

**Preventing Postpartum Hemorrhage Special Initiative  
Baseline Assessment**

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**Country Report: Zambia**

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Suzanne Thomas  
Oliver Hazemba

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## Acronyms

ACNM	American College of Nurse-Midwives
AMTSL	Active Management of the Third Stage of Labor
ANC	Antenatal Care
ARVs	Antiretroviral drugs
BP/CR	Birth Preparedness/Complications Readiness
CBOH	Central Board of Health
CCT	Controlled cord traction
DHMT	District Health Management Team
EMW	Enrolled Midwife
GNC	General Nursing Council
IP	Infection Prevention
JHPIEGO	affiliate of Johns Hopkins University
MNH Program	Maternal and Neonatal Health Program
MSH	Management Sciences for Health
MW	Midwife
OB/GYN	Obstetrics and Gynecology
PPH	Postpartum Hemorrhage
RMW	Registered Midwife
RPM Plus Program	Rational Pharmaceutical Management Plus (MSH)
UAB	University of Alabama
USAID	U.S. Agency for International Development
UTH	University Teaching Hospital, Lusaka
ZDHS	Zambia Demographic and Health Survey
ZIHP	Zambia Integrated Health Programme
ZWRASM	Zambia White Ribbon Alliance for Safe Motherhood

## Overview

Postpartum hemorrhage (PPH) is the single most significant cause of maternal death worldwide, accounting for half of all maternal deaths that occur after childbirth and 24% of maternal mortality overall, approximately 130,000 maternal deaths every year. Half of the women who suffer from PPH have no risk factors, and 99% of women who die from PPH are in developing countries. Preventing PPH could significantly reduce maternal mortality and morbidity.

Most cases of PPH occur during the third stage of labor, after the baby has been delivered. Active management of the third stage of labor (AMTSL) has been identified by WHO and in several studies<sup>1</sup> as significantly reducing PPH. AMTSL has three main components: 1) administration of an uterotonic drug within one minute of birth of the newborn to induce a strong contraction, 2) controlled cord traction of the umbilical cord with counter-traction to the uterus, and 3) massage of the uterine fundus through the abdomen. This procedure shortens the time it takes to deliver the placenta and leads to a decrease in uterine atony, thus decreasing PPH (uterine atony is associated with about 90% of PPH).

In order to successfully integrate AMTSL in routine delivery care, it is necessary to:

- Ensure the supply of oxytocic drugs and related supplies, by improving all drug management practice, including the capacity to maintain appropriate storage conditions.
- Create a supportive policy environment at both the site and national levels
- Provide information to the community in order to increase the number of women being attended during birth by trained providers performing to standard (>= 80%) was also calculated.
- Train providers in AMTSL and related skills, and
- Strengthen the ability of health facilities to provide and insure high quality services.

Additional interventions to prevent postpartum hemorrhage are implemented during antenatal care, through discovering high-risk variables and preparing or treating for them, and assisting in the development of a birth plan.

## Global Partnership

In September 2002, USAID requested assistance from several of its cooperating agencies (CA) to support national efforts to improve maternal health through a “Special Initiative to Reduce Post-Partum Hemorrhage” in Benin, Ethiopia, Mali and Zambia. The CAs selected to implement the initiative were the Rational Pharmaceutical Management (RPM) Plus Program implemented by Management Sciences for Health (MSH), the

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<sup>1 1</sup> WHO, *Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors* (2000); Prendiville et al, *British Medical Journal* 297:1295-1300 (1988); Rogers et al, *Lancet* 351:693-699 (1998); and others

PRIME II project at IntraHealth, the Maternal and Neonatal Health (MNH) Program at JHPIEGO, and the American College of Nurse-Midwives (ACNM). In addition, USAID coordinated with other international groups that influenced the scope, practice, and technical guidance for preventing PPH such as the World Health Organization (WHO), UNICEF, the International Federation of OB-Gyns (FIGO), the OB-Gyn Society of the West African Region (SAGO), and the International Confederation of Midwives (ICM).

Representatives of the cooperating agencies listed above are also included in the technical working group for this initiative. PRIME coordinates this group to ensure streamlined partnership of program management, monitoring and evaluation tools and planning, reference materials, curriculum development and reporting and partner communication mechanisms.

