program was conducted from October 27 to November 2, 2009. The assessment team used interviews, a checklist to observe providers applying AMTSL, and a facility audit. The results showed that coverage of AMTSL was high (91–100%) in all facilities assessed. Refer to **Appendix H** for more details.
- Transform the integrated maternal and newborn program developed with BASICS and pre-tested in DRC into "generic" materials; translate the maternal materials into English and disseminate the combined materials in a variety of ways, including via a Web site (including use in a mother and child health program in Senegal—not POPPHI-funded).
  - French and English materials were developed for a comprehensive integrated maternal and newborn care skills course. They were revised to include only AMTSL and immediate postpartum care for the woman and newborn. Materials were posted on the Web site by the end of December 2009.

- Use the behavioral intervention, CAMBIO, to increase AMTSL (replication of the Argentinean National Institutes of Health [NIH] study) in two teaching hospitals in Ghana
  - Completed. (See Task 2, #2, Ghana)

2. Scale up AMTSL in five countries.

- See Section 1, Task 2.

3. Develop monitoring plan and measure implementing partners' progress toward achieving benchmarks, and availability and coverage of AMTSL services at facility level.

- Maintain a strong focus on M&E
  - Refer to **Appendix G** for the summary country situational AMTSL Pathway information that includes the current AMTSL indicator and health management information systems (HMIS) status for several countries, including development and adoption of national indicators.
- Revise M&E Plan as needed, based on input from USAID, IPs, and country partners.
  - No updates were made to the M&E plan during this reporting period.
- Collect needed data on benchmarks and indicators and provide periodic progress reports to USAID, IPs, and country partners.
  - N. Darcy closed out the facilitation of data collection on indicators from IPs, other USAID projects, and the network of projects and organizations active and working in maternal/child health projects that include AMTSL.
  - POPPHI has initiated discussions with MCHIP to transition the AMTSL indicator definition and monitoring.

4. Provide TA to Missions and Regional Bureaus upon request.

A. LAC Regional Bureau

- Members of HealthTech (PATH) and POPPHI visited the 6 facilities in the region of Alta Verapaz in Guatemala (in late October–early November 2009) along with MOH and HCI staff. We observed that oxytocin in Uniject is correctly used and very well accepted, but it was necessary to reinforce the steps of AMSTL in 5 of the 6 visited facilities (see attached trip report in **Appendix B**).
- Provide grants to country obstetrician/gynecologist (OB/GYN) associations in Guatemala and Nicaragua to support the increase of AMTSL use by skilled providers.
  - Guatemala grant

- The grant in Guatemala was given to AGOG to support the MOH in the pilot for introducing the oxytocin in Uniject during AMSTL. The pilot objective is to evaluate the oxytocin in Uniject provider acceptance, as an alternative to using oxytocin in ampoules to decrease PPH. The design and implementation of the pilot were being supported by (1) PATH through HealthTech, which provided the needed supplies of oxytocin in Uniject along with training in how to use it, and (2) by POPPHI, which provided technical assistance to ensure the correct use of AMSTL.

  The MOH had decided to conduct the pilot in 6 health facilities in the region of Alta Verapaz, where the maternal mortality from PPH is very high. HCI, the USAID bilateral project, gave important technical and logistics support to conduct the pilot, as they have been working in this region for several years. These facilities include the regional hospital, two general hospitals, and two health centers. The pilot started with the training of trainers from MOH and AGOG, who trained the providers that assist births in the six health facilities. The pilot started in September 2009, and was finished in December 2009.

  Thus far, trainers/monitors from the MOH and AGOG (October and November 2009) have conducted two monitoring visits to each facility to observe the correct use of the AMSTL using oxytocin in Uniject (OIU), and to collect the information according to the pilot's forms (quantitative and qualitative data).

  AGOG has developed an electronic database system where collected data at the facilities is being registered (EpiInfo). This is one of the deliverables of the grant.

  Currently, the AGOG and MOH trainers are in the field conducting the third and last monitoring visit, and starting the final interviews of the providers and managers of the facilities included in the pilot.

  AGOG sent the final narrative, including the database, with the information collected until December 15, 2009. With this, AGOG will accomplish the entire Scope of Work (SOW). AGOG is also going to support the MOH with the data analysis that is expected to be concluded at the end of January 2010, and with the scaling up as needed (as AGOG´s commitment).

  After that, and based on the results (very positive so far), the MOH will decide whether to include the use of oxytocin in Uniject in the National norms. HealthTech is helping them with this process, as well. HealthTech is doing a cost study and supporting the MOH along with the USAID Mission to identify donors and or create links with other

organizations that can support the initial cost of the introduction of the oxytocin in Uniject countrywide.

POPPHI has recommended that a follow up of this process be included in the MCHIP work plan.

- Nicaragua grant: training on AMTSL in academic institutions
  - The grant was given to SONIGOG that, along with the USAID bilateral project HCI, supported the MOH training plan to prevent PPH. The focus was to improve the skills of the providers who assist births at the three hospitals that give pre- and in-service trainings in prevention and management of PPH to doctors, nurses, and midwives. These facilities included the National Hospital of Women in Managua, which is the national reference hospital; the Maternal and Children's Hospital in Managua; and the Training Hospital in Leon.
  - The two main objectives were to implement and reinforce the use of AMSTL and to improve lifesaving skills in the management of PPH. Both objectives were accomplished as reported by Dr. Flor from SONIGOG. The report, though, did not include quantitative information in this regard.
  - Before the SONIOGOG intervention, the National Hospital was unaware of AMSTL, and in the other two hospitals, AMSTL was performed incorrectly.
  - SONIGOG selected 13 trainers among the leaders and/or key position holders of the MOH, HCI, Medicine School of Leon, hospital directorship, and SONIGOG to conduct two workshops in Leon and Managua. The workshop included two days of review of the evidence, practice on anatomic models, and three days of practice in the labor and birthing rooms. A total of 146 providers were trained: 45 OBs, 34 OB residents, 19 general practitioners, 18 nurse midwives, 23 nurses, and 7 medical students.
  - After the workshops:
    - The participants agreed to implement/improve AMSTL.
    - MOH declares it mandatory to register the three steps of AMSTL in both normal birth and caesarean sections. HCI supported this with a seal, which was included in the forms.
    - MOH guarantees to provide the basic supplies to perform AMTSL to every woman during birth.
    - AMSTL was approved as a norm in the birthing rooms.
    - AMSTL was included in the pre-service training of Medicine and Nursing, OB, and nurse midwives residents.

        - A Workshop for continuing education in prevention and management of PPH were planned in the National Reference Hospital in Managua.
        - It was recommended to conduct follow up of the agreements at 3, 6, and 12 months, and replicate the workshop in the regions where the maternal mortality rate (MMR) is high, like in the north and some areas in the Atlántico.
    - Honduras:
        - The MOH and the USAID Mission, along with the bilateral project HCI, agreed to conduct a pilot to determine the acceptability of the oxytocin in Uniject (at the facility level—Hospital de Marcala) and the misoprostol (at the community level—2 communities, where births are mostly attended by traditional birth attendants [TBAs]) in the District of La Paz.
        - PATH (HealthTech and POPPHI) along with MOH and HCI developed the protocol for the pilot at the facility level that was approved by PATH's Ethical Review Committee. The protocol of the pilot at the community level was in process when USAID, Washington, DC, put on hold USAID-supported activities in the country due to the political situation in Honduras. USAID-supported activities were still on hold at the end of the POPPHI project because the political situation remains fragile.
        - Activities planned for Honduras are likely to be implemented in January 2010 under MCHIP/HealthTech.

B. Bilateral Programs

- Completed in the prior reporting period. Activity details are available in the Semi-annual Report from Feb 1, 2009, to July 31, 2009.

Task 3: Improve the Quality and Availability of AMTSL at the Community Level

1. Provide technical assistance, facilitate implementation, or create community-based PPH prevention strategies in three countries, with a focus on a system of community-based distribution of appropriate uterotonic drugs: Honduras, Guatemala, Ghana, and Bangladesh.

- Honduras and Guatemala requested to be the LAC countries to receive support and to expand or scale-up PPH prevention activities.
    - Provide TA to strengthen AMTSL training.
    - Provide TA to conduct an oxytocin in Uniject pilot in Honduras.
    - Conduct a misoprostol pilot in Honduras.
    - Provide TA to conduct an oxytocin in Uniject pilot in Guatemala.

- G. Metcalfe and S. Carter traveled to Guatemala in October and November 2009 to provide TA for the oxytocin in Uniject pilot. During this trip, the following objectives were achieved.
  - Participated in the preliminary meetings with the MOH, HCI, and the Mission to present OIU and define the components of the pilot.
  - Supported the POPPHI and HealthTech team in developing the protocol and the tools of the OIU pilot for the approval of PATH's Ethical Review committee and the MOHs.
  - Trained the MOH and the AGOG in AMSTL using OIU, who after that trained the providers in the 6 facilities involved in the pilot.
  - Supported the AGOG in developing the outline and the tools of the AMSTL using OIU training for providers at the facility levels.
  - Conducted one monitoring visit to the 6 health facilities involved in the pilot. Training in-service was needed to correct and reinforce the AMSTL steps.
- See Task 2.4.A for further information.

2. Convene the Community-based (CB) Prevention Task Force

- Completed in the prior reporting period. Activity details are available in the Semi-annual Report from February 1, 2009, to July 31, 2009.

3. Convene the First Intervention Task Force (FITF)

- Completed in the prior reporting period. Activity details are available in the Semi-annual Report from February 1, 2009, to July 31, 2009.

4. Develop monitoring plan and measure implementing partners' progress toward achieving benchmarks, and availability and coverage of AMTSL services at the community level.

- Collaborate with implementing partners on indicators, sources of data, and reporting procedures.
  - Completed. Refer to **Appendix D** for more details.
  - See the POPPHI Web site at: http://www.pphprevention.org/monitoring_evaluation.php.
- Revise PMP as needed, based on input from USAID and IPs.
  - No updates made to the PMP during this reporting period.
- Collected needed data on benchmarks and indicators and provide periodic progress reports to USAID and IPs.
  - This activity was closed out during this reporting period.
  - Refer to ***Exhibit 5*** for summary information from July 2008 to June 2009

Task 4: Make Uterotonic Drugs and Devices Available at Low Cost to Countries

1. Develop, implement, and evaluate a strategic plan to increase use of oxytocin, oxytocin in Uniject™, and misoprostol, with a focus on the scale-up countries.

- HealthTech and POPPHI continued to work closely, focused on oxytocin in Uniject.
- POPPHI worked with HealthTech to facilitate the prequalification process for oxytocin in Uniject.
  - POPPHI continued to collaborate with HealthTech and the Reproductive Health (RH) Essential Drugs project at PATH to stay up-to-date on the prequalification process for oxytocin. HealthTech is working with Instituto Biologico Argentino (BIOL) to prepare their application process for the WHO prequalification process.
  - POPPHI collaborated with MSH as they developed a policy brief/case study on cost-comparison of uterotonics, injection equipment and devices, and cold-chain storage for oxytocin. .

2. Convene the UDD Task Force.

- Completed in the prior reporting period. Details are available in the Semi-annual Report from February 1, 2009, to July 31, 2009.

3. Conduct a global survey on AMTSL.

- Finalize reports, disseminate findings, and distribute report summary.
  - All AMTSL survey reports are now on the POPPHI Web site.
  - The two repeat AMTSL surveys in Ghana and Indonesia were posted on the Web by January 29, 2010.

4. Provide TA and advocacy to get drugs/devices registered for use in AMTSL in at least three countries.

- POPPHI collaborated with Gynuity and Venture Strategies/University of California (UC) Berkley to facilitate use of their expertise on misoprostol registration for PPH indications.
- POPPHI created a link to a Web site or to information about countries where misoprostol is registered.
  - The POPPHI Web site lists numerous useful links.
- USAID hosted a meeting between USAID and SPS in which SPS reported that the following documents were either completed or being completed:
  - A 2-page briefing paper that identifies investments (work) that are required to develop adequate storage and logistics systems for uterotonic drugs. The briefing paper defines requirements and information that governments will find useful.

- Reports from Mali and DRC are complete and Ghana data is being analyzed.
- SPS is looking at broader obstetric medicines, including oxytocin, and developing a guide on steps for quantifying and forecasting OB medicines.

1.4 Performance Standards Completed

The majority of the performance standards are discussed and covered under the narrative description of activities. ***Exhibit 1*** summarizes the Performance Standards Report.

Exhibit 1. Performance Standards Report

Task	Performance Standard	Year 5 (Oct 2008 – Dec 2009) Quarter 1	2	3	4	Actual; Date Completed	Target
0.1	Subcontracts with ICM and FIGO finalized	X	X			Complete, February 2009	Yes–FIGO Year 5 Yes–ICM Year 5
0.2	PPH Working Group (WG) meets 1–2 times a year			X		Fourth PPH working group met April 6, 2009	WG meets 1–2 times
0.3	Number of skilled birth attendants (SBAs) who attend training in AMTSL	X	X			2,948 See ***Exhibit 9***	1,754 (Sept 30, 2007)
1.1	Number of FIGO and ICM regional conferences where the Joint Statement on Prevention of PPH was disseminated					(Nov 2006, April 2007, Dec 2004, May 2005, Jul 2005, Sep 2005)	Total of 4 conferences
1.2	Number of small grants to national professional associations for activities in support of increasing provider awareness and skills of AMTSL (see Develop Small Grants Mechanism section) Small grants effectively measure 2 or more of the agreed upon indicators	X	X	X	X	16 issued through July 2008 14 baseline member surveys completed (of possible 14) 11 endline member surveys completed; 2 received unusable (of possible 14)	16 countries
1.3	Small grants effectively measure 2 or more of the following indicators: 1. AMTSL included in country SM protocols	X	X	X	X	16 issued through July 2008, and small grants monitoring of these indicators. Refer to ***Exhibit 6***.	16 countries

Task	Performance Standard	Year 5 (Oct 2008 – Dec 2009) Quarter 1	2	3	4	Actual; Date Completed	Target
	2. Number of member midwives or OB/GYNs have oxytocin available in their clinic or workplace 3. Number of midwives or OB/GYNs trained in AMTSL 4. Number of midwives or OB/GYNs using AMTSL in routine care or part of their protocol						
1.4.	Number of newsletters carrying statement					FIGO and ICM Total of 53 statements disseminated Jan 2006	25 newsletters or other mechanisms
1.5	Number of toolkits distributed to professional associations	X	X	X	X	3,092 English condensed total, 184 Spanish condensed, 747 reference total, and 3,558 English CD-ROMs total, 700 French CD-ROMs, 876 Spanish CD-ROMs distributed to seven countries Full details in **Appendix A**	Distribution strategy completed List of recipients developed
1.6.	Provide distribution list to ACCESS					List of recipients and contact info developed and provided to ACCESS	
1.7	Number of workshops where technical assistance is provided to associations'					TAs provided to 7 workshops (up to July 2008)	4 workshops

Task	Performance Standard	Year 5 (Oct 2008 – Dec 2009) Quarter 1	2	3	4	Actual; Date Completed	Target
1.8.	WHO, UNICEF, and UNFPA Joint Statement in support of AMTSL						Joint Statement developed
2.1	Evidence of joint work planning among implementing partners. Evidence in work plans of mutual agreements between the contractor and each of the implementing cooperating agencies about roles and required nature and scope of support services	X	X	X	X	Final annual work plan; approved during Feb, 2009 PPH working group met Apr 6, 2009. PMP plan approved Apr, 2009	Fifth Annual Work Plan of POPPHI PPH WG meets 1–2 times PMP/M&E plan finalized
2.2	Evidence of mechanism of coordination and collaboration among implementing partners	X	X	X	X	PPH Working Group met Apr 6, 2009. POPPHI met regularly and coordinated with HealthTech and RPM Plus. Collaborated with ACCESS and BASICS.	PPH WG meets 1–2 times
2.3	Evaluation report of training strategies					Completed and submitted Approved July 2007	Evaluation scope of work complete
2.4	Training Task Force meets 2–4 times a year			X		Met Apr 6, 2009.	Meets 1–3 times a year

Task	Performance Standard	Year 5 (Oct 2008 – Dec 2009) Quarter 1	2	3	4	Actual; Date Completed	Target
2.5	Job aids developed	X	X	X	X	Completed and 5,858 English posters; 4,213 English fact sheets; 4,060 French posters; 3,049 French fact sheets; 3,474 Spanish posters; and 3,086 Spanish fact sheets distributed to 5 countries during this time period, including associations and numerous conferences Full details in **Appendix A**	Poster, provider, and policy job aids
2.6	Evidence of functional monitoring system to measure progress of all implementing partners toward achieving benchmarks and to measure availability and coverage of AMTSL services	X	X	X	X	PMP (part of M&E plan) submitted Feb, 2009; Approved Apr, 2009.	Finalized PMP (M&E) with agreed upon indicators
2.7	Number and percentage of targeted districts providing AMTSL	X	X	X	X	See ***Exhibit 4, Exhibit 5***	No targets agreed upon
2.8	Number and percentage of women within a specified time period in facilities and homes where the woman received AMTSL by SBAs	X	X	X	X	See ***Exhibit 3, Exhibit 5***	No targets agreed upon
2.9	Results of survey available and used to develop intervention to increase support and use of AMTSL in Central American countries	X	X	X	X	Honduran MOH made change in indicator to include all 3 components of AMTSL Grant to Nicaragua OB/GYN society for training in AMTSL Grant to Guatemala OB/GYN society for training in oxytocin in Uniject™ pilot	Completed survey and initiated intervention Increased number of OB/GYNs in Central America using AMTSL in their practices.

Task	Performance Standard	Year 5 (Oct 2008 – Dec 2009) Quarter 1	2	3	4	Actual; Date Completed	Target
3.1	Evidence of mechanism for coordination and collaboration among partners	X	X	X	X	See above, 2.1	See above, 2.1
3.2	Evidence of functional monitoring system to measure progress of all IPs toward achieving benchmarks/targets, and availability and coverage of AMTSL services	X	X	X		Consensus on performance monitoring plan and indicators among IPs PMP (part of M&E plan) submitted Feb, 2009; Approved Apr, 2009	Finalized M&E plan with agreed upon indicators
3.3	Submit performance monitoring report	X	X	X	X	*Semi-annual Report* submitted Aug, 2009	Submit *Semi-annual Report*
3.4	USAID receives information on all IPs' progress toward achieving benchmarks and information on availability and coverage of AMTSL services	X	X	X	X	*Semi-annual Report* submitted Aug, 2009	Submit *Semi-annual Report*
3.5	Provide technical assistance to missions and regional bureaus	X	X	X		Guatemala, Oct – Nov, 2009	Provide technical assistance
3.6	Community-Based Task Force meets 1–3 times a year			X		Met Apr 6, 2009.	Meets 1–3 times a year
4.1	Critical pathway report completed					Yes Dec 2004	Yes
4.2	UDD Task Force meets 1–3 times a year			X		Met Apr 6, 2009.	Meets 1–3 times a year

Task	Performance Standard	Year 5 (Oct 2008 – Dec 2009) Quarter 1	2	3	4	Actual; Date Completed	Target
4.3	First Interventions Task Force meets 1–2 times a year			X		Met Apr 6, 2009.	Meets 1–2 times a year
4.4	Number of countries where drugs/devices are registered for AMTSL in the correct dosage by government regulatory or policy making bodies Drugs and devices registration report	X	X			Global AMTSL survey is providing this data for 10 countries. Surveys complete. Oxytocin in Uniject registered in 3 countries, in process in 2 countries. Misoprostol registered in 14 countries	Report on work required to register drugs and devices in 3 countries
4.5	Number of countries with adequate cold chains established for storage of oxytocics	X	X	X	X	SPS (MSH) has completed surveys in 3 countries and is completing reports	Number of countries identified for Year 1
4.6	Number of countries with adequate supplies of uterotonics in the drug procurement pipeline for routine use in all facility deliveries	X	X	X	X	SPS (MSH) has completed surveys in 3 countries and is completing reports. A briefing paper to assist governments is developed.	No targets agreed upon
4.7	Negotiation for field support or TA with at least 2 missions		X	X		Have received field support from Mali mission (November 2007) and LAC Bureau (Annual).	Depending on requests from missions
4.8	Report on the cost-comparison of uterotonics choices					Completed and submitted Approved July 2007	Completed and submitted

1.5 Transition of Work to Other Projects

Transition of POPPHI Activities to MCHIP

As noted earlier, POPPHI staff have actively worked to ensure a smooth transition of PPH prevention and early treatment activities from POPPHI to MCHIP. The following activities were included in the MCHIP work plan.

- Follow-up on the Guatemala oxytocin in Uniject pilot
- Follow-up with Peruvian midwifery schools and AMTSL
- Initiation of oxytocin in Uniject and misoprostol pilots in Honduras when country stabilizes
- Initiation of the CAMBIO intervention in a LAC country
- Follow-up of PPH prevention activities in Mali by S. Engelbrecht, to include national scale-up of oxytocin in Uniject, if possible
- Follow-up of PPH prevention of activities in DRC by S. Engelbrecht.

POPPHI staff participated with the maternal health MCHIP team to host a PPH Consortium meeting (connected to the Gates/MCHIP-sponsored Preeclampsia Working Group meeting on November 19, 2009) with objectives to discuss and make suggestions about the future of the PPH prevention Web site and the annual meeting on PPH. A decision was made to support PATH's continued maintenance of the www.pphprevention.org Web site with input, support, and guidance from a number of the collaborating organizations at the meeting. The annual meeting on PPH will continue, funded by the Oxytocin Initiative (OI), but organized by a number or organizations who volunteered to work together at the meeting.

1.6 Success Stories

Success stories from the reporting period include:

- National commitments to preventing maternal deaths announced by the Minister of Health in Ghana and the Director General, Health, in Bangladesh
- POPPHI successfully hosted the meeting: *Tackling the biggest maternal killer: Progress and challenges in reducing postpartum hemorrhage*, which brought together 120 participants and presenters from 13 countries on November 20, 2009. Numerous organizations shared their work; progress, and challenges on PPH prevention and early treatment and suggested the way forward.
- Ghana increased its AMTSL use 9-fold, from 3% to 27%, and Indonesia increased from 31% to 40%. The CAMBIO intervention increased the use of AMTSL in teaching hospitals significantly over just a 3–4-month period.

1.7 Documentation of Best Practices

AMTSL has been documented as a best practice, and this project sought to take this best practice to scale.

1.8 AMTSL Indicator 1 and 2, Community POPPHI PPH Indicator, and Partner Summary Information

N. Darcy collaborated with partner projects to report on their AMTSL data. During this reporting period, N. Darcy closed out this collaboration and thanked all partner projects for this support during POPPHI.

The following table (***Exhibit 2***) summarizes information for the two AMTSL indicators and the Community PPH indicators from the POPPHI scale-up countries. (See also ***Exhibits 3 and 4***, below.) Refer to **Appendix D** for more details on this summary AMTSL indicator data.

Exhibit 2. POPPHI Partner AMTSL and Community POPPHI PPH Indicator Status and Plans

Country	Project/Partner	Status
Bangladesh	EngenderHealth (EH)	POPPHI worked with EH Bangladesh Country Office (BCO) to obtain detailed information. See ***Exhibit 3*** and ***Exhibit 4*** below, and **Appendix D** for more details.
Mali	POPPHI	IntraHealth provided information on both indicators. See ***Exhibit 3*** and ***Exhibit 4*** below, and **Appendix D**.
Ghana	POPPHI	Mini-survey conducted during September and October 2009. See ***Exhibit 3***.
Indonesia	POPPHI	Mini-survey conducted during September and October 2009. See ***Exhibit 3***,

Indicator 1: Number and percentage of women in facilities and home where the woman received AMTSL by skilled birth attendants (SBAs) within a specified time period.

Exhibit 3. AMTSL Indicator 1 Data

Note: Benin reports the AMTSL indicator based on number of births, not number of deliveries.

Country	Total # of Vaginal Deliveries [2]	# of AMTSL	% of AMTSL
Bangladesh (EngenderHealth)	4,514 Time Period Jul 1, 2009 to Oct 31, 2009	3,997 Time Period Jul 1, 2009 to Oct 31, 2009	88.6% Time Period Jul 1, 2009 to Oct 31, 2009
Mali	76,431 Time Period Jul 1, 2009 to Sep 30, 2009	71,237 Time Period Jul 1, 2009 to Sep 30, 2009	93.2% Time Period Jul 1, 2009 to Sep 30, 2009
Indonesia			Country level mini-survey showed increase from 31% to 40%
Ghana			Country level mini-survey showed increase from 3% to 27%

Exhibit 4. AMTSL Indicator 2 Data

AMTSL Indicator 2 is defined as the *Number and percentage of targeted districts providing active management of the third stage of labor (AMTSL).* A targeted district provides AMTSL if more than 20% of facilities in the targeted district provide AMTSL. A facility provides AMTSL when at least 50% of the women receive AMTSL for vaginal deliveries in the facility.

Indicator 2: Number and percentage of targeted districts providing AMTSL.

Country	Number	Percentage
Bangladesh (EH)	Reports from 10 districts. During Jan to Jun 2009, reports came from only 6 districts, and this has now increased to 10 districts. Time period: Jul 1, 2009 to Oct 31, 2009	100%
Mali	Working in four regions (districts), Mopti (8), Koulikoro (9), Sikasso (8), and Bamako D (6). In all districts, 100%. Time period: Jul 1, 2009 to Sep 30, 2009	100% in 4 regions

[2] In project reporting areas only.

USAID Operational AMTSL Data

N. Darcy collected and prepared annual AMTSL information for USAID. Refer to ***Exhibit 5*** for summary details.

Exhibit 5. Summary USAID Operational Plan Data by Country (July 2008–June 2009)

Number of countries reporting AMTSL	Total number of vaginal deliveries	Total number of vaginal deliveries with AMTSL	Range of AMTSL percentages (%)	Period of services
(JSI) Ukraine	103,369	97,024	93.9%	Jul 2008 – Jun 2009
(JSI) Georgia	13,097	12,835	98%	Jul 2008 – Jun 2009
(RACHA) Cambodia	29,276	27,732	93.5%	Aug 2008 – Jun 2009
(POPPHI/IntraHealth) Mali	128,038	120,346	94%	Jul 2008 – Jun 2009
(USAID Nova project) Armenia	1,960	1,819	92.8%	Oct 2008 – Jun 2009
(EngenderHealth) Bangladesh	6,107	5,374	88%	Jul 2008 – Dec 2008; Feb 2009
(PAIMAN) Pakistan	22,726	22,128	97.4%	Oct 2008 – Jun 2009
(Population Council) Senegal	42,173	24,927	59.1%	Jul 2008 – Sep 2008; Apr 2009 – Jun 2009
(ACCESS) Nigeria	34,877	31,089	89.1%	Jul 2008 – Jun 2009
(AXxess) DRC	147,820	90,475	61.2%	Jan 2009 – Jun 2009
TOTALS	**529,443**	**433,389**	**81.9%**	**Jul 2008 – Jun 2009**
(HCI) Niger[3]	16,001 births	15,898 births	99.4%	Jul 2008 – Dec 2008
(PISAF) Benin	6,816 births	6,513 births	95.6%	Jul 2008 – Nov 2008; Jan 2009 – Jun 2009
(HCI) Ecuador	9,486 births	8,983 births	94.7%	Jul 2008 – Dec 2008
(HCI) Honduras	45,419 births	36,317 births	80%	Jul 2008 – Jun 2009
(HCI) Nicaragua	31,730 births	31,413 births	99%	Jul 2008 – Dec 2008

[3] This data is not included in the AMTSL total, because this is tracked for number of births, and not number of vaginal deliveries. Would need to reduce slightly to account for multiple babies delivered at birth.

Number of countries reporting AMTSL	Total number of vaginal deliveries	Total number of vaginal deliveries with AMTSL	Range of AMTSL percentages (%)	Period of services
(ACCESS) Rwanda	2,138 births	2,138 births	100%	Jan 2009 – May 2009
TOTAL (BIRTHS)	**111,590 births**	**101,262 births**	**90.7%**	**Jul 2008 – Jun 2009**

1.9 M&E Information from Small Grants Activities

The following table (***Exhibit 6***) summarizes the small grant status. Items that have changed from the last report are provided in ***italics.***

Exhibit 6. Summary Small Grant Data Baseline and Endline Data

Country	Baseline National	Endline National	Baseline Member	Endline Member
1. Benin	YES–Jul 2007	YES– Jul 2007	YES–Jan 2007	YES– Jul 2007 (different format)
2. Bolivia	YES–Jul 2007	YES – Jan 2009	YES–with issues (Jan 2007)	YES - Hospitals in Sucre (Mar 2009)
3. Burkina Faso	YES–Jan 2007	NOT RECEIVED	YES–Jan 2007 We only received 12 baselines. Remainder of 75 was lost in the mail.	YES
4. Cameroon	YES–Jul 2007	YES - RECEIVED	YES–Jan 2007	RECEIVED – deemed unusable
5. Ghana	YES–Jul 2007	NOT RECEIVED	YES–Jan 2007	***RECEIVED – Nov 2009***
6. Malawi	YES–Jan 2007	NOT RECEIVED	YES–Jan 2007	YES–Jul 2007
7. Nepal	YES–Jan 2007	NOT RECEIVED	YES–Jan 2007	YES–Jan 2007
8. Pakistan	YES–Jan 2007	Received February 2008 (for period ending Dec 2007)	YES–Jan 2007	Received Feb 2008 (for period ending Dec 2007)
9. Tanzania	NOT RECEIVED	NOT RECEIVED	YES–Jan 2007	YES

Country	Baseline National	Endline National	Baseline Member	Endline Member
10. Uganda	YES–Jul 2007	YES–July 07—	YES–Jan 2007	YES–Jul 2007
11. Dominican Republic	NOT RECEIVED	NOT RECEIVED	YES–Jul 2007	YES–Jul 2007 (some issues)
12. Indonesia	YES–Jul 2007	***YES – Aug 2009***	YES–Jul 2007	***YES–Aug 2009***
13. Peru	YES–Jan 2008	***YES – Oct 2009***	YES – Oct 2008	***YES–Sep 2009***
14. Mali	RECEIVED – not usable	NOT RECEIVED	RECEIVED – not usable	NOT RECEIVED
15. Ethiopia	NOT DOING	NOT DOING	NOT DOING	NOT DOING
16. Bangladesh (unstarted)	RECEIVED – Jun 2008	***NOT RECEIVED***	***RECEIVED – Aug 2009***	***NOT RECEIVED***

Please refer to earlier semi-annual reports for interpretation and data cleaning/management overview.

During this process, we have trained a total of 2,948 midwives, OB/GYNs, medical directors, nurses, and other SBAs (in small grant countries).

Please refer to ***Exhibit 7*** for Peru small grant summary information. Data collected by the GRMA for Ghana cannot be included comparatively with the Ghana baseline data; however, 70% of 53 providers scored 80% or greater when observed practicing AMTSL in 10 facilities, where observations occurred from September 15, 2009, to September 30, 2009.

Refer to ***Exhibit 8*** for a complete summary of small grant endline information on AMTSL practice.

Exhibit 7. Peru Small Grant Endline Survey Summary

	Midwives Baseline	OB/GYNs Baseline	Other Baseline	TOTAL Baseline	Midwives Endline	OB/GYNs Endline	Other Endline	TOTAL Endline
1. Active management of the third stage of labor is included in country Safe Motherhood protocols.	**[X]** Included in national clinical protocol (includes immediate cord clamping), oxytocin							
2. Enter the **number** of member midwives (MW) or obstetricians/gynecologists (OB/GYNs) that have uterotonics available in their clinic or workplace:	523				632			
3a. Enter the **number** of MWs or OB/GYNs trained in active management of the third stage of labor :	342				615			
3b. Enter the **number** of MWs or OB/GYNs trained in active management of the third stage of labor including all 3 FIGO/ICM components:	229				615			
4a. Enter the **number** of MWs or OB/GYNs using active management of the third stage of labor in routine care or as part of their protocol:	257				635			
4b. Enter the **number** of MWs or OB/GYNs using active management of the third stage of labor including all 3 FIGO/iCM components in routine care or as part of their protocol:	270				615			
5. **Number** and Percentage of births in facilities where the woman received active management of the third stage of labor (AMTSL) by skilled birth attendants (SBAs)[4] within a specified time period:	AMTSL (with pre-training self reported definition) at 81%, in a total of 120 facilities in 7 districts.				AMTSL at 77.4%, in a total of 79 facilities in 7 districts.			
6. Number and percentage of targeted districts providing active management of the third stage of labor (AMTSL). For each targeted district, list by facility 1. The number of targeted districts 2. The percentage of targeted districts providing AMTSL (this is (3) divided by (4)	For the facilities targeted by the small grant, 95 out of 120 facilities had AMTSL rates greater than 50%, in 7 districts.				For the facilities targeted by the small grant, 63 out of 79 facilities had AMTSL rates greater than 50%, in 7 districts.			

Exhibit 8. Summary Small Grant Survey AMTSL Practice Information

	Number of Women delivering vaginally	Number with AMTSL	Percentage	Dates
Indonesia	3,015	2,949	97.8%	Feb 2009–Jul 2009
Bolivia	3,151	2,484	78.8%	Feb 2009–Jul 2009
Benin)	565	456	80.7%	Mar 2006–Jul 2007
Malawi	9,269	9,176	99.0%	Jul 2006–Feb 2007
Nepal	3,888	3,577	92.0%	Aug 2006–Dec 2006
Uganda	595	571	96.0%	Mar 2006–Feb 2007
Pakistan	31,089	27,899	89.7%	Jan 2007–Dec 2007
Tanzania	7,286	6,158	84.5%	Jan 2007–Jul 2007
Burkina Faso	9,815	7,641	77.9%	Aug 2006–Jan 2007
Peru	9,426	7,297	77.9%	May 2009–Aug 2009
TOTALS	78,099	68,208	87.3%	

1.10 Training Information

Note: Pass rate will be 90% for all programs conducting post-training assessments. The training table below ***(Exhibit 9)*** follows the agreed-upon format for reporting training information.

Exhibit 9. POPPHI Training Data

#	Country	Summary Training Information	2006, 2007, 2008, 2009 Training Overview, Dates, Participants (end of Jul 2006)	Actual Number Trained 2006 (end of Sep 2006)	Target Number Trained 2006 (end of Sep 2006)	Actual Number Trained 2007/2008/ 2009 (end of July 2007/2008/ 2009)	Target Number Trained 2007/2008/ 2009 (end of Sep 2007/ 2008/2009)	Post Training Pass Rate
7	Malawi	Train or update 29 SM trainers	See previous semi-annual reports	407 total 13 key persons in health	134			
9	Tanzania	Train 75	See previous semi-annual reports	34	75			
2	Nepal	Train 80	See previous semi-annual reports	82	80			No post training pass-rate data available (Target 75); AMTSL rate 52% at endline
1	Pakistan	Small grants: Train 150 Bilateral: Train 100	See previous semi-annual reports	108	175	472	75	No post training pass-rate data (Target 100); However, in JPMC, Kharader and Lady Dufferin, AMTSL rates at 90%
3	Bolivia	Train 75	See previous semi-annual reports	101	75	24	50	

#	Country	Summary Training Information	2006, 2007, 2008, 2009 Training Overview, Dates, Participants (end of Jul 2006)	Actual Number Trained 2006 (end of Sep 2006)	Target Number Trained 2006 (end of Sep 2006)	Actual Number Trained 2007/2008/ 2009 (end of July 2007/2008/ 2009)	Target Number Trained 2007/2008/ 2009 (end of Sep 2007/ 2008/2009)	Post Training Pass Rate
5	Uganda	Train 50	See previous semi-annual reports	74	50			
14	Paraguay	Train 140	See previous semi-annual reports	NA	140			
15	Dominican Republic	Train 200	See previous semi-annual reports	190	150		50	
11	Mali	Train 150	See previous semi-annual reports		75	152	75	Target 125; Post Knowledge evaluation: 68 Post skills evaluation: 55
10	Benin	Train 90	See previous semi-annual reports	15[5]	90			
11	Burkina Faso	Train 25 midwives	See previous semi-annual reports	75	25			
12	Cameroun	Train 25 providers	See previous semi-annual reports	25	25			Post Knowledge Evaluation, 25 of 25 achieved 90–100%
4	Peru	Train 200	See previous semi-annual reports		200	252		Target 0; Post Knowledge Evaluation 22 (35 total); Post skills 26 (35 total) – for 2007 trainings

[5] Their plan was actually to train 15 people for 5 days each, and not 90 people for 1 day each. 15 have been trained.

#	Country	Summary Training Information	2006, 2007, 2008, 2009 Training Overview, Dates, Participants (end of Jul 2006)	Actual Number Trained 2006 (end of Sep 2006)	Target Number Trained 2006 (end of Sep 2006)	Actual Number Trained 2007/2008/ 2009 (end of July 2007/2008/ 2009)	Target Number Trained 2007/2008/ 2009 (end of Sep 2007/ 2008/2009)	Post Training Pass Rate
6	Ethiopia	Train 20 tutors and 10 heads of schools	See previous semi-annual reports	27 and additional 116 health staff and 681 second year and graduating students	30			Trained instructors got an average score of 98% (range: 85–100) at the end of the training as compared to pre practical training average score of 74% (range: 56–84).
8	Ghana	100 trainers	See previous semi - annual reports	181 (used to be 87—final report includes more details)	100			Target 100; will track in endline survey AMTSL rate (not available yet)
16	Ecuador	Train 50 nurses and nursing teachers	See previous semi - annual reports			40	50	For 50 (no pre- and post-test)
17	El Salvador	Train 30 health providers	See previous semi - annual reports				30	
18 (new)	Indonesia		See previous semi - annual reports			22	0	
19 (new)	Regional LAC – ICM training held in Argentina	Train regional providers. 80% from Argentina	See previous semi-annual reports			104		

#	Country	Summary Training Information	2006, 2007, 2008, 2009 Training Overview, Dates, Participants (end of Jul 2006)	Actual Number Trained 2006 (end of Sep 2006)	Target Number Trained 2006 (end of Sep 2006)	Actual Number Trained 2007/2008/ 2009 (end of July 2007/2008/ 2009)	Target Number Trained 2007/2008/ 2009 (end of Sep 2007/ 2008/2009)	Post Training Pass Rate
						332		
20 (new)	Bangladesh	Train trainers and then providers	See previous semi-annual reports. Additional 48 trained at Narsingdi Hospital, Nov 18, 2008					
			Total	**1450 (Target 1424)**		**1498 (Target 330)**		
			Grand Total	**2948 (Target 1754)**				

Appendix A: Materials Dissemination

See separate Adobe file.

Materials Dissemination, POPPHI, August 2009 to December 2009

Reference Material

English condensed toolkit: 50 conferences (160): Previous Total 3,042: **New Total: 3,092**

Reference toolkit: 20 conferences (20): Previous Total 727: **New Total 747**

Spanish condensed toolkit: 10 Guatemala, 15 Nicaragua, (25): Previous Total 159: **New Total 184**

English CD: 74 conferences, 75 Jamaica (149): Previous Total 3,409: **New Total: 3,558**

French CD: 43 conferences, 5 Senegal (48): Previous Total 652: **New Total: 700**

Spanish CD: 2 conferences, 25 Jamaica, 10 Peru, 10 Guatemala, 10 Nicaragua (57): Previous Total 819: **New Total: 876**

Job Aids

English Posters: 65 conferences, 100 Jamaica (165): Previous Total 5,693: **New Total: 5,858**

French Posters: 43 conferences, 50 Senegal (93): Previous Total 3, 967: **New Total 4,060**

Spanish Posters: 1 conferences, 35 Jamaica, 10 Peru, 10 Guatemala, 10 Nicaragua (66): Previous Total 3,408: **New Total: 3,474**

English Fact Sheets: 69 conferences, 150 Jamaica (219): Previous Total 3,994: **New Total: 4,213**

French Fact Sheets: 42 conferences, 20 Senegal (62): Previous Total 2,987: **New Total: 3,049**

Spanish Fact Sheets: 1 conferences, 50 Jamaica, 10 Peru, 10 Guatemala, 10 Nicaragua (81): Previous Total 3,005: **New Total: 3,086**

Countries include Jamaica, Guatemala, Peru, United States, Nicaragua, and Senegal.

The five (5) countries who have received hard copies of the job aids include Jamaica, Guatemala, Peru, Nicaragua, and Senegal.

The total number of countries receiving reference material is seven (7) and includes United States, Guatemala, Jamaica, Nicaragua, Senegal, London, and Peru.

Appendix B: Trip Reports

See separate Adobe file.

Trip Report

Submitted by:

Niamh Darcy, ICT/M&E Program Manager, RTI International/POPPHI

Funder: USAID

Project Title: POPPHI

Visit To:

Bangladesh

Inclusive Travel Dates:

From: Oct 13, 2009

To: Oct 22, 2009

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Purpose/Objectives of Travel

1) Discuss with Engenderhealth the AMTSL scale-up activities and receive any updates on the national task force on PPH prevention and their activities
2) Review where integration of AMTSL into national supervisory tools and indicators is possible (recording and reporting mechanism developed with DGHS and DGFP but not approved by the director of MIS in each area)
3) Determine expected coverage to date of AMTSL throughout the 25 districts EH is working in Bangladesh. Collect AMTSL data and other M&E information (including supportive supervision) available-to-date from EH and understand the plans to collect additional AMTSL data during the remainder 2009
4) Work with Engenderhealth to complete the AMTSL impact questionnaire
5) Meet with Dr. Ferdousi and Dr. Akhtar to discuss the POPPHI small grant activities. Collect the training details from Narsingdi district, collect the member baseline surveys, review endline data collection with Dr. Ferdousi and the final report required
6) Collect any materials from Engenderhealth needed for POPPHI closeout (posters in Bangla, videos, flipcharts, stickers etc)

Brief Summary (see trip activities detail)

Ms Niamh Darcy, ICT/M&E Program Manager / RTI, travelled to Bangladesh from October 13 to October 22 2009. The overall goals of the trip were to follow-up on activities being implemented to scale-up AMTSL in Bangladesh, and to follow-up on the small grant activities.

During Ms Darcy's trip, she

- Met with Engenderhealth to review the proposed trip SOW and co-ordinate trip activities (Oct 14)
- Met with Dr. Nowrozy of Engenderhealth to review the AMTSL impact questionnaire (Oct 14)
- Traveled to Tangail district, and visited Kumidini private hospital, Tangail Sadar hospital and MCWC (DGFP) in Kalihati upazilla of Tangail district (Oct 15, Oct 16)
- Met with the Director of MCH, at DGFP and the MIS Director to discuss AMTSL scale-up, reporting and potential inclusion of an AMTSL indicator in their MIS (Oct 16)
- Traveled to visit MCHTI training institute and Suhruwardy Medical College Hospital to review AMTSL activities (Oct 18)
- Met with the Director of Primary Health Care, at DGHS and the Deputy MIS Director to discuss AMTSL scale-up, reporting and potential inclusion of an AMTSL indicator in their MIS (Oct 18)
- Traveled to Golander Upazilla Health Complex, Rajbari District Hospital (DGHS) and Faridpur MCWC in the Rajbari District (Oct 19, Oct 20)
- Met with the OGSB to review small grant activities, get the contract extension signed and recover the training report from the Narsingdi district and collect the 5 member baseline surveys (Oct 21)
- Met with USAID, Dr. Sukomar Sarker, Khadijat Mojidi and Dr. Marcos Aravelo to discuss recommendations from the trip (Oct 21)
- Met with Engenderhealth to debrief about the trip (Oct 21)

List of Abbreviations

AMSTL	Active management of the third stage of labor
ANC	Antenatal care
DGFP	Director General of Family Planning
DGHS	Director General of Health Services
EOC	Emergency obstetric
MoH	Ministry of Health
MSH	Management sciences for health
OGSB	Obstetrical and Gynecological Society of Bangaldesh
SPS	Strengthening Pharmaceutical Systems (project of MSH)
SBA	Skilled birth attendant
TA	Technical assistance
TAG	Technical advisory group
TOT	Training of Trainers

Finding and conclusions / Recommendation(s)/Action(s) to be taken

1 Visit selected sites in Tangail District and Rajbari district to review reporting of AMTSL information, and PPH incidence

From facility visits, providers seem to be practicing AMTSL, and anecdotally they are saying there has been a significant PPH reduction, and reduction in the third stage of labor duration. In one hospital (Suhruwardy Medical College Hospital) where they are tracking in more detail, PPH incidence has gone from 1.7% (2005) to 0.81% (2008) so showing a steady decline as AMTSL was introduced. Some facilities reported no PPH during 2009 so far. Not all facilities are sending in reports to the DGHS/DGFP/Engenderhealth. The DGFP facilities are sending in reports more regularly and from more facilities that the DGHS facilities.

Visits to selected sites showed that:

- The majority of women who gave birth at the facilities received AMTSL.
- AMTSL is systematically recorded in the delivery register.
- AMTSL is recorded on the patient file.
- Job aids for AMTSL and postpartum monitoring were posted in the majority of delivery rooms.
- Wall charts monitoring AMTSL coverage and PPH cases were not posted anywhere. This was not part of the original training.
- There are storage and efficacy issues with oxytocin.
- As staff are moved from their posts to other areas, facilities had an informal method of training a new hire (who was not previously trained in AMTSL) in AMTSL

Next steps:

Ø Engenderhealth will continue to advocate with the DGFP and DGHS that they sent out notification to their facilities to request that they send in the AMTSL reports.

Ø Engenderhealth offered to send someone to DGFP to help them collate the data into Excel as the DGFP MIS department is understaffed

Ø Engenderhealth will work with POPPHI, to provide reports from at least 50% of the districts (both DGFP and DGHS) for some months (Aug, Sep, Oct). This is the POPPHI target for scale-up countries.

2. Discuss with the DGFP and DGHS adding a national AMTSL indicator into their MIS systems

From visits with both the DFGP and the DGHS, neither is ready to adopt an AMTSL indicator into their MIS systems until more districts are practicing AMTSL. OGSB has trained in an additional 5 districts, and UNFPA has trained in 4 more districts, and are going to scale-up to an additional 20.

Next steps:

- Ø Engenderhealth will arrange a meeting with OGSB and UNFPA to discuss their AMTSL activities, and see if they can get these organizations to introduce their AMTSL reporting form into the facilities they are working in.
- Ø The DGHS will be updating their MIS indicators during 2010, for their 2011-2015 strategy. Engenderhealth will work with the DGHS to advocate with their RH program for inclusion of AMTSL into the MIS.

3. Oxytocin availability and efficacy.

There are definitely drug stockout issues, and in some more rural facilities re-frigeration is an issue. In cases of stockout (happening here in Dhaka also), they buy from local market/pharmacy and the patient has to pay. There are some definite concerns with efficacy here in several cases, and some reports of people giving more than 10IU as they are concerned that the drug is not at strength. POPPHI/EH recommended that SPS should look into storage conditions of oxytocin.

Next steps:

- Ø USAID to consider the set of SPS priorities for their work, and determine if they can include oxytocin in their drug survey work.
- Ø Engenderhealth could also consider using the SPS tools, to do their own study on oxytocin storage, logistics and transportation. POPPHI would need to provide these from Mali or Benin.
- Ø Engenderhealth/POPPHI recommended that USAID consider Oxytocin in Uniject™ with the TTI (temperature time indicator). It might be possible to explore using ACME pharmaceuticals new single injection device requesting TA from PATH under MCHIP, or possibly Gland Pharmaceuticals. No final determination was made here, but there was definitely some interest.

4. AMTSL Supportive Supervision.

There is a big lack of supportive supervision in general, and AMTSL is not included in supportive supervision or tools.

Next steps:

- Ø Engenderhealth to follow up with the National Task Force (or as part of the National Maternal Health Plan) whether it is possible to create monitoring teams which would include government and NGO staff that could provide AMTSL supportive supervision.

5. Misoprostol Pilot

The pilot has gone very well, and there is general support within DGHS and DGFP for the remaining two pilots, which will happen with some overlap. Both the DGHS and DGFP are waiting to see the final evaluation data.

Next steps:

- Ø Engenderhealth to continue with their additional two pilots.

Submitted by: Susheela M. Engelbrecht, Senior Program Officer, PATH/POPPHI	Funder: USAID Project Title: POPPHI
Visit To: Benin	Inclusive Travel Dates: From: September 12, 2009 To: September 19, 2009

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Purpose/Objectives of Travel

1) Meet with USAID, MOH, and USAID partners to prepare for the postpartum hemorrhage (PPH) prevention workshop.
2) Participate in the PPH prevention workshop.
3) Complete the questionnaire on AMSTL for end of project work shop.

Brief Summary

Ms Susheela M. Engelbrecht, Senior Program Officer / PATH, travelled to Benin from September 13 to 19, 2009.