**Role of local partners/ Engaging local partners/stakeholders**

This initiative is being carried out in collaboration with a range of partners in Zambia, including the CBOH, who has been interested in moving this initiative forward from the beginning. The General Nursing Counsel (GNC), responsible for certification and licensing of nurses and midwives throughout the country is taking on the role of encouraging schools to include AMTSL in midwifery curricula throughout the country.

District health management teams (DHMT) in the four districts are taking on the role of determining an appropriate district-specific action plan, and will also play a key role in activity implementation and support. Hospital Management Teams for hospitals in the four districts have the role of participating in discussions of intervention development, and will be key in supporting necessary changes to support AMTSL-related training and practice. Both the Zambia Integrated Health Program (ZIHP) and the Zambia White Ribbon Alliance for Safe Motherhood (ZWRASM) will play a role in the community activities. ZWRASM’s members include NGOs and other groups that work in communities.

Using the strengths and technical capacity of each organization, the working group jointly developed the following activities and interventions for the initiative:

<b>Activities/Intervention</b>	<b>CA</b>
Coordination of Team/Meetings	PRIME
Reference Documentation	PRIME
Curricula Development	ACNM, JHPIEGO, PRIME, RPM Plus
M&E strategy and tools,	ACNM, JHPIEGO, PRIME, RPM Plus
Baseline assessment, monitoring plan and actions and final evaluation	JHPIEGO, PRIME, RPM Plus
Clinical Training and TOT	ACNM, JHPIEGO, PRIME
Supportive Supervision Systems	PRIME RPM Plus
Procurement systems	RPM Plus

In support of this initiative, RPM Plus developed standard instruments for the assessment of drug management issues, specific to oxytocics, that may affect service delivery of the identified intervention of active management of the third stage of labor (AMTSL) for the prevention of PPH.

### **Assessment Objectives**

Baseline assessments of drug management issues that might impact delivery of AMTSL were undertaken collaboratively with those persons assessing current provider performance in three countries: Mali, Benin, and Ethiopia. In Zambia, administrative difficulties made this collaborative arrangement impossible. A separate assessment of drug management practices and needs was undertaken at a later date.

Data collection, via the standardized instrument, was designed so as to identify strengths and weaknesses in the areas of:

- Uterotonic selection, as determined by existence of policy and inclusion on Essential Drug Lists and formularies at all levels of the system.
- Uterotonic availability, at both service delivery points and within the system as a whole.
- Appropriateness of supply levels, and amount of expired drugs in the system.
- Procurement plans and practices, including quantification of requirements.
- Distribution and transport, with special attention to cold chain issues.
- Storage conditions and storage practices, again with special attention to cold chain and light exposure.
- Inventory management, which includes examination of the record keeping system, ordering and reporting practices, and data quality review.

This report details the assessment and findings from Zambia.

### **Summary of Findings**

- There are multiple oxytocics in the distribution system. Each manufacturer recommends storage conditions, with one manufacturer of oxytocin recommending ambient temperatures. However, there is debate as to whether ambient temperature in some of the extreme environments adequately protects product quality.
- The central level Medical Stores Limited (MSL) does not undertake national quantification. Though each receiving facility prepares orders to obtain uterotonic from MSL, passing upwards via the DHMT, the lack of a central quantification mechanism results in uneven supply levels, resulting in stock outs and expiry.

- The cold chain is maintained sporadically, with knowledge of the cold chain generally poor and a shortage of equipment.
- Knowledge and practice of AMTSL was limited, with consumption reflecting treatment of excessive bleeding rather than use in the prevention of PPH.
- Inventory management at the facility level is generally poor, with orders not reflecting needs. There are exceptions to this, with some staff in a few facilities with knowledge of quantification, and updated records.

## **BASELINE METHODOLOGY**

### **Localization/adaptation of indicators/instruments**

The indicators were not adapted for data collection in Zambia. The instruments were used in their original format to facilitate comparisons across countries. Unfortunately, there was a concern regarding the instrument used to collect data related to pharmaceutical management issues, with an outdated version used in the data collection. Though useful information was generated as a result of this survey, RPM Plus plan to update and locally adapt a more appropriate instrument to enhance the information needed as the baseline.