During Ms Engelbrecht's trip, she:

- Met with Dr Pascal Zinzindohoué at USAID to provide a briefing on Ms Engelbrecht's trip and a formal invitation to the PPH prevention workshop. Ms Engelbrecht was accompanied by Professor Sosthène Adisso, University Center for Obstetrics and Gynecology (CUGO), Ms Laurence Monteiro, President of the Beninese Midwives' Association (ASFB), and Dr Joseph Amoussou, Consultant for MSH/SPS.
- Worked with Dr Hyacinthe Ahomlanto, Division for Family Health (DSF), Ms Marcelle Totchenou, DSF, Professor Sosthène Adisso, Professor René Xavier Perrin, SGOBT, Ms Laurence Monteiro, Dr Joseph Amoussou, and Dr Bruno Carbonne, FIGO representative, to prepare for the workshop on September 17.
- Worked with Professor Sosthène Adisso and Ms Laurence Monteiro to adapt the PPH prevention brochure, management of PPH fold-out, and management of PPH posters to the Beninese context.
- Participated in the PPH prevention workshop and gave two presentations: 1) Induction and augmentation of labor: Inappropriate use of uterotonic drugs and 2) Practical aspects of training in active management of the third stage

of labor (AMTSL). The presentation on induction and augmentation was to have been given by the ICM representative, but she arrived too late to present.

- At the request of representatives of the Togolese midwives' and obstetrician/gynecologist's associations, conducted a 3-hour presentation and demonstration on AMTSL to midwives and doctors at the National Hospital in Lomé, Togo.

List of Abbreviations

AMSTL	active management of the third stage of labor
ASFB	Beninese Midwives' Association / Association des sages femmes du Bénin
CUGO	University Center for Obstetrics and Gynecology / Centre universitaire de gynécologie et d'obstétrique
DSF	Division for Family Health / Direction Santé Familiale
FIGO	International Federation of Gynecology and Obstetrics
ICM	International Confederation of Midwives
MSH	Management Sciences for Health
PPH	postpartum hemorrhage
POPPHI	prevention of postpartum hemorrhage initiative
SOGOBT	Society of obstetrics and gynecology of Togo and Benin / Société de Gynécologie et d'Obstétrique du Bénin et du Togo
SPS	Strengthening Pharmaceutical Systems Program
USAID	US Agency for International Development

Finding and conclusions / Recommendation(s)/Action(s) to be taken

1 Participate in the FIGO/ICM sponsored workshop on PPH prevention.

A one-day workshop on the prevention of PPH was organized and sponsored by FIGO and ICM. The Minister of Health and the Director of the USAID Mission in Benin were both present at the opening ceremony and for the signature of the joint statement.

The following presentations were made (see Appendix B):

- Review of surveys on use, quantification, and storage of uterotonic drugs.
- Practical aspects of training in AMTSL.
- Treatment of PPH. Recent data on misoprostol for the prevention and treatment of PPH.
- Induction and augmentation of labor: Inappropriate use of uterotonic drugs.
- Training and implementation of AMTSL in Benin.
- Monitoring regional and national coverage of AMTSL in Benin. Integration of AMTSL into the partograph and delivery registers.
- Presentation and validation of revised protocols.
- Next steps for ensuring 100% coverage of AMTSL in Benin.

- Presentation of the joint statement on prevention of PPH.
- Signature of the joint statement on prevention of PPH.

Facilitators for the workshop were:

1. Pr Issifou Takpara, Minister of Heal th and President of the SGOBT
2. Dr Hyacinthe Ahomlanto , Division for Family Health (DSF)
3. Pr Sosthène Adisso, CUGO
4. Dr Joseph Amoussou, Consultant for MSH/SPS
5. Mme Laurence Monteiro, President of the ASFB
6. Dr Antoine Lokossou, SGOBT representative
7. Pr René Xavi er Perrin, SGOBT
8. Dr Bruno Carbonne, FIGO representative
9. Mme Dicko Fatoumata Maïga, ICM representative
10. Ms Susheela Engelbrecht, POPPHI representative

Participants included representatives of WHO, UNICEF, UNFPA,

Next steps:

Ø Integrate revised protocols into national protocols and organize printing and dissemination .

Ø Integrate the indicator for AMTSL into the national HMIS.

Ø Monitor the national plan to scale -up AMTSL, improve practice, and ensure the availability of uterotonic drugs at all facilities .

2 Adapt PPH prevention brochure, management of PPH fold -out, and management of PPH posters to the Beninese context .

Two documents were adapted to the Beninese context, printed, and distributed during the workshop: 1) Surgical and non -surgical management of PPH and 2) Prevention and initial management of PPH and rational use of uterotonic drugs. Additional work needs to be done on the documents to finalize them. Dr Pascal Zinzindohoué expressed interest in the documents and requested an official letter from the MOH asking that the documents be printed.

Next steps:

Ø Finalize the documents .

Ø Request and receive funding for printing .

Ø Disseminate the documents.

3 Collect data for the AMTSL questionnaire.

Interviews were held with key informants in the MOH and USAID proj ects to make a situational analysis of where Benin is with regards to critical elements for scale -up of AMTSL. The table below summarizes key findings.

	No policy on AMTSL → Clear p olicy on AMTSL	
Policy		National policy for AMTSL in facilities in place; All SBAs authorized to practice AMTSL and use uterotonic drugs for AMTSL in facilities.

<table>
<tr><td rowspan="4">Provider</td><td colspan="3">AMTST not practiced → Majority of births with AMTSL</td></tr>
<tr><td colspan="2">Providers not authorized to practice AMTSL at home births.
Nursing Assistants attending births in facilities are not authorized to practice AMTSL.</td><td>Most delivery facilities and SBAs using AMTSL</td></tr>
<tr><td colspan="3">Providers not trained in AMTSL → All SBAs trained in AMTSL</td></tr>
<tr><td colspan="2">No in-service training programs for nursing assistants attending births. MOH plans to hire additional midwives to attend births rather than train nursing assistants to practice AMTSL.</td><td>Standardized in-service programs available ; AMTSL integrated into pre-service education programs for nurses, midwives, and doctors .</td></tr>
<tr><td rowspan="4">Logistics (Drugs and supplies)</td><td colspan="3">Limited use of uterotonic registered drugs for AMTSL → All uterotonic drugs for use with AMTSL</td></tr>
<tr><td rowspan="2">Misoprostol registered for anti-acid use.</td><td>Oxytocin and ergometrine for prevention and treatment of PPH in National ED L.</td></tr>
<tr><td>Oxytocin is first line drug and ergometrine is the second line drug for AMTSL for all SBAs .</td></tr>
<tr><td>Protocols not yet developed for quantification and storage of all uteroto nic drugs.</td><td>Misoprostol for prevention of PPH included in standard treatment guidelines .
Misoprostol used “off label” for induction and augmentation of labor and treatment of PPH .</td></tr>
<tr><td rowspan="5">Monitoring and Evaluation</td><td colspan="3">AMTSL use not monitored nationally → AMTSL use monitored</td></tr>
<tr><td rowspan="4">AMTSL at home level not included in project or national goals.</td><td rowspan="2">AMTSL at facility level collected by selected projects.</td><td>Partograph modified to include all 3 components of AMTSL .</td></tr>
<tr><td>Delivery record modified to include tracking AMTSL.</td></tr>
<tr><td rowspan="2">AMTSL at facility level soon to be included in national HMIS; reliable data is not yet available at the national level .</td><td>Delivery register modified to include AMTSL.</td></tr>
<tr><td>AMTSL protocol has been also added in the national RH integrated supervision tool.</td></tr>
</table>

Next steps:

Ø Validate information collected for the questionnaire.

4 Introduce AMTSL to a group of Togolese midwives and doctors.

Representatives of the Togolese midwives’ and obstetrician/gynecologists’ associations asked Ms Engelbrecht to present evidence to support AMTSL and provide a demonstration of AMTSL. At present, USAID does not have a mission in Togo and AMTSL has not yet been introduced there. However, there is great enthusiasm for AMTSL based on interactions with the Beninese midwives’ and obstetrician/gynecologists’ associations.

Approximately 40 midwives and doctors were present at Ms Engelbrecht’s presentation at the National University Hospital in Lomé, Togo. The presentation was from 5 pm to 8 pm. All participants were there without having been paid perdiem, the venue was provided free of charge, and even the Head of OG was present.

Next steps:

- Seek funding to support South -South collaboration between the Beninese midwives' and obstetrician/gynecologists' associations and the Togolese MOH.

List of Appendices

- Appendix A: Persons present at the workshop.
- Appendix B: Agenda for the workshop.
- Appendix C: Documents from the workshop.

Appendix A: Persons present at the workshop.

Appendix B: Agenda for the workshop.

ATELIER sur la PREVENTION DE L'HEMORRAGIE DU POSTPARTUM

ASFB **ICM** **FIGO** **SGOBT**

BENIN: 17 septembre 2009

9:00 – 9:30	Introduction(s) (Ministre de la Santé ou son représentant)
9:30 – 10:00	Revue des études et enquêtes sur l'utilisation, la quantification et la conservation des médicaments utérotoniques au Benin (Joseph Amoussou, MSH / SPS)
10:00 – 10:30	Aspects pratiques de la Gestion Active de la Troisième Période de l'Accouchement (GATPA). Enseignement et formation continue (Susheela Engelbrecht, POPPHI)
10:30 – 11:00	*Pause*
11:00 – 11:30	Traitement de l'hémorragie du post-partum. Données récentes sur l'utilisation du misoprostol dans la prévention et le traitement de l'HPP (Bruno Carbonne, FIGO)
11:30 – 12:00	Déclenchement du travail et direction du travail. Utilisations inappropriées des utérotoniques (Mme Dicko Fatoumata Maïga, ICM)
12:00 – 14:00	*Déjeuner*
14:00 – 14:30	Formation et mise en place de la GATPA au Bénin (Sosthène ADISSO, SGOBT et Laurence Monteiro, ASFB)
14:30 – 14:45	Suivi de la couverture nationale et régionale de la GATPA. Intégration de la GATPA dans le partogramme et les registres d'accouchement (Marcelle Totchenou, DSF)
14:45 – 15:00	Validation des protocoles et prochaines étapes pour assurer une couverture de 100% de la GATPA (René Xavier Perrin, SGOBT)
15:00 – 15:30	Présentation de la déclaration commune de la Société de Gynécologie et d'Obstétrique du Bénin et du Togo et de l'Association des Sages-Femmes du Bénin sur la prévention des hémorragies du post-partum, dérivée de la déclaration commune internationale de la FIGO et l'ICM (Laurence Monteiro, ASFB / Antoine Lokossou, SGOBT)
15:30	Signature officielle des documents (Présidente de l'ASFB, Laurence Monteiro; Président de la SGOBT, Issifou Takpara)
15:30 – 16:00	Allocution de clôture (Ministre de la Santé Pr Issifou Takpara)

USAID FROM THE AMERICAN PEOPLE

POPPHI Prevention of Postpartum Hemorrhage Initiative

Appendix C: Documents from the workshop.

1. Surgical and non-surgical management of PPH
2. Brochure on prevention of PPH, rational use of uterotonic drugs, and initial non-surgical management of PPH.
3. Fold-out on non-surgical management of retained placenta, uterine atony, and genital lacerations.

Submitted by: Susheela M. Engelbrecht, Senior Program Officer, Path/POPPHI	Funder: USAID Project Title: POPPHI
Visit To: Benin Ghana	Inclusive Travel Dates: From: September 19, 2009 To: September 30, 2009

Table of contents

Purpose/Objectives of Travel

1) Conduct monitoring visits to some PROMISE sites.
2) Collect costing data for the blended learning approach.
3) Begin discussions for development of a Joint Statement for the prevention of PPH between the Ghana Health Service (GHS), the Society for obstetricians and gynaecologists of Ghana (SOGOG), and the Ghana Registered Midwives Association (GRMA).
4) Complete the questionnaire on AMSTL for end of project workshop.

Brief Summary

Ms Susheela M. Engelbrecht, Senior Program Officer / PATH, travelled to Ghana from September 19 to 30, 2009.

During Ms Engelbrecht's trip, she:

- Met with Dr Joseph Taylor, POPPHI consultant and Gifty Sunu, Training Coordinator for Eastern Region, to discuss costing issues, progress to date, and supervision visits.
- Met with Dr Joseph Taylor, Dr Kwami Anim Boamah, and Nurse-Midwife Rosina Asantewaa, AMTSL trainers, at the Regional Hospital, Koforidua to discuss progress to date with the SAIN learning approach.
- Traveled to Koforidua on September 25 and to Takoradi on September 28 to visit hospitals and AMTSL clinical instructors.
- Met with Dr. Wilfred Labi Addo, Deputy Director Clinical Care, Regional Health Directorate, Koforidua and Dr Linda Van Otoo, Director, Regional Health Directorate, Takoradi, to discuss progress-to-date and make a plan for continued monitoring and possible scale-up of activities.

- Met with Ms Mariama Sumani, Executive Secretary for the Ghana Registered Midwives Association (GRMA), and spoke with Dr Gloria Asare, Director for the Family Health Division of the Ghana Health Services (GHS), and Ms Abigail Kyei, ICM, to discuss development of a joint statement for postpartum hemorrhage (PPH) prevention.

- Met with Ms Susan Wright, USAID/ACCRA HPNO, to debrief her on findings from the trip and next steps.

List of Abbreviations

AMSTL	active management of the third stage of labor
CI	clinical instructor
GHS	Ghana Health Service
GRMA	Ghana Registered Midwives Association
FIGO	International Federation of Gynecology and Obstetrics
ICM	International Confederation of Midwives
PPH	postpartum hemorrhage
POPPHI	prevention of postpartum hemorrhage initiative
SOGOG	Society for obstetricians and gynaecologists of Ghana
USAID	US Agency for International Development

Finding and conclusions / Recommendation(s)/Action(s) to be taken

1 Conducted monitoring visits to some PROMISE sites.

All of the clinical instructors have nearly completed training all of the birth attendants on site and will soon begin training providers from the peripheral facilities. The AMTSL clinical instructors have included facility management staff and have laid the groundwork for long-term sustainability of AMTSL. Clinical instructors (CIs) and trainers all noted that a "side effect" of this type of training is the development of independent providers who take initiative and this is clear in how the clinical instructors have prepared the facility to accept trainees. It is also clear that there is a great deal of ownership for the process at all levels, so the AMTSL trainers are to be congratulated for providing supportive supervision that empowers and does not stifle the AMTSL CIs. Midwives at the different sites had their learning materials in their purses and were clearly reading and completing the learning exercises.

None of the sites visited by Ms Engelbrecht had wall charts up to follow coverage of AMTSL or cases of PPH. Anecdotally, providers and CIs alike all felt that there were fewer cases of PPH since systematically applying AMTSL. All of the delivery registers had added a column to follow AMTSL coverage. Oxytocin was available and correctly stored in all of the facilities visited.

The learning materials were printed and are of an exceptional quality. In addition to those provided by the project, two of the AMTSL CIs persuaded their facility management to photocopy an additional 20 copies to ensure that all midwives in the facility are trained!!

Unfortunately the pre-test version of the materials (the version used during the training of the clinical instructors) was used when the materials were printed – the "final" version with corrections and amendments can be found

on the CD that was burned for all of the trainers and clinical instructors at the end of the training. The only serious issue with this error was that responses for learning activity 3.4 were incorrect in the "pre-test" version and were corrected in the final version. The correct responses for learning activity 3.4 were printed and were to be distributed to all of the CIs.

CIs and providers have shown a great deal of enthusiasm for the training methodology and the materials and the Western Region is interested in scaling this up to all hospitals in the region. The AMTSL trainers were provided with materials to train additional CIs.

Next steps:

- Ø Ensure version control of documents.
- Ø Encourage AMTSL CIs to make use of the graphic wall charts to monitor AMTSL coverage, PPH, and percentage of providers practicing AMTSL to standard.
- Ø Complete on-site training of all skilled birth attendants in the PROMIS E hospitals.
- Ø Begin training of skilled birth attendants in peripheral areas once all providers in the PROMISE hospitals have been trained .
- Ø Begin training of additional clinical instructors once all providers in peripheral facilities for the present hospitals are trained.

2 Compared costs of using the group-based and blended learning approaches.

While it was not possible to do a detailed cost-comparison, the training coordinator, Gifty Sunu, and the trainers, Dr Taylor, Dr Boamah, and Nurse-Midwife Asantewaa, all felt that the blended learning approach was more cost-efficient. They also felt that the blended learning approach had additional benefits of clear ownership of the process on the part of the clinical instructors, better transfer of training, and higher levels of participation on the part of the learners .

In general, the costs for the different training approaches are:

Group-based training	Mixed learning
Participant / Learner costs	
Accommodation: 4 nights / participant	Accommodation: 0-1 night / participant
Travel & Transport for each non-resident participant: x1	Travel & Transport for each non-resident learner: x2
Meals / Snacks / Water: 4 days (facilitators / learners)	Lunch: 1-2 (clinical instructors / learners)
Vehicle for local running: 4 days	
Training Coordinator / Support staff / Facilitator / CI costs	
Support staff (2) – 5 days	
Facilitators' (5) honorarium – 4 days	CI Honorarium: per person trained
Training coordinator honorarium – 4 days	Training coordinator Honorarium: per person trained
Conference hall, LCD rental – 4 days	
Stationery, flip charts, markers, tape	
Local communication	Communication (CI-Coordinator-Learners)

Post-training follow-up / Supervision costs	
Post-training visit by centrally located facilitators	Post-training visit by CI at the clinical site
Quarterly supervision visit	Quarterly supervision visit

Cost-savings come primarily from decentralization of training activities from the regional to the clinical site level, reduction of the number of days at the training / clinical site, and miscellaneous costs associated with group-based training.

Next steps:

- Develop a detailed cost-summary for one district in each region.

3 Began discussions for development of a Joint Statement for the prevention of PPH between the GHS, the SOGOG, and the GRMA.

The ICM regional representative, Ms Abigail Kyei, was not in-country during Ms Engelbrecht's visit. Ms Engelbrecht shared an example of a generic joint statement developed from joint statements of the ICM and FIGO with Dr Gloria Asare, Director of GHS, and Ms Mariama Sumani, Executive Secretary for the GRMA. Ms Kyei will take the lead on facilitating the development of this joint statement.

Next steps:

- Finalize the joint statement after input from all parties.
- Plan to sign the joint statement at the prevention of PPH workshop being planned by the ICM/FIGO for Ghana.

4 Collected data for the AMTSL questionnaire.

Interviews were held with key informants in the GHS and USAID projects to make a situational analysis of where Ghana is with regards to critical elements for scale-up of AMTSL. The table below summarizes key findings.

Policy	No policy on AMTSL → Clear policy on AMTSL	
		National policy for AMTSL in facilities in place; All SBAs authorized to practice AMTSL and use uterotonic drugs for AMTSL in facilities.
Provider	AMTST not practiced → Majority of births with AMTSL	
		Most delivery facilities and SBAs using AMTSL. Community-based SBAs authorized to practice AMTSL in the home. Some inconsistencies between old and new protocols (i.e. timing or uterotonic drug administration, uterotonic drug of choice, and timing of cord clamping).
	Providers not trained in AMTSL → All SBAs trained in AMTSL	
		Standardized in-service programs available; AMTSL integrated into pre-service education programs for nurses, midwives, and doctors.

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<tr><td rowspan="4">Logistics (Drugs and supplies)</td><td colspan="3">Limited use of uterotonic registered drugs for AMTSL → All uterotonic drugs for use with AMTSL</td></tr>
<tr><td colspan="2">Misoprostol not listed on the EML for prevention or treatment of PPH.</td><td>Oxytocin and ergometrine for prevention and treatment of PPH in National EDL.</td></tr>
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</table>

Next steps:

- Validate information collected for the questionnaire.

List of Appendices

- Appendix A: Persons contacted.
- Appendix B: Example of a joint statement.

Appendix A: Persons contacted.

USAID / Ghana		
Ms Susan Wright	HPNO / Accra	swright@usaid.gov
RHMT		
Dr Wilfred Labi Addo	Deputy Director, Clinical Care Eastern Region	Ghana Health Services Regional Health Directorate Post Office Box 175 Koforidua Tel No: 081-23341 Fax No: 081-23351
Dr Linda Van Otoo	Director Western Region	
AMTSL Trainers		
Dr Joseph Taylor	Obstetrician Gynaecologist (Consultant), Regional Health Directorate, Koforidua	+233-20-812-3233
Dr Kwami Anim Boamah	Obstetrician Gynaecologist, Regional Hospital, Koforidua	
Sr Rosina Asantewaa	Midwife, Regional Hospital, Koforidua	
Ms Gifty Sunu	Training Coordinator Eastern Region	+233-24-138-0273

Appendix B: Example of a joint statement.

Prevention and Treatment of Post-partum Haemorrhage
Joint Statement
Ghana Health Services (GHS)
Ghana Registered Midwives' Association (GRMA)
Ghana Association of Obstetrician / Gynaecologists (GAOC)

The Ghana Health Services (GHS), the Ghana Registered Midwives' Association (GRMA) and the Ghana Association of Obstetrician/Gynaecologists (GAOC) are key partners in the national effort to reduce maternal death and disability. Their mission statements share a common commitment in promoting the health, human rights and well-being of all women, most especially those at greatest risk for death and disability associated with childbearing. The GHS, GRMA, and GAOC promote evidence-based interventions that, when used properly with informed consent, can reduce the incidence of maternal morbidity and mortality.

This statement reflects the current (2009) state-of-the-art and science of prevention and treatment of post-partum haemorrhage (PPH) in low resource settings. Approximately ___ per cent of direct maternal deaths in Ghana are due to haemorrhage, mostly in the post-partum period, and anaemia is seen to be an important underlying cause of many maternal deaths.[1] Most maternal deaths due to PPH occur in settings (both hospital and community) where there are no birth attendants or where birth attendants lack the necessary skills or equipment to prevent and manage PPH and shock. The Millennium Development Goal of reducing the maternal mortality ratio by 75 per cent by 2015[2] will remain beyond our reach unless we confront the problem of PPH as a priority.

The GHS, GRMA, and GAOC all endorse international recommendations that emphasise the provision of skilled birth attendants and improved obstetric services as central to efforts to reduce maternal and neonatal mortality. Such policies reflect what should be a basic right for every Ghanaian woman. Addressing PPH will require a combination of approaches to expand access to skilled care and, at the same time, extend life-saving interventions along a continuum of care from community to hospital. The different settings where women give birth along this continuum require different approaches to PPH prevention and treatment.

Prevention of Post-partum Haemorrhage

Pregnant women may face life-threatening blood loss at the time of childbirth. Anaemic women are more vulnerable to even moderate amounts of blood loss. Fortunately, most PPH can be prevented. Different approaches may be employed depending on the setting and availability of skilled birth attendants and supplies.

Active Management of the Third Stage of Labour (AMTSL)

Data support the use of active management of the third stage of labour (AMTSL) by all skilled birth attendants regardless of where they practice. AMTSL reduces the incidence of PPH, the quantity of blood loss and the use of blood transfusion[3], and thus should be included in any programme of interventions aimed at reducing deaths from PPH.

AMTSL includes the following three components:

- Administration of oxytocin* or another uterotonic drug within one minute after birth of the baby and after ruling out the presence of another baby.
- Controlled cord traction while, at the same time, supporting the uterus by applying external pressure on the uterus in an upward direction towards the woman's head.
- Uterine massage immediately after delivery of the placenta and membranes until it is

* Oxytocin is the uterotonic drug of choice for AMTSL. If oxytocin is not available, ergometrine 0.2 mg IM or Syntometrine 1 mL IM may be used if women have no contraindications to their administration. If no injectable uterotonics are available, misoprostol 600 mcg should be given orally for the prevention of PPH and the practice of AMTSL.

firm.

NOTE: The cord should only be cut and clamped after cord pulsations have ceased or approximately 2-3 minutes after birth of the baby, whichever comes first. In situations where cord clamping and cutting was delayed, there were fewer cases of anaemia in full-term babies at two months of age and increased duration of early breastfeeding. [4,5]

Management of the third stage of labour when the birth attendant's skills are limited

In situations where the birth attendant's skills are limited, administering misoprostol [6,7] or oxytocin soon after the birth of the baby reduces the occurrence of haemorrhage.

The usual components of management of the third stage of labour when the birth attendant's skills are limited [8] include:

- Administration of 600 micrograms (mcg) misoprostol orally or oxytocin 10 IU IM within one minute after the birth of the baby and after ruling out the presence of another baby.
- Controlled cord traction with counter-traction to the uterus should ONLY be attempted when a skilled attendant is present at the birth.
- Uterine massage immediately after delivery of the placenta and membranes until it is firm.

Management of the third stage of labour in the absence of uterotonic drugs

In some settings there will be no uterotonics available due to interruptions of supplies or the setting of birth. In the absence of current evidence, GHS, GRMA, and GAOC all recommend that when no uterotonic drugs are available to either the skilled or non-skilled birth attendant, management of the third stage of labour includes the following components:

- Waiting for signs of separation of the placenta (cord lengthening, small blood loss, uterus firm and globular on palpation at the umbilicus)
- Encouraging maternal effort to bear down with contractions and, if necessary, to encourage an upright position
- Controlled cord traction is not recommended in the absence of uterotonic drugs, or prior to signs of separation of the placenta, as this can cause partial placental separation, a ruptured cord, excessive bleeding and uterine inversion
- Uterine massage immediately after delivery of the placenta and membranes until it is firm.

Other actions to prevent postpartum haemorrhage

The GHS, GRMA, and GAOC all recognize that it is impossible to predict which women are more likely to have PPH and that women may still suffer from PPH despite the best efforts of health providers to prevent it. To prevent PPH and reduce the risk of death, the following routine preventive actions should be offered to all women from pregnancy through the immediate postpartum period:

- Develop a birth preparedness and complication readiness plan.
- Use a partograph to monitor and guide management of labour and quickly detect unsatisfactory progress.
- Ensure early referral when progress of labour is unsatisfactory.
- Encourage the woman to keep her bladder empty during first stage of labour.
- Limit induction or augmentation use for clear medical and obstetric reasons.
- Limit induction or augmentation of labor to facilities equipped to perform a cesarean delivery.

- Do not encourage pushing before the cervix is fully dilated.
- Do not use fundal pressure to assist the birth of the baby.
- Only perform episiotomy if indications exist: e.g., breech, shoulder dystocia, forceps, vacuum, scarring from female genital cutting or poorly healed third - or fourth-degree tears, and foetal distress.
- Assist the woman in the controlled delivery of the baby's head and shoulders to help prevent tears.
- Offer and provide AMTSL to all women —the single most effective way to prevent PPH.
- Carefully inspect the vulva, vagina, perineum, and anus to identify and immediately repair genital lacerations.
- Carefully inspect the placenta and membranes and respond immediately if incomplete.
- Evaluate if the uterus is well contracted and massage the uterus at regular intervals after placental delivery to keep the uterus well-contracted and firm (at least every 15 minutes for the first two hours after birth).
- Teach the woman to massage her own uterus to keep it firm. Instruct her on how to check her uterus and to call for assistance if her uterus is soft or if she experiences increased vaginal bleeding.
- Monitor the woman for vaginal bleeding and uterine hardness every 15 minutes for the first two hours, every 30 minutes during the third hour, and then every 60 minutes for the next three hours.
- Encourage the woman to keep her bladder empty during the immediate postpartum period.

Rational use of uterotonic drugs

The GHS, GRMA, and GAOC all encourage national policy that increases access to uterotonic drugs for the prevention of PPH. However, they also recognize that there is a potential risk that uterotonic drugs will be used inappropriately if they are made widely available for the prevention of PPH. Facilities and providers should therefore adhere strictly to national guidelines and protocols that recommend that labour augmentation with any uterotonic drug should only be attempted:

- When unsatisfactory progress in labour due to "hypotonic uterine dysfunction" --a condition in which the contractions of labour become ineffective at producing cervical dilation--has been diagnosed and the following conditions have been ruled out: cephalopelvic disproportion, transverse foetal lie, umbilical cord prolapse and the foetus is alive, multiple gestation, vasa praevia or complete placenta praevia, previous caesarean delivery.
- In a facility with an operating theatre and a physician who can perform caesarean delivery.
- In a facility with personnel available to closely monitor the woman and foetus.
- In a facility with personnel who can identify and manage both maternal and foetal complications during administration.

NOTE: Labour augmentation should be contraindicated in normal labours.

Treatment of postpartum haemorrhage

Even with major advances in prevention of PPH, some women will still require treatment for excessive bleeding. Timely and appropriate referral and transfer to basic or comprehensive Emergency Obstetric Care (EmOC) facilities for treatment is essential to saving lives of women. Currently, the standard of care in basic EmOC facilities includes administration of IV/IM uterotonic drugs and manual removal of the placenta and

retained products of conception; comprehensive emergency obstetrical care facilities would also include blood transfusion and/or surgery.[9]

Community-based emergency care – Home-based Life-saving Skills (HBLSS)

Anyone who attends a delivery can be taught simple home-based life-saving skills. Community-based obstetric first aid with home-based life- saving skills (HBLSS) is a family and community-focused programme that aims to increase access to basic life-saving measures and decrease delays in reaching referral facilities. Family and community members are taught techniques such as uterine fundal massage and emergency preparedness. Field tests suggest that HBLSS can be a useful adjunct in a comprehensive PPH prevention and treatment programme.[10] Key to the effectiveness of treatment is the early identification of haemorrhage and prompt initiation of treatment.

Misoprostol in the treatment of postpartum haemorrhage

While there is less information about the effect of misoprostol for treatment of PPH, it may be appropriate for use in low resource settings and has been used alone, in combination with oxytocin, and as a last resort for PPH treatm ent. In the published literature, a variety of doses and routes of administration have shown promising results.[11] In home births without a skilled attendant, misoprostol may be the only technology available to control PPH. An optimal treatment regimen has n ot yet been determined. One published study on treatment of PPH found that 1000 mcg rectally significantly reduces the need for additional interventions.[12] Studies are ongoing to determine the most effective and safe dose for the treatment of PPH.

NOTE: Repeated doses of misoprostol are not recommended.

Innovative techniques

Other promising techniques appropriate for low resource settings for assessment and treatment of PPH include easy and accurate blood loss measurement,[13, 14] oxytocin in Uniject,[15] uterine tamponade,[16] and the anti-shock garment.[17] These innovations are still under investigation for use in low resource settings but may prove programmatically important, especially for women living far from skilled care.

References

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Submitted by: Helene Rippey, Consultant Susheela Engelbrecht, PATH/POPPHI Senior Program Officer	Funder: USAID Project Title: POPPHI
Visit To: Ghana	Inclusive Travel Dates: From: October 26, 2009 To: November 5, 2009

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Purpose/Objectives of Travel

1) Conduct an assessment of experience with the SAIN learning approach in hospitals in Eastern and Western Regions.
2) Review findings and prepare report with review team.
3) Present preliminary findings in debriefing to USAID/Ghana.
4) Finalize assessment report.

Brief Summary

Helene Rippey, Consultant and Ms Susheela M. Engelbrecht, Senior Program Officer, PATH/POPPHI, travelled to Ghana from Oct 27 to Nov 4, 2009. The overall goal of the trip was to conduct an assessment of the effectiveness of using the SAIN Blended Learning approach in increasing implementation of AMTSL. The assessment team used interviews, a checklist to observe providers applying AMTSL, and a facility audit to evaluate several areas: coverage and documentation of AMTSL; storage and stockage of uterotonic drugs; feasibility and acceptability of the SAIN learning approach for in-service training activities in the Ghanaian context; and competence of providers trained using this approach.

Due to time constraints, only five of the seven hospitals were assessed: Koforidua Regional, Akim-Oda, Assessewaa, Kwesimintsim Regional, and Takoradi Hospitals.

Activities conducted include:

- Oct 28: Meeting with Laurel Fain and Susan Wright, USAID/ACC RA HPNO, to brief them on the assessment plan.
- Oct 28: Travel to Koforidua to meet with AMSTL Project team (Dr Taylor, Dr Boamah, Ms Asantewaa, and Ms Sunu) to plan and prepare the trip, including reviewing and finalizing assessment tools.
- Oct 29: Traveled to Koforidua, conducted review activities at Koforidua and Assessewaa Hospitals.
- Oct 30: Traveled from Koforidua to Takoradi to conduct review activities at Kwesimintsim Hospital.

- Oct 31: Conducted review activities at Takoradi Hospital and returned to Accra.
- Nov 2: Conducted reviews at Koforidua and Akim-Oda Hospitals.
- Nov 3: Met with team to review findings, and prepare report and presentation. Return to Accra.
- Nov 4: Debriefed with USAID and departed Ghana.

List of Abbreviations

AMSTL	active management of the third stage of labor
CI	clinical instructor
CCT	controlled cord traction
EBL	estimated blood loss
GHS	Ghana Health Service
IU	international units
PPH	postpartum hemorrhage
POPPHI	prevention of postpartum hemorrhage initiative
SAIN	site and individual learning approach

Finding and conclusions / Recommendation(s)/Action(s) to be taken

A blended learning approach was used to training providers in AMTSL in seven hospitals in the Eastern and Western regions of Ghana. A team composed of Ms Susheela Engelbrecht, PATH/POPPHI Senior Program Officer; Helene Rippey, Consultant; Ms Gifty Sunu, Training Coordinator, Eastern Region; and Dr Joseph Taylor, Obstetrician/Gynecologist POPPHI consultant, assessed learners' and the learners' support team's experience with the training approach and its impact on the practice of AMTSL.

Data were collected at five of the seven facilities that currently have AMTSL CIs working in them. Observations of the providers, audits of the facility and interviews were conducted. Table 1 summarizes data collection methods.

Table 1. Data collection methods, data sources, and sample sizes

Data collection method	Data sources and sample sizes
Facility audit	Delivery registers, partographs, AMTSL CIs, facility managers, pharmacy managers
Interviews	Regional Directors (2)
	Managers of health care facilities (3)
	Master Trainers (3)
	AMTSL CIs (7)
	Providers (11)
Provider observations	Providers • Cases (2) • Obstetric manikin (9)

1 Evaluated coverage and documentation of AMTSL.

§ Data on AMTSL coverage and number of PPH cases were taken for the month of September from the delivery register. By report there is 100% coverage of AMTSL; when observing the delivery register, only 91-100%

was actually recorded. In most cases when AMTSL was not checked, oxytocin was documented, indicating that there is most likely 100% coverage but not 100% documentation. This high level of coverage was even found in facilities where not all of the staff has completed training. .

- § Delivery logs had been modified to document AMTSL and uterotonic administration. Estimated blood loss was already being documented when AMTSL activities were begun.
- § There is no place to record AMTSL on the partograph, but providers are writing out administration of a uterotonic drug, application of controlled cord traction (CCT) and countertraction, and uterine massage in the client's chart.
- § A PPH case was defined as estimated blood loss (EBL) of >500 mL as recorded in the delivery register or charting of "PPH" in the delivery register. The inaccuracy of visually estimating blood loss is well documented, so the data from the register may or may not be accurate. However, providers noted that anecdotally there is a decrease in cases of PPH and retained placenta, and reduced need of utero tonic drugs for management of PPH since providers are consistently practicing AMTSL. This finding would be consistent with studies on efficacy of AMTSL in reducing PPH. PPH was not tracked prior to the intervention, so this is difficult to ascertain. Cases of PPH were between 1.4 and 13% of vaginal births for the month of September, 2009, in the facilities visited.
- § There have been no cases of uterine rupture, cord rupture, or uterine inversion related to the mis-use of uterotonic drugs or the practice of AMTSL since training activities have begun.
- § Although not part of the assessment tool, additional information on numbers of episiotomies was gathered at the same time. The percentage of episiotomies was less than 15 in most facilities, which most likely means that episiotomy is not routinely done. Only one facility had an episiotomy rate of greater than 15 percent.

Next steps:

- Ø Ensure accurate documentation of AMTSL and components, episiotomy, and estimated blood loss.
- Ø Encourage tracking of PPH cases.

2 Evaluated storage and stockage of uterotonic drugs.

- § All facilities had adequate stocks of oxytocin and ergometrine, with no stock-outs during the months of July, August, and September.
- § Oxytocin, ergometrine, and misoprostol were stored according to manufacturers' recommendations in all of the pharmacies.
- § All of the maternity units had a refrigerator that was unlocked with adequate stocks of oxytocin, ergometrine, and misoprostol.
- § Four of the five maternity units only kept a limited number of ampoules on a tray in the delivery room for use in case of emergency. One of the maternities had more than 10 ampoules of oxytocin and ergometrine on a tray, outside the refrigerator, but covered with a dark cloth.
- § Only two facilities had a notebook to follow movement of oxytocin in the delivery room. In both cases, use of oxytocin was directly linked to the delivery logbook. In one case, the number of ampoules recorded was superior to the number that should have been used either for AMTSL or management of PPH.

- § None of the facilities had a notebook to track misoprostol and ergometrine use.
- § Oxytocin 10IU is the uterotonic of choice for AMTSL.

Next steps:

- Ø Develop protocols for storage of uterotonic drugs at all levels of the supply chain – from national level to the delivery r oom.
- Ø Develop tools for tracking use of all uterotonic drugs in the delivery room, and find ways to ensure that they are being correctly used and monitored.

3 Evaluated the f easibility and acceptability of the SAIN learning approach for in-service training activities in the Ghanaian context

- § A large number of providers were trained in a relatively short period of time and at a cheaper cost than group-based training. Of a total of sixty-one midwives working on the labor ward, forty-nine have completed the course, and eight are still going through the course. In all, eighty-one providers have completed the course in less than three months (materials were distributed in August/September). In some facilities, a decision was taken to train all midwives in the facili ty because they all eventually rotate to the labor ward. In these cases, the facilities took the initiative to photocopy the materials themselves.
- § Two midwives in one of the facilities had not completed the course because they were either sick or on leave. The facilities where either none of the midwives has completed the course or only two has completed the course both have junior midwives working as AMTSL CIs and neither has a physician working as a CI.
- § In one facility, where only two providers have compl eted training and two are currently going through the materials, both the AMTSL CI and the providers interviewed were dissatisfied with remuneration provided for lunch.
- § The strategy was easier to implement when there was a team (doctor / midwife) of CIs and when the nurse-midwife CI was the in-charge for the labor ward.
- § Providers and AMTSL CIs were extremely motivated. They noted the difficulty of combining work duties and the self-paced approach but were able to overcome it to complete the course.
- § Some of the providers and AMTSL CIs interviewed felt that the amount of money provided for lunch was an obstacle for completing learning materials, though most learners in the facilities had successfully completed them.
- § All of the providers interviewed apprecia ted the learning materials and the subject matter. Only one provider interviewed said she would prefer the group-based approach.
- § Most learners did their reading outside of the workplace, often in the evenings and on days off, and AMTSL CIs interviewed stat ed that they had to come in on off days or work extra hours in order to support learners.
- § Learners greatly appreciated the support provided by learning partners and AMTSL CIs, and AMTSL CIs appreciated the support provided by the Master Trainers.
- § All AMTSL Trainers (3/3) and CIs (7/7) and the majority of providers interviewed (9/10) interviewed would undertake the training in the same way again.

- § All facility managers and regional health managers interviewed said they would undertake the training again in the same way and recommend it to other facilities and regions.
- § Learners, AMTSL CIs, Master Trainers, health facility managers, and Regional Directors were unanimous in saying that the program was a success because PPH cases have been reduced which makes work for all staff easier and improves job satisfaction. Additionally, respondents cited the evidence-base, practical nature, reality-base, and results-oriented nature of the course to be reasons for the success.

Next steps:

- Ø Develop mechanisms and standards for remunerating CIs for each learner who has completed the materials.
- Ø Develop mechanisms and standards for remunerating learners during clinical practice (1 day for on-site learners and 2 days for off-site learners).
- Ø Adapt the learner support system and materials based on comments in interviews.

4 Assessed competence of providers trained using the SAIN learning approach.

- § Providers assessed on obstetric models (9 cases) and with real cases (2 cases) were found to competently and safely apply AMTSL.
- § All providers safely performed the three components of AMTSL and put the baby in skin-to-skin contact with the mother. There were no harmful practices noted, including CCT without uterotonic drug administration or countertraction.

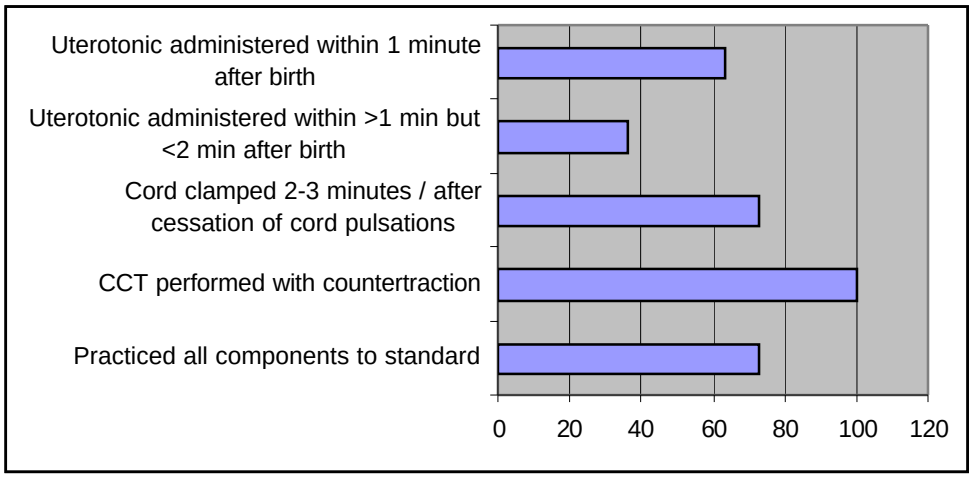

Figure 1. Percentage of providers practicing selected components to standard

- § Areas of AMTSL practice needing strengthening include timing of the uterotonic drug (63.6% - 7 providers - administered oxytocin within 1 minute, the remaining 36.4% - 4 providers - administered oxytocin less than 2 minutes after birth of the baby) and consistently delaying cord clamping to 2-3 minutes after birth (three of the eleven providers clamped the cord immediately after birth).
- § Monitoring and educating the woman in the immediate postpartum are areas that still need strengthening.
- § Only three of facilities had AMTSL posters in the delivery room.

Next steps:

- Assure internal and external supervision to ensure practice of AMTSL to standard.
- Develop training and non-training interventions to address clinical practices needing strengthening.

5 Developed general recommendations for the SAIN approach based on findings from the assessment.

Preliminary results were shared with the training team, Dr Taylor, Dr Boamah, Sr Asantewaa, and Sr Sunu, and the entire team developed the following list of recommendations:

- Scale up training in AMTSL nationwide using the blended (SAIN) learning approach.
  - Foster buy in at all levels.
  - Share costs between facilities, districts, and regions.
  - Use existing master trainers to train regional master trainers.
  - Adapt existing materials based on recommendations from users.
- Develop a list of factors that contributed most to the success of the approach and build them into the design of the program for scale-up.
- Ensure that selection criteria for CIs are applied consistently.
- Develop clear mechanisms for remuneration of CIs and provision of T&T and meal expenses for learners.
- Facilitate provision of certificates upon completion of the course. Certificates will be issued by the CIs and signed by the District Director of Health and the AMTSL CI.
- Address practice areas needing strengthening at the facility level and provide timely feedback to the providers by the AMTSL CIs.
- Develop/provide job aids for AMTSL and Postpartum monitoring

List of Appendices

- Appendix A: Persons contacted.

Appendix A: Persons contacted

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A HealthTech Report

Technical Assistance Visit to Guatemala for Pilot Introduction of Oxytocin in the Uniject® Device

November 4, 2009

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USAID FROM THE AMERICAN PEOPLE
PATH A catalyst for global health

Technical Assistance Visit to Guatemala for Pilot Introduction of Oxytocin in the Uniject® Device

Country visited: Guatemala

Date of visit: October 25, 2009, to November 4, 2009

Technical assistance providers:
Gloria Metcalfe (POPPHI)
Erica Jacoby (HealthTech)
Shirley V. Carter (HealthTech)
Mark Guy (HealthTech)

I. Objectives:

1. Perform monitoring visits for pilot implementation of oxytocin in the Uniject®* device (oxytocin in Uniject) in Alta Verapaz.
2. Collect cost data related to introduction of oxytocin in Uniject in Guatemala.
3. Develop an understanding of the logistics related to scale-up (i.e., storage, transport, and procurement).
4. Work with the Ministry of Health of Guatemala (MOH) and other stakeholders to determine next steps related to national scale-up of oxytocin in Uniject in Guatemala.

II. Background information

A pilot introduction study of oxytocin in Uniject as a component of active management of the third stage of labor (AMTSL) at the institutional level was initiated in September 2009 in the state of Alta Verapaz. Health providers, personnel from the pharmacy, as well as supervisors of facilities were trained in the use of oxytocin in Uniject as a component of AMTSL. The study is being implemented by the MOH, Health Care Improvement (HCI) and Asociacion de Ginecologia y Obstetricia de Guatemala (AGOG). PATH is assisting the implementation team with the evaluation component of the study, the supply of product needed during the pilot project, and the collection of cost data related to scale-up of oxytocin in Uniject.

III. Summary of findings

Monitoring visits for pilot implementation of oxytocin in Uniject in Alta Verapaz

The group visited all six facilities that are participating in the pilot project. The objectives of the visit to the facilities were:

- Evaluate the use of oxytocin in Uniject as a component of AMTSL.
- Assess practical use of AMTSL.
- Collect cost information related to oxytocin in Uniject and oxytocin in ampoules.

* Uniject is a registered trademark of BD.

- Understand the logistics pertaining to scale-up.

Information collected during the monitoring visit to Alta Verapaz is summarized in Annex 1.

Observations

Storage

- Oxytocin in Uniject was stored in the cold chain (between 2°C and 8°C) in all facilities visited.
- In general, oxytocin in Uniject was stored with other medications that also require cold chain storage. We observed that even the laboratory and delivery room has either a refrigerator or a cold box to temporarily store the oxytocin required to attend births.
- The hospitals of Fray Bartolome and Coban have utilized their maximum cold chain storage space and see capacity as a challenging issue if oxytocin in Uniject were to replace ampoules.

Storage of oxytocin in Uniject at the Hospital of Coban

- There is a cold chain crisis at the regional coordinating office. This office does procurement of medicines and supplies for Centros de Atencion Permanente (CAPs), Centros de Atencion Inmediata Materno (CAIMIs), and health posts. Employees at this office mentioned that when they receive vaccines there is not sufficient space to store any other medication that requires the cold chain.

Training

- The majority of people attending births at the six health facilities are trained in the use of oxytocin in Uniject in the context of AMTSL. However, in most institutions, there were still people that could not be trained due to conflicts in their schedules. Most of these personnel are physicians that work only during nights at the facilities or new staff (rotation is high).

Use of oxytocin in Uniject

- The auxiliary nurses and the nurses that were interviewed are using oxytocin in Uniject according to the instructions. In only two facilities (Hospital of La Tinta and Hospital of Coban) we observed that the oxytocin in Uniject is being recapped, which is contraindicated. We provided refresher training in biosafety measures at these facilities.

Waste management and recapping of oxytocin in Uniject at the Hospital of Coban

- Oxytocin in Uniject is being used exclusively for prevention of postpartum hemorrhage (PPH) in all vaginal births at the participating health facilities. Even though the protocol for the pilot project specifies that during the three-month pilot introduction health facilities would use oxytocin in Uniject for both vaginal births and C-sections, the Hospital of Coban and Hospital of La Tinta are not using the prevention dose for C-sections. Reasons for this change of plans are:
    - *Low stock*. This is the case at Hospital of La Tinta where the number of births has increased in the past year. The amount of doses calculated for the pilot were not enough to cover the increased demand; therefore the hospital administration decided to use the oxytocin only for vaginal births.
    - *Logistics*. This is the case at the Hospital of Coban where there is no place to store the oxytocin in the cold chain in the surgery room. Also, they use oxytocin in the IV fluids and consider this to be easier than to provide an IM injection (as is specified in the protocol) at the time of the surgery.

- Nurses, auxiliary nurses, and physicians also provided their opinions about oxytocin in Uniject. In general, they see the following benefits for oxytocin in Uniject in comparison to oxytocin in ampoules:
    - Easier to use than oxytocin in ampoules.
    - Less preparation time. Nurses said that it saves them the normal one to two minutes of preparation time for the PPH-prevention dose of oxytocin in ampoules.
    - Less wastage of medication. Some nurses and auxiliary nurses said that with oxytocin in ampoules there was more risk to waste product when opening the ampoules.

- Safer. Some nurses said that they had experienced cuts when trying to open oxytocin in ampoules. This risk is completely eliminated with oxytocin in Uniject.
- Easier to account for. Oxytocin is a controlled product in Guatemala. Therefore, nurses have to account for every product used. In the past, they had to show the empty glass ampoules to the pharmacy, but with oxytocin in Uniject, they can show the empty envelope, which decreases the risk of biohazard accidents with sharp objects.

Practice and use of AMTSL

- During the visits, no births occurred to allow for direct observation of administration of oxytocin in Uniject. Information about the use of AMTSL with oxytocin in Uniject was obtained by interviews with auxiliary nurses, nurses, and physicians.
- According to their description of how they are practicing AMTSL, only one health facility (Chisec) is practicing it correctly. The use and momentum of the administration of oxytocin in Uniject was well described. Three locations mentioned the uterus massage previous to the delivery of the placenta; none of them (except Chisec) mentioned that they have to wait for a contraction to start the Controlled Cord Traction (CCT). Most of them mentioned that they wait five minutes, and one of them said that the CCT is immediately after the administration of oxytocin in Uniject. The massage of the uterus immediately after the delivery of the placenta was mentioned and recognized as a key action. However, the follow-up required every 15 minutes during the two hours following delivery is not always done due to lack of time or staff.
- We provided refresher training in AMTSL to the nurses, auxiliary nurses, and physicians that were available during the time of the visit. In addition, we reinforced the immediate newborn care, particularly the skin-to-skin practice and principles of infection prevention, which were very poorly practiced.