### **Sampling design**

Baseline data collection was done at the district hospitals in the four chosen districts. In addition, a convenience sample of the surrounding clinics was chosen – two in Chipata, four each in Ndola and Mufulira and five in Lusaka Urban. Thus we had representation of both clinic and hospital, and rural and urban services and practice.

Within each site, evaluators used convenience sampling to identify health providers (for AMTSL observation, ANC observation, and skilled attendant interview) and patients (for the ANC visit exit interview) such that each of the 19 sites had at least one (in clinics) and up to four (in hospitals) observations or interviews (see table 1).

### **Training of data collection teams**

Two obstetricians and two midwives were recruited for the evaluation team (see appendix for further information). Each member received the complete set of measures and studied them independently. Next the group convened and reviewed each measure together, discussing unclear questions and procedures as necessary.

### **Data collection and quality control**

Evaluators went to sites in groups of two; one obstetrician and one midwife per team. Evaluators reviewed each of the interviews and checklists they completed, checking for and correcting misplaced or unclear marks, before submitting them to the PPH program manager. The program manager reviewed each completed instrument, noted missing or inconsistent data and discussed these with the evaluator.

Table 1: Number of Interviews by District and Facility for each Instrument

District	Facility	Instruments					
		A	B	C	D	E	F
Chipata	Clinics (2)	2	4	2	2	4	4
	Chipata Gen Hosp	1	4	1	2	4	4
Mufulira	Clinics (4)	4	4	4	4	4	4
	Ronald Ross G Hosp	1	4	1	3	4	3
Ndola	Clinics (4)	4	4	4	4	4	4
	Ndola Central Hosp	1	4	1	3	4	4
Lusaka	Clinics (5)	5	10	5	10	10	10
	Univ Teaching Hosp	1	4	1	4	4	4
<b>Total</b>		<b>19</b>	<b>38</b>	<b>19</b>	<b>31</b>	<b>38</b>	<b>37</b>

For observations of skilled attendant interviews evaluators identified the clinicians in the labor ward at the time of the visit. A clinician was then chosen to interview (often there was only one clinician, sometimes three or four). For AMTSL observations evaluators waited in the labor ward until a woman went into labor. Evaluators observed the clinician attending the first patient in labor. For ANC clinic visit observations, evaluators asked to observe the clinician attending the first patient in the clinic. For ANC clinic exit interviews evaluators approached the first woman completing her visit with the midwife and requested an interview.

### Data management and analysis

The entire set of reviewed instruments, with the exception of the pharmaceutical management instrument, were copied and sent to JHPIEGO/Baltimore for data entry and analysis. The pharmaceutical data was photocopied and sent to RPM Plus for analysis. Data entry files in JHPIEGO were created using SPSS data entry and all data were entered. Frequencies were run for all variables and outliers were identified and corrected. Composite scores were created for key areas (e.g., critical AMTSL score, critical ANC score). Preliminary analyses were run to compare responses by cadre, facility type and district. Further analyses will be completed to respond to program and stakeholder needs.

Data from the baseline were reviewed by JHPIEGO with the Zambia Technical and Evaluation Team over the course of several days. This team delineated the Findings and

developed an Action Plan. Data, Findings and Action Plan were presented to a member of the Central Board of Health, who provided additional input. The Team and this individual amended the Findings and Action Plan appropriately.

The data related to pharmaceutical management was forwarded to RPM Plus. All data was entered and summarized using Excel spreadsheets. These findings were reviewed by RPM Plus technical staff, and while the findings point to issues for further exploration, they do not suffice as a baseline to be used to track progress in intervention implementation, nor are they comparable to the findings and progress of this initiative in the other three countries. This will be remedied through the administration of the same instrument used in these other three countries, adapted to local conditions, and administered at the 19 intervention sites.