Stock of oxytocin in Uniject and oxytocin in ampoules

- In general, the number of institutional births in Guatemala has increased due to a new social program created by the government called “Mi Familia Progresa.” This program provides a stipend to pregnant women who go to the clinic for prenatal care, who give birth at an institution, and who bring their children in for regular checkups. This increase in demand for services related to births was not estimated during the planning of the pilot project. Therefore some institutions do not have enough stock for the three-month pilot introduction. However, extra doses are still remaining at the regional coordinating office and will be distributed to the institutions that have the low stock.
- There was no supply of oxytocin in ampoules at the three smaller facilities visited (CAPs and CAIMIs). In these institutions, we found a small stock of donated oxytocin (ampoules of 10 IU) that expired October 30, 2009. Reasons for this irregular supply are:
    - A fiscal deficit at the central and district level is impacting provision of required medications for smaller health facilities (there is a 50 percent shortage of medications at these facilities, so the issue does not only pertain to oxytocin).

- Increased demand for services. Government policies to increase the number of hours at CAPs in addition to programs such "Mi Familia Progresa" have increased demand for services at these health facilities.
- The same budget is allocated to the regional offices despite the increased demand for services.
- Slow procurement processes at the central level. Some of the purchase orders have been at the central level for six months without being processed.

After the visit to Alta Verapaz, we had meetings with the MOH and AGOG to share the results of the visit and to provide guidance for the next monitoring visits in November and December as well as for the final interview. We created a guide document for the interview process (See Annex 2).

Preliminary findings of cost study

Currently, oxytocin in ampoules is not under open contract with the MOH. Thus, under the direct purchase system, health facilities have been quoted various prices per 5-IU ampoule depending on the size and date of their orders. Prices quoted range from Q3.15 to Q5 per 5-IU ampoule. In 2008, oxytocin in ampoules was under open contract and prices ranged from Q1.09 to Q1.24.

Prices for 3-ml syringes (currently under open contract) were found to be either Q0.338 or Q0.64.

The weighted average price per 5-IU ampoule of oxytocin under the current direct purchase system for the MOH is Q3.38. The weighted average price per 3-mL syringe under the current open contract for the MOH is Q0.42. Thus, the MOH is paying a weighted average of Q7.18 per administered dose of oxytocin in ampoules (approximately US$0.87 per administered dose which consists of two 5-IU ampoules plus one 3-ml disposable syringe).

As mentioned above, only the hospitals appear to have issues with cold chain constraints at the facility level. While the regional coordinating office also had issues with cold chain storage, the full cost model will assume that the time-temperature indicator (TTI) will allow for out-of-cold-chain storage since it is in that office only short-term. The model will factor in three different scenarios to address potential cold chain needs at the hospital level only upon scale-up:

1. Optimistic Model: No additional cold chain costs. The model will assume that hospitals will find ways to incorporate storage of oxytocin in Uniject into their current cold chain capacity. For example, the MOH may be able to utilize the vaccine cold chain.
2. Likely Model: Partial additional cold chain costs. The model will assume that one-third of the hospitals will have to incur the cost of an additional storage unit (refrigerator) for storage of oxytocin in Uniject.
3. Conservative Model: Major additional cold chain costs. The model will assume that every hospital will incur the cost of an additional storage unit (refrigerator) for storage of oxytocin in Uniject.

None of the facilities accounted for cold chain maintenance costs in their budgets. Only one facility had purchased a new refrigerator (at Q2,700) to expand their cold chain capacity, however this new unit was not being used to store oxytocin in Uniject.

The only recurrent costs within the model will be for supplies (although there may be additional recurrent costs associated with specific cold chain scenarios that are still being assessed). For transport, the model will assume that oxytocin in Uniject can either travel safely outside the cold chain with other supply deliveries or that there is currently sufficient capacity to transport oxytocin in Uniject with vaccine deliveries in the cold chain from the health coordination offices to CAPs and CAIMIs.

Summary of logistics/information to consider regarding potential planning for scale-up

- The MOH confirmed that if they roll out oxytocin in Uniject it would be on a national basis for equity reasons.
- The MOH would like to see oxytocin in Uniject introduced within the context of AMTSL, so refresher training in AMTSL along with training on oxytocin in Uniject would need to be planned.
- Scale-up will likely need to done in a phased fashion, as the MOH has 15 trainers and these trainers do all of the training directly (there is no training-of-trainer process). Roll-out needs to match training capacity.
- As described above, cold chain is an issue that needs to be further analyzed. Likely some investments will need to be made. However, the MOH mentioned exploring opportunities to share vaccine cold chain space.
- Financing will be an issue that needs to be considered, as the MOH can not even pay for current basic medications, including oxytocin in ampoules.

Meetings with stakeholders to identify next steps

<u>Highlights of meetings with the MOH</u>

- The MOH expressed interest in continuing the use of oxytocin in Uniject in the context of AMTSL beyond the pilot program. The MOH suggested that once the pilot introduction and cost data is analyzed and available that they can make a decision fairly quickly regarding scale-up. This decision is estimated to happen in March of 2010.
- The Sexual and Reproductive Health Program (SRHP) at the MOH considers that oxytocin in Uniject would be an ideal medication to be included in the United Nations Population Fund (UNFPA) channel like contraceptives.
- The MOH reiterated that maternal health continues to be a high priority for Guatemala and that the government is committed to maintain interventions that have proven effective to address maternal mortality.
- The MOH was receptive to PATH donating an additional three months of supply so that there is continuity of supply of oxytocin in Uniject (assuming the MOH wants to scale up the technology).
- PATH and the MOH discussed the best way forward to explore potential donors. Beyond PATH's three-month donation, an additional donation will likely be needed to fill the gap before the MOH can purchase and roll out the product. Ideally the second donation would be larger than PATH's donation so the phased process of scale-up can begin.

- The MOH will take the lead on writing a proposal for this donation. The proposal will be shared with potential donors, including UNFPA.
- The MOH mentioned that potential donors to support the continuation of this project are Canadian International Development Agency (CIDA), the Government of Spain, Banco Interamericano de Desarrollo (IDB), and the Government of Holland.
- The MOH will review options on how to solve the shortage of oxytocin at the facilities.
- Dr. Walter Linares (AGOG) and Dr. Carlos Morales (MOH) were the only monitors attending this meeting, despite that all of the monitors were requested to participate in order to analyze the results of the visit and discuss the providers' interview process for the end of the pilot in December 2009. We strongly emphasized the need to do a follow-up of the refresher training and to ensure the correct and standardized performance of AMTSL practices for all providers attending births during the next two supervision visits to the pilot facilities.

<u>Highlights of meetings with UNFPA</u>

- UNFPA in Guatemala has two main projects:
  1. Strengthening institutional capacities to reduce maternal mortality. This program provides training to traditional birth attendants (TBAs) and health workers on techniques to reduce maternal mortality.
  2. Procurement of contraceptives, birth kits, C-section kits, and emergency care birth kits. The reusable birth kits are donated to train TBAs, and the other kits are for disaster situations and other emergencies.

- UNFPA works in 7 of the 22 states; these 7 states have the highest mortality rates in the country.
- For a medical product to be part of UNFPA channels, it has to go through a qualification process similar to the WHO prequalification process. UNFPA Copenhagen usually calls for a specific product to be part of the process and the qualification is done there. It is easier to get UNFPA qualification if the product has been WHO prequalified. It was unclear whether the process of obtaining UNFPA qualification could be expedited if the process is initiated in parallel (or staggered) with the WHO prequalification process.
- It takes six months from ordering the product to receive it in country via UNFPA.
- Since oxytocin in Uniject is not on the UNFPA list and because the timing for qualification can take several months, UNFPA proposed some different approaches:
    - UNFPA Guatemala can decide to be the purchasing agent and can request a tendering for the product. This process can occur even if the product is not UNFPA qualified. In this case, UNFPA can be just an intermediary. This process takes more than six months depending on the quantity and dollar value.
    - UNFPA can also be a temporary donor of the product if the government of Guatemala decides oxytocin in Uniject is a high priority for the country. To start this process, Guatemala has to submit a proposal to UNFPA outlining the need. In general donors for maternal mortality programs are not open to buying supplies because they want to invest more in institutional capacity. However, if this is considered a priority, it is worth submitting a proposal. The donation process can take approximately 6 months, and it is important to

consider that UNFPA does not have cold chain capacity and that they do not do local distribution.
    - A combination of the two approaches: Guatemala can submit a proposal for a donation for a couple of months until a tendering process can be put in place.

- Contacts for the UNFPA proposal:
  Nadine Gasman (Guatemala country representative of UNFPA)
  Dr. Alejandro Silva (Reproductive Health Officer of UNFPA)
  Monica Lay (UNFPA Copenhagen)

Highlights of meetings with USAID Guatemala

- USAID Guatemala maintains its commitment to the project and to envision next steps to ensure that the work continues.
- USAID suggests we connect with some other stakeholders in collaboration with the MOH to seek out opportunities for wide-scale introduction of oxytocin in Uniject in Guatemala. These stakeholders are:
    - Population Services International (PSI). PSI currently has a large amount of funding directed to improve maternal mortality.
    - International community. USAID suggested we present the results of the pilot study to the international community in our next visit. This group has resources and is willing to invest in the country. USAID can help to make the link with the international community.
    - Asociación Pro Bienestar de la Familia de Guatemala (APROFAM). This organization is actively working on maternal health in Guatemala.
    - Sistema Integrado Atención de Salud. This national institution can help with ideas to strengthen aspects related to the practice of AMTSL in Guatemala.

IV. Recommendations and next steps

Recommendations

1. Ensure that all health personnel attending births at the participating health facilities are proficiently trained in AMTSL. To that end:
    - The monitors should provide refresher training in AMTSL every time they visit the health facilities in Alta Verapaz.
    - MOH and AGOG monitors must follow a standardized and competence-based methodology with a checklist and support the practice with real clients as much as feasible or using an anatomic model if needed.
    - MOH and AGOG monitors should support the providers in the field by implementing an on-the-job training system to ensure that new staff are trained before starting work.
2. Continue the dialogue with the MOH to plan for future activities related to introduction of oxytocin in Uniject in the country.
3. Provide the facilities that are participating in the pilot project with enough oxytocin in Uniject for three additional months while the government makes a decision and sets up a process for introduction of oxytocin in Uniject in Guatemala.

Next steps

1. PATH will follow up with monitors after the next monitoring visit (November 2009) to track improvement of performance of AMTSL practices in the six health facilities.
2. PATH will provide a report with preliminary results of the pilot study to the MOH and USAID by mid-November. This report will help the MOH connect with UNFPA in regards to a potential donation of oxytocin in Uniject; it will also help USAID have information when connecting with the international donor community.
3. The SRHP at the MOH will put together a proposal for UNFPA for a temporary donation of oxytocin in Uniject.
4. PATH, in collaboration with the MOH and USAID Guatemala, will establish links with PSI and APROFAM. Ideally, we will meet with these stakeholders during our next visit.
5. PATH will provide a report of the cost study at the end of December.

V. Acknowledgments

We would like to express our sincere appreciation to Dr. Hector Chaclan and Dr. Luigi Jaramillo from HCI for helping us arrange all of the details related to our visit to Alta Verapaz. In addition, we want to thank the research team from the MOH (Dr. Jacqueline Lavidalie, Dr. Carlos Morales, and Dr. Gustavo Batres) for their time and commitment to the project. We would also like to thank Dr. Walter Linares from AGOG and Dr. Fidel Arevalo and Dr. Baudilio Lopez from USAID for their dedicated effort to ensure that our visit was a success.

VI. Annexes

Annex 1: Summary of data collected during monitoring visits to Alta Verapaz.
Annex 2: Guidance document for final interviews (In Spanish)
Annex 3: Trip itinerary

Annex 1: Summary of data collected during monitoring visits to Alta Verapaz.

Institution	Pilot start date	Date of visit	# of people trained	# of births attended since start of the pilot	# of dispensed doses of oxytocin in Uniject	# of doses used since start of the pilot
CAIMI de San Cristobal	Sept 16	Oct 27	31	VB: 63 CST: 1	119	64
CAP de Carcha	Sept 18	Oct 30	28	VB: 66 CST: N/A	184	66
CAP de Chisec	Sept 11	Oct 29	28	VB:93 CST: N/A	113	93
Hospital de la Tinta	Sept 14	Oct 28	15	VB: Pending CST*:	260	Info pending
Hospital de Fray Bartolome	Sept 19	Oct 29	41	VB:109 CST: 59	666	168
Hospital de Coban	Sept 10	Oct 30	73	VB: 595 CST: 310*	1500	595
Total	**-**	**-**	**216**	**VB: 926** **CST: 370**	**2842**	**986**

VB: Vaginal Births, CST: Cesarean
* Hospital of Coban and Hospital of La Tinta are not utilizing oxytocin in Uniject for cesarean

Annex 2.

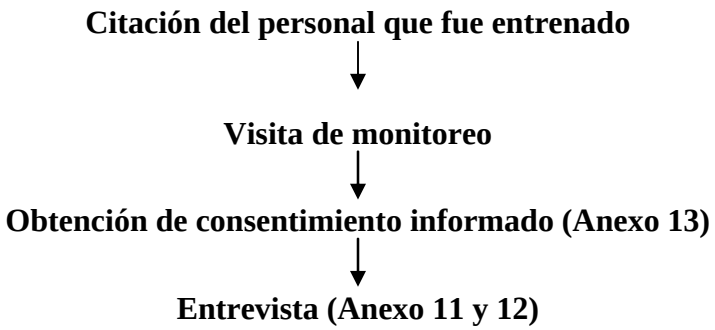
Consejos para la entrevista final

Elementos generales de la entrevista

- ***Objetivo:*** Obtener información precisa de la aceptabilidad de la oxitocina en Uniject por parte de los proveedores y administradores
- ***Tipo de entrevista:*** Entrevista estructurada cara a cara
- ***A quien:*** Directores de establecimiento y usuarios (no solo los que utilizaron el Uniject, pero también los que asistieron al entrenamiento)
- ***Cuando:*** Al final del piloto de introducción y luego de la ultima visita de monitoreo

Secuencia de eventos

- Citar a la mayor parte del personal con anticipación para estar presente en la entrevista
- Visita de monitoreo
- Obtención de consentimiento informado escrito (Anexo 13)
- Entrevista (Anexo 11 y 12)



Estrategias para eliminar sesgo

- Intercambio de monitores (Monitores del ministerio entrevistando los sitios de la AGOG y viceversa)
- Actitud del entrevistador. Lo ideal es no interferir en la opinión del entrevistado
- Preguntar las preguntas en orden
- Preguntar todas las preguntas a todos los entrevistados
- Tener tiempo suficiente para realizar toda la entrevista- no apurar al responderte
- Explorar áreas que requieran mas información sin imponer nuestra opinión

Annex 3.

Itinerary for TA Visit to Guatemala
Oct 25-Nov 4, 2009

Date	Activity	Responsible
Oct 25	Arrival	
Octubre26	Meeting with MOH designated person for cost study	Dr. Batres + MOH designated person Mark Guy, Shirley Carter, Erica Jacoby Gloria Metcalfe (optional)
	Gathering of cost data at the central level	Mark Guy, Erica Jacoby MOH designated person Shirley Carter
	Meeting with research team	Research team
Oct 27	Transportation to Alta Verapaz	Mark Guy, Gloria Metcalfe Shirley V. Carter, Erica Jacoby Dr. Héctor Chaclan
Oct 27	Visit to CAP of Carcha and CAIMI of San Cristobal (depending on time)	Mark Guy, Gloria Metcalfe Shirley V. Carter, Erica Jacoby Dr. Héctor Chaclan
Oct 28	Visit to Chisec and Hospital of Fray Bartolome	Mark Guy, Gloria Metcalfe Shirley V. Carter, Erica Jacoby Dr. Héctor Chaclan
Oct 29	Visit to Hospital of La Tinta	Mark Guy, Gloria Metcalfe Shirley V. Carter, Erica Jacoby Dr. Héctor Chaclan
Oct 30	Visit to Hospital of Coban and return to Guatemala	Mark Guy, Gloria Metcalfe Shirley V. Carter, Erica Jacoby Dr. Héctor Chaclan
Nov 2	Meeting with research team	
Nov 3	Meeting with Minister of health (Dr. Ovalle), Dra Lavidalie Dr. Batres and other members of the research team Goal: Share progress of the Project and lessons learned up to date.	Shirley Carter, Gloria Metcalfe, Erica Jacobi
Nov 3	Meeting with USAID	Gloria Metcalfe, Shirley V. Carter Erica Jacobi
Nov 4	Meeting with ANGEFISA (BIOL distributor in Guatemala)	Gloria Metcalfe, Shirley V Carter Erica Jacobi
Nov 4	Meeting with other potential organizations	Erica Jacobi, Shirley Carter, Gloria Metcalfe

POPPHI

Summary of the Nicaragua´s Grant activities
December 14, 2009

POPPHI issued a grant to the Nicaraguan OB/Gyn Association (SONIGOG) that supported the MOH training plan to prevent PPH. SONIGOG collaborated also with HCI, the USAID bilateral project for maternal health.

The objective was to improve the skills of the providers who assist births in prevention and management of PPH. Participants were doctors and nurses midwives who lead pre and in service trainings in three hospitals: the National Hospital of Women in Managua, which is the national referral hospital; Maternal and Children Hospital in Managua; and the Training Hospital in Leon.

SONIGOG and the MOH selected thirteen trainers to conduct two workshops. They came from the MOH, HCI, the Medical School of Leon, the Director of the hospital, and SONIGOG. The workshops included two days to review the evidence and practice on anatomic models, and three days of practical training in the labor and birthing rooms. A total of 146 providers were trained: 45 OBs, 34 OB Residents, 19 General practitioners, 18 nurse midwives, 23 nurses, and 7 medical students.

The Hospital in Leon is the only one that is coordinated with the primary level of care network, and it is the referral centre for maternal complications.

Before the SONIOGOG intervention, the National Hospital knew almost nothing about AMSTL, and AMTSL was incorrectly performed in the other two hospitals,

According to the Dr Flor Marin´s report from SONIGOG, the objectives of the grant were totally accomplished. These included skills training to implement and reinforce the use of AMTSL and to improve life-saving skills to management PPH. Because of time and money limitations, they did not include quantitative information, evaluation or follow up.

The SONIGOG final report includes the following results after the workshops:

- The participants agreed to implement and improve AMTSL.
- MOH declared it mandatory to register the three steps of AMSTL in both, normal birth and caesarean. HCI supported this move with a stamp, which was included in the forms.
- MOH guarantees to provide the basics supplies to perform AMTSL to every woman during birth.
- AMTSL was approved as a norm in the birthing rooms.
- AMTSL was included in the pre-service training of Medicine and Nursing, OB and nurse midwives residents.
- A workshop for continue education in prevention and management of PPH were planned in the National Referral Hospital in Managua.

Recommendations: Follow up with the hospitals at 3, 6 and 12 months, and replicate the workshop in the regions where the maternal mortality is high. This would include the north and some areas in the Atlántico.

TRIP REPORT
Peru, Oct 11 to 22, 2009
Gloria Metcalfe

Background

The Midwifery Association (COP in Spanish) asked POPPHI financial support and TA to conduct 4 AMSTL workshops in those regions with high maternal mortality due to PPH, and that were not completely covered with the POPPHI ´s grant trainings.

The POPPHI consultant planned with COP a 2-day workshop mainly focused in practice using a competency based methodology with anatomic model in four regions; Lima, Trujillo, Piura and Puno,.

Findings

- The 4 workshops were supported by the region COP members, conducted in their facilities, and co-facilitated by a national COP staff. Regional MOH staff participated in the 4 workshops.

- Every local MOH staff committed to do the follow up of the participants and replicate the training as needed.

- The objectives of the workshop were:
- Update midwives on AMSTL, review the evidence and recommendations
- Practice and demonstrate competence in AMSTL using anatomic models and checklist including new born care recommendations.
- Revision and practice of training/coaching skills to train AMSTL
- Develop an Action and following plan about use of AMSTL
- Review and practice of basic skills to management of PPH

- Most of the participants were using AMSTL in their practice, however, the pre-test showed that they had misunderstandings about the second and the third steps, the moment to cut the cordon and about of the oxytocin mechanism of action.

- The recommendation for keeping the new born skin to skin with his/her mother immediately after birth for at least one hour was something new for most of the participants. They practiced and agreed with the recommendation, but also recognized that to implement this; it will be needed to change, doctors and health facilities´ habits/ rules.

- A total of 120 midwives participated in the 4 workshops, 30 per workshop in Lima (Oct 12-13), Piura (Oct 15-16), Trujillo (Oct 18- 19) and Puno (Oct 21-22).

- All of them were evaluated in the AMSTL procedure using anatomic models and checklist. It was recommended to all of them, to practice with real women until they feel confidence, and then starting training to the staff at their facilities as needed.

- Participants loved the methodology based in practice. For many of them, it was a new and a very useful way for learning skills.

- Time was sufficient to practice in anatomic model, but not to assist births. This was not planned at the begining because the number of births at the local hospitals was low, and because midwives interested in attend the workshop was many.

- Every regional COP received two models of placenta donated by POPPHI to motivate them to replicate the training in AMSTL, particularly for the new staff and when is needed.

Recommendations

- The local COP and MOH´ person who participated in the workshops were encouraged to monitoring the midwives, who attend the workshop, to assure the correct use of AMSTL, and for supporting the action plan to implement/ train AMSTL in their facilities.

- The National COP directive (Midwifery Association) was suggested to include in their annual plan activities to follow and support the correct use of AMSTL throughout their regional COP countrywide.

Contacted Person

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Midwife Flavia Cruzado
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Appendix C: FIGO Reports

See separate Adobe file.

Prévention et traitement de l'hémorragie du post-partum

DECLARATION COMMUNE

Association des Sages Femmes du Bénin (ASFB) Société de Gynécologie et d'Obstétrique du Bénin et du Togo (SGOBT)

Cotonou, le 17 Septembre 2009

L'Association des Sages Femmes du Bénin (ASFB) et la Société de Gynécologie et d'Obstétrique du Bénin et du Togo (SGOBT) sont des partenaires clés en ce qui a trait aux efforts déployés à l'échelle nationale en vue de réduire les invalidités et les décès maternels partout dans le pays. Leurs énoncés de mission font état d'un même engagement à promouvoir la santé, les droits et le bien-être de toutes les femmes, et plus particulièrement de celles qui courent le plus grand risque de décès ou d'invalidité associé à la maternité. L'ASFB et la SGOBT encouragent les interventions fondées sur des données probantes qui, employées correctement et de façon éclairée, peuvent réduire l'incidence de morbidité et de mortalité maternelles.

Cette déclaration reflète l'état actuel (2009) des connaissances en matière de prévention et de traitement de l'hémorragie du post-partum (HPP).

Environ vingt pour cent des décès maternels au Bénin sont causés par une hémorragie, qui se déclare le plus souvent pendant la période du post-partum[1]. Au Bénin, la plupart des décès maternels dus à une HPP surviennent dans des milieux ne disposant d'aucun accoucheur ou, encore, dans des milieux où les accoucheurs n'ont pas des compétences ou du matériel nécessaires à la prévention et à la prise en charge de l'HPP et de l'état de choc. L'objectif du Millénaire pour le développement visant à réduire le taux de mortalité maternelle de 75 pour cent d'ici 2015[2] restera hors de portée si nous n'abordons pas de façon prioritaire le problème de l'HPP dans le monde en développement.

L'ASFB et la SGOBT appuient toutes deux les recommandations internationales soulignant qu'il est impératif de compter des prestataires qualifiés et des services obstétricaux améliorés comme éléments centraux aux efforts visant la réduction de la mortalité maternelle et néonatale. Ces recommandations reflètent ce qui devrait être un droit fondamental pour toutes les femmes Béninoises. La prévention de l'HPP nécessitera de combiner plusieurs approches visant à étendre l'accès aux soins dispensés par des professionnels tout en multipliant les interventions salutaires suivant un continuum de soins allant de la communauté à l'hôpital.[3] Les différents environnements où les femmes accouchent dans ce continuum nécessitent différentes approches quant à la prévention et au traitement de l'HPP.

Prévention de l'hémorragie post-partum

L'ASFB et la SGOBT ont un rôle central à jouer en vue de renforcer la capacité des obstétriciens / gynécologues et des sages-femmes à réduire les décès et les invalidités résultant de l'HPP par des approches sûres, efficaces, réalisables et durables.

Les femmes enceintes risquent une perte sanguine potentiellement mortelle au moment de l'accouchement. Les femmes anémiques sont plus vulnérables aux pertes sanguines même modérées. Heureusement, la plupart des HPP peuvent être évitées. Différentes approches peuvent être employées selon la situation et la disponibilité de soignants qualifiés et du matériel approprié.

Gestion active de la troisième période de l'accouchement (GATPA)

Les données cliniques favorisent une prise en charge active de la troisième période de l'accouchement par tout accoucheur qualifié. La GATPA réduit l'incidence de l'HPP, l'ampleur de la perte sanguine et le recours à la transfusion[4]; elle doit donc faire partie de tout programme d'intervention visant à réduire les décès dus à l'HPP.

La prise en charge active de la troisième période de l'accouchement comprend généralement les éléments suivants :

- administration d'ocytocine[5] ou d'un autre médicament utérotonique dans la minute qui suit la naissance du bébé;
- traction contrôlée du cordon ombilical;
- massage utérin après délivrance du placenta.

N.B. Le clampage précoce du cordon ne fait pas partie de la GATPA. Par contre, il est recommandé d'attendre 2 à 3 minutes après la naissance pour couper le cordon. Le fait de retarder le clampage du cordon d'une à trois minutes permet de réduire l'anémie chez le nouveau-né[6].

Autres actions pour prévenir l'hémorragie du post-partum

L'ASFB et la SGOBT reconnaissent qu'il est **impossible** de dépister à l'avance les femmes qui sont les plus exposées au risque de l'HPP. Alors, il est recommandé de réaliser les gestes suivants systématiquement:

- le développement d'un plan pour l'accouchement de chaque gestante ;
- une surveillance régulière de la femme et du foetus en se servant d'un partogramme pendant le travail;
- le transfert précoce dans un service obstétrical disposant de moyens chirurgicaux dès que le déroulement défavorable du travail est dépisté;
- l'apport d'une aide à la femme pour assurer que la vessie soit vide avant le début du deuxième stade du travail et pendant le post-partum immédiat ;
- une gestion active de la troisième période de l'accouchement;
- un examen soigneux du placenta;
- un examen soigneux de la vulve, du vagin, du col de l'utérus, du périnée et de l'anus pour détecter les déchirures et les réparer dans les derniers délais;
- le massage utérin si l'utérus n'est pas bien contracté et aussi souvent et autant que nécessaire pour maintenir le globe de sécurité.

Utilisation rationnelle des médicaments utérotoniques

L'ASFB et la SGOBT encouragent une politique favorisant l'accès aux utérotoniques par tout accoucheur qualifié pour la prévention de l'HPP. Cependant, ils reconnaissent qu'il existe un risque potentiel d'abus de ces utérotoniques dans les formations sanitaires lorsque les médicaments utérotoniques sont disponibles pour la prévention de l'HPP. L'ASFB et la SGOBT appuient les protocoles, normes, et procédures promus par la DSF qui exigent que la stimulation du travail avec l'aide des utérotoniques ***ne devrait jamais être tentée*** dans les conditions suivantes:

- Le travail de l'accouchement progresse normalement ;
- En cas de disproportion céphalo-pelvienne, dystocie mécanique, présentation transversale, procidence du cordon ombilical avec foetus vivant, grossesse multiple, vasa praevia ou placenta praevia recouvrant ;

- Dans une structure sanitaire n'ayant pas de bloc opératoire ou de médecin qualifié à effectuer une césarienne ;
- Dans une structure sanitaire n'ayant pas de personnel capable de surveiller étroitement l'état de la femme et du fœtus pendant l'administration des utérotoniques ;
- Dans une structure sanitaire n'ayant pas de personnel capable d'identifier et de prendre en charge les complications maternelles et fœtales dues à l'administration d'utérotoniques pendant le travail.

Prise en charge de la troisième période de l'accouchement en l'absence de médicaments utérotoniques

Il arrive qu'on ne dispose pas de médicaments utérotoniques en raison d'une rupture d'approvisionnement ou des circonstances de l'accouchement. En l'absence de données probantes, la prise en charge du troisième stade du travail recommandée par l'ASFB et la SGOBT lorsque les soignants qualifiés ou autres soignants ne disposent pas de médicaments utérotoniques comprend les éléments suivants :

- attendre les signes de séparation du placenta (allongement du cordon ombilical, faible saignement, utérus ferme et globuleux à la palpation à la hauteur de l'ombilic);
- encourager une poussée maternelle accompagnant les contractions et, si nécessaire, l'adoption d'une position verticale;
- la traction contrôlée du cordon ombilical ***n'est pas recommandée*** en l'absence de médicaments utérotoniques ou avant les signes de séparation du placenta, car cela pourrait entraîner une séparation placentaire partielle, une rupture du cordon, une perte sanguine excessive et une inversion utérine;
- massage utérin après la délivrance du placenta.

Techniques novatrices

D'autres techniques prometteuses pour la prévention et l'évaluation et le traitement de l'HPP comprennent notamment :

- l'utilisation du misoprostol pour la GATPA[7] ;
- la distribution du misoprostol à la femme pendant la consultation prénatale en cas d'accouchement à domicile[8] ;
- des mesures de perte sanguine simples et précises[9, 10];
- l'administration d'ocytocine en seringues Uniject[11] ;
- le tamponnement utérin[12] ;
- le pantalon antichoc[13].

Ces innovations sont encore à l'étude mais elles pourraient s'avérer importantes sur le plan programmatique, en particulier pour les femmes vivant loin de tout établissement offrant des soins professionnels.

La Présidente de l'ASFB
Mme Laurence MONTEIRO

Le Président de la SGOBT
Pr. Ag. Issifou TAKPARA

Références

[1] DSF/MSP du Bénin. Rapport final de l'évaluation des besoins en soins obstétricaux d'urgence au Bénin. Cotonou : DSF/MSP du Bénin, le 30 décembre 2003.

[2] Nations Unies. Objectifs du Millénaire pour le développement. New York (NY) : ONU; 2000. Disponible à : http://www.un.org/millenniumgoals. Consulté le 12 octobre 2006.

[3] Ce continuum de soins s'entend également de l'hôpital vers la communauté.

[4] Prendiville WJ, Elbourne D, McDonald S. « Active versus expectant management in the third stage of labour », Cochrane Database of Systematic Reviews, n° 3, 2000, article n° CD000007. DOI : 10.1002/14651858.CD000007.

[5] Ocytocine est l'utérotonique du choix. En cas de rupture d'ocytocine, les utérotoniques suivants peuvent être utilisés : 0,2 mg d'ergométrine en IM, 600 mcg du misoprostol par voie orale.

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September 2009

Prevention and Treatment of Post-partum Haemorrhage

Joint Statement

Ghana Health Services (GHS)

Ghana Registered Midwives' Association (GRMA)

Ghana Association of Obstetrician / Gynaecologists (GAOC)

The Ghana Health Services (GHS), the Ghan a Registered Midwives' Association (GRMA) and the Ghana Association of Obstetrician/Gynaecologists (GAOC) are key partners in the national effort to reduce maternal death and disability. Their mission statements share a common commitment in promoting the health, human rights and well-being of all women, most especially those at greatest risk for death and disability associated with childbearing. The GHS, GRMA, and GAOC promote evidence-based interventions that, when used properly with informed consent, can reduce the incidence of maternal morbidity and mortality.

This statement reflects the current (2009) state-of-the-art and science of prevention and treatment of post-partum haemorrhage (PPH) in low resource settings. Approximately ___ per cent of direct maternal deaths in Ghana are due to haemorrhage, mostly in the post-partum period, and anaemia is seen to be an important underlying cause of many maternal deaths. [1] Most maternal deaths due to PPH occur in settings (both hospital and community) where there are no birth attendants or where birth attendants lack the necessary skills or equipment to prevent and manage PPH and shock. The Millennium Development Goal of reducing the maternal mortality ratio by 75 per cent by 2015[2] will remain beyond our reach unless we confront the problem of PPH as a priority.

The GHS, GRMA, and GAOC all endorse international recommendations that emphasise the provision of skilled birth attendants and improved obstetric services as central to efforts to reduce maternal and neonatal mortality. Such policies reflect what should be a basic right for every Ghanaian woman. Addressing PPH will require a combination of approaches to expand access to skilled care and, at the same time, extend life-saving interventions along a continuum of c are from community to hospital. The different settings where women give birth along this continuum require different approaches to PPH prevention and treatment.

Prevention of Post-partum Haemorrhage

Pregnant women may face life-threatening blood loss at the time of childbirth. Anaemic women are more vulnerable to even moderate amounts of blood loss. Fortunately, most PPH can be prevented. Different approaches may be employed depending on the setting and availability of skilled birth attendants and supplies.

Active Management of the Third Stage of Labour (AMTSL)

Data support the use of active management of the third stage of labour (AMTSL) by all skilled birth attendants regardless of where they practice. AMTSL reduces the incidence of PPH, the quantity of blood loss and the use of blood transfusion[3], and thus should be included in any programme of interventions aimed at reducing deaths from PPH.

AMTSL includes the following three components:

§ Administration of oxytocin * or another uterotonic drug within one mi nute after birth of the baby and after ruling out the presence of another baby.

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* Oxytocin is the uterotonic drug of choice for AMTSL. If oxytocin is not available, ergometrine 0.2 mg IM or Syntometrine 1 mL IM may be used if women have no contraindications to their administration. If no injectable uterotonics are available, misoprostol 600 mcg should be given orally for the prevention of PPH and the practice of AMTSL.

- Controlled cord traction while, at the same time, supporting the uterus by applying external pressure on the uterus in an upward direction towards the woman's head.
- Uterine massage immediately after delivery of the placenta and membranes until it is firm.

NOTE: The cord should only be cut and clamped after cord pulsations have ceased or approximately 2-3 minutes after birth of the baby, whichever comes first. In situations where cord clamping and cutting was delayed, there were fewer cases of anaemia in full-term babies at two months of age and increased duration of early breastfeeding.[4,5]

Management of the third stage of labour when the birth attendant's skills are limited

In situations where the birth attendant's skills are limited, administering misoprostol[6,7] or oxytocin soon after the birth of the baby reduces the occurrence of haemorrhage.

The usual components of management of the third stage of labour when the birth attendant's skills are limited[8] include:

- Administration of 600 micrograms (mcg) misoprostol orally or oxytocin 10 IU IM within one minute after the birth of the baby and after ruling out the presence of another baby.
- Controlled cord traction with counter-traction to the uterus should ONLY be attempted when a skilled attendant is present at the birth.
- Uterine massage immediately after delivery of the placenta and membranes until it is firm.

Management of the third stage of labour in the absence of uterotonic drugs

In some settings there will be no uterotonics available due to interruptions of supplies or the setting of birth. In the absence of current evidence, GHS, GRMA, and GAOC all recommend that when no uterotonic drugs are available to either the skilled or non-skilled birth attendant, management of the third stage of labour includes the following components:

- Waiting for signs of separation of the placenta (cord lengthening, small blood loss, uterus firm and globular on palpation at the umbilicus)
- Encouraging maternal effort to bear down with contractions and, if necessary, to encourage an upright position
- Controlled cord traction is not recommended in the absence of uterotonic drugs, or prior to signs of separation of the placenta, as this can cause partial placental separation, a ruptured cord, excessive bleeding and uterine inversion
- Uterine massage immediately after delivery of the placenta and membranes until it is firm.

Other actions to prevent postpartum haemorrhage

The GHS, GRMA, and GAOC all recognize that it is impossible to predict which women are more likely to have PPH and that women may still suffer from PPH despite the best efforts of health providers to prevent it. To prevent PPH and reduce the risk of death, the following routine preventive actions should be offered to all women from pregnancy through the immediate postpartum period:

- Develop a birth preparedness and complication readiness plan.
- Use a partograph to monitor and guide management of labour and quickly detect unsatisfactory progress.

- Ensure early referral when progress of labour is unsatisfactory.
- Encourage the woman to keep her bladder empty during first stage of labour.
- Limit induction or augmentation use for clear medical and obstetric reasons.
- Limit induction or augmentation of labor to facilities equipped to perform a cesarean delivery.
- Do not encourage pushing before the cervix is fully dilated.
- Do not use fundal pressure to assist the birth of the baby.
- Only perform episiotomy if indications exist: e.g., breech, shoulder dy stocia, forceps, vacuum, scarring from female genital cutting or poorly healed third - or fourth-degree tears, and foetal distress.
- Assist the woman in the controlled delivery of the baby's head and shoulders to help prevent tears.
- Offer and provide AMTSL to all women—the single most effective way to prevent PPH.
- Carefully inspect the vulva, vagina, perineum, and anus to identify and immediately repair genital lacerations.
- Carefully inspect the placenta and membranes and respond immediately if incomplete.
- Evaluate if the uterus is well contracted and massage the uterus at regular intervals after placental delivery to keep the uterus well -contracted and firm (at least every 15 minutes for the first two hours after birth).
- Teach the woman to massage her own uterus to keep it firm. Instruct her on how to check her uterus and to call for assistance if her uterus is soft or if she experiences increased vaginal bleeding.
- Monitor the woman for vaginal bleeding and uterine hardness every 15 minutes for the first two hours, every 30 minutes during the third hour, and then every 60 minutes for the next three hours.
- Encourage the woman to keep her bladder empty during the immediate postpartum period.

Rational use of uterotonic drugs

The GHS, GRMA, and GAOC all encourage national policy that increases access to uterotonic drugs for the prevention of PPH. However, they also recognize that there is a potential risk that uterotonic drugs will be used inappropriately if they are made widely available for the prevention of PPH. Facilities and providers should therefore adhere strictly to national guidelines and protocols that recommend that labour augmentation with any uterotonic drug should only be attempted:

- When unsatisfactory progress in labour due to "hypotonic uterine dysfunction"--a condition in which the contractions of labour become ineffective at producing cervical dilation--has been diagnosed and the following conditions have been ruled out: cephalopelvic disproportion, transverse foetal lie, umbilical cord prolapse and the foetus is alive, multiple gestation, vasa praevia or complete placenta praevia, previous caesarean delivery.
- In a facility with an operating theatre and a physician who can perform caesarean delivery.
- In a facility with personnel available to closely monitor the woman and foetus.
- In a facility with personnel who can identify and manage both maternal and foetal complications during administration.

NOTE: Labour augmentation should be contraindicated in normal labours.

Treatment of postpartum haemorrhage

Even with major advances in prevention of PPH, some women will still require treatment for excessive bleeding. Timely and appropriate referral and transfer to basic or comprehensive Emergency Obstetric Care (EmOC) facilities for treatment is essential to saving lives of women. Currently, the standard of care in basic EmOC facilities includes administration of IV/IM uterotonic drugs and manual removal of the placenta and retained products of conception; comprehensive emergency obstetrical care facilities would also include blood transfusion and/or surgery.[9]

Community-based emergency care – Home-based Life-saving Skills (HBLSS)

Anyone who attends a delivery can be taught simple home-based life-saving skills. Community-based obstetric first aid with home-based life- saving skills (HBLSS) is a family and community-focused programme that aims to increase access to basic life-saving measures and decrease delays in reaching referral facilities. Family and community members are taught techniques such as uterine fundal massage and emergency preparedness. Field tests suggest that HBLSS can be a useful adjunct in a comprehensive PPH prevention and treatment programme.[10] Key to the effectiveness of treatment is the early identification of haemorrhage and prompt initiation of treatment.

Misoprostol in the treatment of postpartum haemorrhage

While there is less information about the effect of misoprostol for treatment of PPH, it may be appropriate for use in low resource settings and has been used alone, in combination with oxytocin, and as a last resort for PPH treatment. In the published literature, a variety of doses and routes of administration have shown promising results.[11] In home births without a skilled attendant, misoprostol may be the only technology available to control PPH. An optimal treatment regimen has not yet been determined. One published study on treatment of PPH found that 1000 mcg rectally significantly reduces the need for additional interventions. [12] Studies are ongoing to determine the most effective and safe dose for the treatment of PPH.

NOTE: Repeated doses of misoprostol are not recommended.

Innovative techniques

Other promising techniques appropriate for low resource settings for assessment and treatment of PPH include easy and accurate blood loss measurement,[13, 14] oxytocin in Uniject,[15] uterine tamponade,[16] and the anti-shock garment.[17] These innovations are still under investigation for use in low resource settings but may prove programmatically important, especially for women living far from skilled care.

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POPPHI Grant

Sums Received

	Description	Date	Amount
	USD cheque PATH	##################	39,891.00
	USD cheque PATH	##################	2,480.00
	USD cheque PATH	##################	10,068.00
	USD cheque PATH	##################	32,579.00
	USD cheque PATH	##################	10,942.55
	USD cheque PATH	##################	11,308.00
	USD cheque PATH	##################	49,848.00
	Credit Interest	##################	16.61
	Credit Interest	##################	175.25
	Credit Interest	##################	46.08
	Credit Interest	Friday, June 30, 2006	50.63
	Credit Interest	##################	101.96
	Credit Interest	##################	168.57
	Credit Interest	##################	22.74
	Credit Interest	##################	108.56
	Credit Interest	Friday, June 29, 2007	222.89
	Credit Interest	##################	202.16
	Credit Interest	##################	120.93
	Credit Interest	##################	2.42
	Credit Interest	##################	2.19
per contract	last tranche due	requested	6,983.00
Total funds received plus bank interest			165,340.54
Expenditure summary (see below)			165,097.93
Funds Avaialble (which includes bank interest received)		Balance	242.61

Bank charges			
	Bank interest and charges	##################	30.00
	Bank interest and charges	##################	30.00
	Bank interest and charges	##################	30.00
	Bank interest and charges	##################	30.00
	Bank interest and charges	##################	50.00
	Bank interest and charges	##################	32.00
	Bank interest and charges	##################	70.00
	Bank interest and charges	##################	5.84
	Bank interest and charges	##################	4.11
	Bank interest and charges	##################	6.45
	Bank interest and charges	##################	60.00
	Bank interest and charges	##################	40.29
	Bank interest and charges	##################	39.56
	Bank interest and charges	##################	5.96
	Bank interest and charges	##################	6.19
	Bank interest and charges	##################	16.30
	Bank interest and charges	##################	5.85
	Bank interest and charges	##################	6.01
	Bank interest and charges	##################	5.55
	Bank interest and charges	##################	5.48
	Bank interest and charges	##################	5.24
	Bank interest and charges	##################	8.75
	Bank interest and charges	##################	4.38
	Bank interest and charges	##################	4.55
	Bank interest and charges	##################	4.34
	Bank interest and charges	##################	4.34
	Bank interest and charges	Friday, April 24, 2009	4.22
	Bank interest and charges	##################	68.09
	Bank interest and charges	##################	4.80
	Bank interest and charges	##################	5.03
	Bank interest and charges	##################	5.50
	Bank interest and charges	##################	4.53

Estimated	Bank interest and charges for October 2009	to follow	5.50
	Bank interest and charges for November 2009	to follow	5.50
	Bank interest and charges for Decemb	to follow	5.50
			619.86
Expenditure			
	SOGC disbursement of funds for POPPHI initiative period 1st October 2005 to September 2006	##################	39,570.00
	SOGC disbursement of funds for POPPHI invoice no 1338	##################	8,713.00
	SOGC re Dr Gilles Perreault's participation at PPH launch(CAD$8,655.88)	##################	7,893.32
	Bank Charges re SOGC re Dr Gilles Perreault's participation at PPH launch(CAD$8,655.88)	##################	50.00
	Reimbursement of per diem for Dr Dauptain re meeting in Benin	##################	600.00
	Ms Margaret Walsh ground transportation expenses in respect of the Meeting re POPPHI	##################	20.39
	Ms Margaret Walsh air ticket in respect of the Meeting re POPPHI in Washington	Friday, May 18, 2007	5,820.05
	Ms Margaret Walsh ground transportation expenses in respect of the Meeting re POPPHI in Washington	##################	112.19

Ms Margaret Walsh per diem in respect of the meeting re POPPHI in Washington	##################	650.00
Tickets for Dr Dauptain re meeting in Benin (£3,340.30) Exchange rate is 1$ is 1,9929£	Tuesday, July 03, 2007	6,539.30
Travel Alliance re charges	Tuesday, July 03, 2007	117.58
Ms Margaret Walsh re calls to POPPHI from home	##################	17.92
Conference call £190.47 (31 Oct 2007) Exchange rate is 1£ is 2.04$	##################	379.04
Ms Hanna re translation charges	##################	400.74
Travel Alliance re Carbonne ticket to Washington	##################	5,011.85
Professor Carbonne re expenses in Washington	Friday, April 04, 2008	1,102.68
Travel Alliance re Carbonne ticket to Benin and Mali (£3,810.80) Exchange rate is £1 = US$1.9543	##################	7,748.50
Carbonne reimbursement re inter-African ticket €375.85 (exchange rate: €1 = US$1.5589) and per diem of £600.00 (exchange rate: £1 = US$1.9543) re trip to Benin and Mali	##################	1,796.22
BT conferencing	##################	162.96
Prof Arulkumaran - Air ticket to Washington	##################	2,753.48
TNT Courier	Friday, April 24, 2009	106.67
BT conferencing	Sunday, May 31, 2009	555.72
FIGO staff time - as provided for in contract	##################	14,093.92
FIGO staff time - as provided for in contract	##################	26,341.08

	Indirect costs - as provided for in contract	##################	21,691.00
	Teleconference	Friday, July 31, 2009	134.77
	CNGOF - Air ticket Bruno Carbonne - POPPHI BENIN Workshop	##################	4295.69
Committed expenditures	Bruno Carbonne - Accomodation and per diems - Benin	Pending payment	600.00
	Benin Workshop - venue and logistics	awaiting bills	4000.00
	Ghana Workshop - contribution towards Venue hire and logistics	work in progress	2000.00
	Workshops Contingency (20%)		1200.00
		Total	164,478.07

Summary

bank charges	619.86
expenditure	164,478.07
	165,097.93

FIGO

INTERNATIONAL FEDERATION OF GYNECOLOGY & OBSTETRICS

FIGO Mission Reporting Tool

Name/Names: Bruno Carbonne	Date Prepared: 15th December, 2009

Email: bruno.carbonne@sat.aphp.fr

Position: member of FIGO executive board, member of Safe Motherhood and Neonatal Health Committee

Mission Details

Dates of Mission: 16th September, 2009 to 18th September, 2009

Location of Mission: (city/country) : Cotonou/Benin

Capacity in which you were representing FIGO: Participation of FIGO to the POPPHI (Prevention of Post-Partum Hemorrhage Initiative) project

Objectives of the Mission:	1. Organise a workshop on prevention and treatment of PPH 2. Adapt PPH prevention brochure, management of PPH fold-out, and management of PPH posters to the Beninese context 3. Facilitate the signature of the FIGO/ICM-based Joint Statement on AMTSL by the Presidents of SOGOBT and ASFB.
Summary of the Mission:	1 FIGO/ICM sponsored workshop on PPH prevention. A one-day workshop on the prevention of PPH was organized and sponsored by FIGO and ICM. The meeting was planned and organized in a very short period of time thanks to the active help of (among others) Prof. Sosthène Adisso (Clinique Universitaire de Gynécologie Obstétrique, Cotonou) and of Ms Susheela Engelbrecht (Senior Program Officer, POPPHI/PATH) and Dr Patrick Delorme (FIGO). The Minister of Health and the Director of the USAID Mission in Benin were both present at the opening ceremony and for the signature of the joint statement. The following presentations were made: • Review of surveys on use, quantification, and storage of uterotonic drugs. • Practical aspects of training in AMTSL. • Treatment of PPH. Recent data on misoprostol for the prevention and treatment of PPH. • Induction and augmentation of labor: Inappropriate use of uterotonic drugs. • Training and implementation of AMTSL in Benin.