### **Limitations**

The data were often challenging to obtain. First, quality of record keeping varied substantially between sites. Often the numbers we sought simply did not exist. This was particularly true for facility and pharmaceutical data. Second, particularly in low-volume rural clinics, evaluators often waited hours to observe a delivery. The low number of observations per site made cross-site comparisons impossible. Skilled attendant interviews and AMTSL observations were done on independent samples, so we are not able to run some analyses that might be useful for intervention development. For example, we do not know the specific AMTSL-related training of the providers included in the AMTSL observation. Record reviews were conducted using log books in lieu of actual review of patient charts, partly because patient charts are not available in clinic sites.

With respect to oxytocics, no pharmacists were interviewed, so it is unclear as to the availability and drug management practice at the facility level. For example, in those sites in Urban Lusaka which reported as not having oxytocin available on the day of the visit, is this because they were not on the ward, but were available in the pharmacy? This needs to be clarified through interview of a wider range of service providers.

Central Medical Stores was not visited, and this will be the starting point for additional data collection.

The standard practice in clinics is for patient files to be given to the patient after postpartum care, so they are unavailable for review. As in any observational study, particularly one in which skill is being judged; the act of observation is likely to change the behavior of the observed. Therefore our findings are more likely to represent best-case than typical practice. As in data collection relying on self-report, some of the areas of interest to us might be considered sensitive or respondents may want to answer in a way consistent with what they believe we want to hear. Therefore answers may not be entirely candid or true.

## **FINDINGS AND CONCLUSIONS**

### **Baseline Findings**

#### *Key Stakeholders*

- Ministry of Health (policy level)
- Central Board of Health (implementation)
- Medical Stores Limited
- USAID
- JHPIEGO/Zambia

#### *Policy and Legal Framework*

At the time of this assessment, widespread introduction of the AMTSL intervention as a means to prevent PPH had not taken place in the facilities selected as demonstration sites. Current policy in Zambia does promote the AMTSL, with a bias towards use of ergometrine rather than oxytocin.

Facilities were categorized as normally stocking a drug or not normally stocking a drug. There are four drugs in the system – oxytocin (generic), ergometrine (generic), methylergometrine, and Syntometrine (oxytocin plus ergometrine). All facilities that reported normally stocking a particular drug also had an up-to-date formulary with the drug of choice included.

However, as the table below shows, STGs for AMTSL were not available in nearly half of the facilities.

	Yes	No	Don't Know	Did not answer	Total
Are there standard treatment guides available at this facility?	11	8		5	24
Does This Facility have a list of Drugs?	5	18	1		24
If Yes, Is it different from the national list?	3	2			5

Medical Stores Limited does not have an EDL per se, but compiles a list based on receipts from MOH and CBOH.

#### *Registration and Importation*

All drugs are registered in-country.

#### *Drug Financing*

As essential drugs, the MOH budgets for and procures uterotonics for use in public sector SDPs. These are available at no cost to the patient. However, as the majority of facilities had not yet begun activities supported by this initiative, it is unclear whether facilities will have an adequate supply once the intervention is widely promoted. The budget for uterotonics needs to be reviewed, and likely revised upwards in order to support this initiative. It is important to note that infrastructural improvements for proper drug management, such as refrigeration, may need to be financed as well so that the investment in inventory is not wasted. In addition, the administration of ergometrine requires that the patient be monitored closely with respect to blood pressure, so the equipment for this must be made available.



*Availability*

For the most part, an oxytocic drug was available at the SDPs visited, with some exceptions. Stock outs were reported for only 6% of the time period considered for oxytocin and/or ergometrine

**Q2. Stock Assessment Table WITHOUT Medical Stores Limited  
Summary**

	<b>No. facilities asked</b>	<b>n= Facility had drug available at time of visit</b>	average number of doses of Drug available at time of visit	max number of doses of Drug available at time of visit	Least number of doses of Drug available at time of visit(non zero)	Total no. of doses available all facilities	Facility able to record monthly consumption	average monthly consumption-average of all facilities with records	max monthly consumption of all facilities with records	least monthly consumption (non zero) of all facilities with records
Oxytocin	<b>23</b>	<b>19</b>	559	4850	1	10614	13	290	1485	8
Ergometrine	<b>23</b>	<b>17</b>	372	3660	1	6329	9	247	1042	2
Methylegometrine	<b>23</b>	<b>4</b>	47	100	5	189	3	45	102	5
Syntometrine	<b>23</b>	<b>3</b>	451	1261	33	1354	2	28	46	11

Total

18486

However, this can be misleading as there were reports that drugs were only given to those women who experienced excessive bleeding post-partum. When comparing the number of deliveries to the consumption of any oxytocic, there are many more deliveries than indicated by the recorded consumption of the drugs.

### Availability of drugs by facility

Combination of PPH drugs available	number of facilities which currently stock:
Ergometrine only	1
Methylergometrine only	2
Oxytocin	2
Oxytocin and Ergometrine	14
Oxytocin and Syntometrine	1
Oxytocin, Ergometrine and Syntometrine	2
Oxytocin, Ergometrine and Methylergometrine	1
Syntometrine only	1
total:	24
number asked:	24

#### *Affordability*

There is no charge to the patient for oxytocic drugs. The cost of these supplies is borne by the District Health Management Team (DHMT) who must budget for these supplies. The drugs are also available in the private sector, but the prices for these drugs were not ascertained.

Prices paid by MSL are as follows:

### Q1. Summary of Pricing Information

	Oxytocin	Ergometrine	Methy- lergometrine	Syntometrine
Only 1 questionnaire included a response. Purchase Price at MSL: in USD.	0.31	0.35	does not stock	0.21

Sale Price was not given

### *Drug Selection*

Current practice has four drugs selected for procurement; generic oxytocin, generic ergometrine, the combination of the two as Syntometrine, and methylegometrine. In the interests of expanding services to the greatest number of women possible, consideration should be given to a reduction in number of drugs, and of procuring only generic products. Quantities of oxytocin procured the first line drug for prophylactic administration, could be increased.

As oxytocin requires refrigeration, consideration might be given to the inclusion of misoprostol on the EDL for use in facilities that cannot maintain a cold chain.

### *Procurement*

Procurement is undertaken annually by MSL. See Quantification Section, below.

### *Quantification*

The government sector operates on a “pull” system of re-supply, with each facility calculating the order quantity required. The accuracy of the order quantity is highly dependent on the quality of data collected at the service delivery level.

Calculation: (Number of facilities with corresponding records/ Number of facilities visited) x 100.  
 To be disaggregated by facility, drug and supply

	A	B	C	D	E	F	G
<b>Type of Oxytocic</b>	<b>n= number of facilities visited</b>	facilities which filled in bin card	Facility had drug available at time of visit	number of facilities where no discrepancy between Physical Inventory and Bin	number of facilities where there is a discrepancy	% of facilities with no discrepancies/ number of facilities visited F=E/A	max discrepancy
<b>Oxytocin</b>	<b>24</b>	16	16	6	10	42%	373.7%
<b>Ergometrine</b>	<b>24</b>	12	12	4	8	33%	25.0%
<b>Methylergometrine</b>	<b>24</b>	0	0	0	0	0%	0.0%
<b>Syntometrine</b>	<b>24</b>	3	3	2	1	4%	1.2%
Total number filled in Bin Card	24	18					

### ***Central Medical Stores Role and Performance***

MSL, the central warehouse for government facilities, serves all other warehouses at the district and hospital levels. The primary function of the warehouse is to receive drugs into the supply system and distribute these as ordered from lower level facilities. Procurement functions are not performed by this group, as this is the responsibility of the CBOH/MOH. MSL does, however, have responsibility for maintaining accurate inventory records and informing the MOH on a routine basis.

### ***Distribution, Storage and Cold Chain***

<b>Q4.11. How is Cold Chain Maintained during distribution?</b>		
<b>n= number who answered</b>	<b>24</b>	<b>%</b>
1. cold chain not maintained during delivery	5	21%
2. cold chain not practiced for methylegometrine	1	4%
3. cooler boxes with Ice Packs	8	33%
4. drugs in cooler boxes	4	17%
5. not sure	1	4%
6. Thermometer used	2	8%
7. Transferred straight to fridge	7	29%
8. use cool boxes for ergometrine	1	4%
9. use tray for collection	1	4%
10. vaccine carriers	3	13%
11. did not answer	0	0%