	• Monitoring regional and national coverage of AMTSL in Benin. Integration of AMTSL into the partograph and delivery registers. • Presentation and validation of revised protocols. • Next steps for ensuring 100% coverage of AMTSL in Benin. • Presentation of the joint statement on prevention of PPH. • Signature of the joint statement on prevention of PPH. On-site facilitators for the workshop were: § Pr Issifou Takpara, Minister of Health and President of the SGOBT § Dr Hyacinthe Ahomlanto, Division for Family Health (DSF) § Pr Sosthène Adisso, CUGO § Dr Joseph Amoussou, Consultant for MSH/SPS § Mme Laurence Monteiro, President of the ASFB § Dr Antoine Lokossou, SGOBT representative § Pr René Xavier Perrin, SGOBT § Ms Susheela Engelbrecht, POPPHI representative § Mme Dicko Fatoumata Maïga, ICM representative § Pr Bruno Carbonne, FIGO representative Participants included representatives of WHO, UNICEF, UNFPA, members of SOGOBT (from both Benin and Togo), members of ASFB During the workshop, the discussion was very rich and active 2 Adapt PPH prevention brochure, management of PPH fold-out, and management of PPH posters to the Beninese context. Two documents were adapted to the Beninese context, printed, and distributed during the workshop: 1) Surgical and non-surgical management of PPH and 2) Prevention and initial management of PPH and rational use of uterotonic drugs. Additional work needs to be done on the documents to finalize them. Dr Pascal Zinzindohoué expressed interest in the documents and requested an official letter from the MOH asking that the documents be printed. 3 Facilitate the signature of SOGOBT/ASFB joint statement. The FIGO/ICM joint statement on AMTSL was previously adapted to the local and national context bay a working group including members of SOGOBT and ASFB. A previous meeting was held in May 2008 with Ms Susheela Engelbrecht and Pr Bruno Carbonne in Cotonou
Recommendations and follow up activities:	1. PPH prevention, next steps: Ø Integrate revised protocols into national protocols and organize printing and dissemination. Ø Integrate the indicator for AMTSL into the national HMIS. Ø Monitor the national plan to scale-up AMTSL, improve practice, and ensure the availability of uterotonic drugs at all facilities. 2. PPH prevention and management brochures and display, next steps: Ø Finalize the documents. Ø Request and receive funding for printing. Ø Disseminate the documents.

	3. Joint statement on AMTSL, next steps: Disseminate the document among professionals
Annexes: (if any)	1. Program of the workshop 2. Text of the joint statement on AMTSL signed by Pr Issifou Takpara (President of SOGOBT and Minister of Health) and Mrs Laurence Monteiro (President of ASFB) 3. Photographs of the signature

Annexe 1: program of the workshop

ATELIER sur la PREVENTION DE L'HEMORRAGIE DU POSTPARTUM

ASFB **ICM** **FIGO** **SGOBT**

BENIN: 17 septembre 2009

9:00 – 9:30	Introduction(s) (Ministre de la Santé ou son représentant)
9:30 – 10:00	Revue des études et enquêtes sur l'utilisation, la quantification et la conservation des médicaments utérotoniques au Benin (Joseph Amoussou, MSH / SPS)
10:00 – 10:30	Aspects pratiques de la Gestion Active de la Troisième Période de l'Accouchement (GATPA). Enseignement et formation continue (Susheela Engelbrecht, POPPHI)
10:30 – 11:00	*Pause*
11:00 – 11:30	Traitement de l'hémorragie du post-partum. Données récentes sur l'utilisation du misoprostol dans la prévention et le traitement de l'HPP (Bruno Carbonne, FIGO)
11:30 – 12:00	Déclenchement du travail et direction du travail. Utilisations inappropriées des utérotoniques (Mme Dicko Fatoumata Maïga, ICM)
12:00 – 14:00	*Déjeuner*
14:00 – 14:30	Formation et mise en place de la GATPA au Bénin (Sosthène ADISSO, SGOBT et Laurence Monteiro, ASFB)
14:30 – 14:45	Suivi de la couverture nationale et régionale de la GATPA. Intégration de la GATPA dans le partogramme et les registres d'accouchement (Marcelle Totchenou, DSF)
14:45 – 15:00	Validation des protocoles et prochaines étapes pour assurer une couverture de 100% de la GATPA (René Xavier Perrin, SGOBT)
15:00 – 15:30	Présentation de la déclaration commune de la Société de Gynécologie et d'Obstétrique du Bénin et du Togo et de l'Association des Sages-Femmes du Bénin sur la prévention des hémorragies du post-partum, dérivée de la déclaration commune internationale de la FIGO et l'ICM (Laurence Monteiro, ASFB / Antoine Lokossou, SGOBT)
15:30	Signature officielle des documents (Présidente de l'ASFB, Laurence Monteiro; Président de la SGOBT, Issifou Takpara)
15:30 – 16:00	Allocution de clôture (Ministre de la Santé Pr Issifou Takpara)

USAID FROM THE AMERICAN PEOPLE

POPPHI Prevention of Postpartum Hemorrhage Initiative

Semi-Annual Progress Report
For the period from July to December 2009

Subcontract no: RTI.1171-02-01713-CRT (Code: 1171-02-00-00)

Recipient: International Federation of Gynecology and Obstetrics (FIGO)
FIGO Secretariat, FIGO House
Suite 3, Waterloo Court, 10 Theed Street
London, UK SE1 8ST

Purpose: To assist POPPHI to expand and improve the quality and availability of AMTSL at the facility level and community level through their work with their member associations around the world.

Progress on Activities:

1. **Development and dissemination of educational tools and materials (i.e. posters, pocket guides) on late prevention/early treatment of PPH and possibly PMTSL (physiological management of the third stage of labor).**

During the last FIGO congress, a resolution was passed to adopt the use of uterotonics for the prevention and treatment of Post Partum Hemorrhage. A card containing guidelines on recommended dosage of Misoprostol has been distributed to attending delegates. This information is also now available on the FIGO website http://www.figo.org/news/misoprostol-safe-dosage-guidelines

The poster, after consultation with Andre Lalonde, chair of the Safe Motherhood and Newborn Health Committee has been handed to David Bloomer to print and distribute. He distributed vast quantities of books and posters (over 3000) in Cape Town at FIGO world Congress.

Posters developed on Prevention/early treatment of PPH were showed in Benin and other countries in Africa. Health professionals found them useful and users friendly.

2. **Support POPPHI Project's focus on select countries for intensified effort on the use of AMTSL and other interventions to prevent Post Partum Hemorrhage (PPH).**

Benin

After many years of discussions on Active Management of the Third Stage of Labor (AMTSL), The Society of Obstetricians and Gynecologists of Benin/Togo (SGOBT) and the Association of Midwifes of Benin (ASFB) have signed a joint statement, endorsed by the Minister of Health of Benin. The Benin workshop took place on 17th of September 2009. FIGO and ICM in collaboration with their local societies carried out this event. The Minister of Health, Professor Issoufou Takpara and other representatives of national and International organizations such as WHO, USAID. MSC, etc attended the workshop.

Many aspects on AMTSL were discussed including: the use of uterotonics, treatment and prevention of PPH. Dr Bruno Carbonne, FIGO representative, presented the latest data on misoprostol in prevention/treatment of PPH. (See Agenda in annex). In addition to other commitments taken by the participants, one of the main outcomes achieved was the signature of the joint statement on AMTSL (See Statement signed in Annex) by SGOBT and ASFB. Participants received a certificate for their attendance.

Ghana

AMTSL is not new in Ghana. It has already been introduced in the curricula of students on Medicine and midwifery. However, according to some sources[1] the practice of AMTSL by skilled health professionals in facilities is very low. A two day workshop was held in Accra on 14th and 15th December. There was presence of more than 60 delegates and the success of the workshop was the achievement of signed joint statements between The Ghana Health Service (GHS), The Society of Obstetricians and Gynecologists of Ghana (SOGOG) and The Association of Ghana Registered Midwives Association (GRMA) on the prevention and the treatment of PPH using AMTSL. During the two day workshop there were trainings programs where the OBGYNs and midwifes were updated on PPH.

3. Development and dissemination of the new ICM/FIGO joint statement on Physiological Management of the Third Stage of Labor (PHTSL).

The last ICM/FGO documents circulated on physiological management of the third stage contained confusing messages regarding AMSTL versus physiological. There are presently two statements on AMSTL and the statement on physiological management of third stage would result in a third statement about the third stage of labor. According to the recommendations of the SMNH committee during its session at Cape Town, It was agreed that there should be just one statement that integrates all messages and be called “Management of third stage”. This statement also needs to include information on misoprostol. This draft needs to be approved by all concerned before circulating.

4. FIGO participation in POPPHI’s Working Group and First Intervention Task Force/ POPPHI’S meeting.

FIGO continues to be represented in monthly working group teleconferences by Patrick Delorme who is the FIGO POPPHI Contact person.

Prof Hamid Rushwan, FIGO chief executive attended the recent POPPHI meeting in Washington in November. He gave a PowerPoint presentation on the last ten years of commitment of FIGO to PPH prevention and Treatment.

Annex:

1- Benin Workshop documents (Agenda, Flyer, reports)
2- Signed version of joint Statement on AMTSL (Benin)
3- Ghana workshop documents: agenda, copy of the joint statement
4- FIGO- POPPHI Financial Report
5- Ghana joint statement signed version and full reports (To be sent ASAP)
6- FIGO-ICM joint statement on management of third stage of labor (to be sent ASAP)

[1] RPM 2008: Rational Pharmaceutical Management Plus Program, Ghana

Atelier sur la Prévention de l'Hémorragie du Post-partum

DATE : 17 SEPTEMBRE 2009
LIEU : Ministère de la Santé du Bénin

Sous le parrainage du Ministre de la Sante du Bénin

THEMES

1. Gestion Active de la Troisième Période de l'Accouchement (GATPA)
2. Gestion des Ocytociques
3. Traitement de l'hémorragie du Postpartum
4. Déclaration commune SGOBT / ASFB

INFORMATIONS :

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USAID FROM THE AMERICAN PEOPLE

POPPHI Prevention of Postpartum Hemorrhage Initiative

Best practice for prevention and treatment of Post-partum Haemorrhage for Low Resource settings

Joint Statement

International Confederation of Midwives (ICM)

International Federation of Gynaecology and Obstetrics (FIGO)

The International Confederation of Midwives (ICM) and the International Federation of Gynaecology and Obstetrics (FIGO) are key partners in the global effort to reduce maternal death and disability around the world. Their mission statements reflect a common commitment for promoting the health, human rights and well-being of all women, most especially those at greatest risk for death and disability associated with childbearing. FIGO and ICM promote evidence-based interventions that, when used properly with informed consent, can reduce the incidence of maternal morbidity and mortality.

This statement reflects the best available evidence, drawn from the scientific literature and expert opinion in the management of the third stage and the prevention of post partum haemorrhage in low resource settings.

Approximately 30 per cent of direct maternal deaths worldwide are due to haemorrhage, mostly in the postpartum period (PPH) [1]. Most maternal deaths due to PPH occur in developing countries in settings (both hospital and community) where there are no birth attendants or where birth attendants lack the necessary skills or equipment to prevent and manage PPH and shock. The Millennium Development Goal of reducing the maternal mortality ratio by 75% by 2015 will remain beyond our reach unless we prioritise the prevention and treatment of PPH in the developing world[2].

Both ICM and FIGO endorse international recommendations that emphasise the provision of skilled birth attendants and improved obstetric services as central to efforts to reduce maternal and neonatal mortality. Such policies reflect what should be a basic right for every woman. Addressing PPH will require a combination of approaches to expand access to skilled care and, at the same time, extend life-saving interventions along a continuum of care from community to hospital [3, 4]. The different settings where women deliver along this continuum require different approaches to PPH prevention and treatment.

Call to action

Despite Safe Motherhood activities since 1987, women are still dying in childbirth. Women living in low resource settings are most vulnerable due to concurrent disease, poverty, discrimination and limited access to health care. The ICM and FIGO have a

central role to play in improving the capacity of national obstetric societies and midwifery associations to reduce maternal mortality through safe, effective, feasible and sustainable approaches to reducing deaths and disabilities resulting from PPH. In turn, national obstetric and midwifery associations must lead the effort to implement the approaches described in this statement.

Professional associations can mobilise to:

- lobby governments to ensure healthcare for all women;
- advocate for every woman to have a midwife, doctor or other skilled attendant at birth;
- disseminate this statement to all members through all available means including publication in national newsletters or professional journals;
- educate their members, other health care providers, policy makers, and the public about the approaches described in this statement and about the need for skilled care during childbirth;
- address legislative and regulatory barriers that impede access to life-saving care, especially policy barriers that currently prohibit midwives and other birth attendants from administering uterotonic drugs;
- ensure that all birth attendants have the necessary training, appropriate to the settings where they work, to safely administer uterotonic drugs and implement other approaches described in this statement and that uterotonics are available in sufficient quantity to meet the need;
- call upon national regulatory agencies and policy makers to approve misoprostol for PPH prevention and treatment;
- incorporate the recommendations from this statement into current guidelines, competencies and curricula.

We also call upon funding agencies to help underwrite initiatives aimed at reducing PPH through the use of cost-effective, resource appropriate interventions.

Prevention of Post-partum Haemorrhage

Pregnant women may face life-threatening blood loss at the time of birth. Anaemic women are more vulnerable to even moderate amounts of blood loss. Fortunately, most PPH can be prevented. Different approaches may be employed depending on the setting and availability of skilled birth attendants and supplies.

Active Management of the Third Stage of Labour (AMTSL)

Data support the use of active management of the third stage of labour (AMTSL) by all skilled birth attendants regardless of where they practice. AMTSL reduces the incidence of PPH, the quantity of blood loss and the use of blood transfusion and thus should be included in any programme of interventions aimed at reducing deaths from PPH [5].

The usual components of AMTSL include:

- administration of oxytocin[i] or another uterotonic drug within one minute after the birth of the baby
- controlled cord traction [ii]

[i] The preferred storage of oxytocin is refrigeration but it may be sotred at temperatures up to 30oC up to three months without significan loss of potency

- uterine massage after delivery of the placenta as appropriate

(For more detailed information on AMTSL, see the FIGO/ICM Joint Statement: Management of the Third Stage of Labour to Prevent Postpartum Haemorrhage.)

Management of the Third Stage of Labour in the Absence of Uterotonic Drugs

Uterotonics are not available for active management of the third stage of labour in many developing countries. The accessability or the supply of uterotonics may be sporadic due to interuptions in the supply chain or their cost may prohibit their purchase by the woman and her family [6, 7]. The birth attendant must know how to provide safe care to prevent postpartum haemorrhage in the absence of uterotonic drugs.

The mother's innate physiological capacities are important in protecting her from postpartum haemorrhage. The following recommendations will facilitate those mechanisms.

The following guide reflects the best available evidence, drawn from the scientific literature and expert opinion in the management of the third stage when uterotonics are not available

Immediately following the birth and while awaiting delivery of the placenta

The birth attendant:

- hands the baby to the mother to hold, encouraging skin to skin contact; both are kept warm, dry and covered;
- encourages the woman to adopt a position comfortable for her but preferably upright to aid observation of blood loss;
- observes both the mother's and baby's vital signs and well-being;
- encourages breastfeeding when the baby is ready to feed;
- observes for excessive vaginal blood loss.

It is important that the mother and baby are kept together immediately following the birth and for up to two hours after the birth. Mother-baby contact during this time enhances the mothers natural oxytocin production supporting breastfeeding and uterine contraction [8]

Umbilical cord management

The cord is left alone until either:

- it has stopped pulsating, or
- until the placenta has been delivered at which point the cord is then clamped or tied and cut.

If the baby requires resuscitation there are some indications that it may be beneficial to leave the cord intact during resuscitative efforts [9-11].

[ii] Delaying cord clamping by ont to three minutes reduces anaemia in the newborn

Physiological signs of placental separation

The birth attendant visually observes for the following signs:

- a change in the size, shape and position of the uterus; palpating the uterus should be avoided
- a small gush of blood
- the cord lengthens at the vaginal introitus
- the woman may become uncomfortable, experience contractions or feel that she wants to change position. She may also indicate heaviness in the vagina and a desire to bear down

As a guideline it can be expected that most placentas will be delivered within an hour; if this does not occur the attendant must seek further assistance.

Facilitating the delivery of the placenta

Upon observation of the signs of placental separation the birth attendant:

- encourages the women into an upright position
- waits for the placenta to be either expelled spontaneously or encourages the woman to push or bear down with contractions to deliver the placenta (which should only be encouraged after signs of separation have been noted).
- catches the placenta in cupped hands or a bowl. If the membranes are slow to deliver the birth attendant can assist by holding the placenta in two hands and gently turning it until the membranes are twisted, then exerting gentle tension to complete the delivery. Alternatively, the attendant can grasp the membranes gently and ease them from the vagina by and up and down motion of the hand.

Controlled cord traction is not recommended in the absence of uterotonic drugs or prior to signs of separation of the placenta as this can cause partial placental separation, a ruptured cord, excessive bleeding, and/or uterine inversion.

Misoprostol and the Prevention of Post-Partum Haemorrhage

In situations where no oxytocin is available or birth attendants' skills are limited, administering misoprostol soon after the birth of the baby reduces the occurrence of haemorrhage[12, 13]. The most common side effects are transient shivering and pyrexia. Education of women and birth attendants in the proper use of misoprostol is essential.

The usual components of giving misoprostol include:

- administration of 600 micrograms (mcg) misoprostol orally or sublingually after the birth of the baby [iii]
- controlled cord traction ONLY when a skilled attendant is present at the birth
- uterine massage after the delivery of the placenta as appropriate

Postpartum care regardless of third stage management

[iii] Data from two trials comparing misoprostol with placebo show that misoprostol 600 mcg given orally or sublingually reduces PPH with or without controlled cord traction or use of uterine massage

Immediately following the birth of the placenta
The birth attandant:

- observes and estimates blood loss
- palpates the uterine fundus to confirm that the uterus is well contracted (the uterus will be found in the area around the naval and should feel firm to the touch)
- examines the placenta for completeness
- continues to observe mother's and baby's vital signs and well-being

The first two hours after the birth of the placenta
The birth attendant:

- observes and estimates blood loss
- teaches the woman how to check her blood loss and the firmness of her own uterus
- palpates for a contracted uterus on a regular basis
- encourages breastfeeding

Treatment of Post-partum Haemorrhage

Even with major advances in prevention of PPH, some women will still require treatment for excessive bleeding. Timely and appropriate referral and transfer to basic or comprehensive Emergency Obstetric Care (EmOC) facilities for treatment is essential to saving lives of women. Currently, the standard of care in basic EmOC facilities includes administration of IV/IM uterotonic drugs and manual removal of the placenta and retained products of conception; comprehensive emergency obstetrical care facilities would also include blood transfusion and/or surgery [14].

Community-based Emergency Care – Home-based Life-saving Skills (HBLSS)
Anyone who attends a birth can be taught simple home-based life-saving skills. Community-based obstetric first aid with home-based lifesaving skills is a family and community-focused programme that aims to increase access to basic life-saving measures and decrease delays in reaching referral facilities. Family and community members are taught techniques such as uterine fundal massage and emergency preparedness. Field tests suggest that HBLSS can be a useful adjunct in a comprehensive PPH prevention and treatment programme [15]. Key to the effectiveness of treatment is the early identification of haemorrhage and prompt initiation of treatment.

Misoprostol in the Treatment of Post-partum Haemorrhage
While there is less information about the effect of misoprostol for treatment of PPH, it may be appropriate for use in low resource settings and has been used alone, in combination with oxytocin, and as a last resort for PPH treatment. In the published literature, a variety of doses and routes of administration have shown promising results [16]. In home births without a skilled attendant, misoprostol may be the only technology available to control PPH. An optimal treatment regimen has not yet been determined. One published study on treatment of PPH found that 1000 mcg rectally significantly reduces the need for additional interventions [17]. Studies are ongoing to determine the most effective and safe dose for the treatment of PPH. A rare case of non-fatal hyperpyrexia has been reported after 800 mcg of oral misoprostol [18].

Note: Repeated doses of misoprostol are not recommended.

Innovative techniques

Other promising techniques appropriate for low resource settings for assessment and treatment of PPH include easy and accurate blood loss measurement [19, 20], oxytocin in Uniject [21], uterine tamponade,[22] and the anti-shock garment [23]. These innovations are still under investigation for use in low resource settings but may prove programmatically important, especially for women living far from skilled care**.**

If excessive blood loss occurs (a blood loss of more than 500mls/ 2 cups or maternal signs of hypovoleamia)

The birth attendant:

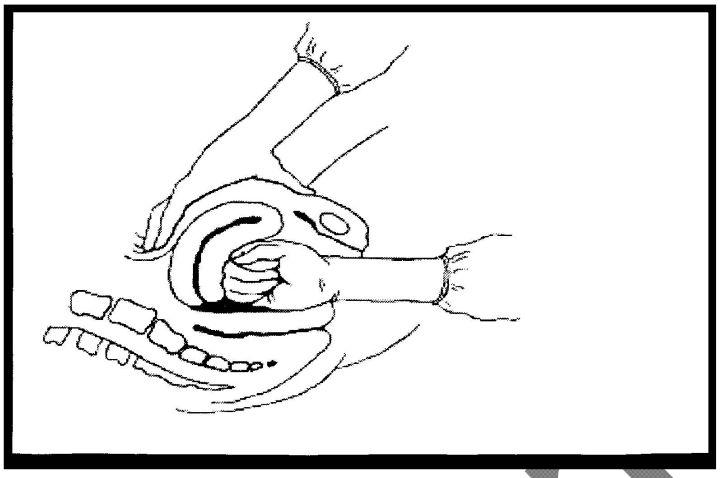
- places a hand on the fundus of the uterus and gently massages until it is contracted.
- checks for blood loss and palpates for a contracted uterus every 15 minutes; repeats uterine massage as needed.
- gives oral or parenteral fluids (if possible) to the mother to replace fluid loss and support rehydration

If excessive blood loss continues the birth attendent:

- performs bi-manual compression of the uterus
- keeps uterus compressed while referring and transferring the woman to basic or comprehensive Emergency Obstetric Care (EmOC) facilities for treatment.

BI-MANUAL COMPRESSION TO STOP EXCESSIVE BLOOD LOSS [24]

- Explain need to do bi-manual compression and that it may be painful.
- Ensure clean hands, use sterile gloves if possible.
- Place one hand in the vagina and clench hand into a fist.
- Place other hand on the fundus of the uterus.
- Bring the two hands together to squeeze the uterus between them appplying pressure to stop or slow the bleeding.
- Keep the uterus compressed until able to gain medical support.



Bi-manual compression – picture courtesy of Prevention Of Post Partum Haemorrhage Initiative (POPPHI)

Research Needs

Important strides have been made in identifying life-saving approaches and interventions appropriate for PPH prevention and treatment in low resource settings. The field is rapidly evolving and the following issues have been identified as priorities for further research in low resource settings:

- Determine the optimal dose and route of misoprostol for prevention and treatment of PPH that will still be highly effective but will minimize the risk of side effects.
- Assess the impact of better measurement of blood loss (e.g. with a calibrated drape or other means) on birth attendants' delivery practices.
- Assess options for treatment of PPH in lower-level (basic EmOC) facilities, in particular, uterine tamponade and the anti-shock garment.
- Identify the most efficient and effective means of teaching and supporting the skills needed by birth attendants and for community empowerment to address PPH.

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Prevention and Treatment of Post-partum Haemorrhage

Training of Obstetrician/Gynaecologists, Residents and Midwives

Ghana Health Services-Ministry of Health (GHS-MOH)
Ghana Registered Midwives Associations
Society of Ghana Obstetricians and Gynaecologists (SOGOG)
Prevention of Post partum Haemorrhage Initiative (POPPHI)
International Confederation of Midwives (ICM)
International Federation of Obstetrics and Gynaecology (FIGO)

Date : 15th Dec. 09
Venue : Conference Hall, Maternity Block, Korle-Bu Teaching Hospital-Accra
Time : 08.30am

Breaks: Snack break = 11.30am LUNCH= 2.00pm

PART A

- Opening prayer
- Introductory remarks
  - SOGOG **Prof Yao Kwawukume** *(President, SOGOG)*
  - ICM **Mrs Abigail Kyei** *(International Midwife Advisor, ICM)*

- Maternal mortality in Ghana and causes Dr Ernestina Donkor (Dean, School of Nursing, Univ. Of Ghana{midwife})
- Passive and Active Management of the TSL- Dr Ntumy *(Specialist Gynaecologist-K'BU Maternity Department)*
- National Survey on Practice of AMTSL in Ghana including documented Harmful Practices and procedures in AMTSL Dr Isaac Koranteng *(Specialist Gynaecologist-K'BU Maternity Department)*
- The Problem of PPH and methods of prevention/management
  - Postpartum Uterine Massage and others – Dr N. Damale *(Specialist Gynaecologist-K'BU Maternity Department)*

- Plenary discussion on current delivery process and management of the TSL (what is happening in the delivery rooms) All participants moderated by Dr Damale & Dr Jemima Dennis-Antwi (Regional Midwife Advisor-Anglophone Africa, ICM)
- Challenges to the effective practice of AMTSL
  - Availability of Policies/ Guidelines and level of Practice Rep from GHS-Family Health Div
  - Availability of medication, distribution and storage ***(Representative,*** *Pharmacy Div, GHS)*

PART B

- Video demonstration of AMTSL Dr Isaac Koranteng
- Practical Demonstration of AMTSL Dr Coleman & Ms Rose Quartey
- Skills training to do AMTSL using simulation – participants in skills lab moderated by facilitators and clinical instructors (midwives)

4.00pm Next Steps and close Dr Jemima Dennis-Antwi

Launch of Joint Statement on Prevention and Treatment of Post-partum Haemorrhage

Ghana Health Services-Ministry of Health (GHS-MOH)
Ghana Registered Midwives Associations
Society of Ghana Obstetricians and Gynaecologists (SOGOG)
Prevention of Post partum Haemorrhage Initiative (POPPHI)
International Confederation of Midwives (ICM)
International Federation of Obstetrics and Gynaecology (FIGO)

Date : 14th Dec. 09
Venue : ELLKING Hotel, East Legon-Accra

Programme for Launch

MC : Dr Jemima A. Dennis-Antwi *(Regional Midwife Advisor-Anglophone Africa, ICM)*
8.30am

- Arrival of Invited Persons
- Opening Prayer **Mrs Paulina Siaw-Akoto Debrah***(GRMA)*
- Introduction of Chairperson and remarks

- Background to the Partnership and programme
  - FIGO **Dr Kwesi Boadu** *(Specialist Gynaecologist)*
  - ICM **Mrs Abigail Kyei** *(International Midwife Advisor, ICM)*
  - SOGOG **Prof Yao Kwawukume** *(President, SOGOG)*
  - POPPHI **Ms Patience Cofie** *(Research Coordinator, POPPHI)*

- Research Evidence on PPH and relevance of AMTSL
  Current Situation in Ghana and ongoing activities
  - 2007 National Survey on AMTSL in Ghana ***(Representative**, Research and Development Division, GHS)*
  - The CAMBIO Intervention in Korle-Bu **Dr N. Damale** *(Specialist Gynaecologist-K'BU Maternity Department)*

- The Revised '*National Safe Motherhood Service Protocol-2008'* of the GHS and AMTSL **Mrs Gladys Brew** *(Programme Officer, Safe Motherhood, GHS)*

- Protocols for transport and storage of Uterotonic Drugs ***(Representative,** Pharmacy Div, GHS)*
- Remarks from Midwives Associations on practice of AMTSL**(President,** GRMA)
- Keynote Address and Launch of statement **Dr Elias Sory,** *(Director-General, GHS)*
- Open forum on holistic practice of AMTSL in Ghana
- Chairman's closing remarks and Close
- Closing Prayer **Ms Rosemary Kudor** *(GRMG)*
- Picture and snack break

Appendix D: Indicator 1 and Indicator 2 Data

See separate Adobe file.

(1) Bangladesh Data and Districts

Name of District	Family Planning												
	Oct'08	Nov'08	Dec'08	Jan'09	Feb'09	Mar'09	Apr'09	May'09	Jun'09	Jul'09	Aug'09	Sep'09	Oct'09
Barguna													
Brahmanbaria													
Chandpur													
Chapai Nawabganj													
Comilla													
Cox's Bazar													
Dinajpur													
Feni													
Habiganj													
Jamalpur													
Jessore													
Khulna													
Kishoreganj													
Laxmipur													
Magura													
Moulavibazar													
Mymensingh													
Netrokona													
Patuakhali													
Rajbari													
Rajshahi													
Rangpur													
Sunamganj													
Sylet													
Tangail													

Summary of AMTSL Monthly Report			
Month	**No. of Normal Delivery**	**No. of AMTSL**	**% of AMTSL**
Jul-09	1277	1207	94.52
Aug-09	1368	1122	82.02
Sep-09	1697	1511	89.04
Oct-09	172	157	91.28
Total :	**4514**	**3997**	**88.55**

(2) LAC M&E Information

Most of the countries in LAC are already including the register of AMSTL. As you know, in LAC they use the pre coded form from CLAP (Centro Latino Americano de Perinatologia). There is a box where is possible to register if the Oxytocin was used or not. It doesn't say in what period is used and the doses, however, in some facilities they register in this box "AMSTL", other facilities have included a seal with the three steps, and what is very common is to register the AMSTL in the partograph, even if this has not been filled (wish is very common). A few facilities have included AMSTL in the delivery log, adding a column.
Most of the countries have not indicators for AMSTL. A few countries have only "use of Oxytocin in the third stage" as indicators but without including the other two steps.

I think that it would be very useful that the AMSTL was register as a procedure of three steps, which need to be written and checked in every case. The first step is usually well done, the second is sometimes incorrectly done, and the third is missed most of the time.

I think that the AMSTL indicator has to be built based on quantity and quality components, like percentage of women receiving AMSTL and AMSTL performed correctly or according the recommendations (doing the three steps). For that, providers will have to register the 3 steps, even if they forget doing all of them, after having to register many times, they probably will really use them.

I also suggest to built indicators about providers who have received training in AMSTL

In terms of use of AMSTL indicators at the facilities level, there is still work to do. At least providers are staring to register the procedure.

(3) Mali AMTSL Information

DONNEES DE LA GATPA									
Region de Mopti									
Juillet-Sept 2009									
	Youwarou	Tenenkou	Djenne	Bandiangara	Douenzta	Bankass	Mopti	Koro	Total
Nombre d'accouchement par voie basse	377	929	836	775	650	1853	2017	2644	10081
Nombre d'accouchement par voie basse suivi de la GATPA	298	825	811	718	624	1790	1977	2544	9587
Pourcentage d'application de la GATPA	79.05	88.81	97.01	92.65	96.00	96.60	98.02	96.22	95.10
Nombre de district sanitaire qui offre systematique ment la GATPA	1	1	1	1	1	1	1	1	1
% de district sanitaire qui offre systematique ment la GATPA	100	100	100	100	100	100	100	100	100

DONNEES DE LA GATPA									
Region de Sikasso									
Juillet-Sept 2009									
	Koutiala	Yanfolila	Sikasso	Kadiolo	Yorosso	Bougouni	Konlondièba	Sélingué	Total
Nombre d'accouchement par voie basse	5967	1586	6112	2793	1793	3917	1389	626	24183
Nombre d'accouchement par voie basse suivi de la GATPA	5720	1385	5987	2625	1418	3312	1157	512	22129

Pourcentage d'application de la GATPA	96	87	98	94	79	85	83	82	92
Nombre de district sanitaire qui offre systematique ment la GATPA	1	1	1	1	1	1	1	1	1
% de district sanitaire qui offre systematique ment la GATPA	100	100	100	100	100	100	100	100	100

DONNEES DE LA GATPA							
District de Bamako							
Juillet-Sept 2009							
	Commune I	Commune II	Commune III	Commune IV	Commune V	Commune VI	Total
Nombre d'accouchement par voie basse	6276	1911	1312	4105	5462	3341	22407
Nombre d'accouchement par voie basse suivi de la GATPA	6112	1799	1245	3845	5298	3000	21299
Pourcentage d'application de la GATPA	97.4	94.1	94.9	93.7	97	89.8	95.1
Nombre de district sanitaire qui offre systematique ment la GATPA	1	1	1	1	1	1	1
% de district sanitaire qui offre systematiquement la GATPA	100	100	100	100	100	100	100

DONNEES DE LA GATPA										
Region de Koulikoro										
Juillet-Sept 2009										
	Banamba	Dioila	Kangaba	Fana	Kati	Kolokani	Koulikoro	Nara	Ouélessebougou	Total
Nombre d'accouchement par voie basse	1406	2020	891	1777	7537	1995	1663	929	1542	19760
Nombre d'accouchement par voie basse suivi de la GATPA	1320	1875	722	1732	7498	1545	1578	718	1234	18222
Pourcentage d'application de la GATPA	94	93	81	97	99	77	95	77	80	92
Nombre de district sanitaire qui offre systematique ment la GATPA	1	1	1	1	1	1	1	1	1	1
% de district sanitaire qui offre systematique ment la GATPA	100	100	100	100	100	100	100	100	100	100

Total Vaginal Deliveries	76431
Total GATPA	71237
Percentage	93.20%
Number of districts	31
Number of districts with AMTSL > 50%	31

WHO Indicator Meeting

Prevention of postpartum hemorrhage/ Active management of the third stage of labor (AMTSL)

November 17, 2009
Washington, DC, USA

Experts Present:

Dr. Fernando Althabe, Director, Department of Mother and Child Health Research Institute for Clinical Effectiveness and Health Policy, Buenos Aires, Argentina;

Deborah Armbruster, Director, POPPHI and Oxytocin Initiative, PATH

Dr. Nelson Damale, Sr. Consultant,Gynaecologist, Korle-Bu Teaching Hospital, University of Ghana Medical School, Ghana

Niamh Darcy, Program Manager, International Development Group, RTI

Dr. Alfredo Fort, Senior Advisor for Health, Measure DHS, PATH

Patricia Gomez, Maternal Health Technical Team Leader, MCHIP, JHPiego

Dr. Kathleen Hill, Senior Maternal and Newborn Health Advisor, Health Care Improvement Project, URC

Lily Kak, Senior Maternal and Newborn Health Advisor, Global Health Bureau, USAID

Dr. Anton Luchitsky, Program Officer, Surveillance/HIS, PATH

Lisa Maniscalco, Monitoring and Evaluation Advisor, USAID

Nahed Matta, Senior Maternal and Newborn Health Advisor, USAID
Dr. Matthews Mathai, MD, MObstet, PhD, Medical Officer - Maternal Health
Family and Community Health - Making Pregnancy Safer World Health Organization

Barbara Rawlins, Senior Monitoring and Evaluation Manager, MCHIP, JHPiego

Dr. James Ricca, MCHIP, Macro International

Mary Ellen Stanton, Senior Reproductive Health Advisor, Office of Health, Infectious Diseases and Nutrition in the Bureau for Global Health, USAID

Nynke Van Den Broek, Senior Clinical Lecturer in Sexual and Reproductive Health and Honorary Consultant Ob/Gyn, Liverpool School of Tropical Medicine

Norma W. Wilson, Executive Director, Routine Health Information Network (RHINO)

Facilitator: Anton Luchitsky, PATH
Venue: The meeting was held at the offices of PATH, Washington DC., USA

Workshop Objectives:

- Review available evidence on USAID defined AMTSL indicator
- Document issues and concerns related to using this indicator globally
- Decide on appropriateness and timing and of AMTSL indicator for routine HIS
- Review alternative indicators for prevention of postpartum hemorrhage (PPH)
- Reach consensus on respective operational issues that need to be addressed

- Develop recommendations for the next steps

Postpartum hemorrhage is responsible for 25-50% of maternal deaths in many low-income counties. More than half of the cases can be prevented by a simple evidence-based low-cost intervention – active management of the third stage of labor (AMTSL). A standard global indicator focused on AMTSL should allow countries, WHO and donors to assess progress towards universal use of this intervention to save maternal lives.

On November 17, 2009, the World Health Organization's – Making Pregnancy Safer division and USAID-funded Prevention of Postpartum Hemorrhage Initiative (POPPHI), held an initial meeting of experts to identify a standard indicator for PPH prevention that could be included in routine health information systems globally, and to develop a future road map for a global WHO recommendation on this topic. (See the meeting agenda in Annex 1).

The meeting participants- leading subject matter experts representing technical agencies, research organizations, and field experts involved in this work – reviewed available evidence and discussed stakeholder arguments to agree on a potential indicator and develop a roadmap for the future.

Below is a summary of the discussions and conclusions by objective.

1. Review available evidence on AMTSL indicator

Deborah Armbruster, PATH, gave an overview of PPH and AMTSL.

Maternal mortality is the most striking inequity in public health – 40 times higher for women in developing countries compared to women in developed countries. Most of maternal deaths occur during a delivery or shortly thereafter. Postpartum hemorrhage is a leading cause of maternal death in Africa (34% of all cases) and Asia (31%). Uterine atony accounts for 70-90% of all PPH cases.

Active management of the 3rd stage of labor is a set of the following activities that can be implemented by skilled birth attendants to reduce PPH incidence by 60%.

- § Administer a uterus-contracting drug (uterotonic) within one minute after birth – oxytocin is the drug of choice
- § Apply controlled cord traction and counter traction to the uterus to deliver the placenta
- § Massage the uterus through the abdomen after delivery of the placenta and monitor for further signs of bleeding

AMTSL also reduces the quantity of blood loss, thereby decreasing incidence and severity of anemia; and reduces cost of related emergencies and use of blood transfusion.

Two randomized controlled studies (Bristol, 1988 and Hinchingbrooke, 1998) provided scientific evidence on the benefits of AMTSL compared to physiologic management of the 3rd stage of labor, see the table below.

Factors	Study	AMTSL	Physiologic Management
Postpartum hemorrhage	Bristol	5.9%	17.9%
	Hinchingbrooke	6.8%	16.5%
Average 3rd stage labor length	Bristol	5 min	15 min
	Hinchingbrooke	8 min	15 min
3rd stage lasts >30min	Bristol	2.9%	26%
	Hinchingbrooke	3.3%	16.4%
Blood transfusion is needed	Bristol	2.1%	5.6%
	Hinchingbrooke	0.5%	2.6%
Oxytocic needed to manage PPH	Bristol	6.4%	29.7%
	Hinchingbrooke	3.2%	21.1%

A WHO multi-center randomized controlled study (Title: Active management of the third stage of labour without controlled cord traction: a randomized non-inferiority controlled trial Reproductive Health 2009, 6:2) to determine the role of individual components of AMTSL is underway and should be completed by mid-2011.

AMTSL surveys have been conducted in a number of countries. They demonstrated that whereas uterotonic was given in 60-100% of observed deliveries, AMTSL was used correctly only in 1-30% of cases. Low AMTSL practice in national surveys served to inform and influence policy and strategies for scaling up country PPH prevention activities.

WHO strongly recommends that AMTSL be practiced by skilled birth attendants to all women[1]. International Federation of Obstetrics and Gynecology and International Confederation of Midwives have a Joint Statement supporting AMTSL[2].

Including an AMTSL indicator in national health management information systems will allow countries MoH to track progress toward achieving 100% use of AMTSL and will emphasize the importance of this evidence-based intervention, as recognized by WHO and other influential international bodies.

Niamh Darcy, RTI, gave an overview of the AMTSL Indicator used in USAID-funded projects.

A 3-component AMTSL indicator (see reference sheet in annex 2) was developed in 2007 and used by USAID projects in Armenia, Bangladesh, Rwanda, India, Nigeria, Cambodia, DRC, Georgia, Ukraine, Honduras, Benin, Nicaragua, Honduras, Niger, Mali, Pakistan and Senegal.

A relatively high national AMTSL coverage (60-95%) was achieved with technical assistance provided by a number of bilateral partner organization including Intrahealth, Engenderhealth, Pathfinder International, JHPIEGO, RACHA, BASICS, JSI, PATH, HCI, URC, Macro Intl., Abt Associates, and the Population Council.

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1 World Health Organization (WHO). WHO Recommendations for the Prevention of Postpartum Hemorrhage. Geneva: WHO, 2006

2 Joint Statement Management of the Third Stage of Labour to Prevent Post-partum Haemorrhage, International Confederation of Midwives and International Federation of Gynecology and Obstetrics 2003

A survey of providers and other stakeholders has identified the following operational issues related to the introduction and use of the AMTSL indicator in the above countries:

- § Significant amount of training and follow-up capacity building was required to develop basic data recording, collection, and analysis skills.
- § The indicator was not understood and used consistently in some sites; recording and reporting practices varied for some sites
- § Weak front-line provider and district HMIS officer data management skills was a major challenge to assuring data quality, analysis, and use for management
- § Supportive supervision was weak in all areas even with USAID support
- § Survey participants agreed that separate data collection systems (not integrated into routine systems) are not a viable solution (the indicator collection method did not propose using a separate system)
- § Concomitant tracking of AMTSL coverage and PPH incidence was a strong motivator for promoting compliance with AMTSL

The overall conclusion: in areas with USAID funded support, is that it has been possible to introduce tracking of AMTSL, demonstrate reduction in PPH, and have providers continue to practice. A simple standard routine HIS indicator is needed to promote and track AMTSL globally.

On behalf of Dr. Nelson Damale, Korle-Bu Teaching Hospital, Ghana, Deborah Armbruster presented the experience of using AMTSL indicator a teaching hospital in Ghana.

AMTSL monitoring was a part of the Changing AMTSL Behaviors In Obstetrics (CAMBIO) intervention, a multifaceted approach to behavioral change to improve provider compliance. The intervention started at the end of September 2009; 56% compliance with all AMTSL components was achieved by the 6th week of the intervention. Dr. Damale's conclusion is that AMTSL can be tracked using the 3 components recorded in the delivery log, partograph, or other charts and may be included in the HMIS reporting in Ghana. Use of modified delivery logs or stamps is recommended to document individual AMTSL components, particularly postpartum surveillance and uterine massage. Birth attendants who see a reduction in PPH are more likely to comply with the AMTSL intervention. The use of pre-filled uterotonic drugs should be widely considered. Further research is needed to determine whether uterine massage can be performed less frequently but still be effective.

Dr. Alfredo Fort, Measure DHS/PATH, reported that information on AMTSL can be collected during service provision assessments (SPAs) at facilities, however, this method is not appropriate for use in all countries, SPA frequency (every 2-5 years) is not adequate for optimal program management either. A community-based approach, e.g. through Demographic and Health Surveys (DHS) has similar limitations; reliable measurement of controlled cord traction and uterine massage through this method is not possible; recall bias is another major limitation. Dr. Alfredo Fort also presented a draft M&E framework to assess prevention and management of PPH in DHS

2. Document issues and challenges related to using AMTSL indicator globally

In the past 3 years, the AMTSL indicator was used in a number of USAID-supported countries with a various degree of success. Its use has driven a number of processes that were useful to prevent PPH. Health care workers practicing AMTSL report observing a reduction in PPH incidence. The experience of using the AMTSL indicator has also been valuable for informing stakeholder thinking about other indicators for newborn care.

Nevertheless, the meeting participants noted several major issues related to tracking the practice of AMTSL in routine health information systems globally that are summarized below:

Validity. A multi-center randomized controlled study to determine the role of some individual components of AMTSL is underway. It is premature to consider this indicator for global use until the study is completed.

Clarity / Complexity. The indicator has 3 components that need to be tracked separately. Definitions of each component include various factors (e.g., drug, dose, time of administration, duration). They allow different interpretation by various users and increase the complexity of the indicator. Specification of provider type, place of birth, and time frame provide an additional layer of complexity.

Accuracy verification/validation. The use of a uterotonic can be validated by checking facility records. CCT and uterine massage are difficult to validate without a visual inspection.

Feasibility / Cost. Significant amount of training and follow-up capacity building will be required to develop basic data recording, collection, analysis and AMTSL indicator-based data management skills. Many countries lack resources to ensure adequate data quality through supportive supervision and ongoing technical assistance.

Composition. Postpartum surveillance and periodic massage until the uterus is contracted has been recognized by the meeting participants as a very important component of the 3rd stage of labor management. Further research is needed to study the relative importance of postpartum surveillance and the need to include it as a 4th component of AMTSL.

Indicator for PPH or Quality of Care? The AMTSL indicator in its current form appears to be serving both as a quality of care and as a PPH / prevention of maternal mortality indicator. It may be more appropriate to use separate indicators for each of the objectives. Developing a global quality of maternal care indicator for routine HIS is an important task of a much greater complexity that needs to be addressed, too.

The clarity/complexity, difficulty-to-validate and feasibility/cost issues compromise data quality and the management utility of the AMTSL indicator.

3. Decide on appropriateness and timing and of AMTSL indicator for routine HIS

The meeting participants were unanimous that it was critical to have a global evidence-based HIS indicator for PPH prevention. However, considering the above concerns, including the unavailability of the study results defining the role of individual AMTSL components, the current AMTSL indicator was not deemed appropriate for this purpose at this point of time.

4. Alternative indicators for prevention of PPH

Given the concerns outlined above the meeting participants recommended the use of a single oxytocin-based indicator for routine HIS. Its definition and computation methodology is provided below:

Definition. Percentage of women who received prophylactic oxytocin during vaginal delivery before the delivery of the placenta.

Numerator: Number of women who received prophylactic oxytocin for vaginal delivery before the delivery of the placenta

Denominator: Expected number of vaginal deliveries, which includes facility and community deliveries

Compared with the AMTSL indicator, such an indicator would be

- § Valid / evidence-based
- § Most important to advance maternal health agenda globally
- § Useful for national health decision making to inform government where to put resources
- § Simple and straightforward resulting in better data quality
- § Objective / robust
- § Relatively inexpensive to introduce globally, less dependent on donor funding
- § Will measure PPH prevention only, not quality of care
- § Will be indirectly indicative of a health system functioning in general

An oxytocin (uterotonic)- only based indicator for routine HIS is not intended to be a proxy for AMTSL, but rather to inform government about how to allocate resources and how to improve functioning of the health system.

Additional indicators (massage, CCT) may be recommended in the future subject to availability of additional evidence from the ongoing trial.

AMTSL should continue to be the standard recommended intervention for PPH prevention. Standards of care for AMTSL need to be developed.

Countries are recommended to monitor all three AMTSL components at the facility level to reinforce practice and improve quality of care.

5. Reach consensus on respective operational issues that need to be addressed

The participants recommended that the following operational issues related to the use of a uterotonic-based indicator require additional discussions at other global WHO HIS/MCH forums to reach a global consensus.

Oxytocin vs. a uterotonic
WHO recommends oxytocin as the uterotonic of choice, however, standards of care in many countries permit the use of several uterotonic drugs for PPH prevention. An oxytocin-only

indicator will not capture the use of other uterotonics.

Quality vs. coverage? Population-based or a facility-based indicator? Or both?
A population-based indicator (see 1 below) is a powerful tool that can allow comparison between countries and can bring maternal health agenda at the global level on par with family health and child survival.

(1) Population-based indicator:

$$\frac{\text{no. of women who received prophylactic oxytocin for vaginal delivery before the delivery of the placenta}}{\text{Expected number of vaginal deliveries, which includes facility and community deliveries}} \times 100\%$$

The accuracy of this indicator is inherently compromised, because it relies on estimates and because the numerator is not a part of the denominator, which may result in coverage >100%. The denominator can often be subject to manipulation for political or other reasons.

A facility-based indicator (see examples 2-3 below) offers higher quality and better management utility at the facility and peripheral level. In countries with a strong HIS, facility data can feed and inform national level, eliminating the weakness associated with making population-based estimates.

(2) Facility- based indicator (facility and community deliveries):

$$\frac{\text{no. of women who received prophylactic oxytocin for vaginal delivery before the delivery of the placenta}}{\text{Actual number of vaginal deliveries, which includes facility and community deliveries}} \times 100\%$$

(3) Facility- based indicator (facility deliveries only):

$$\frac{\text{no. of women who received prophylactic oxytocin for vaginal delivery before the delivery of the placenta}}{\text{Actual number of facility - only vaginal deliveries}} \times 100\%$$

The meeting participants acknowledged that use of both population- and facility-based indicators may be appropriate for program management purposes in many countries.

Facility and community vs. facility-only deliveries
An indicator based on deliveries occurring only in facilities is easier to measure, and its quality is higher. However, such an indicator may not be appropriate for countries where a significant proportion of births occur in the community, as it will not adequately measure the coverage of uterotonic use.

One element of AMTSL (e.g., oxytocin) vs. full package for routine HIS
The conclusion of this meeting participants is presented in Sections 3 and 4 above. However, additional discussions with country HIS managers and global policy-makers will be critical for reaching a global consensus.

Introducing a global HIS indicator now vs. waiting for the WHO multi-center trial results
The results of the WHO study will not be available until mid 2011 and will not change the conclusion about the effectiveness of uterotonic for PPH prevention. Additional discussion may be needed to confirm that the advantages of introducing a global uterotonic-based indicator now overweight the benefits of knowing of whether uterotonic use alone is inferior

to the use of more than one components of the AMTSL package.

6. Develop recommendations for the next steps

The meeting participants emphasize the importance and the urgency of reaching a consensus and introducing a global maternal health indicator to bring the maternal health agenda on par with family health and child survival issues.

1. WHO should convene a meeting with country and global HIS experts to discuss incorporation of indicators for maternal health into routine HIS using PPH/AMTSL as a case study. The list of related operational issues that need to be addressed to reach a global consensus is specified in Section 5 of this report.

2. WHO, country and global maternal and newborn health stakeholders should identify and finalize a select number of "signal function" indicators focused on routine prevention measures during intra-partum and immediate postpartum periods (delivery and selected newborn care) and quality of care.

3. To facilitate global introduction of a PPH prevention indicator, further research should be directed at studying

   - Related operational procedures, costs, and involvement of the private sector
   - Effectiveness of and protocols for postpartum surveillance/uterine massage
   - Validation of woman's recognition of AMTSL at the population level

4. WHO and partners should continue leading the work on the development and global implementation of clinical standards and interventions aimed at PPH prevention.

ANNEX 1

WHO AMTSL Indicator Meeting

November 17th, 2009 9:00am-4:00pm
PATH Office, Washington, D.C.

Agenda

Moderator: Dr. Anton Luchitsky, PATH

Objectives for Indicator Meeting By the end of the meeting, attendees will have:

- Reviewed available evidence on the USAID AMTSL indicator
- Documented issues and concerns related to using this indicator globally
- Reviewed alternative indicators for prevention of postpartum hemorrhage
- Decided on appropriateness and timing of the AMTSL indicator for routine HIS
- Reached consensus on respective operational issues that need to be addressed
- Developed recommendations for the next steps

8:45 Continental Breakfast Served

9:00 Welcome Matthews Mathai, WHO Making Pregnancy Safer

9:10 Introductions and Meeting Objectives

9:30 Overview of postpartum hemorrhage (PPH) and active management of the third stage of labor (AMTSL). Deborah Armbruster, PATH/ Matthews Mathai, WHO

- ü Evidence, WHO recommendations, why an AMTSL indicator is needed

9:50 Tracking use of AMTSL in a teaching hospital in Ghana: lessons learned, successes and challenges. Dr. Nelson Damale, Korle-Bu Teaching Hospital (presented by D. Armbruster)

10:10 AMTSL Indicator: what it is, how it was developed and its use in USAID-funded projects. Niamh Darcy, RTI

10:30 Coffee Break

10:45 Collecting information on AMTSL through Service Provision Assessments (SPAs). Alfredo Fort, Measure DHS/PATH.

11.00 Features of a good indicator.

- ü Validity/Timing
- ü Complexity /Cost of introduction and measurement globally
- ü Quality assurance mechanisms and costs
- ü Potential Alternatives

Small group discussions on the AMTSL indicator, share group outcomes, make conclusions.

12:30 – 1:30 Lunch

1:30 Turning a program indicator into a global indicator for routine HIS.

- ü Definitions and Rationale
- ü Measurement
- ü Operationalizing: data sources, data collection method, frequency of reporting, data analysis and use, quality assurance, known limitations
- ü Implementation at the country level

Work in groups, share group outcomes and come to consensus

2:30 Review/definition(s) and methodology for measurement and operationalizing of an indicator for AMTSL or PPH prevention

3:00 Summarize/Identify Other Issues/ Recommend Next Steps

4:00 Close

ANNEX 2

AMTSL INDICATOR REFERENCE SHEET
Indicator 1.1.A: Percentage of women in facilities where the woman received active management of the third stage of labor (AMTSL) for vaginal delivery by birth attendants practicing AMTSL within a specified time period
DESCRIPTION
Precise Definition: Number and percentage of women in facilities where the woman received AMTSL by birth attendants practicing AMTSL in targeted areas in a specified time period. This includes vaginal deliveries only.[3] Targeted areas are those areas where maternal and child health projects are implementing AMTSL interventions – these include public and private health facilities, rural and urban health facilities, with birth attendants trained in and authorized to practice AMTSL. AMTSL is defined as the following three elements: a. Use of uterotonic drug within one minute of birth (oxytocin is the drug of choice, preferred 10 IU/IM). b. Performance of controlled cord traction and counter traction. c. Performance of uterine massage after the delivery of the placenta. Please note that it is recommended that women be advised about, offered, and asked for permission to apply AMTSL before doing so.
Units of Measure: Percentage. Include both numerator and denominator.
DATA ACQUISITION
Data Collection Method/Data Sources: AMTSL data can be collected in two ways: (1) When AMTSL is included in the facility records (e.g., delivery register, partograph, patient chart, the data recorded during the specified time period can be collected). (2) In cases where AMTSL is not part of routine data collection, the number of women receiving AMTSL is determined by surveys (self-administered or interviewer-administered) as a proxy for what actually happens.
Method of Calculation: For facility births, the percentage is calculated by dividing the number of women who received AMTSL recorded in the past time period where AMTSL is recorded (numerator) by the total number of women with vaginal deliveries recorded in the past time period (denominator). **Site specified time period includes during the past zero to twelve months, and can be set at fixed intervals for different locations. For example, some sites may record data during one month and some during three months.**

[3] Does not include Caesarean -Section or abortion

INFORMATION, INTERPRETATION, ANALYSIS AND USE
Indicator Significance and Management Utility: This indicator is used to measure whether AMTSL occurred at facility births with SBAs. This is consistent with the project providing training in AMTSL for facility-based deliveries and determining pre- and post-training if there is an improvement in the use of AMTSL for deliveries.
Data Quality Issues: 1. Where data are collected through routine data collection, validation checks should be performed by supervisory visits that include observation of births. In a low-birth rate facility, this can be accomplished by implementing demonstration of births and inspecting supplies of uterotonic (preferred oxytocin) in the facility. In the cases where patients procure their own uterotonic (preferred oxytocin) and there are no births currently happening during the supervisory visit, provision of AMTSL can be determined by surveying staff at the facility. 2. Where there is no routine data collection, supervisory visits should still be performed, observational where possible, and then demonstration in the cases where observation is not possible due to lack of deliveries during the supervisory visit (for facility). Supervisory visit frequency will be determined by the Ministry of Health (national, district in the cases where this is decentralized) when AMTSL is included in routine data collection. For instances where AMTSL is not included in routine data collection, supervisory visits should occur once during the site specified period. When data is collected via survey (when the data is not available in the facility records), there are limitations because the data is being recorded based on individual recall of health care staff and is subject to error. The supervisory visits provide some validation of the recall but again only occur once during the time period of data collection. Also, there is usually turnover of health care staff, so we cannot guarantee during baseline and final that the same staff will be interviewed.

WHO AMTSL Indicator Meeting
November 17, 2009

Participant List

Name	Title	Affiliation	Contact Information
Dr. Fernando Althabe	Obstetrician and Researcher, Director	Department of Mother and Child Health Research Institute for Clinical Effectiveness and Health Policy Buenos Aires, Argentina	falthabe@gmail.com
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Name	Title	Affiliation	Contact Information
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Mary Ellen Stanton	Certified nurse midwife and senior reproductive health advisor	Office of Health, Infectious Diseases and Nutrition in the Bureau for Global Health at USAID	mstanton@usaid.gov
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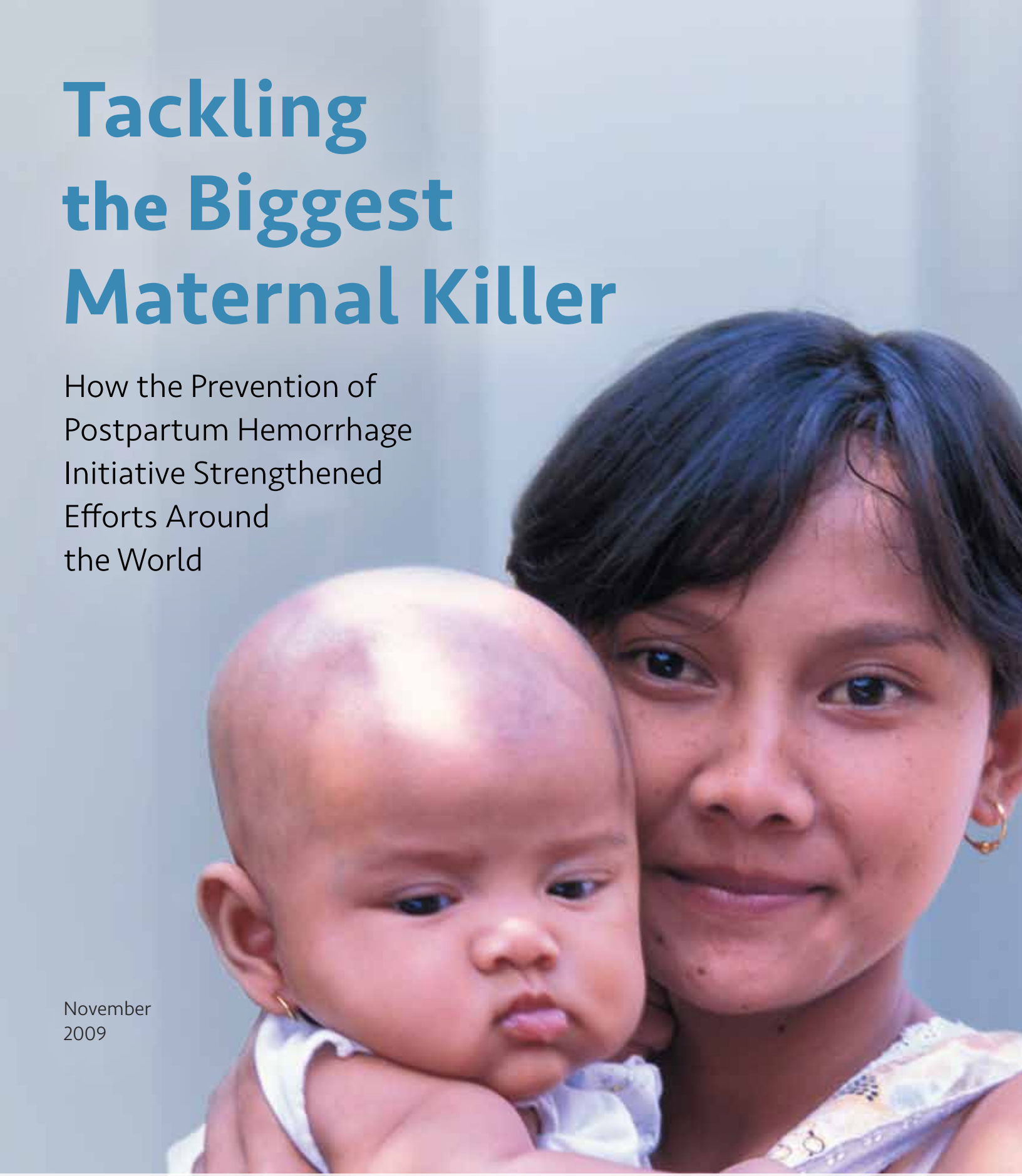
Norma W. Wilson	Executive Director	Routine Health Information Network RHINO,	nwilson@rhinonet.org

Appendix E: POPPHI End of Project Document

See separate Adobe file.

Tackling the Biggest Maternal Killer

How the Prevention of Postpartum Hemorrhage Initiative Strengthened Efforts Around the World



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POPPHI
Prevention of Postpartum Hemorrhage Initiative

About POPPHI

The Prevention of Postpartum Hemorrhage Initiative (POPPHI) was a five-year project (2004–2009) focusing on the reduction of postpartum hemorrhage, the single most important cause of maternal deaths worldwide. Funded by the United States Agency for International Development (USAID), POPPHI was led by RTI as the prime contractor; Program for Appropriate Technology in Health was the technical lead agency. POPPHI's partners also included EngenderHealth, the International Federation of Gynecology and Obstetrics, and the International Confederation of Midwives.

About this document

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Cover photo: Richard Lord

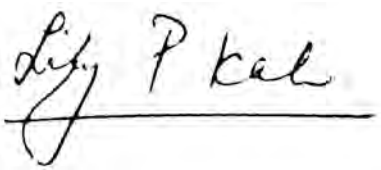
Message From USAID

It is with great pleasure and pride that I introduce *Tackling the Biggest Maternal Killer: How the Prevention of Postpartum Hemorrhage Initiative Strengthened Efforts Around the World*. This document summarizes the culmination of a US Agency for International Development (USAID) special initiative that shone a spotlight on the most important cause of maternal death: postpartum hemorrhage (PPH). This special project—the Prevention of Postpartum Hemorrhage Initiative (POPPHI)—galvanized many partners to join hands and work together to reduce PPH globally.

POPPHI had one simple but immensely challenging mandate: to catalyze the expansion of active management of the third stage of labor (AMTSL) practices worldwide. It worked toward this mandate through partnerships with the International Federation of Gynecology and Obstetrics, the International Confederation of Midwives, professional associations from many developing countries, the World Health Organization, and several USAID partners that implemented global and country-level programs. POPPHI also prioritized community-based strategies for preventing PPH, particularly as data demonstrated the effectiveness of misoprostol and the Uniject® device prefilled with oxytocin became commercially available.

The initiative harnessed the strength of multiple implementation strategies—policy change, systems strengthening, social mobilization, technology development, and research—and yielded many valuable lessons about opportunities, challenges, and strategies for scaling up AMTSL. A key lesson we have learned is that, when there is political commitment, AMTSL is rapidly scalable.

Through leadership, perseverance, collaboration, and inspiration, POPPHI has brought about a sea change in the prevention of PPH. As USAID's special initiative comes to a close, the journey is far from over, and we look forward to an integrated maternal health program that will build on POPPHI's legacy in saving women's lives.



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Introduction

Postpartum hemorrhage (PPH) is the single largest cause of maternal death worldwide,[1] accounting for an estimated 132,000 deaths each year. In developing countries, where most births occur in homes or local clinics, the interventions needed to treat PPH—emergency referrals, obstetric care, blood transfusion, and surgery—are simply out of reach for the majority of women.

Fortunately, the effectiveness of a feasible and inexpensive intervention that prevents PPH has already been proven. Active management of the third stage of labor (AMTSL) consists of three components that can prevent postpartum hemorrhage when used together: administering uterotonic drugs (oxytocin is the drug of choice), controlled cord traction, and uterine massage after the placenta has been delivered. AMTSL can eliminate at least half of PPH cases.

This document describes the strategies and activities undertaken by the Prevention of Postpartum Hemorrhage Initiative (POPPHI) to expand the use of AMTSL and other approaches that prevent PPH, such as the use of misoprostol and oxytocin in the Uniject® prefilled injection device. By increasing use of evidence-based, lifesaving interventions, POPPHI and its many partners established a critical foundation for global efforts to prevent PPH and save thousands of women's lives.

Defining the challenge

POPPHI began its work by assessing the challenge to effective prevention and treatment of PPH. While AMTSL had been proven to be highly effective, data regarding its use were limited. POPPHI therefore conducted national surveys in ten countries to document use of AMTSL among a diverse group of developing countries. The resulting data would both guide POPPHI's work and provide information to ministries of health and the global community, helping them improve adoption and implementation of AMTSL.

POPPHI's researchers used nationally representative samples of facility-based deliveries to determine AMTSL use and associated factors. The survey focused on three main issues: policies, providers, and logistics. The team assessed the policy environment through document review and interviews and conducted assessments of facilities and observations of births.

The survey results showed that correct use of AMTSL was low: only 0.5 to 32 percent of observed deliveries (Figure 1). The findings revealed multiple deficiencies in practice: few women were benefiting from the correct use of uterotonics, and even fewer were benefiting from the additional components of AMTSL. Overall, the findings suggest that AMTSL was not used at 1.4 million deliveries per year.[2]

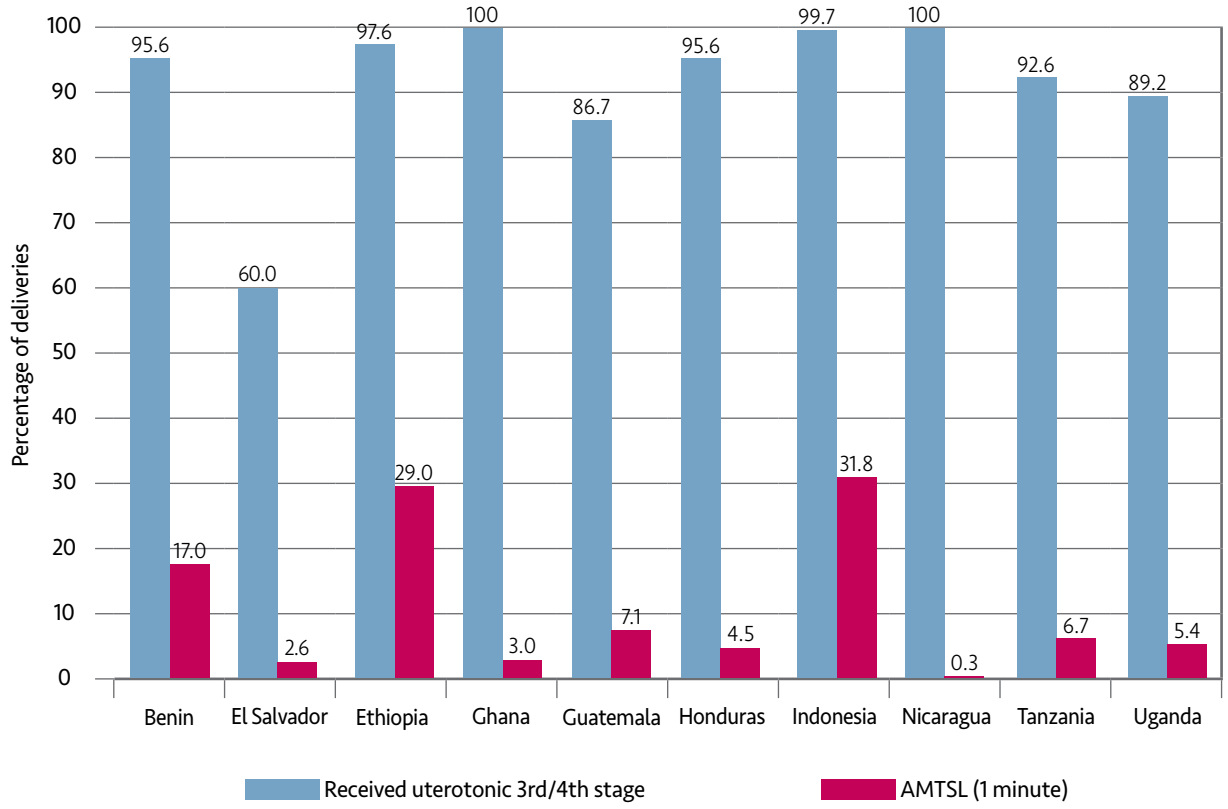


Figure 1. Percentage of observed deliveries in which uterotonic drugs were given during the third/fourth stages of labor and AMTSL was used correctly (including uterotonic administration within 1 minute).

Identifying solutions

Through the global AMTSL survey and related activities, POPPHI identified a need for key solutions: effective approaches for increasing uptake of AMTSL as well as tools and resources that could be used to build provider skill in the method. The team also recognized that innovative ways to introduce and add community-based strategies were needed.

Promising approaches for increasing uptake

POPPHI identified numerous approaches for increasing uptake of AMTSL and preventing PPH. Highlights include the following:

- **Changing AMTSL Behaviors in Obstetrics (CAMBIO).** This method uses proven strategies to change the behavior of providers and increase their use of AMTSL. The approach centers on staff selection of well-respected colleagues who become trained in AMTSL and the CAMBIO method. These opinion leaders hold seminars and then meet with each provider to talk about AMTSL, offer reminders such as posters, and promote data analysis and sharing. Research showed a 67 percent increase in use of AMTSL among providers trained in the method.
- **Site and individual training (SAIN).** The SAIN approach was developed for in-service training of skilled birth attendants. The blended learning approach combines a self-paced study for the theoretical portion followed by a clinical practicum. Training activities are decentralized to the district level, where the SAIN team selects a clinical site and trains providers at the site as mentors. In turn, the mentors update and strengthen their skills and then guide skilled birth attendants and other providers through the learning materials and clinical practice. This approach saves time and funds through decentralization, reducing time providers are away from work and the number of days needed for training.
- **Integrated treatment packages.** An integrated training package that combines AMTSL, essential newborn care, and immediate postpartum care can effectively address both the woman's and infant's needs during the critical first 24 hours after birth, when most maternal and newborn deaths occur.
- **Pilot projects of misoprostol administration and administration of oxytocin with the Uniject® device.** A pilot study on oxytocin in the Uniject® injection device in Mali allowed providers—including matrones who attend 50 percent of births—to use the prefilled device. Providers' strong enthusiasm prompted the Ministry of Health to conclude that oxytocin-filled Uniject® devices would benefit Mali; the ministry is now investigating ways to purchase them. POPPHI also provided technical assistance to a pilot study of misoprostol in Ghana and identified and connected Ventures Strategies to assist Bangladesh with its misoprostol program. Honduras now plans to conduct pilot studies of oxytocin in the Uniject® device with traditional birth attendants as well as pilot studies on misoprostol.
- **Monitoring and evaluation indicators.** The inclusion of indicators for PPH prevention into national health information systems allows ministry of health leaders and program managers to determine whether increased use or scale-up of AMTSL or community-based approaches is occurring and, if so, whether it is having an impact on PPH prevalence and deaths.

Resources for building skills

To meet the need for materials that could be used to train providers and strengthen their ability to use AMTSL, POPPHI developed resources that partners could use or adapt for local settings.

AMTSL learning materials

POPPHI developed a learning package on prevention of PPH. Consisting of a reference manual, participant's notebook, and facilitator's guide, the package is

designed to increase knowledge of AMTSL among physicians, nurses, and midwives providing childbirth and immediate postpartum care. The materials can also be used during in-service training to equip nurses, midwives, physicians, and other health workers to use AMTSL. The materials are offered in English, French, and Spanish.

Preventing Postpartum Hemorrhage: A Toolkit for Providers

This toolkit provides practical information and materials for health care providers, health management teams, facility managers, and policymakers on the prevention, management, and treatment of PPH. It provides essential materials for adopting interventions that may be particularly useful to providers and policymakers.

On-site and individual learning package

This learning package on prevention of PPH consists of a facilitator's guide for training mentors, a mentor's guide, a learner's guidebook, and a learner's notebook. The package is designed for in-service training of skilled birth attendants using a mixed or blended learning approach that combines self-paced study and a clinical practicum.

Postpartum hemorrhage prevention website

This comprehensive website (www.pphprevention.org) includes sections on PPH, AMTSL, uterotonic drugs and devices, and monitoring and evaluation. The site also provides learning tools and resources, current PPH research, and materials developed during the POPPHI program.

CD-ROM

The *Active Management of the Third Stage of Labor: A Demonstration* CD-ROM is an integral part of the PPH toolkit. It includes a narrated presentation that provides basic information on PPH, describes the main steps of AMTSL as well as the rationale for each, and demonstrates the procedure using illustrations and animated sequences. The CD-ROM is available in English, French, and Spanish.

Fact sheet

Active Management of the Third Stage of Labor (AMTSL) for Prevention of Postpartum Hemorrhage (PPH): A Fact Sheet for Policymakers and Program Managers has been distributed worldwide in English, French, and Spanish. The fact sheet includes information on AMTSL, its role in reducing PPH, when it should be offered, and steps for increasing its use.

Poster

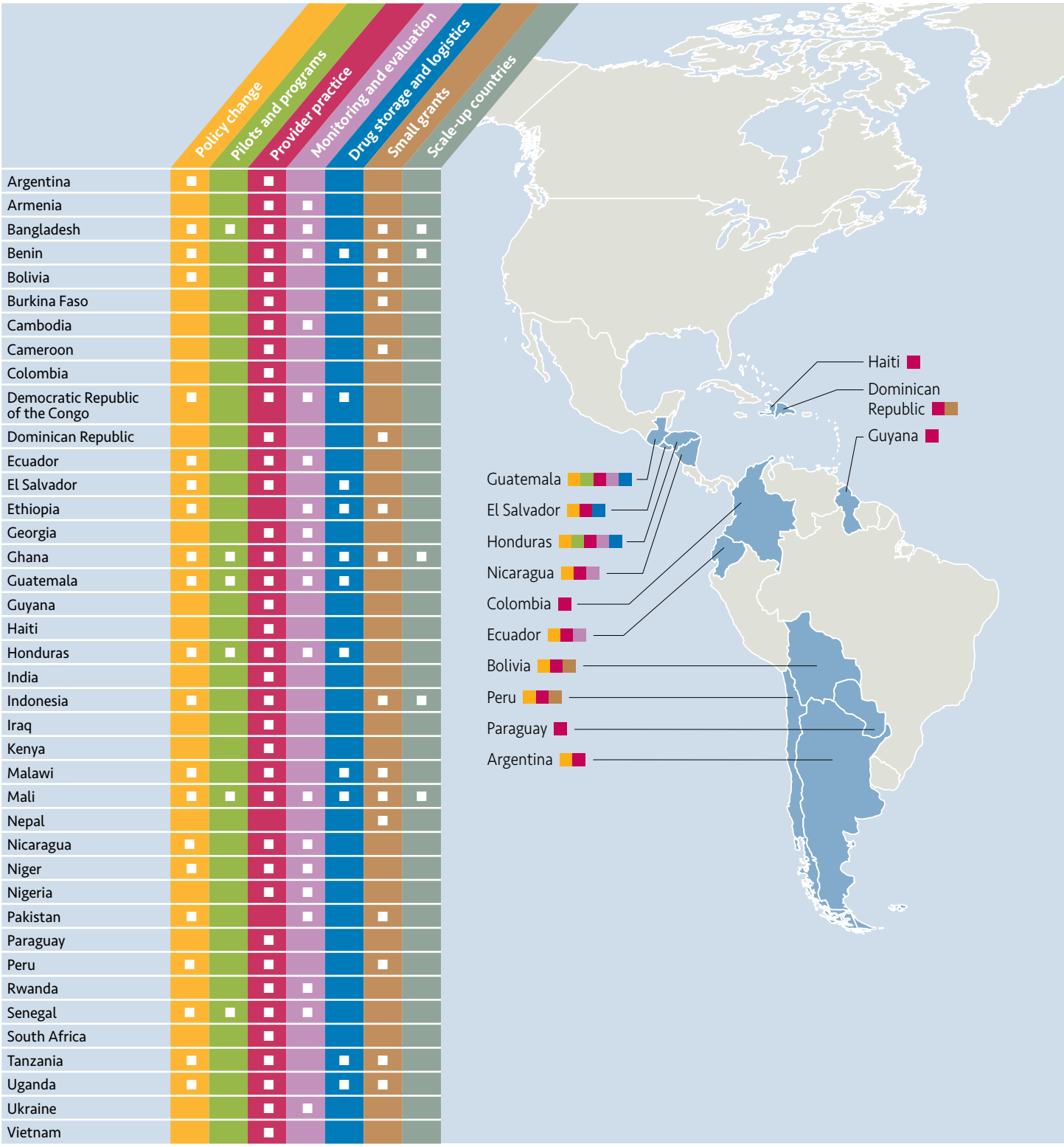
This AMTSL poster depicts and describes the three steps of AMTSL. Available in English, French, and Spanish, the poster has been displayed in delivery rooms around the world.

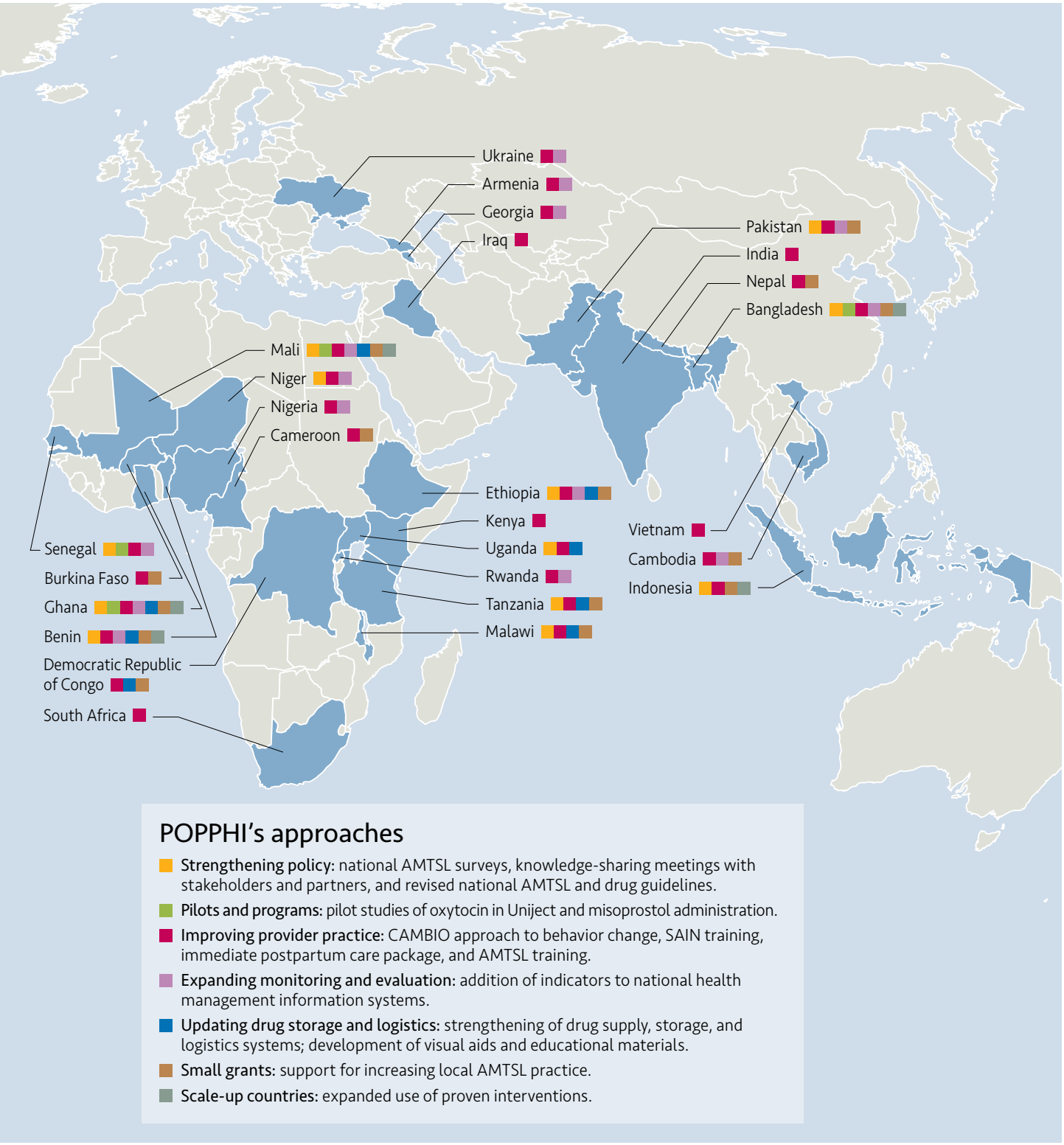
AMTSL/essential newborn care integrated poster

Developed by USAID, POPPHI, and the Pan American Health Organization, this poster describes the three steps of AMTSL while integrating steps for essential newborn care.

Supporting efforts worldwide

POPPHI provided an overall framework and approach for strengthening efforts to prevent PPH. It also engaged with numerous collaborators to support their efforts to strengthen the policies, human resources, and systems required to reduce maternal mortality.





POPPHI's approaches

- **Strengthening policy:** national AMTSL surveys, knowledge-sharing meetings with stakeholders and partners, and revised national AMTSL and drug guidelines.
- **Pilots and programs:** pilot studies of oxytocin in Uniject and misoprostol administration.
- **Improving provider practice:** CAMBIO approach to behavior change, SAIN training, immediate postpartum care package, and AMTSL training.
- **Expanding monitoring and evaluation:** addition of indicators to national health management information systems.
- **Updating drug storage and logistics:** strengthening of drug supply, storage, and logistics systems; development of visual aids and educational materials.
- **Small grants:** support for increasing local AMTSL practice.
- **Scale-up countries:** expanded use of proven interventions.

Implementation pathways

In addition to identifying challenges and solutions, POPPHI supported the implementation of numerous projects and activities. To strengthen linkages and share knowledge among organizations that work in maternal health, for example, POPPHI facilitated working group meetings and hosted technical meetings. To ensure that practitioners and decision-makers had the most current information, POPPHI conducted regional workshops for national professional associations in 24 countries and assisted the International Federation of Gynecology and Obstetrics (FIGO) and International Confederation of Midwives (ICM) in creating the *Joint Statement on Prevention and Treatment of Postpartum Haemorrhage: New Advances for Low-Resource Settings*. POPPHI helped FIGO and ICM disseminate this statement as well as their *Joint Statement: Management of the Third Stage of Labour to Prevent Post-partum Haemorrhage*. Through these and other efforts, POPPHI developed mechanisms, such as indicators and reporting formats, that strengthened monitoring and evaluation of this work.

Scaling up efforts in-country

In Bangladesh, Benin, Ghana, Indonesia, and Mali, the POPPHI team worked closely with ministry of health representatives, USAID bilateral projects, and other organizations to scale up interventions that have been proven to prevent PPH. POPPHI acted as a catalyst, using AMTSL survey data to leverage change, linking partners to create win-win efforts, focusing on innovative approaches, and pushing for impact.

BANGLADESH

An estimated 22 percent of maternal deaths in Bangladesh are due to PPH, and about 85 percent of deliveries occur at home. A recent assessment found that AMTSL is practiced in only 16 percent of vaginal deliveries.

The Bangladesh project used a two-pronged approach to reduce PPH: first, it strengthened AMTSL at facilities by training their skilled birth attendants and, second, it made misoprostol available for home deliveries by orienting community-level skilled birth attendants on AMTSL. These activities were led by EngenderHealth; POPPHI provided survey tools, materials for translation, monitoring and evaluation indicators, and technical assistance.

MAJOR ACTIVITIES

The team implemented a range of interventions, including the following:

- The National Task Force on Prevention of PPH was established in 2006, and EngenderHealth initially served as its secretariat.
- Misoprostol was registered for the prevention and treatment of PPH, and the misoprostol use policy was conditionally approved in May 2008.
- The team strengthened AMTSL practice in 25 of 64 districts. The team provided training-of-trainers support to 160 Government of Bangladesh and nongovernmental trainers as well as skill-based training in AMTSL to 530 doctors and 2,250 nurses. The team adapted AMTSL training materials from POPPHI's resources.
- The team oriented 1,225 community-based skilled birth attendants across 15 districts in AMTSL. In turn, the attendants held community meetings and developed behavior change materials (such as posters, stickers, and flipcharts in Bangla) on misoprostol use. The effort included a Bangla dubbing of an AMTSL video and trainee and community follow-ups.
- Policy-oriented activities included:
  - Standardizing the definition of AMTSL to align with World Health Organization (WHO) and FIGO/ICM recommendations.
  - Including AMTSL in the pre-service and in-service curricula of ob/gyns, general physicians, and nurse-midwives who conduct vaginal deliveries. The pre-service component is still informal at this time, as the curriculum has not been updated. The in-service component has been included in 25 districts since 2008.
- Strengthening monitoring and evaluation.
  - The team worked with the Directorate General of Family Planning Services and the Directorate General of Health

Services to develop recording and reporting mechanisms for AMTSL. Today, the team continues to advocate with the leadership of the directorates' management information systems regarding institutionalizing this approach. For local record-keeping, a rubber seal is used in the existing register column to track AMTSL. Reporting formats have been printed and distributed to all service delivery centers in 25 districts.

KEY RESULTS

Key results of these efforts in Bangladesh include:

- **New task force.** The National Task Force on Prevention of PPH is now firmly established.
- **Government commitment.** The Government of Bangladesh committed to scaling up PPH prevention activities throughout the country, both at the facility and community levels.
- **Increased use of AMTSL.** The method is being practiced in 85 percent of reported cases in the 25 districts where training was provided.
- **Encouraging misoprostol study results.** The misoprostol pilot project demonstrated high levels of misoprostol use among women who delivered at home and no misuse or severe side effects.

BENIN

The Benin Government made a commitment to scale up AMTSL throughout the country after the method was introduced in 2002 and 2003.

POPPHI's AMTSL survey found that while 84 percent of women in Benin gave birth in a facility where providers had received training in AMTSL and 62 percent of health districts had a PPH/AMTSL initiative, only 18 percent of women in the sample received AMTSL that was practiced according to standard. Management Sciences for Health (MSH) and POPPHI worked together with the Integrated Family Health Project to address these issues.

MAJOR ACTIVITIES

Activities in Benin included:

- In 2006, MSH/RPM Plus and POPPHI conducted a national survey and, in 2007, presented findings to a national task force and developed a set of recommendations and a national action plan for improving AMTSL practice. Subsequently, MSH/RPM Plus disseminated the survey results and recommendations made by the national task force regionally. Each district developed action plans to improve AMTSL practice.
- In 2008, POPPHI reviewed national protocols related to PPH prevention and management and developed recommendations for revision.
- In 2009, MSH/Strengthening Pharmaceutical Systems conducted a survey on uterotonic drug management in 101 health care facilities in Ouémé-Plateau and Zou-Collines. They are presently developing national protocols for quantification, transport, and storage of uterotonic drugs.
- FIGO/ICM held a national workshop on prevention of PPH in 2009, which was also attended by POPPHI. During the workshop, the Beninese midwifery association and the Beninese and Togolese Society for Obstetrics and Gynecology ratified revised protocols and signed a joint statement on the prevention of PPH and rational use of uterotonic drugs.

KEY RESULTS

Key results of these efforts in Benin include:

- **New national post.** Benin developed a national-level post for an AMTSL point person.
- **Scale-up of AMTSL.** AMTSL is now integrated into the national safe motherhood plan.
- **Integration into pre-service education.** AMTSL is integrated into pre-service education programs for nurses, midwives, and physicians as well as other in-service training programs, such as those for emergency obstetric and newborn care.
- **Training.** By September 2009, 29 of 34 health districts had completed AMTSL training.
- **Government commitment.** In 2009, Benin's Minister of Health made a commitment to increasing the number of midwives hired by the government to ensure that all women giving birth in facilities would be assisted by a skilled birth attendant and receive AMTSL.
- **Improved monitoring and evaluation.** The three elements of AMTSL were integrated into the partograph, and AMTSL was integrated into the delivery register. AMTSL is now tracked in districts and regions targeted by USAID. Coverage rates for AMTSL in these zones are 95 to 98 percent.

GHANA

The AMTSL survey, which was conducted in 2007 by MSH with technical assistance from POPPHI, found that only 3 percent of health providers sampled practiced AMTSL to standard. As in Bangladesh and Benin, POPPHI provided survey tools, materials, indicators, and technical assistance, such as reviewing and providing feedback on guidelines. POPPHI also provided technical review of training materials and protocols for two USAID programs, Community-based Health Planning and Services-Technical Assistance (led by the Population Council) and the Quality Health Program (led by EngenderHealth).

In early 2009, Ghana's Minister of Health made a commitment to reducing maternal mortality resulting from PPH.

MAJOR ACTIVITIES

Major activities in Ghana included the following:

- A dissemination meeting for the AMTSL survey results catalyzed action. A variety of participants—Ghana Health Service policymakers, Central Medical Stores staff, pharmacists, pre-service educators, professional ob/gyn and midwifery associations, and health care providers—reviewed their roles and created an action plan to address the country's low rate of AMTSL. The AMTSL survey was repeated in late 2009 to help evaluate the success of AMTSL uptake and expansion.
- Ghana's guidelines were updated to reflect the AMTSL protocol and align with the WHO and the ICM/FIGO Joint Statement. Community-based distribution of misoprostol was included in the guidelines.
- This pilot study was launched to collect data on providing misoprostol for PPH prevention through antenatal clinics. The study will take place in three districts located across three regions.
- The Ghana Registered Midwives Association and the Society of Obstetrics and Gynaecology of Ghana shared the updated AMTSL definition with the private sector and trained 181 midwives.
- The Promoting Maternal and Infant Survival and Excellence (PROMISE) intervention updated five district hospitals and one regional hospital in Ghana's Eastern and Western regions in AMTSL. The team trained teams of mentors in each hospital and all labor and delivery ward staff, and it provided self-paced study for peripheral providers with clinical guidance and practice to increase competence at the hospitals.
- The CAMBIO intervention was implemented in the two major teaching hospitals in Ghana.

Throughout these activities, posters, fact sheets, and visual aids were widely distributed to support universal coverage of AMTSL.

KEY RESULTS

Policymakers, program managers, leaders in drug supplies and logistics, education program staff, and health care providers were galvanized to action through the AMTSL survey results. This in turn led to:

- **Policy change.** The safe motherhood guidelines were updated to reflect best practice. In addition, professional associations reached out to the private sector to encourage use of the new guidelines.
- **Misoprostol registration.** Misoprostol was added to the country's Essential Medicine List and registered with the Food and Drug Board as a program drug (until the pilot is completed).
- **Strengthened partnership.** Professional associations became integral partners to this overall effort to reduce PPH and strengthened their collaboration with the private sector.
- **Multiple strategies and alternative training approaches to increase AMTSL.** The experience in Ghana showed that alternative training approaches are technically feasible and cost-effective. The CAMBIO intervention, for example, successfully engaged ob/gyn leaders and teaching hospitals and changed behavior among physicians, midwives, and nurses. The method increased AMTSL use significantly and successfully integrated the AMTSL indicator into reporting mechanisms.

Reflecting the impact of these efforts, a repeat AMTSL survey is currently under way, which will, it is expected, show an increase in the use of AMTSL.

INDONESIA

Of the ten countries that POPPHI surveyed, Indonesia had the highest rate of AMTSL practice: 32 percent. POPPHI worked with USAID's Health Services Project (HSP) to support expanded use of AMTSL and to disseminate data from the AMTSL survey.

MAJOR ACTIVITIES

Major activities in Indonesia included:

- Early in the project, a national dissemination meeting promoted dialogue between various sectors within the Ministry of Health—including maternal health, pharmacy/drugs and logistics, and medical services—as well as with professional associations and nongovernmental organizations.
- The POPPHI team assisted the HSP project in developing and revising AMTSL assessment tools and incorporating key elements into supervision tools.
- The POPPHI team worked with the Ministry of Health's maternal health division to develop a national plan of action for PPH prevention.
- The Indonesian Midwives Association, through funds from a small grant from POPPHI, trained and updated midwifery tutors in numerous provinces. In addition, the University of Indonesia's School of Public Health included AMTSL education in the clinical practicum for the community midwifery program.
- After learning of the AMTSL survey results, the Ministry of Health's hospital division initiated training on AMTSL.

KEY RESULTS

- **Updated AMTSL definition and guidelines.** The definition of AMTSL was updated to include delayed cord clamping, and the new definition has since been incorporated into the basic emergency obstetric and neonatal care training. In addition, the national guidelines for AMTSL were changed to align with WHO and the ICM/FIGO joint statement.
- **National plan.** The national plan of action for PPH prevention is ready to be launched and implemented.
- **Expanded cadre of trained midwives.** In all, 122 midwifery tutors from nearly 30 schools and six private practices were trained in AMTSL. AMTSL theory and practice were also integrated into the community midwifery program at the University of Indonesia.
- **Encouraging results.** The repeat national AMTSL survey is in progress and will show the percentage of providers who practice AMTSL to standard in 2009.

MALI

Mali has shown a national commitment to scaling up AMTSL for all providers attending births in health care facilities since the method was introduced in 2002 and 2003. The activities below were carried out by the National Health Directorate (DNS) with assistance from POPPHI and several USAID projects: the Capacity Project (IntraHealth), Assistance Technique Nationale (Abt Associates), and Projet Keneya Ciwara (Care International).

MAJOR ACTIVITIES

- In 2006, the team conducted an operational research study in three districts (Gao, Koulikoro, and Sikasso) on the feasibility and safety of training auxiliary midwives (matrones) to use AMTSL. In 2007, the team performed a second operational research study on the feasibility and acceptability of introducing oxytocin in the Uniject® device, again in three districts (Bamako, Gao, and Koulikoro). In 2009, the team implemented a survey on uterotonic drug management and use.
- The PPH prevention initiative was launched in 2007 in Bamako, Koulikoro, and Mopti. In 2008, a joint statement on the prevention of PPH and rational use of uterotonic drugs was signed by the Malian Midwifery Association (the Association des Sages-Femmes du Mali, or ASFM) and the Malian Society for Obstetrics and Gynecology.
- In 2006, POPPHI provided a small grant to ASFM to train providers in the private and public sectors in Timbuktu. PPH was featured as the theme for the National Midwifery Day in 2007. The following year, the National Order of Midwives published a bulletin on PPH prevention and rational use of uterotonic drugs.

- In 2007, POPPHI's materials were used to develop learning materials for group-based training; training of national and regional trainers soon followed. In 2008, the team developed a blended learning approach (with a self-paced theoretical portion and a clinical practicum) to train skilled birth attendants in the Mopti and Koulikoro regions, which adapted POPPHI's learning materials for use with the blended learning approach.
- The team also focused on developing national protocols for quantification, transport, and storage of uterotonic drugs.

KEY RESULTS

- **Authorization for matrones.** On April 2, 2009, Mali's Minister of Health authorized matrones to provide AMTSL and use oxytocin when practicing AMTSL.
- **National task force.** A national task force with members from the DNS and international partners was established to develop a plan for scaling up AMTSL and monitoring progress.
- **Scale-up plans.** Procurement of oxytocin in the Uniject® device was included in the national plan for AMTSL scale-up.
- **Integration of AMTSL.** The three elements of AMTSL were integrated into the partograph. In addition, AMTSL was integrated into pre-service education programs for nurses, midwives, and physicians and in other in-service training programs, such as emergency obstetric and newborn care.
- **Increased AMTSL coverage.** AMTSL is tracked in districts and regions targeted by USAID. Coverage rates for AMTSL in these zones are 65 percent (in community health centers) to 100 percent (in reference health centers).

Lessons learned from country scale-up

Although each country is unique, these in-country experiences provide insight and suggest a way forward to maintain the momentum POPPHI and its partners have created. Many of these lessons provide guidance for future activities.

LESSONS

- National survey data serve as a powerful advocacy tool, as they provide a base from which to develop strategic action plans, create partnerships, link allies, implement needed activities, and follow progress toward goals.
- Partnerships are critical to success. Working with professional organizations, for example, can increase the visibility of PPH prevention activities as well as help the professional associations educate or update their members. Engagement with health care providers and major teaching hospitals can foster ownership and successful scale-up of AMTSL. Strong partnerships with experts in drugs and logistics can also strengthen efforts to ensure that AMTSL is practiced.
- Early identification of barriers to AMTSL scale-up and a deep understanding of the priorities of various important stakeholders can markedly increase the success of program scale-up.
- Champions in the ministry of health and at national and regional levels are essential to program uptake.
- Providers are eager to learn about AMTSL, and alternative learning approaches can empower providers and increase AMTSL use. Ongoing in-service training is required, however, given the frequent transfer of trained service providers into other districts. Innovative ways to pass along the needed skills and knowledge are essential.
- Changing a known practice can often be more difficult than introducing a new one, especially when trying to move a practice from routine to lifesaving. Ensuring universal use of AMTSL practice takes persistence and long-term commitment.

- Tracking activities and providing continuous technical assistance can be difficult without a country presence or local office.
- When sufficient numbers of skilled birth attendants are not available, task-shifting of AMTSL to lower-level cadres is essential to increasing AMTSL coverage. Such task-shifting can be difficult, however, when skilled birth attendants are threatened by this change and concerned that this policy change will mean that fewer skilled birth attendants will be hired into the government system.

CHALLENGES

- Tracking AMTSL was difficult, particularly when indicators were not integrated into supervisory tools or national information systems.
- While countries working with POPPHI have made significant progress in incorporating correct information about uterotonic drugs, their storage, and transport, misinformation continues to be prevalent among ministry of health leaders, program managers, central medical store personnel, and pharmacists in many countries. Much work remains to be done.
- Geography and distances became formidable obstacles to scale-up, as seen in Indonesia, particularly for ongoing support and monitoring.
- The provision of uterotonic drugs to women who give birth at home or in communities without skilled birth attendants remains a challenge. Misoprostol and oxytocin in the Uniject® device can increase access to uterotonics among significantly more women.

Small grants

POPPHI issued 16 small grants to countries in Africa, Asia, and Latin America and the Caribbean. The grants, which were issued for approximately US$8,500 each and up to 18 months of activity, supported collaborative proposals between ob/gyn and midwifery associations. End-line data indicate that by the end of the grant period 88 percent of targeted providers were practicing AMTSL. Examples of three small-grant projects appear below.

Bolivia

The Bolivian ob/gyn and midwifery societies collaborated to develop a curriculum and train professionals from the three regional capital cities, capturing at least one-third of practicing doctors and nurses who did or could potentially practice AMTSL. As Dr. Luis Esteban Zárate Pereira, then president of the Sociedad Boliviana de Obstetricia y Ginecología, told POPPHI, the greatest gain from the small grant was taking AMTSL to all regions of the country. When it appeared in the Ministry of Health's norms, AMTSL became the only method taught in medical schools. Dr. Pereira attributes this change in behavior to the grant from POPPHI. The small grant also resulted in midwives considering AMTSL the norm for all births.

Pakistan

Mrs. Imtiaz Kamal, then president of the Midwifery Association of Pakistan (MAP), notes that the small grant from the POPPHI project was the first-ever collaborative activity between the Society of Ob/Gyn and MAP. MAP was able to continue the work begun under the small grant through two grants from USAID projects, PAIMAN and TACMIL. Through this support, MAP and its partners improved institutional policies, as AMTSL became the routine practice in almost all institutions where skilled birth attendants were trained in AMTSL. They also raised awareness of PPH and included AMTSL in the curriculum of community midwives.

Uganda

The Uganda Private Midwives Association and the Association of Obstetricians and Gynaecologists of Uganda (AOGU) used their small grant to leverage the impact of new national protocols that included oxytocin along with other uterotonic drugs to prevent PPH. They also granted midwives the

right to administer oxytocin. As a result of the grant, the associations were able to disseminate national protocols, develop a strategy to roll out AMTSL, update service delivery guidelines to include AMTSL for all births, and train providers in AMTSL. As Dr. Beyeza Jolly Kashesya, a member of AOGU, stated, "Our work with POPPHI was an eye-opener that we could do something. We believe that improving care during delivery with AMTSL will go a long way to reduce the very high numbers of maternal deaths in Uganda."