	<b>number of facilities answering</b>	Yes	%Yes	No	% No	Comment
Do you supply other facilities with oxytocin anergometrine	<b>24</b>	5	21%	19	79%	How is Cold Chain maintained? (1) distributed in cool boxes with ice packs, no thermometers; (11) use cool boxes for ergometrine; (29) facilities bring own coolers to collect drugs(22) distributed in cool boxes with ice packs, thermometers for long distance; (24) cold chain not practiced for methylergometrine
Is the quality of oxytocin and ergometrine verified periodically	<b>23</b>	0	0%	23	100%	

*Inventory Control and Management*

**Q2. Stock Assessment Table**

**Summary**

	<b>number of facilities asked</b>	<b>n= Facility had drug available at time of visit</b>	average number of doses of Drug available at time of visit	max number of doses of Drug available at time of visit	Least number of doses of Drug available at time of visit(non zero)	Total number of doses available - all facilities	Facility able to record monthly consumption	average monthly consumption-average of all facilities with records	max monthly consumption of all facilities with records	least monthly consumption (non zero) of all facilities with records
Oxytocin	<b>24</b>	<b>20</b>	599604	11981457	1	11992071	14	98014	1368417	8
Ergometrine	<b>24</b>	<b>18</b>	8055	138652	1	144981	10	330	1076	2
Methylergometrine	<b>24</b>	<b>5</b>	47	100	5	189	3	45	102	5
Syntometrine	<b>24</b>	<b>3</b>	451	1261	33	1354	2	28	46	11

total

485

## ***Rational Use***

Given that nearly half of the facilities visited had no STGs, and that supplies in most service sites were limited, use of uterotonics tends to be mainly limited to treatment rather than preventive measures. In addition, with stock levels low, and in some instances expired product was on the shelf, it is unclear if good quality drugs are being administered.

## **RECOMMENDATIONS**

### **Programmatic implications**

The findings imply that a performance and quality improvement approach is applicable here. The approach will include interventions that address both system and individual (health care provider and client). Although the final implementation plan will not be completed until after July's steering committee meeting, listed below are the activities suggested by the data, and consistent with the level of related activities in these districts in Zambia. Activities suggested by the data fall into six broad areas: policy, site-strengthening, pharmaceutical, training, community-level and monitoring and evaluation.

#### *Policy-related activities:*

- Disseminate policies, protocols, guidelines to all districts, facilities, wards
- Provide job aids (AMTSL, IP)
- Orient all staff to policies
- Provide or update job descriptions related to policies, guidelines

#### *Site-strengthening activities*

- Working with the Reproductive Health Unit of the CBOH, address those areas where record-keeping changes may need to be made. This should be an integrated activity, looking at all RH services, and not be confined to AMSTL needs. The latter would produce a parallel reporting system and would not be optimal. This includes inventory management practices.
- Create and distribute job aids, including wall charts, supportive supervision check sheets, temperature charts, and other simple aids for the varying levels and cadres of workers.
- Use data to monitor status of AMTSL, PPH, drugs
- Collect more info on supervisory system
- Create tool for supportive supervision
- Encourage regular quality visits
- Review, with Central Medical Stores staff and DHMTs, quantification and ordering practices and requirements. Skills upgrade training may be required.
- Working with local partners such as UNICEF and DHMTs, collaborate to ensure that all sites have the capacity to maintain the cold chain.

#### *Training*

- Orientation and site prep at all levels of staff, facility (remote areas)

- Knowledge and skills training at all levels
- AMTSL training for all clinical supervisors
- Supportive supervision training for all supervisors
- Infection prevention training for all
- Training in stores management and cold chain management may be required specific cadres of workers.

#### *Community-level activities*

Community activities will be carried out using existing structures within communities. For example, a relatively new body, the Neighborhood Health Committee, is present in most communities, sometimes replacing Village Health Committees. The NHCs often are subdivided into working groups, such as a Safe Motherhood working group.

The Zambia White Ribbon Alliance for Safe Motherhood (ZWRASM) might also play a role in the community activities. Its members include NGOs and other groups that work in communities.