Lessons learned from POPPHI's small grants

As these experiences illustrate, the small grants achieved numerous benefits. In particular, they promoted cooperation between obstetric and midwife associations; provided training to providers who would otherwise not have received it; addressed the private sector, which is often forgotten; and contributed to policy changes or leveraged favorable policies.

The grant program also faced challenges. For example, the process required a great deal of administrative attention from POPPHI staff. In addition, the resulting data were limited, as recipients could not always provide hard data, and all data were self-reported.

Collaboration with other USAID projects

POPPHI worked to amplify the impact of other USAID projects working to reduce PPH. Depending on the context, POPPHI collaborated on project implementation, assisted with data collection, provided general technical assistance and materials, and helped projects share information and technical expertise. Each organization's complete description of their PPH activities is available separately.

Project implementation

POPPHI implemented project activities with a range of organizations and USAID projects, including:

- **Academy for Educational Development (AED).** Through the Support for Analysis and Research in Africa Project and working closely with POPPHI, AED supported the in-country data collection for the AMTSL survey in Ethiopia, Tanzania, and Uganda and used the findings to promote AMTSL as a standard of care. After AED and the East, Central, and Southern Africa (ECSA) Health Community provided a policy brief to health ministers in March 2009, the ministers urged member states to accelerate the institutionalization of AMTSL in at least 40 percent of health facilities by 2010 and to ensure delivery by skilled providers in 75 percent of women by 2012.

  AED and POPPHI also worked to strengthen PPH prevention in Ethiopia and Tanzania. In 2008, AED worked with the Ethiopian Ministry of Health to revise its health management information system to capture information on the use of AMTSL. The system now includes information on uterotonic drugs in the National Drug Formulary, and AMTSL has been integrated into the pre-service training of more than 90 percent of mid-level training schools. In Tanzania, AED worked with the Ministry of Health and Social Welfare to develop new guidelines that include AMTSL.
- **BASICS.** The BASICS and POPPHI projects incorporated AMTSL with essential newborn care in both the Democratic Republic of Congo (DRC) and Senegal. In the DRC, BASICS and POPPHI supported the Ministry of Health and a USAID bilateral project, AXxes, in 43 health districts by providing assistance for AMTSL as well as postnatal care of mothers and newborns. In Senegal, the team and numerous partners supported the Ministry of Health in implementing activities in six districts of the Faticke region. In both countries, AMTSL has gained a strong foothold: research shows that, in Senegal, AMTSL was used in 65 percent of more than 11,000 deliveries in 2009; in DRC, it was used in 61 percent of more than 90,000 deliveries.
- **IntraHealth.** IntraHealth and POPPHI worked to build health care provider skills in Mali. In a collaborative study, IntraHealth found that matrones—auxiliary midwives who attend most births—can effectively perform AMTSL. After training, matrones scored 96 percent on evaluation of their AMTSL skills—nearly the same as skilled birth attendants (97 percent). Mali's minister of health plans to authorize matrones to practice AMTSL.

- **Jhpiego.** Jhpiego pioneered community-based distribution of misoprostol and introduced the practice into Afghanistan, Indonesia, and Nepal. Data from Nepal and Afghanistan show that nearly universal coverage with a uterotonic drug is possible when community-based misoprostol is made available as AMTSL is scaled up. Together with its partners, Jhpiego is now introducing this practice in eight additional countries. Through the ACCESS program, POPPHI and Jhpiego have collaborated on materials development that support these programs and worked closely in a number of countries. Jhpiego staff have also contributed significantly to the PPH working group and task forces.

  Jhpiego also works with providers so they can deliver basic and comprehensive emergency obstetric care. It collaborated with WHO to develop the Managing Complications in Pregnancy and Childbirth manual, which is now available in 28 languages. Jhpiego's emergency obstetric care learning resource package, which is being used in more than 30 countries, incorporates all PPH prevention and treatment components into pre-service education for midwives and doctors. Jhpiego has also made materials on all aspects of PPH-related work available on the ACCESS website.
- **University Research Co. (URC).** URC uses quality improvement methods to overcome implementation barriers for rapid scale-up of AMTSL. The methods focus on strengthening health system performance for integration of high-impact interventions (such as AMTSL) into routine health care processes. In 2008, URC-supported Maternal Newborn Improvement Collaboratives in Benin, Ecuador, Honduras, Nicaragua, and Niger reached an average of 62 percent of country districts within each country, covering more than 190,000 births. In most countries, AMTSL was administered as part of an immediate postpartum package that included essential newborn care and routine postpartum surveillance of mother and newborn. In Benin, Honduras, and Nicaragua, POPPHI provided technical assistance, materials, and guidance on indicator development. In addition, joint dissemination meetings were held in all countries to share the POPPHI survey data.

Data collection

Projects also collaborated on the use of indicators, supported monitoring and evaluation efforts, and provided data on AMTSL use to POPPHI. These data were critical for USAID and POPPHI, as they provided a snapshot of the global impact of AMTSL use, particularly in USAID-funded project areas.

- **IntraHealth.** In Armenia, where PPH accounts for 31 percent of maternal deaths, IntraHealth worked to increase health care providers' ability to prevent PPH. In particular, its Project NOVA developed a training on emergency obstetric care, including AMTSL. After the training, data showed that 87 percent of providers from NOVA sites performed AMTSL correctly. In addition, the sites reported a decrease in PPH from 3.9 percent in 2007 to 1.1 percent in 2009. Armenia has since institutionalized AMTSL into routine obstetrical practice
- **John Snow, Inc. (JSI).** In Georgia, JSI's efforts to increase use of AMTSL have led to institutionalization of the method in 99 percent of vaginal deliveries that take place in JSI-assisted facilities. POPPHI assisted with data-collection efforts that showed that use of the intervention decreased PPH rates from 8 percent to about 1 percent.

Sharing information and technical expertise

Through POPPHI, programs shared relevant insights and technical expertise.

- **Pathfinder International.** Pathfinder's approach—known as Clinical and Community Action to Address PPH—includes technologies and components that provide a continuum of interventions, both simple and complex, from prevention to treatment. Designed for the community level, primary health centers, and secondary and tertiary care facilities, the continuum encompasses all levels of entry for women vulnerable to or experiencing PPH. The approach also addresses advocacy, clinical services, and community engagement. The strategy, which Pathfinder has been implementing in Bangladesh, India, Nigeria, and Peru, represents a clear advance over the single intervention approach of the past.

Policy changes, 2004–2009

Over the past five years, AMTSL has gained global recognition as an evidence-based and lifesaving intervention. Country after country has made policy changes—including updating their definition of AMTSL, making oxytocin their drug of choice, and removing ergometrine as a first-line drug. New cadres of providers have been trained, and skilled birth attendants at peripheral or community health facilities have been given the right to practice AMTSL and administer oxytocin. In addition, misoprostol is being included in national essential medicine lists for PPH prevention.

Global policy changes

POPPHI has been an initiator, facilitator, supporter (including funder), and advocate for many of the policies listed below. The sponsoring organizations hold primary responsibility for these accomplishments, of course. POPPHI was grateful for the opportunity to support their efforts.

World Health Organization

- *MPS Technical Update: Prevention of Postpartum Haemorrhage by Active Management of Third Stage of Labour* (2006 technical consultation)
- *WHO Recommendations on the Prevention of Postpartum Hemorrhage: A Summary of the Results From a WHO Technical Consultation* (2006)
- *Technical Consultation to Finalize the Recommendation on Postpartum Haemorrhage and Retained Placenta* (2008)
- *WHO Statement Regarding the Use of Misoprostol for Postpartum Haemorrhage Prevention and Treatment* (2009)

International Federation of Gynecology and Obstetrics

- Resolution passed on *Delegated use of Uterotonics for Prevention and Treatment of Post-Partum Haemorrhage* for nurses, midwives, and general practitioners (2009)
- *Joint Statement on Prevention and Treatment of Postpartum Haemorrhage: New Advances for Low-Resource Settings* (2006)
- *Misoprostol Guidelines* (2009)

International Confederation of Midwives

- *Joint Statement on Prevention and Treatment of Postpartum Haemorrhage: New Advances for Low-Resource Settings* (2006)

East, Central, and Southern African Health Community

- Minister-level resolutions urging institutionalization of AMTSL by 2010.
- Ministries' direction for the ECSA Secretariat to develop a prototype policy on AMTSL that countries could adopt.

United States Pharmacopeia

- *Misoprostol for Prevention of Postpartum Hemorrhage: An Evidence-based Review by the United States Pharmacopeia* (2001)
- *Oxytocin Monograph*: changed storage recommendations from 2°C to 8°C to "based on drug stability studies."

On the country level, Bolivia included AMTSL in its country norms, which means that the method is now taught in all medical schools and used routinely by midwives. In Malawi, a major change in policy occurred and placed oxytocin as the first-line drug for the prevention and management of PPH. Oxytocin is now available for use in health centers where ergometrine had been the norm. In addition, a growing number of countries, including Ethiopia, Tanzania, and Uganda, have included misoprostol in their essential medicine list for PPH prevention.

Furthermore, clear guidance on drug procurement and storage has been and continues to be developed by a number of countries that have highlighted uterotonic drugs for review and updates. Fact sheets and posters have been developed to assist managers, pharmacists, and providers to better manage the drugs.

PATH / Mike Wang

Conclusion

Over the past five years, POPPHI achieved important advances in the prevention and treatment of PPH. Through technical assistance, resources, and system tools, POPPHI strengthened health care professionals' use of AMTSL and improved services and access to services. POPPHI also increased the availability of uterotonics and devices as well as providers' knowledge of their use and storage. While working most intensively in five focus countries, POPPHI also supported efforts and affected change in 35 additional countries.

Through advocacy and training, POPPHI made significant contributions to raising awareness of the dangers of postpartum hemorrhage and equipping policymakers, providers, and others with the tools and skills to address the problem. These important achievements provide a strong foundation for the continuing effort to prevent unnecessary maternal deaths. POPPHI looks to its partners, including the Maternal and Child Health Integrated Project, to build on these efforts and help health care providers around the world safeguard the lives of mothers and their children.

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2. Althabe F, Buekens P, Bergel E, et al. A cluster randomized controlled trial of a behavioral intervention to facilitate the development and implementation of clinical practice guidelines in Latin American maternity hospitals: the Guidelines Trial: Study protocol. BMC *Women's Health*. 2005, 5:4.

Appendix F: AMTSL Cost Effectiveness Model

See separate Adobe file.

Summary Cost Effectiveness of AMTSL training analysis

Introduction

This cost effectiveness assessment is focused on the cost comparison of two different training approaches, GROUP based training approach and SAIN (blended learning[1]) based training approach for training providers in AMTSL

- GROUP training – in this model, trainees gather in a central location within a region and participate in a 3-day training program together. Supportive supervision is conducted after trainees return to their post.
- SAIN training – in this model, trainees gather in a central location within a district and participate in a ½ day introductory workshop together. They then return to their posts and complete a self-paced learning program, with district mentors providing training support as needed. After completing this learning program, they return to the central location within a district and participate in a 2 day training program together. Supportive supervision is conducted after trainees return to their post.

Effectiveness is measured by looking at providers who practice AMTSL according to standard after training[2]. AMTSL is an evidence based intervention that if practiced correctly reduces PPH incidence due to uterine atony. This cost effectiveness analysis has several limitations, which are described below. The most useful output from this assessment is the detailed narrative which explains the cost components for both of these training approaches, included in **Appendix F ("Training Cost Comparison SAIN/GROUP-based approaches")**.

Summary of Results

It is not possible to definitively state that the SAIN approach is more cost effective than the GROUP approach for AMTSL training. This is because of (a) limitations in the number of trainees for which information on training costs was available and (b) information was not available for all aspects of the training for each model. However, we were able to examine the district level provider training costs, and the cost for the SAIN approach was50% less than the costs of the GROUP approach. As the number of providers to be trained increases with more regions and districts, we expect that the other cost components (e.g., training and deployment of national and regional level trainers) for each training approach become a smaller percentage of the total training costs and the cost advantages for the SAIN approach is likely to increase.

The Major Cost Elements

Refer to the detailed narrative attached, which outlines all of the detailed cost components of both of training approaches. The main costs are[3]:

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[1] Blended learning refers to a learning model that includes a mixture of face to face learning sessions and self-paced learning sessions.

[2] This assessment does not include looking at differential outcome in rates of PPH incidence or retained placenta for either training approach

[3] Refer to the detailed narrative in **Appendix F ("Training Cost Comparison SAIN/GROUP-based approaches)** which outlines all of the detailed cost components of both of training approaches.

1. Provider training costs (materials, resources, lodging and other participant cost support)
2. Post training follow-up costs (bounded by the number of times the trainer follows up with the provider))

These cost categories include costs to the implementer, and not local opportunity costs such as public health worker time, addition of AMTSL to supportive supervision time, and updates to facility registers or national HMIS.

Training Effectiveness

The measure of "training effectiveness" used for this assessment was provider practice of AMTSL after training. This was measured during follow-up visits by trainers to trained providers. Trainers observed providers' practice of AMTSL according to defined standards, as part of the post-training follow-up. Mali did not provide approval for a formal evaluation to be conducted 6 to 9 months after the initial post training follow-up, to observe provider practice, so POPPHI could not conduct a formal evaluation to observe provider practice. The only provider practice information available is self-reported data from providers in districts and regions, which was 93%, 6-9 months after the trainings were completed. This data was not dis-aggregated by training type, so no comparison can be made of provider practice. .

District training costs were provided for the Bankass District in the Mopti Region and Kati District in the Koulikoro Region. In these two districts, providers were only trained using the SAIN approach.

A formal evaluation of the learning materials and SAIN learning approach was conducted by POPPHI, and included a small component that assessed the acceptability of the SAIN approach for providers. Most providers appreciated the SAIN learning materials and the subject matter, with mentor support. Less than 5% of providers surveyed said they would prefer the GROUP based training approach. This evaluation did not compare the GROUP based approach with the SAIN approach, because the evaluation did not include providers trained in AMTSL using the GROUP approach, but asked these providers who were assessed using the SAIN approach for their opinions based on their prior experiences with GROUP based learning for other non-AMTSL interventions.

Cost Effectiveness Analysis Assumptions

1. In the attached Excel model, this model used training details from two districts of Mali, within 2 regions
    a. Motpi Region: Bankass District
    b. Koulikoro Region: Kati District
2. This does not include the following 3 cost components
    a. Initial setup/introduction of the training approach
    b. Initial trainings of regional/mentor trainers
    c. Post training follow-up costs
3. This does include the following cost components
    a. District level training costs for providers

Note: The POPPHI project has created an excel shell that includes these other cost components, but the details for regions and districts would need to be included here to build a model of the total costs involved in either the SAIN or GROUP based learning approach.

Cost Effectiveness Analysis Results

Given the limitations of the available data for all 17 districts within the Mopti and Koulikoro regions, (e.g. including the number of sites, distance to sites etc) it is not possible to fill in the shell for all cost model components of the GROUP and SAIN training approaches to be used for this effectiveness assessment. It is also not possible to definitively state that the SAIN model is as effective as the GROUP model, given that no formal observation assessment of provider practice was permitted in Mali and only self reported data (6 to 9 months after training) from providers is available.

Therefore, it is not possible to definitively state that the SAIN approach is more cost effective than the GROUP approach for AMTSL training. However, given these constraints, it is still possible to examine the costs at the district level only, and the SAIN approach costs 50% less than the GROUP approach. As the number of providers to be trained increases by adding more regions and districts, the other 3 cost components (described earlier) become a smaller percentage of the overall training costs so that the greater than 50% savings per district result in greater savings for a larger group of providers.

Other Limitations to this cost effectiveness assessment

1. Drug storage, transport and quantification are important for oxytocin availability for providers to practice AMTSL. Both training approaches include materials related to this topic, but cannot ensure that facilities have adequate supplies of uterotonics, or store these correctly. Providers will not be able to practice AMTSL if there are no uterotonics available in the facility. We did not do a formal evaluation of these aspects for both models in Mali[4]. The temperature and efficacy of oxytocin were not measured formally in Mali.
2. Subjective feedback from SAIN participants – most participants felt that although there was a learning curve for the SAIN approach that they were able to learn AMTSL[5]. This is anecdotal and cannot be used for a comparison because people do not take both training methods and report their perceptions – they have either taken one or the other, and those taking GROUP based do not generally know about the SAIN approach.
3. This assessment did not evaluate provider AMTSL competence prior to training.
4. This assumes that all recommended training steps are included in delivering training, especially the post training follow-up, which may not always occur.

[4] In Ghana, there was availability and correct storage of oxytocin. In Mali, we can say anecdotally that with the providers trained using the SAIN approach, there was oxytocin available in delivery rooms in boxes with ice bags. In Bangladesh (group based provider training approach) we can say that there was also a supply of oxytocin, and if not available then the patient purchased in advance.

[5] 1 in 81 felt they would have preferred GROUP based training (GHANA)

Training Cost Comparison
SAIN/Group-based approaches

(1)Set-up

	SAIN	Group-based
1.1 US-based consultant	Trip 1 (10 days): Five days: • Introduce the blended learning approach at national and regional levels – one consultant • Develop the learner support system at national and regional levels • Adapt materials for local context and self-paced approach Five days: • Train future mentor trainers in AMTSL (3 days) and pre-test materials (Ratio of 1 master trainer : 4 future mentor trainers; no more than 8 participants per clinical site) • Revise and finalize materials Trip 2 (7 days): • Conduct training of mentor trainers – 2 days (1 master trainer : 4 future mentor trainers) • Observe / support training of mentors (5 days) - 1-2 master trainers (may be national or international)	Trip 1 (10 days): Five days: • Reach agreement on training strategy, partners, etc. • Adapt materials for local context Five days: • Train future trainers in AMTSL (3 days) and pre-test materials (Ratio of 1 master trainer : 4 future trainers; no more than 8 participants per clinical site) • Revise and finalize materials Trip 2 (5 days): • Conduct TOT – 2 days (Ratio of 1 master trainer : 4 future trainers) • Observe newly trained trainers as they train their first batch of participants (3 days) - 1-2 master trainers (may be national or international)
1.2 Local NGO	Plan for training activities	Plan for training activities
1.3 Production of learning materials	• Training of mentor trainers: Facilitator's Guide, Mentor's Guide, Learner's Notebook, Learner's Guidebook • Training of mentors: Mentor's Guide, Learner's Notebook, Learner's Guidebook • Training providers: Learner's Notebook, Learner's Guidebook Note: Self-paced materials are bulkier than group-based because of additional learning activities / answers	• Training of trainers: TOT Manual, Facilitator's Guide, Reference Manual, Learner's Notebook • Training providers: Reference Manual, Learner's Notebook
1.4 Obstetric mannequins	One per clinical training site (usually one clinical site per district)	At least two per region

a. US-based consultant: Differences in costs for the two learning approaches will depend upon whether a US-based consultant needs to be present in the country to introduce the alternate learning approach or if this work can be done virtually. In some cases, preparatory work for the group-based approach also requires an initial trip.

   Once materials are adapted to the local context, future trainers can be trained in AMTSL and materials pre-tested and improved during this training. Following initial training of trainers in AMTSL, training of trainers to train providers or mentors

requires five days for the group-based approach as opposed to seven days for training of mentor trainers.

b. Local NGO: The local NGO who is hired to run the training program will have similar costs for setting up both models, including negotiating who will be responsible for supervision of all activities, hiring the country-based trainers to conduct training activities and follow-up, preparing for training activities, arranging for printing of learning materials, etc.

c. Production of learning materials: There will be approximately a 40-45% increase in costs in the production of learning materials for the SAIN model.

d. Mannequins: For the SAIN based model, each clinical site (usually one clinical site per district) needs a mannequin, whereas in the GROUP based approach, each region needs at least two mannequins because all providers in the region are trained regionally. Each mannequin costs approximately 500 USD.

(2)Training activities

		SAIN	Group-based
2.1 Training of regional trainers (TOT) - National level training	• Number of days	• 3 days for AMTSL + 2 days for training to be trainers	
	• Honorarium for facilitators	• 1 Facilitator for 4 future trainers x 5 days	
	• Perdiem and lodging	• 5 days / 6 nights (facilitators and future trainers)	
	• Transport costs from place of work to venue	• One round-trip ticket for all non-resident participants	
	• Transport costs from lodging to training site / clinical site	• 5 days	
	• Rental of training venue and LCD projector	• 5 days	
	• Support staff	• 5 days	
	• Fuel / Possible rental of vehicle for internal transportation	• 5 days	
2.2 Training of mentors / First group-based training by trainers – first Regional level training of providers	• Number of days	• 3 days for AMTSL + 2 days for training to be mentors	• 3 days for first batch of providers training
	• Honorarium for facilitators	• 1-2 Master Trainers x 5 days PLUS • 1 Mentor Trainer for 4 future mentors x 5 days	• 1-2 Master Trainers x 5 days PLUS • 1 Future Regional Trainer for 4 participants x 3 days
	• Perdiem and lodging	• 5 days / 6 nights (Master trainers, Mentor trainers, and future mentors)	• 3 days / 4 nights (Master trainers and future trainers)
	• Transport costs from place of work to venue	• One round-trip ticket for all non-resident participants	

		SAIN	Group-based
2.2 Training of mentors / First group-based training by trainers – first Regional level training of providers (continued)	• Transport costs from lodging to training site / clinical site	• 5 days	
	• Rental of training venue and LCD projector	• 5 days	• 3 days
	• Support staff	• 5 days	• 3 days
	• Fuel / Possible rental of vehicle for internal transportation	• 5 days	• 3 days
2.3 Training of providers SAIN: Training activities are conducted at the district clinical site GROUP: Training activities are usually conducted at the regional training center	• Number of days	• On-site providers: • Off-site providers: ½ day for orientation, 1-2 days for clinical	• 3 days
	• Honorarium	• Honorarium calculated per provider trained	• Honorarium for each facilitator for 3 days (multiplied by the number of training sessions required to train all of the providers in the region)
	• Perdiem and lodging	• On-site providers: No expenses (could consider one lunch during demonstrations) • Off-site providers: Perdiem and lodging for 1-2 days / 1-2 nights (Learners only)	• 3 days / 4 nights (Trainers and participants)
	• Transport costs from place of work to venue	• On-site providers: No transport costs • Off-site providers: 2 round-trips to district clinical site (first trip for orientation and second trip for clinical)	• One round-trip to regional training center per participant • Round-trip tickets may be necessary if facilitators do not live at the training venue
	• Transport costs from lodging to training site / clinical site	• Only if clinical exceeds 1 day	• 3 days
	• Rental of venue and LCD; flipcharts and markers	• No costs	• 3 days
	• Support staff	• No costs	• 3 days

		SAIN	Group-based
	• Administrative costs for managing training funds	• Support staff, secretary	
	• Printing training reports	• 3-page report for all providers trained in a district	• Time to write the formal report • Training report usually 10-15 pages long
	• Telephone costs	• Learner / Mentor • Training coordinator	• Training coordinator

National level TOT

Regional trainers will be trained at the national level for both the SAIN and GROUP approaches. In each case, this will involve a 5-day group-based training activity. For both the GROUP and SAIN approaches the trainers need to be proficient in AMTSL before training others. In general, future trainers first complete a three-day training in AMTSL and then are given time to apply and become proficient in it. Once they are proficient in AMTSL, they are then trained to be trainers. In some cases, future trainers are trained in AMTSL and TOT at the same time. For both group-based and SAIN training approaches, an initial training of trainers / mentor trainers is conducted that lasts two days.

Once trainers and mentor trainers have completed their TOT, they will begin working as trainers. How they begin is different for the two approaches:

- In the SAIN approach, master trainers conduct a post-training follow-up visit two to three weeks after the TOT and, if future mentor trainers are found to be proficient in AMTSL, they will be encouraged to begin training mentors. Master trainers will observe and support regional trainers as they train the first batch of district-based mentors.
- In the GROUP approach, master trainers train regional trainers and then will observe and support them as they train their first group of providers.

Master trainers may follow-up on training activities either through regular supervisory visits or on a quarterly or semi-annual basis. Regional trainers will provide information on providers trained to the national level. For the SAIN approach, mentors will provide district-level information on training to the regional mentors, who will then provide this information to the national level.

Regional / district level training activities

Once trainers begin training activities, the two approaches are very different. Cost savings for training activities using the SAIN approach occur during training of providers.

Group-based: For the group-based training approach, each region has a regional training site and two regional trainers. All district health personnel travel to the regional site for the three-day course in AMTSL. In general, only eight providers (ratio of 1 facilitator: 4 participants) should be included in each training session. Training in the core topics is for three days.

SAIN: For the SAIN model, each district has a district clinical training site with two mentors at each site. The only regional training activities that will occur are for training of mentors. Once district-based mentors have been trained, they will be responsible for training all district level birth attendants, beginning with all birth

attendants practicing at the clinical training site. For all providers using the SAIN approach, an initial orientation to the course is provided, followed by the providers completing the self-paced portion of the course. The clinical portion will be conducted at the clinical training site once the learner has satisfactorily completed the self-paced portion of the course. The number of days to budget for training activities will depend upon whether the provider is on-site or off-site:

- On-site providers: No time for training will need to be budgeted for birth attendants at the clinical site as they will be trained on-site. Some programs offer a lunch for one day to recognize efforts made towards completing the course.
- Off-site providers: Once all birth attendants at the clinical site are trained, staff from peripheral facilities will be trained at the district training site. Off-site providers will need to travel to the clinical training site for orientation and to receive their learning materials. Once they have completed the self-paced portion of the course, they will return to the clinical site a second time to work on demonstrations and clinical. A maximum of 2 days should be budgeted for clinical time.

(3)Post-training follow-up:

	SAIN	Group-based
3.1 Follow up of mentor trainers, mentors/regional trainers	A. National-level trainers visit regional mentor trainers at their sites to evaluate proficiency in AMTSL (assume 1 day per region)	A. National-level trainers visit regional trainers at their sites to evaluate proficiency in AMTSL (assume 1 day per region)
	B. National-level trainers support regional mentor trainers as they train all of the district mentors.	B. National-level trainers support regional trainers as they train their first batch of participants.
	C. Regional-level mentor trainers visit mentors at their sites to evaluate proficiency in AMTSL. If mentors are proficient, they are encouraged to begin guiding learners on-site through the materials.	
	D. Regional-level trainers visit clinical sites after all BAs have completed training to evaluate readiness of the site to accept providers from peripheral facilities.	
	E. Mentors follow newly trained providers both on-site and off-site.	E. Regional-level trainers visit newly trained providers at their sites at least once after training activities have been completed to evaluate proficiency in AMTSL.
	F. National-level trainers periodically evaluate training activities.	F. National-level trainers periodically observe regional trainers as they conduct training activities.
	G. Mentors provide information to the regional mentor trainer on providers trained and AMTSL coverage in their district.	H. Regional level trainers write training reports and keep track of AMTSL coverage.

	SAIN	Group-based
	H. Regional-level mentor trainers keep track of AMTSL coverage and providers trained in their region.	
3.2 Follow-up of newly trained providers	• District mentors provide post-training follow-up visits to newly trained providers within their district.	• Regional trainers provide post-training follow-up visits to newly trained providers within their region.

Follow-up of trainers / mentors

In both approaches, future trainers/mentors should be observed applying AMTSL in their worksite and found proficient before being given the green light to begin training other providers / mentors. This step is unfortunately frequently bypassed in traditional group-based training programs. Once mentors and trainers have completed their training, monies budgeted for following them will be greater for the SAIN approach:

Group-based: National-level trainers will observe regional-level trainers conduct their initial training activities for providers. By being present during this initial training session, national-level trainers can support and provide constructive feedback to the new trainers. After trainers have successfully conducted their initial group-based training session, national trainers will periodically observe training activities conducted by regional trainers to assure their quality.

SAIN approach: For the SAIN approach, national-level trainers will observe newly trained regional mentor trainers as they train district mentors. After being trained, mentors will return to their place of work to become proficient in AMTSL. Regional mentor trainers will visit mentors at their worksites at least twice:

- The first visit will be to evaluate mentors' proficiency in AMTSL and give the green light to begin guiding providers working at the clinical site through the learning materials.
- The second visit will occur once all of the providers on-site have completed the training course to assess the clinical site's readiness to begin training activities.

Quality assurance of training activities

The bodies responsible for ongoing quality assurance of training activities differ for the two approaches:

- In the GROUP approach, the national-level master trainers will be responsible for assuring quality of the training activities. In general, costs for quality assurance of group-based activities are more expensive than those for the SAIN approach because they require additional visits from the national level.
- In the SAIN approach, mentors are ultimately responsible for training providers in their district and regional mentor trainers are responsible for assuring quality of training activities conducted by the mentors. Quality assurance of training activities will be integrated into their regular supervisory visits.

In both cases, follow-up will also consist of reviewing training reports and AMTSL coverage.

Follow-up of newly trained providers

For the GROUP approach, the regional trainer will travel to the newly-trained provider's worksite no longer than six weeks after training to assess transfer of

training to the worksite. Costs for follow-up will be more expensive in the group-based approach because regional trainers will be travelling all over the region.

For the SAIN approach, mentors will evaluate staff on-site and travel to peripheral sites no longer than six weeks after training to assess transfer of training to the worksite. Because all providers are located within the same district as the mentor, travelling time and costs will be considerably cheaper than for the group-based approach.

Bankass District, Mopti Region, Mali

Length of training	3 days	
Regional trainers	2	
Participants	22	
Support staff	2	
Number of training sessions	2.5	(Maximum of 10 participants / session)

Group-based training for providers

Training supplies

	Unit price	Quantity	Total (FrCFA)		Total (USD)
Notebook	XOF 750	22	XOF 16,500		$37.50
Pen	XOF 90	22	XOF 1,980		$4.50
Pencil	XOF 75	22	XOF 1,650		$3.75
Binder	XOF 1,250	22	XOF 27,500		$62.50
Reference Manual	XOF 3,500	22	XOF 77,000		$175.00
Participant's Notebook	XOF 3,500	22	XOF 77,000		$175.00
Ream of paper	XOF 5,000	1	XOF 5,000		$11.36
Flipchart	XOF 30,000	1	XOF 30,000		$68.18
Markers	XOF 1,250	5	XOF 6,250		$14.20
Flipchart tape	XOF 2,000	1	XOF 2,000		$4.55
Chlorine	XOF 1,500	11	XOF 16,500		$37.50
Soap	XOF 300	3	XOF 900		$2.05
Sub Total			**XOF 262,280**		**$596.09**

Transport

	Km	Quantity	Unit price	Total (FrCFA)	Total (USD)
Fuel for round-trip Bankass-Mopti-Bankass	625	125	650	XOF 203,125	$451.39
Fuel for errands	100	20	650	XOF 32,500	$72.22
Sub Total				**XOF 235,625**	**$523.61**

*125 km from Bankass to Mopti. Price estimates fuel costs between Bankass and Mopti only. This is total for 2.5 training sessions.

Meals / tea snacks

	Unit price	Quantity	No of days	Total (FrCFA)	Total (USD)
Morning tea	XOF 1,000	32	3	XOF 96,000	$213.33
Lunch	XOF 2,000	32	3	XOF 192,000	$426.67
Venue rental	XOF 20,000	1	7.5	XOF 150,000	$333.33
Sub Total				**XOF 438,000**	$973.33

Per Diems / Honorarium

	Unit price	No of persons	No of days	Total (FrCFA)	Total (USD)
Non-resident participants	XOF 7,500	22	4	XOF 660,000	$1,466.67
Regional Facilitators	XOF 15,000	2	7.5	XOF 225,000	$500.00
Secretary	XOF 3,000	1	7.5	XOF 22,500	$50.00
District chauffeur	XOF 3,000	1	10	XOF 30,000	$66.67
Sub Total				**XOF 937,500**	**$2,083.33**

TOTAL	**XOF 1,873,405**	**$4,176.37**

Bankass District, Mopti Region, Mali

Length of training	2 days
Mentors	2
On-site learners	7
Off-site learners	15
Support staff	2

SAIN training for providers

Training supplies

	Unit price	Quantity	Total (FrCFA)		Total (USD)
Notebook	XOF 750	22	XOF 16,500		$37.50
Pen	XOF 90	22	XOF 1,980		$4.50
Pencil	XOF 75	22	XOF 1,650		$3.75
Binder	XOF 1,250	22	XOF 27,500		$62.50
Learner's guide	XOF 5,000	22	XOF 110,000		$250.00
Learner's notebook	XOF 5,000	22	XOF 110,000		$250.00
Chlorine	XOF 1,500	11	XOF 16,500		$37.50
Soap	XOF 300	3	XOF 900		$2.05
Sub Total			**XOF 285,030**		**$647.80**

Transport

	Unit price	Quantity	No of days	Total (FrCFA)	Total (USD)
Fuel for errands	XOF 650	20		XOF 13,000	$28.89
Fuel for generator	XOF 650	20		XOF 13,000	$28.89
Transport reimbursement for In-charges of CSComs	XOF 7,500	6		XOF 45,000	$100.00
Sub Total				**XOF 71,000**	**$157.78**

Meals / tea snacks

	Unit price	Quantity	No of days	Total (FrCFA)	Total (USD)
Tea (morning and afternoon)	XOF 2,000	24	2	XOF 96,000	$213.33
Sub Total				**XOF 96,000**	**$213.33**

Per Diems / Honorarium

	Unit price	No of persons	No of days	Total (FrCFA)	Total (USD)
Mentors	XOF 45,000	2		XOF 90,000	$200.00
Resident learners	XOF 3,000	7	2	XOF 42,000	$93.33
Non-resident learners	XOF 7,500	15	2	XOF 225,000	$500.00
Support persons	XOF 3,000	2	2	XOF 12,000	$26.67
Sub Total				**XOF 369,000**	**$820.00**

TOTAL	**XOF 821,030**	**$1,838.91**

Kati District, Koulikoro Region, Mali

Length of training 3 days
Regional trainers 2
Participants 77
Support staff 2
Number of training sessions 8 (Maximum of 10 participants / session)

Group-based training for providers

Training supplies

	Unit price	Quantity	Total (FrCFA)		Total (USD)
Notebook	XOF 750	77	XOF 57,750		$131.25
Pen	XOF 90	77	XOF 6,930		$15.75
Pencil	XOF 75	77	XOF 5,775		$13.13
Binder	XOF 1,250	77	XOF 96,250		$218.75
Reference Manual	XOF 3,500	77	XOF 269,500		$612.50
Participant's Notebook	XOF 3,500	77	XOF 269,500		$612.50
Ream of paper	XOF 5,000	3	XOF 15,000		$34.09
Flipchart	XOF 30,000	8	XOF 240,000		$545.45
Markers	XOF 1,250	20	XOF 25,000		$56.82
Flipchart tape	XOF 2,000	8	XOF 16,000		$36.36
Sub Total			**XOF 1,001,705**		**$2,276.60**

Transport

	Km	Quantity	Unit price	Total (FrCFA)	Total (USD)
Fuel for round-trip Kati-Koulikoro-Kati	150	30	650	XOF 156,000	$346.67
Fuel for errands	100	20	650	XOF 104,000	$231.11
Sub Total				**XOF 260,000**	**$577.78**

*125 km from Bankass to Mopti. Price estimates fuel costs between Bankass and Mopti only. This is total for 2.5 training sessions.

Meals / tea snacks

	Unit price	No of people	No of days	Total (FrCFA)	Total (USD)
Morning tea	XOF 1,000	109	3	XOF 327,000	$726.67
Lunch	XOF 2,000	109	3	XOF 654,000	$1,453.33
Venue rental	XOF 20,000	1	24	XOF 480,000	$1,066.67
Sub Total				**XOF 1,461,000**	**$3,246.67**

*Number of people was calculated by adding the total number of participants to the number of facilitators (2) and support staff (1) and chauffeur (1) needed for 8 sessions

Per Diems / Honorarium

	Unit price	No of persons	No of days	Total (FrCFA)	Total (USD)
Non-resident participants	XOF 7,500	77	4	XOF 2,310,000	$5,133.33
Regional Facilitators	XOF 15,000	2	24	XOF 720,000	$1,600.00
Secretary	XOF 3,000	1	24	XOF 72,000	$160.00
District chauffeur	XOF 3,000	1	32	XOF 96,000	$213.33
Sub Total				**XOF 3,198,000**	**$7,106.67**

TOTAL	**XOF 5,920,705**	**$13,207.71**

Kati District, Koulikoro Region, Mali

Length of training	2 days
Mentors	2
On-site learners	39
Off-site learners	38
Support staff	2

SAIN training for providers

Training supplies

	Unit price	Quantity	Total (FrCFA)		Total (USD)
Notebook	XOF 750	77	XOF 57,750		$131.25
Pen	XOF 90	77	XOF 6,930		$15.75
Pencil	XOF 75	77	XOF 5,775		$13.13
Binder	XOF 1,250	77	XOF 96,250		$218.75
Learner's guide	XOF 5,000	77	XOF 385,000		$875.00
Learner's notebook	XOF 5,000	77	XOF 385,000		$875.00
Sub Total			**XOF 936,705**		**$2,128.88**

Transport

	Unit price	Quantity	No of days	Total (FrCFA)	Total (USD)
Fuel for errands	XOF 545	10		XOF 5,450	$12.11
Transport reimbursement for non-resident staff	XOF 3,000	38		XOF 114,000	$253.33
Sub Total				**XOF 119,450**	**$265.44**

Meals / tea snacks

	Unit price	Quantity	No of days	Total (FrCFA)	Total (USD)
Tea (morning and afternoon)	XOF 2,000	81	2	XOF 324,000	$720.00
Sub Total				**XOF 324,000**	**$720.00**

Per Diems / Honorarium

	Unit price	No of persons	No of days	Total (FrCFA)	Total (USD)
Mentors	XOF 45,000	2		XOF 90,000	$200.00
Resident learners	XOF 3,000	39	2	XOF 234,000	$520.00
Non-resident learners	XOF 5,000	38	2	XOF 380,000	$844.44
Support persons	XOF 3,000	2	2	XOF 12,000	$26.67
Sub Total				**XOF 716,000**	**$1,591.11**

TOTAL	**XOF 2,096,155**	**$4,705.43**

Appendix G: PATHWAYS Country Situational Analysis

See separate Adobe file.

Country situational analysis: Critical elements for scale-up of AMTSL

Policy	**No policy on AMTSL → Clear policy on AMTSL**		
	• National policies restrict AMTSL at home *DRC; Benin; Mali*	• Cadres not authorized to practice AMTSL in facilities *Benin: Nursing Assistants Senegal: Auxiliary midwives (AM) Ukraine: General physicians and nurses; DRC (Nursing Assistants); Honduras: Midwives*	• National policy for AMTSL in facilities in place; All SBAs authorized to practice AMTSL and use uterotonic drugs for AMTSL in facilities *Benin; Mali (includes Matrones); Senegal; Ukraine; Bangladesh (National Standard Guidelines only); Ghana; DRC; Hondura s; Nicaragua; Indonesia; Ethiopia (national guidelines PPH treatment and prevention)* • National Policy to support community based PPH prevention *Bangladesh; Ghana* • National associations for midwives and obstetrician/gynecologists have signed a joint statemen t for the prevention of PPH. *Benin; Mali* • National scale-up plan in place *DRC; Benin; Mali; Ghana; Senegal; Indonesia; Bangladesh*
Provider	**AMTSL not practiced → Majority of births with AMTSL**		
	• Providers not authorized to practice AMTSL at home births *Benin; Mali; Senegal* • No home based deliveries *Ukraine;*	• Providers authorized to practice AMTSL at home births *Bangladesh (CSBA); Indone sia (midwives); Ethiopia (Health Extension Workers)* • Cadres attending births in facilities are not authorized to practice AMTSL. *Benin (Nursing Assistants)*	• Most delivery facilities and SBAs using AMTSL *Ukraine; Benin (>85% delivery facilities): Mali: Selected regions (Mopti, Koulikoro, Sikasso, Gao, Bamako) using AMTSL; Selected districts with AM; Senegal: (65% of deliveries in the facilities received AMTSL - 41 districts in 5 regions); Bangladesh (25 districts of 64); Ghana (27% AMTSL nationally) DRC (USAID zones only); Honduras (75%); Nicaragua; Indonesia (40% nationally)*

	Providers not trained in AMTSL →		All SBAs trained in AMTSL
Provider	• No in-service training programs *Benin: Nursing assistants;* • No pre-service training programs *Honduras;* • Use of misoprostol for AMTSL is not integrated into pre-service training programs *Benin; Ghana; Mali;* • Use of misoprostol for AMTSL is not integrated into in-service training programs *Benin; Ghana; Mali*	• AMTSL being integrated into pre-service education programs for nurses, midwives, and doctors *Senegal; Bangladesh (informally in certain locations)* • In-service education programs for other cadres being developed *Senegal: Auxiliary Midwives Bangladesh (Nurses/Midwives, CSBA in some projects); Mali (matrones)*	• Standardized in-service programs available (SBA) *Benin; Mali (Nurses, midwives, doctors, General Physicians, Matrones); Senegal; Ukraine (OB/GYN, midwives); B angladesh (OB/GYN, General Physicians,); Ghana; DRC; Honduras; Nicaragua; Indonesia(OB/GYN, General physicians, midwives); Ethiopia* • AMTSL integrated into pre-service education programs *Benin, Ghana: (Nurses, midwives, OB/GYN, general physicians); Ukraine: (OB/GYN, midwives); DRC; Nicaragua: (OB/GYN, Doctors, Medical assistants, midwives, nurses); Indonesia* (OB/GYN, general *physicians*, midwives, nurses); *Ethiopia (mid-level professionals)*

	Limited use of uterotonic drugs for AMTSL →		All uterotonic drugs registered for use with AMTSL
Logistics (Drugs and supplies)	• Protocols not yet developed for quantification, transport and storage of all uterotonic drugs nationally *Bangladesh; DRC; Honduras; Nicaragua (transport, storage); Indonesia (transport), Ghana (transport, quantification); Benin;* • Misoprostol not registered for PPH prevention, treatment *Ghana (not regular registration); Benin; Mali; DRC; Honduras; Nicaragua; Indonesia* • Misoprostol is not included in the Standard Treatment Guidelines for AMTSL. *Ghana; DRC*	• Misoprostol used “off label” and limited to induction and augmentation by physicians *Mali; Benin;* • Projects working with MOH to develop protocols for quantification and storage of all uterotonic drugs *Mali; Benin; Ghana* • Misoprostol registered by drug authority for PPH Prevention, Treatment, but not on EML *Bangladesh;* • Policies in place for quantification of uterotonic drugs *Indonesia*	• Oxytocin and ergometrine for prevention, treatment of PPH in National EDL/EML; *Benin; Mali; Ukraine; Bangladesh; Ghana; DRC; Uganda (oxytocin only)* • Oxytocin first line drug; Ergometrine second line drug for AMTSL for all SBAs *Benin; Mali; Ukraine; Bangladesh; Ghana; Nicaragua; Indonesia; DRC* • Oxytocin first line drug; Misoprostol second line drug for AMTSL *Honduras;* • Misoprostol for prevention of PPH included in STGs *Benin; Bangladesh; Honduras* • Misoprostol for treatment of PPH included in STGs *Ukraine; Bangladesh;* • Misoprostol for induction/augmentation and prevention/treatment of PPH in National EDL/EML *Ghana* • Misoprostol for prevention and treatment of PPH in National EDL/EML *Ethiopia; Zambia; Tanzania; South Sudan* • Misoprostol used “off label” for induction and augmentation of labor and treatment of PPH *Benin; Mali* • Oxytocin integrated into drugs to be stored in the cold chain *Mali;* • Policies in place for storage of uterotonics *Mali; Ghana; Ukraine; Nicaragua(facility level only); Indonesia (oxytocin)* • Tools developed for recording movement of uterotonic drugs in delivery room *Mali; Ghana*

	AMTSL use not monitored →		AMTSL use monitored nationally
Monitoring and Evaluation	• AMTSL at home level not included in project or national goals *Senegal; Mali; Benin; Ukraine; Nicaragua* • AMTSL at facility level not included in national HMIS *Ukraine; Bangladesh; Ghana; Indonesia* • No AMTSL in Delivery register *Ukraine; Nicaragua; Indonesia* • ATMSL not integrated into RH integrated supervision tools *Ukraine; Ghana; Bangladesh*	• AMTSL at facility level collected by selected projects *Benin; Mali; Ukraine; Senegal; Bangladesh (25 of 64 districts); DRC; Honduras; Ghana* • Delivery register include a column for AMTSL *Mali (next version);* • AMTSL at facility level soon to be included in national HMIS *Benin; Mali (2010); DRC (2010); Ghana* • Proposition made to integrate AMTSL into RH integrated supervision tool *Mali; Benin, DRC (once indicator adopted)*	• Partograph modified to include all 3 components of AMTSL *Benin; Mali; Indonesia; Ghana; DRC; Nicaragua;* • Partograph modified to include single combined AMTSL component *Senegal;* • Delivery record modified to include tracking AMTSL *Benin; Senegal; Mali; Ghana; DRC;* • Medical record modified to include tracking AMTSL *Honduras* • Delivery register modified to include tracking AMTSL *Ghana; DRC* • AMTSL at facility level included in national HMIS *Senegal; Honduras (Perinatal Information System);Nicaragua; Ethiopia* • AMTSL protocol has been also added in to the supervision tools *Senegal (national* RH tools)*; Nicaragua; Indonesia; Ghana*

Appendix H: Ghana and Mali SAIN Evaluation

See separate Adobe file.

Assessment of the self and individual (SAIN) learning approach in Eastern and Western regions, Ghana, four months after training AMTSL clinical instructors

November 2009

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POPPHI

Prevention of Postpartum Hemorrhage Initiative

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Assessment of the self and individual (SAIN) learning approach in Eastern and Western regions, Ghana, four months after training AMTSL clinical instructors

Prevention of Postpartum Hemorrhage Initiative (POPPHI)

November 2009

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Acronyms

AMTSL	active management of the third stage of labor
CCT	controlled cord traction
DPL	drug procurement list
EDL	essential drug list
GHS	Ghana Health Services
HLD	high-level disinfection
ICM	International Confederation of Midwives
IM	intramuscular
IP	infection prevention
IU	international unit
IV	intravenous
LSS	life-saving skills
mcg	micrograms
MOH	Ministry of Health
N/A	Not applicable
POPPHI	Prevention of Postpartum Hemorrhage Initiative
PPH	postpartum hemorrhage
SAIN	on-site and individual learning approach
USAID	United States Agency for International Development
WHO	World Health Organization

Executive summary

This report describes an assessment of clinical instructors' and learners' experience with the self and individual (SAIN) learning approach and its impact on the practice of AMTSL in five facilities where the approach was introduced in July, 2009. The SAIN learning approach is a blended learning methodology that had previously been used in Ghana for in-service training activities in life-saving skills (LSS). The innovation with the SAIN learning approach is the training of facility-based clinical instructors (CIs) who guide providers working on-site and off-site through the learning materials. For the purpose of this report, CIs for this intervention will be called AMTSL (active management of the third stage of labor) CIs.

With assistance from the USAID project POPPHI, the Ghana Health Services (GHS) implemented the SAIN learning strategy in seven hospitals in the Eastern and Western Regions-Takoradi, Kwesimintsim, Tarkwa, and Sefwi-Wiawso Hospitals in the Western Region; Koforidua, Assessewaa, and Oda Hospitals in the Eastern Region. There were a total of twelve AMTSL CIs trained, four physicians and eight nurse-midwives. At the time of the assessment, only ten AMSTL CIs were still working in the designated facilities. Three facilities have a team of a physician and nurse-midwife AMTSL CI, and four facilities have only a nurse-midwife working as an AMTSL CI.

The assessment team used interviews, a checklist to observe providers applying AMTSL, and a facility audit. The tools were used to evaluate several areas: coverage and documentation of AMTSL; storage and stockage of uterotonic drugs; feasibility and acceptability of the SAIN learning approach for in-service training activities in the Ghanaian context; and competence of providers trained using this approach.

Coverage and documentation of AMTSL

- Coverage of AMTSL was high in all facilities, even those where all of the providers on-site had not completed the course.
- Facilities had added additional columns to delivery logs to document AMTSL, estimated blood loss, and uterotonic administration.
- Providers are writing out administration of a uterotonic drug, application of controlled cord traction (CCT) and countertraction, and uterine massage in the client's chart.
- Anecdotally, rates of retained placenta and postpartum hemorrhage (PPH) are lower than before beginning training activities.

Competence of providers trained using the SAIN learning approach

- Providers assessed on obstetric models and with real cases safely performed the three components of AMTSL.
- In some cases, providers are still immediately clamping the cord.
- Monitoring the woman and newborn, and educating the woman/mother in the immediate postpartum are areas that still need strengthening.

Storage and stockage of uterotonic drugs Storage and stockage of uterotonic drugs

- All facilities had adequate stocks of oxytocin and ergometrine, with no stock-outs during the months of July, August, and September 2009.
- Oxytocin and ergometrine were correctly stored in all of the pharmacies.