Some activities will include:

- Develop mass media messages encouraging birth preparedness
- Facilitate integrated inter-agency initiative encouraging preparedness plans
- Develop mass media campaigns encouraging facility births

#### *Monitoring and Evaluation activities*

- Add column to delivery record for oxytocic
- Training to use data as management, supervisory aid.
- Hold PPH meetings with staff, supervisors, to discuss PPH-related attitudes and recording, to enhance accurate PPH and blood loss reporting.

#### **Site Selection for Intervention**

In Zambia, a Technical Committee was convened to meet on the development of the Post Partum Hemorrhage Prevention (PPH) initiative activities. Representatives from Central Board of Health (CBOH), the department of OB/GYN at University Teaching Hospital (UTH), JHPIEGO/Zambia's Country Director and JHPIEGO/Zambia's PPH Program Manager played a role in this technical committee. The group determined that a good deal of work had already been done to lay the foundation for PPH prevention activities and agreed to identify and build on what already existed.

The Technical Committee chose four districts for inclusion in the baseline data collection: Lusaka Urban, Ndola, Mufulira and Chipata. Except for Chipata, districts were chosen because a substantial amount of work had already been done in these areas on AMTSL, but had not yet been completed. The Technical Committee agreed that by choosing districts in which some related work had already been done, working on that, and then developing a complete and integrated program that could be ultimately adapted in other districts throughout Zambia; they would be able to have a higher quality product and greater impact.

In three districts there is a registered midwifery school, and the pre-service midwifery education programs have adopted AMTSL in their curriculum as standard treatment for all labors. Some in-service training in life saving skills in which AMTSL was covered had also been done in one of these districts. However, these areas had relatively high urban concentrations, and the CBOH encouraged the committee to include a rural site as well. Therefore, Chipata was chosen to provide a greater understanding of current PPH-related practices in a more rural setting, as well as one in which no preliminary work had been done.

Lusaka Urban District has a population of 404,574 of which 18,790 are women of reproductive age and 4308 are pregnant. The district of Mufulira has a population of 68,279 with an estimated 15018 women of reproductive age and 3686 pregnant women. The district of Ndola has a population of 31412 with an estimated 6242 women of reproductive age and 1688 pregnant women. The district of Chipata has a population of 21119 with an estimated 4646 women of reproductive age and 1140 pregnant women.

The Technical Committee agreed to choose intervention sites based on three criteria:

- 1) Maximize the number of women who could be reached by intervention activities
- 2) Encompass a range of constituents (e.g., urban and rural, ethnically and economically diverse, range of education levels)
- 3) Include sites acceptable to district-level representatives.

Final decisions on intervention site selection will be made, based on these criteria and district-level input, at the steering committee meeting in July.

### **Characteristics of target population**

Our activities target pregnant women in 4 districts: Lusaka, Ndola, Mufulira, and Chipata.

### **Characteristics of providers**

Intervention activities will include a variety of providers at many levels. For example, enrolled and registered midwives, who provide the majority of facility-based births in the country (Zambia Demographic and Health Survey (ZDHS, 2003), will be trained in AMTSL clinical skills and knowledge. However, supervisors and the clinic in-charges will also be targeted so that proper supervision can be provided to trained providers.

Pharmacists and others with responsibility for management of these drugs will also be included in intervention activities. This are likely to include training in the basics of drug management in a cold chain, equipping the providers with simple job aids such as supportive supervision check sheets, temperature charts, and storage guidelines in the form wall charts.

### **Next steps with regards to key findings**

Based on our data review and steering committee presentation development meetings, we have identified further analyses by cadre, facility type, district, and training history, which will be incorporated into the presentation to provide steering committee members with more information for developing intervention plans. Next, we will focus on clarifying technical guidelines on AMTSL. Next, we will provide the baseline data information at a 2-day *strategic planning meeting for the Steering Committee* by the end of July. The meeting will include district health management team representatives, pharmacy representatives, hospital management teams (managers, direct managers, etc), and provincial-level representatives, as well as key members from CBOH.

At that meeting, the following will be accomplished:

- Undertake expanded pharmaceutical baseline assessment.
- Develop a district-specific action plan.
- Identify target facilities.
- Discuss need for more information or data at district, facility level, with plan for collection and analysis.
- Develop a Technical Assistance plan.
- Develop a plan for the final evaluation.