- All of the maternity units had a refrigerator that was unlocked and stocks of oxytocin, ergometrine, and misoprostol.
- Oxytocin 10IU is the uterotonic being used consistently for AMTSL.
- Only two facilities had a notebook to follow movement of oxytocin in the delivery room.

Feasibility and acceptability of the SAIN learning approach for in-service training activities in the Ghanaian context

- A large number of providers were trained in a relatively short period of time and at less cost than group-based training.
- Providers and AMTSL CIs were extremely motivated. They noted the difficulty of combining work duties with learning activities but were able to overcome it to complete the course.
- The strategy was easier to implement when there was a doctor/midwife team of CIs and when the nurse-midwife CI was the in-charge for the labor ward.
- Some of the providers and AMTSL CIs interviewed felt that the amount of money provided for lunch was an obstacle for completing learning materials.
- All of the providers interviewed appreciated the learning materials and the subject matter. Only one provider interviewed said she would prefer the group-based approach.
- The majority (7/7) of AMTSL CIs and (9/10) providers interviewed would undertake the training in the same way again.
- All facility managers and regional health managers interviewed said they would undertake the training again in the same way and recommend it to other facilities and regions.

Introduction

Maternal Mortality continues to be a major health problem for health care providers and policy makers. In Ghana the current maternal mortality ratio is estimated at 451/100,000 live births. Globally, complications during pregnancy and childbirth are the most significant causes of death among women of reproductive health age. Less than one percent of these deaths occur in more developed countries, showing that the large majority of these deaths can be prevented if there are sufficient resources and health services available.

Most maternal deaths in Ghana are attributable to direct causes. Direct maternal deaths follow complications of pregnancy and childbirth, or are caused by any interventions, omissions, incorrect treatment or events that result from these complications. The five major direct causes are hemorrhage, infection, eclampsia, obstructed labor, and unsafe abortion. The levels of maternal mortality depend on whether these complications are dealt with adequately and in a timely manner.[1]

More than half of these maternal deaths occurring globally do so in the first 24 hours after childbirth, and most of these deaths are due to PPH[2,3]. PPH or excessive bleeding after childbirth is the single most important direct cause of maternal deaths in developing countries. Postpartum bleeding can kill even a healthy woman within two hours, if unattended. It is the quickest of maternal killers. Even if a woman survives a PPH, she could be severely anemic and suffer chronic health problems.

Fortunately, research shows that using simple, low-cost interventions can help avoid most of these tragic outcomes. Current evidence indicates active management of the third stage of labor (AMTSL)—including administration of uterotonic drugs, controlled cord traction, and fundal massage after delivery of the placenta—can reduce the incidence of postpartum hemorrhage by up to 60 percent in situations where:

- National guidelines support the use of AMTSL.
- Health workers receive training in using AMTSL and administering uterotonic drugs.
- Injection safety is ensured.
- Necessary resources (uterotonic drugs and cold chain for storage of uterotonic drugs; equipment, supplies, and consumables for infection prevention and injection safety) are available[4].

Skilled care during pregnancy, childbirth and the immediate postpartum period, by health professionals with appropriate skills has been recognized as the key ingredient to reduce maternal mortality. It is in this context that a course on prevention of PPH, including application of AMTSL, was organized in the Eastern and Western Regions in Ghana. Participants were selected from the two Regions on the basis of high maternal deaths. Two districts each were selected from the two regions. Participants were mainly Midwives and Medical Doctors with obstetrics background.

In order to rapidly scale-up activities, a blended learning approach was used to train providers on-site and individually. The blended learning approach uses AMTSL CIs to assist learners and combines a self-paced learning (SPL) component for the didactic portion combined with a clinical practicum for the clinical portion. This learning approach has been designed to address challenges encountered with traditional group-based training techniques, including the problem of having providers absent from the facility, as well as the significant challenge

of sustainability: establishing an effective approach to preparing providers to offer AMTSL services consistent with performance expectations and service standards. The goal of this strategy is to efficiently and effectively train the maximum number of providers to apply AMTSL to standard.

The blended learning approach combines:

- **Self-directed learning:** Print-based modules are adapted for self-paced learning; a strong learner support system is put into place to ensure effective facilitation and support for each learner; learners are encouraged to work in teams.
- **Clinical practicum:** Sufficient opportunities are provided for learners to **practice**, receive feedback, and become competent in AMTSL skills; AMTSL clinical instructors at each clinical site are trained to provide and correct knowledge assessment questionnaires, do demonstrations of AMTSL on an obstetric manikin, evaluate learners with a checklist on manikins and in the clinical area, and follow learners going through their clinical practicum.
- **Follow-up** and **supportive supervision:** Post-training follow-up and supervisory visits are planned to ensure providers' application and retention of skills on the job.

The intervention was implemented using a phased approach:

1. AMTSL CIs were trained by Master Trainers in a five-day group-based training workshop from June 22 through 26, 2009. The contents of the workshop was divided into three components namely:
    a. Knowledge update, which focused on the following topics:
        - Review of the third stage of labor and evidence for use of AMSTL
        - Causes and prevention of postpartum Hemorrhage
        - Uterotonic drugs
        - AMSTL
        - Quality Assurance
    b. Clinical update which gave future AMTSL CIs the opportunity to practice new knowledge and skills in the clinical area
    c. Training to be AMTSL CIs which focused on the following topics:
        - Blended learning approach
        - Mastery learning approach
        - Using competency-based assessment tools
        - Developing clinical skills
        - Managing clinical practice
2. AMTSL CIs returned to their worksites and were given a time to assimilate newly acquired knowledge and skills. The Master Trainers visited them at their sites between 2-6 weeks after training to assess if they were proficient in AMTSL and that the site was prepared to begin guiding on-site learners through the materials.
3. Master Trainers distributed learning materials to the AMTSL CIs and providers on-site were guided through the materials.

4. Once all providers on site are trained, the AMTSL CIs will begin training providers in peripheral sites.

At the time of the assessment, none of the facilities had begun training providers in peripheral sites, though two facilities had developed action plans to do so.

Training costs, including post-training follow-up visits by Master Trainers, were assured by the POPPHI project. Apart from these costs, health facilities were responsible for:

- Photocopying knowledge assessment tools.
- Caring for the obstetric manikin.
- Maintaining the standard cold chain prior to distribution of oxytocin, ergometrine, and misoprostol to the delivery room.
- Maintaining standard equipment for infection-prevention practices.
- Purchasing supplies and consumables for infection prevention and AMTSL.
- Ensuring the availability of GHS-approved and -required registers, notebooks, and forms, as well as correct documentation in them.
- Documenting movement of oxytocin to the facility and within the facility.
- Posting job aids for AMTSL, wall charts for tracking learners' progress, and wall charts for tracking PPH cases and AMTSL coverage.

Assessment methods

An assessment was conducted from October 28 to November 3 by the GHS and the POPPHI project using tools developed by the POPPHI project. This period was chosen because information on the learning approach was desired prior to closure of the POPPHI project in November, 2009. Data were collected at five of the seven facilities that currently have AMTSL CIs working in them. Observations of the providers, audits of the facility and interviews were conducted. Table 1 summarizes data collection methods.

Table 1. Data collection methods, data sources, and sample sizes

Data collection method	Data sources and sample sizes
Facility audit	Delivery registers, partographs, AMTSL CIs, facility managers, pharmacy managers
Interviews	Regional Directors (2)
	Managers of health care facilities (3)
	Master Trainers (3)
	AMTSL CIs (7)
	Providers (11)
Provider observations	Providers • Cases (2) • Obstetric manikin (9)

Facility audits

The environment was observed using a facility audit tool to evaluate availability and storage of uterotonic drugs, documentation and coverage of AMTSL, posting of job aids, and posting and use of wall charts. Data were collected from:

- Delivery registers on the number of vaginal births; number of vaginal births with AMTSL; number of cases of PPH; number of episiotomies.
- Oxytocin registers, where available, on follow-up of oxytocin movement.
- Observation of stores and storage of available uterotonic drugs, posting of job aids and wall charts.
- Interviews with AMTSL CIs on number of skilled birth attendants (SBAs) in the facility and completing the course, and pharmacy managers on price and procurement of uterotonic drugs.

Interviews

Assessors interviewed regional directors, health facility managers, Master Trainers, AMTSL CIs and providers. Individuals were interviewed to document experience with the learning approach and recommendations for adapting and strengthening it. In all two Regional Health Directors, three Master Trainers, seven AMTSL CIs, ten providers, and three Facility Managers were interviewed. Table 2 summarizes what percentage of each of these categories was actually interviewed.

Table 2. People interviewed by type of interview

	RHMT		Master Trainers		AMTSL CIs		Providers completed the course		Facility Managers	
	Total	No interviewed	Total	No interviewed	Total	No interviewed	Total	No interviewed	Total	No interviewed
Koforidua	1	1	4	3	1	1	12	2	1	1
Assessewaa					1*	1	2	2	1	1
Oda					2	2	15	2	1	1
Kwesimintsim	1	1			2	2	30	2	1	0
Takoradi					1	1	12	2	1	0
Tarkwa					3	0	10	0	1	0
Sefwi-Wiawso					2	0	0	0	1	0
Total	2	2	4	3	12	7	81	10	7	3
% of total interviewed / observed	100		75		58		13.6		42.9	

*Two AMTSL CIs were trained, but the Physician CI has since moved to Accra.

Observations

Providers who completed the learning course were observed using a checklist to evaluate application and documentation of AMTSL, and monitoring during the first 30 minutes postpartum. A total of eleven midwives were observed, which represents 13.6% (11/81) of all midwives who completed the AMTSL course at the facilities. Table 3 provides an overview of all midwives in each facility.

Table 3. Number of provider observations per facility

Facility Name	Number of providers observed (n)	Number of midwives at the facility	Number of midwives working in labor ward	Number of midwives at the facility who completed the course	Number of midwives at the facility going through the course
Koforidua	3	54	14	12	2
Assessewaa	2	7	7	3	2
Oda	2	15	8	15	0
Kwesimintsim	2	30	12	29	1
Takoradi	2	12	8	12	0
Tarkwa	0	22	8	10	0
Sefwi-Wiawso	0	9	6	0	6
Total	11	149	63	81	11
% of trained midwives observed				13.6%	

It impossible to know if the providers observed were representative of all providers in the facilities. However, this fact does not in any way decrease the project personnel's great interest in the information gained from these observations.

Sampling

Because of logistical and time constraints, a convenience sample of facilities and providers was used. Facilities most proximate to Accra were chosen. Providers present at the health care facility at the time of data collection were interviewed and observed.

Data Collection

Interviewers / observers were nurse-midwives and obstetrician/gynecologists. Interviewers / observers were trained for data collection in one day by the lead data collector. Data collection tools consisted of the three types previously mentioned: five interview forms for AMTSL CIs, providers, facility managers, Regional Directors, and Master Trainers; observation tool to assess providers; and a facility audit tool.

Each team of data collectors had one supervisor whose role was to support the interviewers in accomplishing the data collection and to review forms to check for completeness and accuracy. Interview forms were to be collected and reviewed by the supervisor on a continuous basis as interviews were completed, with any remaining forms collected at the end of the last day of interviewing.

Data Handling

Assessment data were entered and analyzed with EpiInfo[1], version 3.5. Answers for open-ended questions were grouped into categories to facilitate data entry.

In most cases, simple frequencies were calculated for all of the variables. In some cases, frequencies were stratified by type of provider, region, facility, etc.

[1] Epi Info™ is a public domain software package designed for the global community of public health practitioners and researchers. It provides for easy form and database construction, data entry, and analysis with epidemiologic statistics, maps, and graphs.

Results

Major findings from interviews and observations are presented below.

Coverage and documentation of AMTSL

Application of AMTSL requires the presence of a trained skilled birth attendant (SBA), a uterotonic drug, cold chain for storage of injectable uterotonic drugs in the pharmacy or facility store room, and equipment and supplies for injection safety and infection prevention. Providers were guided through the blended learning materials for AMTSL by the facility AMTSL CI(s). None of the sites was provided with uterotonic drugs, cold chain equipment, or any equipment and supplies for injection safety and infection prevention prior to the introduction of the blended learning materials.

The delivery register in each facility had been modified with the addition of columns to note administration of uterotonics and AMTSL. Estimated blood loss was already being documented in the delivery register. The partograph does not have a printed area for checking off uterotonic administration, CCT, and uterine massage, but providers were documenting these components in long-hand on the partograph and/or the client's record.

Data on AMTSL coverage and number of PPH cases were taken for the month of September from the delivery register and are displayed in Table 4. By report there is 100% coverage of AMTSL; when observing the delivery register, only 91-100% was actually recorded. In most cases when AMTSL was not checked, oxytocin was documented, indicating that there is most likely 100% coverage but not 100% documentation. This high level of coverage was even found in facilities where not all of the staff has completed training. This indicates that there is transfer of skills from one provider to another. In some facilities, CIs demonstrated the procedures to providers who then began practicing before going through the theoretical portion of the course. One AMTSL CI felt that going through the course in this way made the theoretical portion more interesting and provided the learners with the evidence and the reasoning for how they were practicing, thus reinforcing proper practice.

A PPH case was defined as estimated blood loss (EBL) of more than 500 mL as recorded in the delivery register or charting of "PPH" in the delivery register. The inaccuracy of visually estimating blood loss is well documented, so the data from the register may or may not be accurate. However, providers noted that anecdotally there is a decrease in cases of PPH and retained placenta, and reduced need of uterotonic drugs for management of PPH since providers are consistently practicing AMTSL. This finding would be consistent with studies on efficacy of AMTSL in reducing PPH.

Table 4. Number of vaginal births with AMTSL and PPH during the month of September 2009

Facility Name	Number of vaginal births	Number / Percentage of vaginal births with AMTSL		Number / Percentage of vaginal births with PPH		Number/ Percentage of PPH cases when AMTSL was applied		Number/ Percentage of PPH cases with induction or augmentation	
		No	%	No	%	No	%	No	%
Koforidua	**293**	**293**	**100**	**4**	**1.4**	**4**	**100**	**0**	**0**
Assessewaa	**46**	**44**	**96**	**6**	**13**	**6**	**100**	**2**	**33.3**

		Number / Percentage of vaginal births with AMTSL		Number / Percentage of vaginal births with PPH		Number/ Percentage of PPH cases when AMTSL was applied		Number/ Percentage of PPH cases with induction or augmentation	
Oda	**156***	**156**	**100**	**5**	**3.2**	**5**	**100**	**0**	**0**
Kwesimintsim	**79**	**72**	**91**	**3**	**3.8**	**3**	**100**	**1**	**33.3**
Takoradi	**70**	**68**	**97**	**2**	**2.9**	**2**	**100**	**1**	**50**
Total	**644**	**633**	**98.3**	**20**	**3.1**	**20**	**100**	**4**	**25**

*AMTSL only recorded for <1 month, uterotonic administration equals AMTSL

There were no cases of ruptured uterus, ruptured cord, or inverted uterus during the month of September, 2009, and by report, there have not been any cases of ruptured uterus related to inappropriate oxytocin use since training activities began.

Although not part of the assessment tool, additional information on numbers of episiotomies was gathered at the same time. As seen in Table 5, the percentage of episiotomies was less than 15 in most facilities, which most likely means that episiotomy is not routinely done. Only one facility had a percentage rate of greater than 15, and this was explained by the facility manager as a coding issue. Insurance companies would apparently not reimburse for suture if the woman had not received an episiotomy, thus midwives were putting episiotomy in the delivery register even if one was not performed but the woman had torn and required suture for repair.

Table 5. Number of episiotomies during the month of September 2009

Facility Name	Number of vaginal births	Number of episiotomies	% of vaginal births with episiotomy
Koforidua	**293**	**44**	**15**
Assessewaa	**46**	**10**	**21.7**
Oda	**156**	**18**	**11.5**
Kwesimintsim	**79**	**5**	**6.3**
Takoradi	**70**	**9**	**12.9**
Total	**644**	**86**	**13.4**

Storage and stockage of uterotonic drugs

In all five of the health facilities visited, oxytocin and ergometrine are on the drug procurement list (DPL) and are procured from the regional stores. Misoprostol was routinely procured in four of the five facilities visited. In the one facility in which misoprostol was not procured by the pharmacy, the maternity unit purchased an initial supply that is replenished by writing prescriptions to clients to whom the medication was administered.

The assessment team found supplies of oxytocin 10 IU/mL ampoules, ergometrine 0.5 mg/1 mL ampoules, and misoprostol 200 mcg tablets available during their visit to the facilities. At present, oxytocin is the uterotonic drug of choice for AMTSL, and ergometrine and misoprostol are used for PPH management. In all five facilities visited, AMTSL CIs returned from their training and advocated at the facility level for adequate stores of misoprostol for management of PPH.

The manufacturer's recommendation for storage of oxytocin was located in three of the five facilities, for ergometrine in three of the five facilities, and for misoprostol in five of the five facilities. The manufacturer's recommendations for oxytocin storage temperature was either in a cool place and away from the light or 2-8°C and away from light; for ergometrine storage temperature was 2-8°C; and for misoprostol storage temperature was room temperature and away from light.

At the time of visits to all of the facilities, oxytocin and ergometrine were stored in the refrigerator in the pharmacy. All five of the facilities stored oxytocin and ergometrine in an unlocked refrigerator in the maternity unit. Four of the five maternity units only kept a limited number of ampoules on a tray in the delivery room for use in case of emergency. One of the maternities had more than 10 ampoules of oxytocin and ergometrine on a tray, outside the refrigerator, but covered with a dark cloth. All of the facilities kept misoprostol at room temperature. The tablets are presented in blisters which protects them from the light.

There were adequate stocks of oxytocin, ergometrine, and misoprostol in all of the facilities at the time of visit. The estimate for the quantity of medicines to be procured is based on past consumption quantities for four of the facilities. Only one facility ordered a standard stock of oxytocin and ergometrine. None of the facilities had had a stock-out in the previous three months and pharmacists and in-charges all said that they could not remember when the last stock-out of uterotonic drugs was.

Two of the facilities had a notebook to record movement of oxytocin in the maternity. In both cases, use of oxytocin was directly linked to the delivery logbook. In one case, the number of ampoules recorded was superior to the number that should have been used either for AMTSL or management of PPH. None of the other facilities felt the need for this type of notebook.

None of the facilities had a notebook to track misoprostol and ergometrine use.

The purchase price of uterotonics for the health facilities varied from one facility to another, even within the same Region, though they all reportedly bought their medications from the regional stores. Misoprostol is the most expensive uterotonic. The cost of oxytocin (10 IU/ml) and ergometrine (0.5 mg/ml) ranged from 0.12-0.25[♦] Ghana cedis (GHC) and GHC 0.16-0.30 per ampoule respectively while misoprostol (200 mcg) cost ranged from GHC 0.50-0.85 per tablet. Oxytocin and ergometrine were sold at an average cost of GHC 0.20 and GHC 0.30 per ampoule to the patient. Misoprostol was the most expensive at GHC 1.00.

Of all eleven providers observed, all used oxytocin 10 IU by intramuscular injection.

Feasibility and acceptability of the SAIN learning approach for in-service training activities in the Ghanaian context

AMSTL

Participants, AMTSL CIs, and facility managers were unanimous in their opinion that the training in AMSTL was important for their work and were proud to report a reduction in the number of cases of post-partum hemorrhage and retained placenta. Additionally, two AMTSL CIs indicated that generalizing skin-to-skin contact had decreased the need for baby warmers.

♦ 1USD=1.40 Ghana cedis

"We have fewer cases of post-partum hemorrhage and less need for uterotonic drugs for managing it." Sr Catherine Cobbinah, AMTSL CI, Takoradi Hospital

I would recommend this program to a friend or colleague because "it has reduced PPH drastically and monitoring the immediate postpartum reduces the number of hospital days. And the babies too we detect problems early." Sr Faustina Okyere, AMTSL CI, Koforidua Hospital

Self-paced learning modules

The learning documents were considered as one of the highlights of the training program with all sessions covered by the learners and all sessions considered useful. Only one learner (1/10 -10 %) found that the number of exercises associated with the sessions was excessive and one learner (10%) found them to be insufficient in number. Four learners (40%) felt that the time estimates for the self-paced portion of the materials were not realistic at all, three learners (30%) felt they were very realistic, and three learners (30%) felt they were somewhat realistic.

Most learners, however, found that working independently and/or finding the time to read and do exercises was difficult, and four of the seven AMTSL CIs interviewed found combining work and guiding learners through the materials was difficult.

Most learners did their reading outside of the workplace, often in the evenings and on days off, and AMTSL CIs interviewed stated that they had to come in on off days or work extra hours in order to support learners.

Learner support

Learners and AMTSL CIs agreed that having a learning partner helped participants complete the AMTSL training course. The following is a list of how the learning partner contributed to successful completion of the course:

- Having discussions
- Doing exercises together
- Assessing each others' practical skills
- Administering the uterotonic drug during delivery while the other performed the other components of AMTSL
- Reminding the partner about missed steps
- Providing guidance when an error was committed
- Assisting with the baby.

Some learners and AMTSL CIs said that learning pairs would assist each other when first applying AMTSL on a woman, if the AMTSL CI was not available. The presence of the learning partner gave them confidence to apply AMTSL and is most likely safer than having the midwife try this on her own.

Most (7/70%) of the learners felt that they had gotten all of the help they needed from the AMTSL CI. One of the learners said that she did not receive information she sought on uterotonic drugs and two of the learners said that her lunch was not provided. Four of the AMTSL CIs also brought up the issue of lunches for learners, and two AMTSL CIs brought

up the issue of perdiem payment for AMTSL CIs. Mechanisms for providing on-site learners with lunch for one day of clinical were not clearly defined and only 5 Ghana cedis were budgeted for this. It is surprising that not more of the learners and AMTSL CIs mentioned this problem and this is a strong statement on the dedication and availability of the AMTSL CIs. Certainly the large number of providers could never have been trained if it were not for this dedication.

Learners have a very positive attitude about continued support and feedback from the AMTSL CI and felt that this would ensure that they stay competent. Because all of the providers interviewed completed the course on-site, the AMTSL CI was present at the facility during their duty hours and did not need to make off-site post-training visits.

Demonstrations

Learners all felt that the demonstrations with mannequins were very useful for preparing them for doing AMSTL with clients. Learners found that practicing AMSTL on the mannequin was like working with a real client and most said that working with real cases was easy after the mannequin.

Eight learners (80%) felt that enough time was programmed for the demonstrations and nine (90 %) of learners felt that everything needed was available when demonstrations were performed. AMTSL skills appear to have been standardized as all ten of the learners interviewed reported that AMTSL CIs followed the learning guide when demonstrating AMTSL and immediate postpartum care. One learner felt that having the AMTSL CI demonstrate on a woman would be helpful in addition to the demonstration on an obstetric manikin.

At least two of the facilities began training activities with demonstrations and return demonstrations immediately after the AMTSL CIs returned to their worksite after their training. This would explain the high coverage of AMSTL even when all of the providers had not completed the course. Providers completed the theoretical portion of the course after the practical part and, by AMTSL CI report, going through the materials in this way reinforced the practice by providing an evidence-base.

Clinical practice

Clinical practice was considered very effective by six (60%) learners and effective by four (40%) learners for the mastery of post-partum hemorrhage prevention procedures, but three of the learners (30%) felt that insufficient time was set aside for it. Eight of the learners (80%) felt that time spent in the clinical practicum was very useful, while two learners (20%) felt it was only somewhat useful. Many learners did not practice AMSTL under the supervision of the AMTSL CI during the allotted time, but depended upon their learning partner to assist them the first time they performed AMTSL on a real case. Although the training protocol calls for CIs to be present the first time a learner performs AMTSL on a patient, CIs felt that this use of learning partners was appropriate and no problems were reported.

Five (50%) of the learners strongly agreed, three learners (30%) agreed, and one learner (10%) disagreed that the number of cases they had during clinical practice was adequate to achieve competence. All learners expressed that they were very confident to apply AMSTL when they had completed the course.

Overall acceptability

When asked if they would undertake the training again, nine of the ten learners, and all AMTSL CIs, Master Trainers, health facility managers, and Regional Directors said that they would undertake the training as it is again. The one learner who said that she would not undertake the training as it is again said it was too stressful trying to study between work, and she preferred group-based to self-paced learning.

All learners, AMTSL CIs, Master Trainers, health facility managers, and Regional Directors said that they but would also recommend the AMTSL blended learning program to other learners, facilities, and regions (see Table 6).

Table 6. Persons who would recommend the program

Category of personnel	No / % who would undertake the training again		No / % who would recommend it to others	
	No	%	No	%
Learners	9	90	10	100
AMTSL CIs	7	100	7	100
Master Trainers	3	100	3	100
Facility managers	3	100	3	100
Regional Directors	2	100	2	100

Six of the learners (60%) said that no changes were needed to make the program more acceptable, and the following suggestions were offered by the remaining four learners to improve the program:

- Set time aside from work for reading and demonstrations.
- Increase the amount of time allotted for getting through the materials.
- Have smaller numbers of people in the group-based portions of the training.
- Have classroom instead of self-paced learning.

Three of the AMTSL CIs did not feel any changes to the program were needed. The remaining four gave the following suggestions:

- Make the course a one-week residential course.
- Provide funds for CIs and snacks/lunch for learners.
- Develop a mechanism to keep regular contact with the trainers.
- Make the course a one or two-week continuous, intensive course.
- Developing a time frame to get all of the staff together for the practice to roll out.

Learners, AMTSL CIs, Master Trainers, health facility managers, and Regional Directors were unanimous in saying that the program was a success because PPH cases have been reduced which makes work for all staff easier and improves job satisfaction. Additionally, respondents cited the evidence-based, practical nature, reality-based, and results-oriented nature of the course to be reasons for the success. Some respondents noted that retained placenta cases were reduced after initiating the course and providers were more confident about managing PPH.

Obstacles

Six of the learners indicated they did not encounter any obstacles while going through the course, the remaining four learners mentioned trying to study during working hours, combining night duty with training, and using off-days to study as obstacles to completing the course. Only one learner indicated having difficulty understanding the subject matter.

Only one AMTSL CI indicated they did not encounter any obstacles while guiding learners through the course. Some of the obstacles encountered included:

- Non-availability of lunch for learners and AMTSL CIs (2).
- Need for certificates (1).
- Working and training at the same time (6).
- Resistance from staff (1).
- Coming in on off-duty days or working overtime to work with learners (1).
- Inadequate number of training materials (1).

Although not all of the learners and AMTSL CIs brought up the question of perdiem or T&T, this theme is underlying. The remarkable thing is that this did not hinder either learners or AMTSL CIs from going through the materials.

Retention of trained personnel is a problem. Of twelve AMTSL CIs trained, only ten are still on the job. The most successful facilities, where all of the providers on-site have been trained, either had teams of CIs or the remaining midwife CI was the in-charge. Careful selection of the person to become the AMTSL CI is therefore essential.

The transfer of trained providers is also a problem though AMTSL CIs have said that the blended learning approach facilitates training of newly transferred providers.

An additional problem for CIs and learners was that of finding ways to combine regular duties with either studying or guiding learners through the course. In cases where there was only one CI, the entire burden of the program was on their shoulders. Where there were two CIs, the AMTSL CI respondents said they could depend upon their co-CI to assist them.

Wall charts for monitoring PPH and AMTSL as well as for tracking learners were not posted in any of the facilities. One AMTSL CI said that using the wall chart would assist with tracking learners, but she herself was not using it. It may be that the usefulness of these tools was either not well explained or not well understood or it may be that the records that CIs maintain are sufficient.

Cost

There are major cost differences between the two types of training, group-based or blended learning (SAIN). Table 7 outlines how costs may differ. Financial costs will be considerably higher for group-based, particularly when providers can be trained on-site. With the SAIN approach The greatest difficulties participants report with the blended learning approach are combining studying with work duties, and ensuring that an AMTSL CI is available when the learner first begins applying AMTSL on a client.

Table 7. Differences in cost between group-based and blended learning approaches

Group-based training	Mixed learning
Training	
Accommodation: 4 nights	Accommodation: 0 -1 night for off-site learners
Travel & Transport: x1 for off-site learners	Travel & Transport: x2 for off-site learners; None for on-site learners
Meals / Snacks / Water (facilitators / learners): 4 days	Meals / Snacks / Water (clinical instructors / learners): 1 day for on-site; 2 days for off-site learners
Vehicle for local running: 4 days	No expenses
Support staff (2) – 5 days	No expenses
Facilitators' (2) honorarium – 4 days	CI Honorarium: per person trained (honorarium calculated by dividing the honorarium for all facilitators during a 4-day group-based divided by the number of learners [ù])
Training coordinator – 4 days	Training coordinator Honorarium: per person trained
LCD rental – 4 days	No expenses
Conference hall– 4 days	No expenses
Training materials	Training materials (cost about 25-30% more than group-based materials)
Obstetric models – 2-4 / Region	Obstetric models – 1 / Clinical site
Stationery, flip charts, markers, tape	No expenses
Local communication	Communication (CI-Coordinator-Learners)
Post-training visits	
Post-training visit to participants by regionally located facilitators	Post-training visit to learners by on-site CI or district-based CI
Other non-financial costs	
Time away from facility during training activities	Trying to combine work and studying
	AMTSL CIs may not be available for all shifts

Additional benefits of the blended learning approach that are difficult to cost are: Ownership of the process by AMTSL CIs and facilities; immediate application of skills and transfer of training to the worksite; and more participatory training. On the down side, there is additional need for increased support / encouragement of learners as they go through the self-paced portion of the materials.

Competence of providers trained using the SAIN learning approach.

Definition of correct AMSTL use

The components of AMTSL promoted by GHS include the following—

1. Administration of 10 IU of oxytocin (the medicine of choice) via intramuscular route (IM) within one minute following the delivery of the fetus and after ruling out the presence of a second twin. In cases where oxytocin is not available, 0.2 mg of ergometrine IM or 600 mcg of misoprostol po is recommended.
    - Correct mode of administration—Oxytocin should be administered IIM. If labor has been induced or augmented, then oxytocin administration via IM injection,

[ù] For example: If there were 2 regional facilitators (35 GHC/day) at a group -based 4-day training for 10 participants, the price per participant equals: (35 Ghana cedis x 2 Regional Facilitators X 4 days) /10 participants = 28 Ghana cedis/participant

intravenous drip, or intravenous push are all considered correct. Ergometrine should be administered IIM. Misoprostol should be administered by mouth.

- Correct dose—10 IU of oxytocin or 0.5 mg of ergometrine or 600 mcg misoprostol.
- Correct stage of labor—the uterotonic medication should be administered after the delivery of the baby and before the delivery of the placenta.
- Correct timing—the uterotonic medication should be given within one minute following the delivery of the baby and after ruling out the presence of a second twin.

2. CCT with countertraction to the uterus.

    - CCT would be considered correctly done only if countertraction was applied at the same time.

3. Immediate uterine massage following delivery of the placenta and palpation of the uterus to assess the need for continued massage every 15 minutes over the next 2 hours.

For this assessment, we consider the criteria for correct use of AMTSL to include all three elements of the GHS recommendation for AMTSL.

Use of AMTSL

Job aids for AMTSL were posted in 3 of the 5 facilities visited. A total of eleven providers were observed, of which nine were observed on an obstetric model. Eight of the providers practiced all of the components to standard. The three providers that did not practice to standard either administered the uterotonic more than 1 minute after birth of the baby or clamped and cut the cord less than 2-3 minutes after birth of the baby. Only one provider gave the uterotonic more than 1 minute after birth AND clamped the cord less than 2-3 minutes after birth. While the number of providers observed was small and the number of real cases a small minority of those observed, Table 7 clearly shows that providers are, by and large, practicing AMTSL to standard following training using the blended learning approach. This type of learning approach made it possible to train all of the providers to standard, which in turn means that the norm for practice will be the recommended standard.

Table 8. Practice of AMTSL

Component	No	%	Comments
Uterotonic administered after birth of the baby and before delivery of the placenta	11	100	All providers used oxytocin 10IU IM.
Presence of second twin ruled out	11	100	
Uterotonic administered within 1 minute after birth	7	63.6	4 administered in >1 minute but <2 minutes after delivery of the baby
Cord clamped within 2-3 minutes or after cessation of cord pulsations	8	72.7	3 clamped in <1 minute after birth
CCT performed with countertraction	11	100	
Uterus massaged after delivery of placenta	11	100	
Placenta examined	11	100	
Birth canal examined	11	100	
Woman taught to massage her uterus	11	100	
Uterus and vaginal bleeding monitored at least two times in the first 30 minutes	11	100	

Component	No	%	Comments
Practiced all components to standard	8	72.7	1 provider gave the uterotonic more than 1 minute after birth and clamped the cord before 2-3 minutes

Figure 1, below, shows the above table graphically.

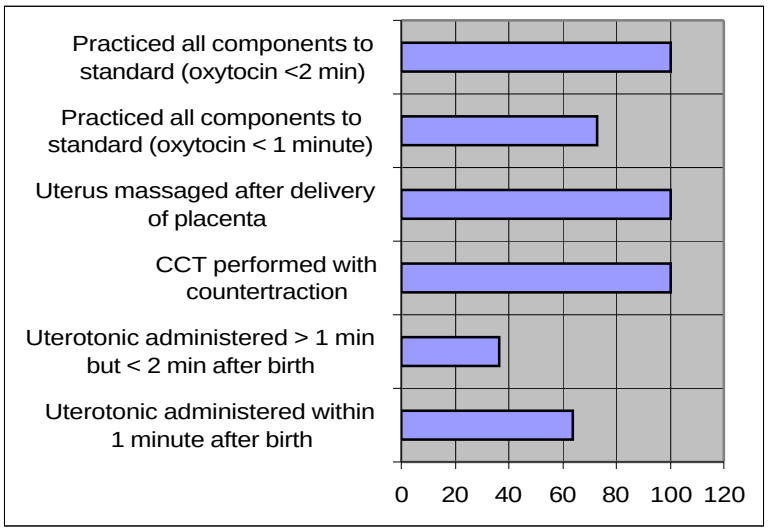

Figure 1. Percentage of providers practicing selected components to standard.

None of the learners massaged the uterus while waiting for delivery of the placenta, performed CCT without countertraction, or performed CCT without administration of a uterotonic drug.

Immediate newborn care

All of the learners immediately dried the baby after birth and assessed respiration; nine of the eleven learners put the baby in skin-to-skin contact with the mother. Nine of the learners (81.8%) checked the baby's temperature, respiration, and color at least twice during the first 30 minutes postpartum; while only eight (72.7%) checked the cord for bleeding. While all babies and their mothers were kept together most of the time, babies were taken to a warming table for about 10-15 minutes, usually during the first two hours after birth, to be weighed and have measurements taken. Only one learner (9.1%) informed the mother about danger signs in her newborn during the immediate postpartum period.

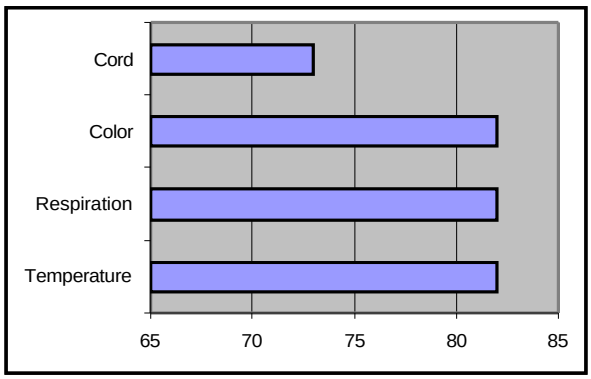

Figure 2. Percentage of providers who monitored selected parameters of the newborn to standard.

Infection prevention

All of the facilities had running water (either from a tap or from a Veronika bucket), soap (usually bar soap), clean cloths to dry hands with, a bucket with decontamination solution, and a sharps container in the delivery room. The biggest challenge is with hand washing, and this is certainly consistent with provider practice around the world.

Table 9. Infection Prevention practices

IP Practice	No	%
Wore a clean plastic or rubber apron	9	81.8
Wore rubber boots or closed shoes	7	63.6
Wore a face shield or eye goggles and mask	4	26.3
Provider washed and dried hands before putting on gloves	8	72.7
Wore sterile surgical gloves on both hands	11	100
Perineum cleansed with an antiseptic solution*	2	18.2
Provider appropriately disposed of the placenta	11	100
All instruments put in a decontamination solution after use	11	100
All sharps immediately disposed of in a sharps container box	10	90.9
Provider washed and dried hands after taking off gloves	4	26.3

Other areas of care

Six of the learners (54.5%) asked for permission to put the baby in skin-to-skin contact after birth while only two (18.2%) asked for permission to apply AMTSL. This may be because skin-to-skin contact immediately after birth is new and some women who had not been informed about it were rejecting the practice. Providers seem to consider AMTSL to be an evidence-based practice that clearly benefits the woman and therefore does not require permission.

Only one learner (9.1%) observed asked the woman what position she would like to give birth in, and all eleven of the women gave birth in supine lithotomy, nine with stirrups and two without stirrups. Ten of the learners (90.9%) informed the woman about the uterotonic

* Most providers cleaned the perineum with water or soap and water.

injection before administering it and nine (81.8%) provided emotional support to the woman. (See Figure 3.)

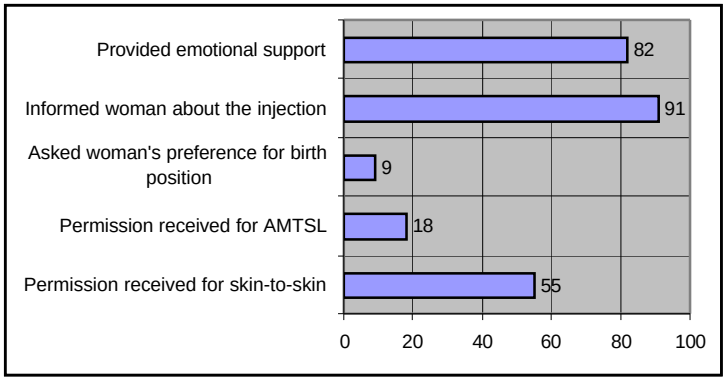

Figure 3. Percentage of providers who practiced selected elements of care.

Discussion

Major findings of the assessment include:

Coverage and documentation of AMTSL

- Coverage of AMTSL was high in all facilities, between 91 and 100% of all vaginal births, even those where all of the providers on-site had not completed the course.
- Additional columns were added to delivery logs to document AMTSL and uterotonic administration. Estimated blood loss was already being documented when AMTSL activities were begun.
- There is no place to record AMTSL on the partograph, but providers are writing out administration of a uterotonic drug, application of controlled cord traction (CCT) and countertraction, and uterine massage in the client's chart.
- Anecdotally, rates of retained placenta and postpartum hemorrhage (PPH) are lower than before beginning training activities. PPH was not tracked prior to the intervention, so this is difficult to ascertain. Cases of PPH were between 1.4 and 13% of vaginal births for the month of September, 2009, in the facilities visited.
- There have been no cases of uterine rupture, cord rupture, or uterine inversion related to the mis-use of uterotonic drugs or the practice of AMTSL since training activities have begun.

Competence of providers trained using the SAIN learning approach

- Providers assessed on obstetric models and with real cases were found to competently and safely apply AMTSL.
- All providers safely performed the three components of AMTSL and put the baby in skin-to-skin contact with the mother. There were no harmful practices noted, including CCT without uterotonic drug administration or countertraction.
- Areas of AMTSL practice needing strengthening include timing of the uterotonic drug, that is within 1 minute of delivery of the baby, and consistently delaying cord clamping to 2-3 minutes after birth.
- Monitoring and educating the woman in the immediate postpartum are areas that still need strengthening.

Storage and stockage of uterotonic drugs Storage and stockage of uterotonic drugs

- All facilities had adequate stocks of oxytocin and ergometrine, with no stock-outs during the months of July, August, and September.
- Oxytocin and ergometrine were correctly stored in all of the pharmacies. All of the maternity units had a refrigerator that was unlocked. All of the delivery rooms had a stock of oxytocin, ergometrine and misoprostol in the delivery room. Oxytocin is the uterotonic of choice for AMTSL.
- Two facilities had a notebook to follow movement of oxytocin in the delivery room.
- Only one facility did not have misoprostol in the pharmacy – in this facility, the maternity unit bought a store of misoprostol that is replaced by clients after the product was administered to them. Misoprostol is used for PPH management and not prevention, as adequate stores of oxytocin are always available.
- Hospitals bill either the health insurance company or the GHS for uterotonic drugs used during labor and childbirth. Women are not directly billed for these products, except in

the facility where women are given a prescription to replace misoprostol administered to them.

- A large number of providers were trained in a relatively short period of time and at a relatively cheaper cost than group-based training. All providers on-site have completed the learning materials in all but one facility.

Feasibility and acceptability of the SAIN learning approach for in-service training activities in the Ghanaian context

- Of a total of sixty-one midwives working on the labor ward, forty-nine have completed the course, and eight are still going through the course. In all, eighty-one providers have completed the course in less than three months (materials were distributed in August/September). In some facilities, a decision was taken to train all midwives in the facility because they all eventually rotate to the labor ward. In these cases, the facilities took the initiative to photocopy the materials themselves.
- Two midwives in one of the facilities had not completed the course because they were either sick or on leave. The facilities where either none of the midwives has completed the course or only two has completed the course both have junior midwives working as AMTSL CIs and neither has a physician working as a CI.
- The strategy was easier to implement when there was a team (doctor / midwife) of CIs and when the nurse-midwife CI was the in-charge for the labor ward.
- In one facility, where only two providers have completed training and two are currently going through the materials, both the AMTSL CI and the providers interviewed were dissatisfied with remuneration provided for lunch.
- Providers and AMTSL CIs both noted the difficulty of combining work duties and the self-paced approach. In spite of these difficulties, the majority of providers on-site have completed the learning materials.
- Most learners did their reading outside of the workplace, often in the evenings and on days off, and AMTSL CIs interviewed stated that they had to come in on off days or work extra hours in order to support learners.
- Learners greatly appreciated the support provided by learning partners and AMTSL CIs, and AMTSL CIs appreciated the support provided by the Master Trainers.
- All of the providers interviewed appreciated the learning materials and the subject matter. Only one provider interviewed said she would prefer the group-based approach.
- All AMTSL Trainers and CIs and the majority of providers interviewed (9/10) providers interviewed would undertake the training in the same way again.
- All facility managers and regional health managers interviewed said they would undertake the training again in the same way and recommend it to other facilities and regions.
- Learners, AMTSL CIs, Master Trainers, health facility managers, and Regional Directors were unanimous in saying that the program was a success because PPH cases have been reduced which makes work for all staff easier and improves job satisfaction. Additionally, respondents cited the evidence-base, practical nature, reality-base, and results-oriented nature of the course to be reasons for the success.

Significance

The blended learning approach to train skilled birth attendants to apply AMTSL was successful at making learners competent in AMTSL; was acceptable to learners, ATMSL CIs, AMTSL Trainers, Facility Managers, and Regional Managers; and was feasible in the Ghanaian context. Given the cost savings as well as the ability to train large numbers of providers without emptying out the facilities, this learning approach would be useful for scaling up AMTSL on a national scale and should also be considered for other learning needs, including management of PIH, etc.

When comparing findings of the national AMTSL survey conducted in 2007 with findings in the facilities visited, there is a remarkable improvement in uterotonic stockage and storage, and AMTSL practice[5] (see Table 10).

Table 10. Comparison of findings in 2008 National Survey and facilities surveyed

		AMTSL Survey	Current assessment
Days out of stock over last 3 months			
	Oxytocin	0 days: 95.8% 3 days: 4.2%	0 days: 100%
	Ergometrine	0 days: 100%	0 days: 100%
	Misoprostol	0 days: 50% Not applicable: 50%	0 days: 100%
Mode of uterotonic administration			
	Oxytocin users by IM	74.7%	100%
	Oxytocin users (labor induction / augmentation)	1.5%	0%
	Ergometrine users by IM	6.1%	0%
	Incorrect administration	17.8%	0%
Uterotonic dose			
	Correct dose(10 IU for oxytocin users)	71.2%	100%
	0.5 mg for ergometrine users	12.3%	0%
	Incorrect dose	16.6%	0%
Stage of administration			
	Correct stage (after delivery of baby)	66.9%	100%
	Incorrect stage	33.1%	0%
Time of administration			
	Correct time (<=1 minute after delivery of fetus)	19.9%	63.6%
	Correct time (1–3 minutes after delivery of fetus)	45.2%	36.4%
	Incorrect time	34.9%	0%

The national study on the practice of AMTSL also identified potentially harmful practices such as the application of fundal pressure during delivery of placenta (21 percent), performing uterine massage while awaiting delivery of the placenta (22 percent) and application of traction without counter pressure (10 percent). None of these potentially harmful practices were observed during this assessment.

While the AMTSL CIs and learners were motivated and willing to complete learning activities without remuneration, mechanisms should have been put in place to remunerate CIs per learner trained and provide meal expenses for 1 day for on-site learners and for 2 days for off-site learners. Ensuring remuneration per learner trained, though minimal, would provide motivation for CIs to guide learners through the process, and would serve as a motivation for learners going through the materials.

Although the main components of AMTSL were safely and competently performed, AMTSL CIs still need to find ways to remind providers about other aspects of care, including provision of emotional support, keeping the woman informed, informing women /mothers about and asking permission for medical interventions, and monitoring during the immediate postpartum period.

Limitations

The biggest limitation of the assessment was the use of a convenience sample rather than a randomized sample.

An additional limitation was that interviewers/observers used facility registers to gather all data on number of births, AMTSL, EBL, and PPH. Collecting data from these sources holds the inherent risk of incomplete or inconsistent reporting.

Many aspects of care are extremely difficult to assess on an obstetric model but the providers' mentioning or forgetting elements of care can give some indication as to whether they understand the recommended standards.

Although these limitations should be kept in mind when reviewing the data and conclusions, we think the results give a reasonably accurate portrayal of the realities of using the SAIN learning approach for training AMTSL in Ghana.

Recommendations

It is recommended that this learning approach be scaled-up nationally. The Eastern and Western Regional Trainers and AMTSL CIs have the technical expertise to revise existing materials, develop a plan for scale-up, train additional CIs, and guide the process. Trying to fund these activities on a national scale would be prohibitive. Instead, facilities, districts, and regions could each fund their portion of the activities to complete financial expenditures at each level.

The same model should be used: 1) Train Regional Master Trainers, 2) Regional Master Trainers train district-/facility-level CIs, 3) Facility-level CIs train on-site staff, 4) Facility level CIs and staff at the clinical site guide providers from peripheral facilities. Further attempts to utilize the model will greatly benefit from an in-depth study of how AMTSL CIs and learners effectively combined working and studying to successfully complete the learning materials.

The choice of Regional Trainers and AMSTL CIs is critical to the success of the program. Wherever possible: 1) AMTSL Trainers and CIs should always be teams of a midwife and physician (where possible this should be an obstetrician/gynecologist) and 2) The midwife CI should either be the in-charge of the labor ward or at least a senior midwife.

Mechanisms for remuneration of CIs and provision of T&T and meal expenses should be clear from the outset of the program, and funds need to be provided to the facilities in a

timely manner. A careful system of accounting will need to be set up to monitor use of the funds.

Certificates should be issued by the CIs and signed by the District Director of Health and the AMTSL CI. Each time a certificate is awarded, the Training Coordinator should be informed and the CIs remunerated.

Practice areas that need strengthening should be addressed at the facility level and with timely feedback provided to the providers by the AMTSL CIs. Job aids for the correct practice of AMTSL and monitoring in the immediate postpartum period should be made available to the facilities and displayed in the delivery rooms.

Appendix 1: Data collection tools

FORM 1: AMTSL Clinical Instructor

GHS / USAID/ POPPHI
Ghana SAIN Qualitative Evaluation
In Eastern and Western Regions
2009

INTERVIEW QUESTIONNAIRE FOR AMTSL Clinical INSTRUCTORS

ID Number: _____\

Identification: (Insert code below)

Region: 1=Eastern 2=Western ____\ Region

District: _____ ____\ District

Name of site: _____

Category of personnel (Tick (ü) one):

1=Physician (MD) c 2=Midwife c 3=Nurse c ____\

4=Other (specify) c : _____ category of personnel

DATE OF ASSESSMENT: _____

NAME OF ASSESSOR: _____ SIGNATURE OF ASSESSOR:_____

NAME OF SUPERVISOR: _____ SIGNATURE OF SUPERVISOR: _____

1.1.1	Were you trained in AMTSL Skills before being trained as an AMTSL Clinical Instructor? Yes=1 No=2 DON'T KNOW -98		
1.1.2	Do you think you have the necessary knowledge and skills to train and supervise service providers in PPH prevention activities? Yes=1 No=2 Don't know -98 No response=99		

a	If No, which additional knowledge and skills do you think you need to be able to train and supervise service providers in PPH prevention activities?		
1.1.3	What function(s) do you actually perform as an AMTSL Clinical Instructor? Don't prompt; Circle the number of the choice as appropriate. Assisting with learning activities and comprehension=1 Giving and correcting knowledge assessment tools=2 Giving demonstrations=3 Evaluating providers on mannequins=4 Providing clinical coaching=5 Evaluating providers in the clinical area=6 Providing post-training follow-up=7 Other, specify=8 None of the above=99		
1.1.4	Have you been told your roles and responsibilities as an AMTSL Clinical Instructor? Yes=1 No=2 Don't know-98		
1.1.5	Do you have a copy of written roles and responsibilities? Yes=1 No=2 Don't know-98		If Yes è Q1.2.1 If No è Q1.1.5a
a	If NO, how do you know what your job duties are? Don't prompt; Circle the number of the choice as appropriate. From training=1 From my supervisor=2 From other, specify=3 No response=99 Not applicable=89		
1.2.1	Did you ever receive a post-training follow-up visit by an AMTSL trainer? Yes=1 No=2 Don't know-98		If No è Q1.3.1
a	If YES, how many times: _____		
b	From whom? (indicate name, rank and designation of supervisor)		
1.2.2	Did your AMTSL trainer ever make any recommendations to improve your performance? Yes=1 No=2 Don't know-98		If No è Q1.3.1
a	If YES ask respondent to state some examples of recommendati ons made:		

1.3.1	Do you have a written action plan for training and post-training follow-up functions? Yes=1 No=2 Don't know-98		If YES, ask to see a copy.
1.3.2	What materials, tools, resources, and equipment do you actually/currently use to do you r job as an AMTSL Clinical Instructor? Do not prompt. Record all mentioned. For each item provided, ask from whom and where obtained. Vehicle=1 Fuel=2 Materials for demonstrations (mannequin, checklists, etc)=3 Training Materials=4 Per diem=5 Report-writing tools (computer, typewriter, secretarial services, place to work, etc.)=6 Clinical equipment for training activities=7 Others? (Specify) : =8 No response=98		
1.3.3	Do you receive these items on time to do your work as an AMTSL Clinical Instructor? Yes=1 No=2 Don't know-98		If Yes è Q1.3.4
a	If no, what are the reasons?		
b	When these items you need are unavailable, what do you do?		
1.3.4	How many providers have you guided through the mixed/blended learning approach in AMTSL?		
1.3.5	Please describe challenges with keeping track of providers' progress getting through the self-paced portion of the curriculum.		
1.3.6	Please describe successes with keeping track of providers' progress getting through the self-paced portion of the curriculum.		
1.3.7	What aspects of the tools to keep track of learners' progress did you find helpful?		
1.3.8	What would make keeping track of learners' progress easier?		
1.3.9	Is there additional information about learners that you think we should keep track of in future programmes? (Please explain your response.) Yes=1 No=2 Don't know-98 No response=99		

a	If Yes, describe	
1.4.1	For how many service providers have you conducted a post -training visit since your training as an AMTSL Clinical Instructor?	
1.4.2	Please list all tools or documents which you used during the post -training visit. Do not prompt. Learner notebook=1 AMTSL checklist=2 Monitoring in the immediate pp period checklist=3 Others (specify)=4 No response=98	
1.5.1	How do you combine your us ual work with your AMTSL Clinical Instructor activities?	
a	If you have any problems combining these jobs, who helps you?	
b	If you have to leave your regular work to perform your AMTSL Clinical Instructor functions, what procedure do you go through?	
1.5.2	Would you undertake this training the same way again if asked to? Yes=1 No=2 Don't know -98 No response=99	
a	Please explain your answer.	
1.5.3	What are some of the things you would change about the course?	
1.5.4	What obstacles did y ou encounter and how did you deal with them?	
1.5.5	What are the successes in this Self -Paced Learning programme that you would like to report on?	
1.5.6	What specific characteristics of this program would make you to want to recommend it to a friend or colleague?	
1.5.7	What specific characteristics of this program would discourage you from recommending it to a friend or colleague?	

Ask respondent if he/she has questions or suggestions.

Thank respondent and politely end interview.

FORM 2: PROVIDERS

ID Number: _____\

Identification: (Insert code below)

Region: 1=Eastern 2=Western ____\
region

District: _____ ____\
district

Name of site: _____

Name of respondent: _____ Current position: _____

Category of personnel (Tick (ü) one):
1=Physician (MD) c 2=Midwife c 3=Nurse c ____\
4=Other (specify) c : _____ category of personnel

Date of Assessment: _____

Name of Assessor: _____ Signature of Assessor:_____

Name of Supervisor: _____ Signature of Supervisor: _____

2.1.1	How did you get to know about the Sel f-Paced Learning program for the first time? Clinical instructor: 1 Matron: 2 In-charge: 3 Facility manager: 4 Other (specify): 99		
2.1.2.	How well would you say you were prepared for Self -Paced Learning? Prompt the respondent for one of the responses below. Very well: 1 Well: 2 Not well: 3 Not prepared:4 No response: 99		
2.1.3	What additional/different things do you think could have been done to improve your introduction to Self -Paced Learning?		
2.2.1	Which sessions of the training program would you say were appropriate for your learning needs? Third stage of labor and evidence for using AMTSL : 1 Prevention of postpartum hemorrhage: 2 Uterotonic drugs : 3 AMTSL: 4 Quality assurance, including interpretation and use of maternal and newborn data: 5 None: 7 No response:99		
2.2.2.	Which sessions of the training program would you say were not appropriate for your learning needs? Third stage of labor and evidence for using AMTSL : 1 Prevention of postpartum hemorrhage: 2 Uterotonic drugs : 3 AMTSL: 4 Quality assurance, including interpretation and use of maternal and newborn data: 5 None: 7 No response:99		
2.2.3	How realistic were the time estimates for the Self -Paced Learning sessions compared to the actual time you spent? Very realistic: 1 Somewhat realistic: 2 Not realistic at all: 3 No opinion: 99		
2.2.4	What is your comment on the number of learning activities (self-assessments, case studies, etc.) per session you had to do whilst going through each Self -Paced Learning session? Prompt the respondent for one of the responses below. Number sufficient: 1 Number insufficient: 2 Number excessive: 3 No opinion: 99		

2.3.1.	In what ways did your learning partner contribute to your successful completion of the Self - Paced Learning units?		
2.3.2	What do you consider as helpful support you obtained from the AMTSL Clinical Instructors during the training? Don't prompt; Tick (P) as appropriate. Assisting with learning activities and comprehension=1 Giving and correcting knowledge assessment tools=2 Giving demonstrations=3 Evaluating providers on mannequins=4 Providing clinical coaching=5 Evaluating providers in the clinical area=6 Providing post-training follow-up=7 Other, specify=8 None of the above=99		
2.3.3	What other kind(s) of help did you feel you n eeded from the AMTSL Clinical Instructors but which you did not get?		
2.4.1	Were demonstrations performed by the AMTSL Clinical Instructor effective in preparing you for clinical practice? Prompt the respondent for one of the responses below. Very effectiv e: 1 Effective: 2 Not effective: 3 No opinion: 99		
2.4.2.	What is your opinion on the length of time allotted for demonstrations? Prompt the respondent for one of the responses below. Very sufficient : 1 Sufficient : 2 Not sufficient : 3 No opinion: 99		
2.4.3	In your experience, did AMTSL Clinical Instructors follow the learning guides when doing demonstrations? Yes=1 No=2 Don't know=98 No response=99		
2.4.4.	What comments do you have about availability and adequacy of items needed for demonstration s? Prompt the respondent for one of the responses below. Everything available : 1 Most things available : 2 Essential items were not available : 3 No opinion: 99		
2.4.5.	What changes do you think will make the demonstrations more suitable for preparing yo u for clinical practice?		

2.5.1	How effective was the clinical practicum in helping you become competent in AMTSL? Prompt the respondent for one of the responses below. Very effective : 1 Effective : 2 Not effective : 3 No opinion: 99		
2.5.2.	What is your opinion on the length of time allotted for the clinical practicum? Prompt the respondent for one of the responses below. Very sufficient : 1 Sufficient : 2 Not sufficient : 3 No opinion: 99		
2.5.3.	How useful would you say was the time you spent in the clinical practicum? Prompt the respondent for one of the responses below. Very useful : 1 Somewhat useful : 2 Not useful : 3 No opinion: 99		
2.5.4.	Do you feel that the number of cases that you had during the clinical practice was adequate to make you competent? Prompt the respondent for one of the responses below. Strongly agree : 1 Agree : 2 Disagree : 3 Strongly disagree: 4 No opinion: 99		
2.5.5.	What did you feel about your capacity to practice what you learnt once back on the job? Prompt the respondent for one of the responses below. Very confident to apply AMTSL when I returned to my worksite: 1 Somewhat confident to apply AMTSL when I returned to my worksite: 2 Not confident to apply AMTSL when I returned to my worksite: 3 No opinion: 99		
2.5.6.	What comments do you have about availability and adequacy of items needed for clinical practice? Prompt the respondent for one of the responses below. Everything available : 1 Most things available : 2 Essential items were not available : 3 No opinion: 99		
NOTE: Only ask questions 2.6.1 -2.6.3 to off-site learners			

2.6.1	How would you describe provisions made for your travelling and accommodation during the Self -Paced Learning? Prompt the respondent for one of the responses below. Very sufficient : 1 Sufficient: 2 Not sufficient : 3 No opinion: 99 Not applicable: 89		
2.6.2.	What can you say about logistics and funds needed for the training? Prompt the respondent for one of the responses below. Very sufficient : 1 Sufficient: 2 Not sufficient : 3 No opinion: 99 Not applicable: 89		
2.6.3.	What travel difficulties did you face and how did you cope with them?		
2.7.1	Did you ever receive a post -training visit by the AMTSL CI after completing your training course? Yes=1 No=2 Don't know=98 No response=99		è If no go to Q2.8.1
2.7.2	How many times has your AMTSL Clinical Instructor visited you since completing your training activities?		
2.7.3	Which service areas was your AMTSL Clinical Instructor supervisor interested in during the last visit? My skills - AMTSL: 1 My skills – Monitoring in the immediate postpartum period: 2 Infection prevention practices: 3 Confidentiality and privacy of clients: 4 Client-Provider Interaction: 5 Documenting AMTSL in the delivery register: 6 Documenting AMTSL on the par tograph: 7 Completing the wall chart: 8 No response: 99		
2.7.4	Did the AMTSL Clinical Instructor ever give you information on how you were performing? Yes=1 No=2 Don't know=98 No response=99		If no, go to Q2.8.1
2.7.5	Please rate your level of sat isfaction with the information you were given. Prompt the respondent for one of the responses below. Very satisfied=1 Satisfied=2 Not satisfied=3 Highly not satisfied=4 No opinion=99		

a	Please explain your rating.		
2.7.6	In general how would you rate your satisfaction with the last post-training follow-up visit? Prompt the respondent for one of the responses below. Very satisfied=1 Satisfied=2 Not satisfied=3 Highly not satisfied=4 No opinion=99		
a	Please explain your rating.		
2.7.7	Do you ever let your AMTSL Clinical Instructor know your level of satisfaction with how he/she was performing in helping you? Yes=1 No=2 Don't know=98 No response=99		
a	Please give reasons for your answer		
2.8.1	Would you undertake this training the same way ag ain if asked to? Yes=1 No=2 Don't know=98 No response=99		
a	Please explain your answer.		
2.8.2	Would you recommend this programme to potential learners? Yes=1 No=2 Don't know=98 No response=99		
a	Please explain your answer.		
2.8.3	What are some of the things you would change about the course?		
2.8.4	What obstacles did you encounter and how did you deal with them?		
2.8.5	What are the successes in this Self-Paced Learning programme that you would like to report on?		

Ask respondent if he/she has questions or suggestions.

Thank respondent and politely end interview.

FORM 3: INTERVIEW WITH HEALTH FACILITY MANAGERS

GHS / USAID/ POPPHI
Ghana SAIN Qualitative Evaluation
In Eastern and Western Regions
2009

ID Number: _____\

Identification: (Insert code below)

Region: 1=Eastern 2=Western ____\
region

District: _____ ____\
district

Name of site: _____

Current position: _____

Category of personnel (Tick (ü) one):

1=Physician (MD) c 2=Midwife c 3=Nurse c ____\

4=Other (specify) c : _____ category of personnel

Date of Assessment: _____

Name of Assessor: _____ Signature of Assessor:_____

Name of Supervisor: _____ Signature of Supervisor: _____

3.1.1	Have you ever heard about AMTSL clinical instructors? Yes=1 No=2 Don't know=98 No response=99
	If yes, continue with the interview.
	If no, explain what AMTSL clinical instructors are, and close the interview.

3.2.1	Did you clearly understand this learning approach when it was first implemented? Yes=1 No=2 Don't know=98 No response=99		
3.2.2	Would you like to participate in this programme again? Yes=1 No=2 Don't know=98 No response=99		
3.2.3	What would you change?		
3.2.4	What would you keep?		
3.2.5	What obstacles did you encounter and how did you deal with them?		
3.2.6	What successes would you report?		
3.2.7	What benefits and/or negative outcomes resulted from hosting the blended learning approach in your facility?		
3.2.8	Would you be willing to host the blended learning approach in your facility again?		
3.2.9	What changes would you recommend before agreeing to do it again?		

Ask respondent if he/she has questions.

Thank respondent and politely end interview.

Form 4: AMTSL CI Trainers / Supervisors

GHS / USAID/ POPPHI
Ghana SAIN Qualitative Evaluation
In Eastern and Western Regions
2009

4.1.1	Did you clearly understand the expectations for your role in this learning approach? Yes=1 No=2 Don't know=98 No response=99		
4.1.2	Did you feel adequately prepared for your role in this learning approach? Yes=1 No=2 Don't know=98 No response=99		
a	If No, please explain what could have been done to improve your preparation.		
4.1.3	Did you feel supported by other Trainers Yes=1 No=2 Don't know=98 No response=99		
4.1.4	Did you feel supported by the Regional Directorate? Yes=1 No=2 Don't know=98 No response=99		
4.1.5	Did you feel supported by USAID partners? Yes=1 No=2 Don't know=98 No response=99		
4.2.1	What were your observations about learners' active participation and enthusiasm?		
4.2.2	What were your observations about AMTSL CIs' active participation and enthusiasm?		
4.2.3	What were your observations about active participation and enthusiasm of hospital staff?		
4.2.4	Have you noticed any changes (positive or negative) at facilities that you would attribute to the SAIN approach? Yes=1 No=2 Don't know=98 No response=99		Please describe:

4.3.1	Please describe challenges with keeping track of providers' progress going through the self - paced portion of the curriculum.		
4.3.2	What were the successes of keeping track of learner progress?		
4.3.3	What aspects of the tools to keep track of learners appeared to be helpful for the AMTSL CIs?		
4.3.4	What would make keeping track of learners easier?		
4.3.5	Is there additional information about learners that you think we should track in future programs? Yes=1 No=2 Don't know=98 No response=99		If yes, please describe:
4.4.1	Were you able to collect data and monitor coverage rates for AMTSL? Yes=1 No=2 Don't know=98 No response=99		
4.4.2	What obstacles did you encoun ter with collecting monitoring data and how did you deal with them?		
4.4.3	What successes would you report about collecting monitoring data?		
4.5.1	Would you like to participate in this programme again? Yes=1 No=2 Don't know=98 No response=99		
4.5.2	What would you change?		
4.5.3	What would you keep?		
4.5.4	What obstacles did you encounter and how did you deal with them?		

4.5.4	What successes would you report?		
4.5.5	What do you think learners, CIs, and/or other member of the DHMT o r RHMT would like us to know about this programme that they might not tell us?		
4.5.6	Would you recommend this programme to potential learners? Yes=1 No=2 Don't know=98 No response=99		
4.5.7	Would you recommend this programme to potential AMTSL C Is? Yes=1 No=2 Don't know=98 No response=99		
4.5.8	Would you recommend this programme to district and regional directorates for health? Yes=1 No=2 Don't know=98 No response=99		

ASK RESPONDENT IF HE/SHE HAS QUESTIONS.

THANK RESPONDENT AND POLITELY END INTERVIEW.

Form 5: RHMT / DHMT

GHS / USAID/ POPPHI
Ghana SAIN Qualitative Evaluation
In Eastern and Western Regions
2009

ID Number: _____\

Identification: (Insert code below)

Region: 1=Eastern 2=Western ____\
region

Current position: _____

Category of personnel (Tick (ü) one):
1=Physician (MD) c 2=Midwife c 3=Nurse c ____\
4=Other (specify) c : _____ category of personnel

Date of Assessment: _____

Name of Assessor: _____ Signature of Assessor:_____

Name of Supervisor: _____ Signature of Supervisor: _____

5.1.1	Have you ever heard about the blended learning approach to scale -up AMTSL in your region / district? Yes=1 No=2 Don't know=98 No response=99
	If yes, continue with the interview.
	If no, explain what AMTSL clinical instructors are, and close the interview.

5.1.1	Did you clearly understand this learning approach when it was first implemented? Yes=1 No=2 Don't know=98 No response=99		
5.1.2	Were you able to monitor coverage rates for AMTSL? Yes=1 No=2 Don't know=98 No response=99		
5.1.3	What challenges did you encounter when trying to get data on AMTSL coverage?		
5.1.4	What successes would you report about collecting monitoring data?		
5.1.5	Would you like to participate in this programme again? Yes=1 No=2 Don't know=98 No response=99		
5.1.6	What would you change?		
5.1.7	What would you keep?		
5.1.8	What obstacles did you encounter?		
5.1.9	What successes would you report?		
5.1.10	What benefits and/or negative outcomes resulted from hosting the blended learning approach in your region?		
5.1.11	Would you be willing to host the blended learning approach in your region again?		
5.1.12	What changes would you recommend before agreeing to do it again?		

Ask respondent if he/she has questions.
Thank respondent and politely end interview.

OBSERVATION

Management of third stage of labor

For the provider:

We will observe you using a checklist as you conduct the delivery and monitor the woman and newborn after childbirth. The purpose of the observation is to evaluate you and all providers who completed the AMTSL course. This observation is private and confidential. Your name will not appear on any documents relating to this evaluation. Do you have any questions? Do you agree to allow me to observe you?

I certify that I read the above text to the provider and she/he willingly allowed me to observe her/him using the checklist.

Observation 1

Signed by the observer _____ Date _____

Observation 2

Signed by the observer _____ Date _____

Observation 3

Signed by the observer _____ Date _____

Observation 4

Signed by the observer _____ Date _____

Observation 5

Signed by the observer _____ Date _____

For the client:

The observer should instruct the provider to ask the client if she will agree to have an observer in the delivery room. The provider should make it clear that the client has the right to refuse the presence of the observer and that her refusal will have no effect on care provided to her. The observer should stay outside of the delivery room until the provider calls the observer indicating that the client has given an oral consent.

I certify that the client was informed about and gave her voluntary and informed consent to my presence in the delivery room to observe the provider.

Observation 1

Signed by the observer _____ Date _____

Observation 2

Signed by the observer _____ Date _____

Observation 3

Signed by the observer _____ Date _____

Observation 4

Signed by the observer _____ Date _____

Observation 5

Signed by the observer _____ Date _____

#	Question	Response	Observation				
			1	2	3	4	5
100	Region	Eastern…..1 Western…..2					
101	Name of observer	Write the observer code					
102	Provider code						
103	Date of observation	Write DD/MM/YR					
104	Identification code for Health Facility	Write the facility ID code					
105	Qualification of birth attendant:	Obstetrician…..1 Other physician…..2 Advanced Midwife …..3 Midwife…..4 Other (specify) …..5					
106	Date the course was completed	Less than 2 weeks previously…..1 2-4 weeks previously…..2 >4 weeks previously…..3 Not applicable…..98					
107	Is there more than one person present at the delivery?	Yes…..1 No…..2					
108	Age of woman (in years)	Record age in years					
110	Gravidity	Record gravidity					
111	Parity	Record parity					
112	How was labor started?	Spontaneous…..1(è Go to question 114) Induced…..2					
113	If labor was induced, what was the reason given?	Post-dates…..1 IUFD…..2 Maternal illness …..3 Elective…..4 Other (specify) …..5 N/A…..99					
114	Was the labor augmented?	Yes…..1 No…..2 (è Go to question 200)					
115	If labor was augmented, review the partograph. Why was labor augmented?	Unsatisfactory progress of labor due to hypotonic uterine contractions …..1 Failed induction…..2 Other (specify) …..3 No clear obstetric or foetal indications…..4 N/A…..99					
116	If labor was augmented, what drug was used for induction or augmentation?	Oxytocin…..1 Misoprostol…..2 Other (specify) …..8					
117	If labor was augmented, who prescribed the regimen for augmentation?	Obstetrician…..1 Other MD…..2 Midwife…..3 Other (specify) …..8					

#	Question	Response	Observation				
			1	2	3	4	5
200	Were all needed equipment and instruments available, clean, sterile / HLD, and in good working order?	Yes…..1 No…..2					
201	Was the delivery room free from draughts from open windows and doors, or from fans?	Yes…..1 No…..2					
202	Were supplies needed to keep the newborn baby warm available?	Yes…..1 No…..2					
203	Were all surfaces the woman and baby came in contact with clean, warm, and dry?	Yes…..1 No…..2					
204	Was the room well lit?	Yes…..1 No…..2					
205	Was infant feeding choice verified?	Yes…..1 No…..2					
206	Was the uterotonic drug prepared as soon as the woman's cervix was completely dilated?	Yes…..1 No…..2					
207	Was the woman's bladder empty when second stage began?	Yes…..1 No…..2					
208	Was permission obtaine d to apply AMTSL?	Yes…..1 No…..2					
209	Was permission obtained to place the newborn on the mother's abdomen and chest immediately after birth?	Yes…..1 No…..2					
210	Was the woman allowed to assume the position of her choice during second stage?	Yes…..1 No…..2					
211	What position did the woman give birth in?	Sitting…..1 Squatting…..2 Semi-sitting…..3 Side-lying…..4 Hands and knees…..5 Supine without stirrups…..6 Supine with stirrups…..7 Other (specify)…..8					
212	Were the woman and her support person told what was going to be done and encouraged to ask questions?	Yes…..1 No…..2					
213	Was emotional support and reassurance provided on a continual basis?	Yes…..1 No…..2					
214	Did the provider wear a clean plastic or rubber apron?	Yes…..1 No…..2					

#	Question	Response	Observation				
			1	2	3	4	5
215	Were rubber boots or closed shoes worn?	Yes…..1 No…..2					
216	Were a face shield or eye goggles and mask worn?	Yes…..1 No…..2					
217	Did the provider wash hands thoroughly with soap and water for at least 10-15 seconds, and dry them with a clean, dry cloth (or air dry)?	Yes…..1 No…..2					
218	Were sterile surgical gloves worn on both hands?	Yes…..1 No…..2					
219	Was the perineum cleansed with an antiseptic solution?	Yes…..1 No…..2					
220	Was an episiotomy performed?	Yes…..1 (è Go to question 221) No…..2 (è Go to question 222)					
221	Why was an episiotomy performed?	History of 3rd or 4th degree tear…..1 Instrumental delivery…..2 Maternal distress…..3 Foetal distress…..4 Other (specify)…..8					
222	Was there a nuchal cord?	Yes…..1 (è Go to question 223) No…..2 (è Go to question 225)					
223	If there was a nuchal cord, was it tight or loose?	Tight…..1 Loose…..2 Unknown…..8					
224	If there was a nuchal cord, how was it managed?	Slackened the cord to allow the shoulders to pass through…..1 Clamped and cut the cord…..2 Unknown…..8					
225	Was restitution and external rotation of the head allowed to occur spontaneously?	Yes…..1 No…..2					
226	Was the time of delivery noted?	Yes…..1 No…..2					
227	Was the mother informed of the time of delivery and sex of the baby?	Yes…..1 No…..2					

#	Question	Response	Observation				
			1	2	3	4	5
300	Time of the delivery of the baby (use 24 hr clock)	Record time of delivery of the baby					
301	Was the baby immediately dried?	Yes…..1 No…..2					
302	Was the baby put in skin-to-skin contact on the mother's abdomen and covered with a clean, dry cloth?	Yes…..1 No…..2					
303	Did the baby breathe or cry immediately after birth?	Yes…..1 (è Go to question 305) No…..2					
304	Were resuscitation measures commenced if the baby was not breathing or crying at birth?	Yes…..1 No…..2					
305	Did the provider explain the baby's condition to the mother?	Yes…..1 No…..2					
306	Was the presence of an undiagnosed twin verified?	Yes…..1 No…..2					
307	Was any uterotonic (oxytocin, ergometrine, prostaglandins) given to the mother during or after delivery of the baby (i.e., not for induction or augmentation)?	Yes…..1 No…..2 (è Go to question 323)					
308	If yes, at what time was the uterotonic given?	Record time the uterotonic was administered					
309	If yes, timing of administration:	During del. of the baby…..1 After del. of the baby but before del. of placenta…..2 During del. of the placenta…..3 After del. of the placenta…..4					
310	If yes, did the provider explain what was being done?	Yes…..1 No…..2					
311	Was oxytocin (non-combination) given to the mother during or after delivery of the baby?	Yes…..1 (è Go to question 312) No…..2(è Go to question 314)					
312	If yes, how many international units?	Record the number of international units					
313	If yes, by what route?	IM…..1 IV push/IV injection…..2 IV drip…..3 IV drip+IM…..4					
314	Was ergometrine (or other noncombination ergot preparation) given to the mother during or after delivery of the baby?	Yes…..1 (è Go to question 315) No…..2(è Go to question 317)					
315	If yes, total dose?	Record the number of milligrams administered					

#	Question	Response	Observation				
			1	2	3	4	5
316	If yes, by what route?	IM.....1 IV push/IV injection.....2 IV drip.....3 IV drip+IM.....4					
317	Was an oxytocin-ergometrine combination (such as Syntometrine) given to the mother during or after delivery of the baby?	Yes.....1 (è Go to question 318) No.....2(è Go to question 320)					
318	If yes, total dose?	Record the number of millilitres administered					
319	If yes, by what route?	IM.....1 IV push/IV injection.....2 IV drip.....3 IV drip+IM.....4					
320	Was misoprostol (or prostaglandin) given to the mother during or after delivery of the baby?	Yes.....1 (è Go to question 320) No.....2(è Go to question 323)					
321	If yes, total dose?	Record the dose administered					
322	If yes, by what route?	PO.....1 Sub-lingual.....2 Rectal.....3 Vaginal.....4 IM.....5 Other (specify).....8					
323	Was the birth singleton or multiple?	Singleton.....1 Multiple.....2					
324	Time the cord was clamped (use 24 hr clock or indicate < 1 minute)	Record time the cord was clamped Less than 1 min 01					
325	How did the provider decide when to cut the cord?	Waited for cord pulsations to cease.....1 Waited until 2-3 minutes after administration of the uterotonic drug.....2 Other (specify).....8					
326	Was the baby put in skin-to-skin contact on the mother's chest and covered with a clean, dry cloth?	Yes.....1 No.....2					
327	While awaiting the placenta, was fundal pressure applied to deliver the placenta?	Yes.....1 No.....2					
328	While awaiting the placenta, was uterine massage performed?	Yes.....1 No.....2					
329	While awaiting the placenta, was traction applied to the cord?	Yes.....1 No.....2					
330	While applying traction to the cord, was the uterus supported or pushed upward?	Yes.....1 No.....2					

#	Question	Response	Observation				
			1	2	3	4	5
331	Was there a manual removal of the placenta?	Yes.....1 No.....2					
332	Time of the delivery of the placenta?	Record time the placenta was delivered					
333	Was uterine massage performed immediately following the delivery of the placenta?	Yes.....1 No.....2					
334	Was the placenta examined carefully?	Yes.....1 No.....2					
335	Was the birth canal gently examined?	Yes.....1 No.....2					
336	Did the provider explain to the woman how to massage her own uterus?	Yes.....1 No.....2					
337	Did the provider appropriately dispose of the placenta?	Yes.....1 No.....2					
338	Were all instruments put in a decontamination solution after use?	Yes.....1 No.....2					
339	Were all sharps immediately disposed of in a sharps container box?	Yes.....1 No.....2					
340	Did the provider wash hands for at least 10-15 seconds after removing gloves?	Yes.....1 No.....2					
400	Was the uterus palpated and vaginal bleeding evaluated at least two times in the 30 minutes following delivery of the placenta?	Yes.....1 No.....2					
401	Were the maternal BP and pulse evaluated at least two times in the 30 minutes following delivery of the placenta?	Yes.....1 No.....2					
402	Were the baby's temperature, colour, and respirations checked at least two times in the 30 minutes following delivery of the placenta?	Yes.....1 No.....2					
403	If the baby's feet were cold, was axillary temperature checked?	Yes.....1 No.....2 Not applicable.....88					
404	Was the baby's cord evaluated at least two times in the 30 minutes following delivery of the placenta?	Yes.....1 No.....2					
405	Were the woman and newborn kept together at all times in the 30 minutes following delivery of the placenta?	Yes.....1 No.....2					
406	Was the woman informed of danger signs in herself?	Yes.....1 No.....2					

#	Question	Response	Observation				
			1	2	3	4	5
407	Was the mother informed of danger signs in the newborn?	Yes.....1 No.....2					
408	Was the woman encouraged to keep her bladder empty?	Yes.....1 No.....2					
409	Did the provider facilitate exclusive breastfeeding or formula feeding during the first hour after childbirth?	Yes.....1 No.....2					
410	Was the woman encouraged to eat, drink and rest?	Yes.....1 No.....2					
411	Was the woman reminded how the uterus should feel and how she can massage it herself?	Yes.....1 No.....2					
501	Was there a record on the partograph that active management was carried out?	Yes.....1 No.....2					
502	Was the estimated blood loss recorded?	Yes.....1 No.....2					
503	Was postpartum blood loss more than 500 mL?	Yes.....1 No.....2					
504	If postpartum blood loss was more than 500 mL, was treatment completely recorded?	Yes.....1 No.....2					
505	Was there a record in the delivery register that active management was carried out?	Yes.....1 No.....2					

Ask if the woman or provider have any questions.

Thank the woman. Thank the provider.

Facility level questionnaire
Management of the third stage of labor

Please complete the questions below based on reviewing the necessary documents. In some cases, it may be necessary to interview professionals. If responses are coded, circle the appropriate code; otherwise write in your response.

Q#	QUESTION	RESPONSES		Skip to
100	Region	Eastern.....1 Western.....2		
101	District			
102	Identification code for Health Facility	Write the facility ID code		
103	Name of observer	Write the observer code		
104	Date of observation	Write DD/MM/YR		
105	Name and title of persons interviewed			
Facility level statistics				
201	Total number of providers attending births at the facility.	[ ][ ][ ] No of Birth attendants		
202	Total number of providers having com pleted an update on AMTSL.	[ ][ ][ ] No of Birth attendants		
203	No of vaginal births in previous year (2008). This will probably require reviewing annual report for facility.	[ ][ ][ ][ ] No of vaginal births		
204	No of vaginal births in the previous month (will probably require reviewing the labor and delivery logbook)	[ ][ ][ ] No of vaginal births		
205	No of vaginal births in the previous month with AMTSL (will probably require reviewing the labor and delivery logbook)	[ ][ ][ ] No of vaginal births with AMTSL		
206	No of primary PPH cases following vaginal births in previous year (2008). This will probably require reviewing annual report for facility.	[ ][ ][ ] No of vaginal births with primary PPH		
207	No of primary PPH cases following vaginal births in previous month. This will probably require reviewing the labor and delivery logbook.	[ ][ ][ ] No of vaginal births with primary PPH		
208	No of primary PPH cases following vaginal births in women who received AMTSL in the previous month. This will probably require reviewing the labor and delivery logbook.	[ ][ ][ ] No of vaginal births with primary PPH / AMTSL		
Documentation				
301	Is there a place to document AMTSL in the delivery register?	Yes.....1 No.....2		If No, go to 303
302	Which of the following compon ents are documented in the delivery register?	Administration of a uterotonic drug.....1 CCT.....2 Uterine massage.....3 AMTSL.....4 Other (specify).....5		
303	Is there a place to document AMTSL on the partograph?	Yes.....1 No.....2		If No, go to 305
304	Which of the following components are documented on the partograph?	Administration of a uterotonic drug.....1 CCT.....2 Uterine massage.....3 AMTSL.....4 Other (specify).....5		

Q#	QUESTION	RESPONSES		Skip to
305	Is there a notebook or stock card to document movement of uterotonic drugs in the delivery room?	Yes.....1 No.....2		If No, go to 401
306	Is the notebook or stock card to document movement of uterotonic drugs in the delivery room linked to the partograph, patient's chart or delivery log?	Yes.....1 No.....2		
Wall charts				
401	Is there a job aid for AMTSL posted in the delivery room?	Yes.....1 No.....2		
402	Is the wall chart for tracking AMTSL coverage posted and up-to-date?	Yes.....1 No.....2		
403	Is the wall chart for tracking learners posted and up-to-date?	Yes.....1 No.....2		
Drug procurement list				
501	Is there a Drug Procurement List available that is used this facility?	Yes.....1 No.....2		If No, go to 503
502	Which of the following drugs are on this list?	Oxytocin.....1 Ergometrine.....2 Syntometrine.....3 Misoprostol.....4 Other prostaglandins.....5		
503	Do families buy the syringe needed for administering the uterotonic drug themselves?	Yes.....1 No.....2 Yes only when there is a stock-out of syringes.....3		
504	Do families buy the uterotonic drug needed for birth themselves?	Yes.....1 No.....2 Yes only when there is a stock-out of drugs.....3		
505	Is there a pharmacy or a drug supply management unit on site?	Yes.....1 No.....2		
506	Where are syringes and drugs obtained? (If a commercial pharmacy, provide name and location)	Government stores.....1 Commercial pharmacy.....2 Other (specify) 7		
507	What is the distance in kilometers from the health facility to the nearest pharmacy or pharmaceutical depot/chemical sellers? (Round the answer to the nearest Km)	[ ][ ] KM		
508	What are the hours that the nearest pharmacy/pharmaceutical depot/chemical seller is open? Use the 24 hour clock.	Time open [ ][ ] : [ ][ ] HR MIN Time closed [ ][ ] : [ ][ ] HR MIN		
509	How are drugs and supplies obtained when the pharmacy or drug supply management unit is locked?	Enough drugs/supplies are set aside each evening.....1 Families search for other commercial pharmacies.....2 Wait until working hours.....3 Other: specify.....8		

Please provide answers to the following questions either by your own direct observati on or by interviewing the Chief Pharmacist or other professional responsible for drug storage. Ask each numbered question about each drug before continuing on to the following numbered question.

Drug	Oxytocin	Ergometrine	Syntometrine	Misoprostol	Other Prostaglandin (Specify)
601: Is this drug routinely procured by this pharmacy?	Yes.....1 No.....2	Yes.....1 No.....2	Yes.....1 No.....2	Yes.....1 No.....2	Yes.....1 No.....2
602: Is the drug available at ti me of visit?	Yes.....1 No.....2	Yes.....1 No.....2	Yes.....1 No.....2	Yes.....1 No.....2	Yes.....1 No.....2
How was information obtained?	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2
603: Amount of drug available at visit?	No of ampoules	No of ampoules	No of ampoules	No of tablets	No of ampoules / tablets
How was information obtained?	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2
604: Total No of ampoules / tablets consumed in last 3 months:	No of ampoules	No of ampoules	No of ampoules	No of tablets	No of ampoules / tablets
605: # Days Out of Stock over Last 3 Months?	DAYS	DAYS	DAYS	DAYS	DAYS

Drug	Oxytocin	Ergometrine	Syntometrine	Misoprostol	Other Prostaglandin (Specify)
606: Reasons for stock-out (Use codes shown below. List a maximum of three reasons.)	☐ REASON 1 ☐ REASON 2 ☐ REASON 3	☐ REASON 1 ☐ REASON 2 ☐ REASON 3	☐ REASON 1 ☐ REASON 2 ☐ REASON 3	☐ REASON 1 ☐ REASON 2 ☐ REASON 3	☐ REASON 1 ☐ REASON 2 ☐ REASON 3
CODES FOR 306: Reasons for Stock -out: 1 Could not pick up supply from supplier 2 Supplier sent le ss than the amount ordered 3 Supply delayed 4 Consumption was greater than expected 5 Order request was incorrect 6 Order was not requested on time 7 Other					
Instructions for the rest of the questionnaire:	If oxytocin is not available at time of visit (see #302), leave the rest of this column blank, and continue asking questions about ergometrine	If ergometrine is not available at time of visit (see #302), leave the rest of this column blank, and continue asking questions about Syntometrine	If Syntom etrine is not available at time of visit (see #302), leave the rest of this column blank, and continue asking questions about misoprostol	If misoprostol is not available at time of visit (see #302) , leave the rest of this column blank, and continue asking questions about other prostaglandins	If other prostaglandin is not available at time of visit (see #302) , leave the rest of this column blank, and skip to question #308

Drug	Oxytocin	Ergometrine	Syntometrine	Misoprostol	Other Prostaglandin (Specify)
607: Unit and strength of drug.	5 IU/ampoule .....1 10 IU/ampoule.....2 20 IU/vial..... .....3 Other (Specify) _____7	0.2 mg/mL .....1 0.25 mg/mL .....2 0.4 mg/mL .....3 0.5 mg/mL.....4 Other (Specify) _____7	1 mL.....1 Other (Specify) _____7	200 µg.....1 600 µg.....2 800 µg.....3 1000 µg.....4 Other (Specify) _____7	Specify unit and strength: _____ 7
How information was obtained?	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2
608: Form of drug	Ampoules.....1 Other (Specify) _____8	Ampoules.....1 Other (Specify) _____8	Ampoules.....1 Other (Specify) _____8	Tablets.....1 Other (Specify) _____8	Ampoules.....1 Other (Specify) _____8
How was information obtained?	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2
609: Required storage temperature as recommended by the manufacturer?	2-8°C.....1 < 15°C.....2 15-25°C....3 Room temp.....4 Not located.....5 Other (specify): _____8	2-8°C.....1 < 15°C.....2 15-25°C....3 Room temp.....4 Not located.....5 Other (specify): _____8	2-8°C.....1 < 15°C.....2 15-25°C....3 Room temp.....4 Not located..... ...5 Other (specify): _____8	2-8°C.....1 < 15°C.....2 15-25°C....3 Room temp.....4 Not located.....5 Other (specify): _____8	2-8°C.....1 < 15°C.....2 15-25°C....3 Room temp.....4 Not located.....5 Other (specify): _____8
How was information obtained?	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2	Your observation.....1 Pharmacist's/ Other's report.....2

Drug	Oxytocin	Ergometrine	Syntometrine	Misoprostol	Other Prostaglandin (Specify)
610: Required storage conditions re: lighting as recommended by the manufacturer?	Not stated……..1 Store away from light…………..…..2 Not located......5 Other (specify): _________________8	Not stated……..1 Store away from light…………..… ..2 Not located......5 Other (specify): _________________8	Not stated……..1 Store away from light…………..…..2 Not located......5 Other (specify): _________________8	Not stated……..1 Store away from light…………..…..2 Not located......5 Other (specify): _________________8	Not stated……..1 Store away from light…………..…..2 Not located......5 Other (specify): _________________8
How was information obtained?	Your observation......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2	Your observation ......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2
611: Describe the temperature at which each drug is stored in the pharmacy:	2-8°C.…...1 < 15°C…..2 15-25°C….3 Room temp.........4 Not located......5 Other (specify): _________________8	2-8°C.…...1 < 15°C…..2 15-25°C….3 Room temp.........4 Not located......5 Other (specify): _________________8	2-8°C.…...1 < 15°C…..2 15-25°C….3 Room temp.........4 Not located......5 Other (specify): _________________8	2-8°C.…...1 < 15°C…..2 15-25°C….3 Room temp.........4 Not located......5 Other (specify): _________________8	2-8°C.…...1 < 15°C…..2 15-25°C….3 Room temp.........4 Not located......5 Other (specify): _________________8
How was information obtained?	Your observation......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2
612: Describe the light conditions in which each drug is stored in the pharmacy:	Kept in dark……..1 In daylight, away from direct sun…..….2 In direct sun..….3 Other (specify) _________________8	Kept in dark……..1 In daylight, away from direct sun… ..…..2 In direct sun..….3 Other (specify) _________________8	Kept in dark……..1 In daylight, away from direct sun…..….2 In direct sun..….3 Other (specify) _________________8	Kept in dark……..1 In daylight, away from direct sun…..….2 In direct sun..….3 Other (specify) _________________8	Kept in dark……..1 In daylight, away from direct sun…..….2 In direct sun..….3 Other (specify) _________________8
How was information obtained?	Your observation......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2	Your observation......1 Pharmacist's/ Other's report…..2

Drug	Oxytocin	Ergometrine	Syntometrine	Misoprostol	Other Prostaglandin (Specify)
613: How is the quantity of drug to order determined?	Based on consumption.....1 Standard quantity (determined by central level).....2 Standard quantity (perpetual need).....3 Other (specify) _____8	Based on consumption.....1 Standard quantity (determined by central level).....2 Standard quantity (perpetual need).....3 Other (specify) _____8	Based on consumption.....1 Standard quantity (determined by central level).....2 Standard quantity (perpetual need).....3 Other (specify) _____8	Based on consumption.....1 Standard quantity (determined by central level).....2 Standard quantity (perpetual need).....3 Other (specify) _____8	Based on consumption.....1 Standard quantity (determined by central level).....2 Standard quantity (perpetual need).....3 Other (specify) _____8
614: Purchase price (per ampoule / tablet for the facility: [local currency]	_____Ghana Cedis / _____IU ampoule	_____Ghana Cedis / _____mg ampoule	_____Ghana Cedis / _____mL ampoule	_____Ghana Cedis / _____mcg tablet	_____Ghana Cedis / _____
615: Purchase price per ampoule / tablet for the patient?	_____Ghana Cedis / _____IU ampoule	_____Ghana Cedis / _____mg ampoule	_____Ghana Cedis / _____mL ampoule	_____Ghana Cedis / _____mcg tablet	_____Ghana Cedis / _____

Endnotes

[1] Reduction of maternal mortality: a joint WHO/UNFPA/UNICEF/World Bank Statement. Geneva, World Health Organization, 1999.

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[4] From USAID's *Call to Action: USAID's Postpartum Haemorrhage Prevention Special Initiative*. October, 2002.

[5] Rational Pharmaceutical Management (RPM) Plus Program. 2008. *Active Management of the Third Stage of Labor in Health Care Facilities: Results of a National Study in Ghana, 2007*. Submitted to the U.S. Agency for International Development by RPM Plus. Arlington, VA: Management Sciences for Health.

Ghana: Implementation of a blended learning approach to train skilled birth attendants in active management of the third stage of labor for on-site and individual (SAIN) learning

The SAIN learning approach is a blended learning methodology that combines self-paced learning for the theoretical portion of the course with a clinical practicum. POPPHI materials developed for group-based training activities were adapted for blended learning. In June 2009, Master Trainers trained facility-based clinical instructor (CI) teams, consisting of a doctor and midwife, in seven hospitals in the Eastern and Western Regions of Ghana to guide providers working on-site and off-site through the AMTSL learning materials. Materials for training on-site providers were distributed in August, 2009.

An assessment of the program was conducted October 27-November 2, 2009. The assessment team used interviews, a checklist to observe providers applying AMTSL, and a facility audit. The tools were used to evaluate several areas: coverage and documentation of AMTSL; storage and stockage of uterotonic drugs; feasibility and acceptability of the SAIN learning approach for in-service training activities in the Ghanaian context; and competence of providers trained using this approach.

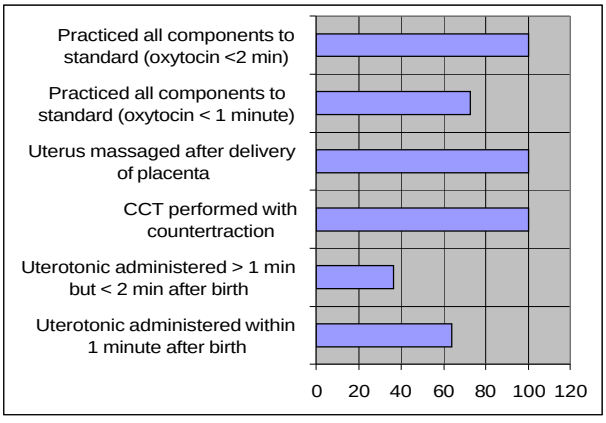
Findings:

Coverage and documentation of AMTSL

- Coverage of AMTSL was high (91-100%) in all facilities, even those where all of the providers on-site had not completed the course.
- Anecdotally, rates of retained placenta and postpartum hemorrhage (PPH) are significantly lower than before beginning training activities.

Competence of providers trained using the SAIN learning approach

- Providers assessed on obstetric models and with real cases safely performed the three components of AMTSL.
  - 63.6% (7) administered oxytocin 10 IU IM within 1 minute after birth / 100% (11) administered oxytocin within 2 minutes
  - 72.7% (8) clamped the cord within 2-3 minutes or after cessation of cord pulsations /3 clamped the cord immediately
  - 100% (11) correctly performed CCT with countertraction
  - 100% (11) correctly massaged the uterus after delivery of placenta



- None of the providers assessed massaged the uterus while waiting for delivery of the placenta, performed CCT without countertraction, or performed CCT without administration of a uterotonic drug.

Storage and stockage of uterotonic drugs

- Oxytocin 10IU via intramuscular route is the uterotonic of choice for AMTSL.
- All facilities had adequate stocks of oxytocin, ergometrine, and misoprostol, with no stock-outs during the months of July, August, and September.
- Oxytocin and ergometrine were correctly stored in all of the pharmacies.
- All of the maternity units had a refrigerator that was unlocked and had stocks of oxytocin, ergometrine, and misoprostol.

Feasibility and acceptability of the SAIN learning approach for in-service training activities in the Ghanaian context

- 81 providers were trained on-site in less than 3 months and at less than half of the cost of group-based training.
- Providers and AMTSL CIs were extremely motivated. They noted the difficulty of combining work duties with learning activities but were able to overcome it to complete the course.
- The strategy was easier to implement when there was a doctor/midwife team of CIs and when the nurse-midwife CI was the in-charge for the labor ward.
- All of the providers interviewed appreciated the learning materials and the subject matter. Only one provider interviewed said she would prefer the group-based approach.
- The majority of AMTSL CIs and providers interviewed would undertake the training in the same way again.
- All facility managers and regional health managers interviewed said they would undertake the training again in the same way and recommend it to other facilities and regions.

Mali: Acceptability and feasibility of a blended learning approach to train skilled birth attendants in active management of the third stage of labor for on-site and individual (SAIN) learning

A blended training approach was used to train skilled birth attendants (doctors, midwives and nurses) in postpartum hemorrhage prevention (including active management of third stage labor – AMSTL) in the regions of Koulikoro and Mopti, Mali during 2008 and 2009. This training approach was novel in several ways. It was decentralized to the district level where it was facilitated by local providers (mentors) who received special training. The approach incorporated self-directed learning with support from mentors and learning partners, demonstrations on mannequins and clinical practice.

Interviews were carried out in July 2009 to assess the experiences and opinions of the mentors, learners and local and regional administrators of the different aspects of the training program. A total of 71 people were interviewed coming from 9 districts in the two regions. Four different questionnaires were used for the different actors in the training program. The time needed to administer the questionnaires varied from 20 minutes to over an hour.

Findings:

AMSTL

- Participants, mentors and administrators were unanimous in their opinion that the training in AMSTL was important for their work.
- Administrators liked the reduction in the number of cases of postpartum hemorrhage (PPH), mentors were proud of their participation in the initiative and participants report improved job satisfaction.
- Participants were happy that oxytocin is now available at the community health center level and would like AMSTL training extended to all birth attendants.

> "We have fewer referrals, fewer cases of infection and less PPH."

Feasibility and acceptability of the SAIN learning approach for in-service training activities in the Malian context

- The blended learning process required a high level of effort by mentors and participants and the motivation behind this effort was moral – to reduce post-partum hemorrhage and to save the lives of women and children. For most, this internal motivation was sufficient to go through this demanding program. There was very little financial motivation provided.
- The majority of the thirty-six learners that responded to the question said they would participate again in a blended learning program:
  - 78% said "yes" (28/36)
  - 19% said "no" (7/36)
  - 3% said "I don't know" (1/36)
- Twenty-two of the learners thought that there were other subjects that could be taught using the blended learning approach.
- 92% of the thirty-seven learner (34/37) would responded to the question said they would recommend the blended learning program for prevention of PPH to a colleague or a friend.
- Of the eleven mentors who answered the question, nine (82%) said they would be willing to serve as a mentor in another blended learning program for a different subject and two (18%) said they would be willing if group-based was not available.

Self-paced learning modules

- The learning documents were considered as one of the highlights of the training program with all sessions covered by the participants and all sessions considered useful.
- The materials were judged at an appropriate level of difficulty by the majority of learners and mentors and the learning exercises were considered important or very important by all participants.
- Many participants found that working independently and/or finding the time to read and do exercises was difficult and almost half found that the number of exercises associated with the sessions was excessive.
- Distance and difficult communication were factors that hindered the self-paced learning process for some participants who were located far from a learning partner and who could not communicate easily with the mentor.

Knowledge and skills assessments

- Requiring participants to pass tests and achieve a fixed level of performance during the learning process was seen as a highlight of the training.
- Participants, mentors and administrators all felt that the demonstrations with mannequins were very useful for preparing them for doing AMSTL with clients.
- Clinical practice was considered useful or very useful for the mastery of post-partum hemorrhage prevention procedures, but there was a problem of having enough births.