### **Action plan for feedback and dissemination of findings**

Data from the baseline were reviewed by JHPIEGO with the Technical and Evaluation Team. This team delineated the findings and developed an action plan. Data, findings and action plan were presented to a key member of the Central Board of Health, who provided additional input. The Team and the CBOH representative amended the findings and action plan appropriately. The next step will be a dissemination and strategy meeting with the Steering Committee. The Steering Committee is comprised of district health management team representatives, pharmacy reps, hospital management team (managers, direct managers, etc), and provincial-level representatives.

Drug management area	Baseline Findings	TA Plan	Next Steps/Person(s) Responsible
Policy and regulatory environment	All service delivery points (SDP) had an up-to-date formulary that included the national formulary drug that was on hand on the day of the visit. Twenty of these SDPs had oxytocin on hand, indication that formularies that include oxytocin are the norm. However, Standard Treatment Guidelines were not available in nearly half of the facilities.	Working with JHPIEGO, review STGs for drug management issues. Support production, distribution and training module related to drug management. Emphasis should be on first and second line drugs.	
Availability	At least one of the four oxytocics were found at most of the 24 facilities (SDPs and warehouses) surveyed. Twenty of the 24 sites had oxytocin, indicating that the first line prophylactic is widely available. However, only seven facilities had at least two months of supply on hand of oxytocin or ergometrine, with virtually none of the facilities having at least two months of supply on hand of either methylegometrine or syntometrine.	Increase the stocks of all oxytocics at various facilities	Promote use of oxytocics for all deliveries through training of midwives
Affordability	Drugs on the National Essential Drug List (NEDL) are available free of charge in the public sector. However, there is still a cost to the program for these drugs. In order to access these drugs, women must seek the assistance of a skilled provider, possibly only available at the health facility. This could make the service unaffordable.	Explore policy environment to determine if these drugs can be administered outside of the facility level.	
Selection	Based on the NEDL	Drug of choice in PPH should be oxytocin	Require Standard Treatment Guidelines (OH/ST)
Procurement	Done centrally through CBoH/MoH	District pharmacies should supply according to Health facility needs	
Quantification	Not based on any criteria	Supervision in application of quantification methodologies	Engage pharmaceutically trained personnel at various facilities to supervise and monitor inventory control and use
Distribution/	At district level supplied from MSL		

Drug management area	Baseline Findings	TA Plan	Next Steps/Person(s) Responsible
Transport	monthly. Health facility level are supplied by districts biweekly		
Storage and Cold Chain	Stored according to long-standing practice i.e., all in the refrigerator when possible. Abbott/Canada prints recommended storage temperatures for oxytocin as 15° - 30° C, but these were not, for the most part, adhered to.	Continue dialogue with USP and USAID to determine soundest recommendation Supervision on correct storage conditions	Develop job aids (temperature charts) for use at the facility level. (ST/OH)
Inventory Management	Poor inventory control/supply management	Provide and open stock control cards at all facilities	Supervision of inventory control management by pharmacy skill personnel. Review training plan with JHPIEGO and insert drug management module.
Rationale Use and Service Delivery	Underutilization of oxytocin	In-service training in PPH management – as above with JHPIEGO	Supervision and monitoring of Rational Use of Oxytocics (Gail?)
Drug MIS	Non-existent	Utilize the CBoH designed Order Form	Supervision and monitoring of adherence to utilization of formats.

**APPENDIX 1- ZAMBIA**  
**DATA COLLECTION TEAM: DESCRIPTION OF PARTICIPANTS**

Two obstetricians and two midwives were recruited for the evaluation team:

1. Dr. K. Like, Program Manager, JHPIEGO, Zambia. Dr. Like is an obstetrician trained in PAC
2. Dr. G. Mkumba, Consultant Obstetrician, University Teaching Hospital.
3. Ms. Christine Chilukusha, Registered Midwife and Sister-in-Charge, University teaching Hospital Labour Ward
4. Kalubi Chipawa, Registered Midwife in private practice.

Evaluators went to sites in groups of two; one obstetrician and one midwife per team.

## **APPENDIX 2-ZAMBIA: LOCAL PARTNER INFORMATION**

Ministry of Health:	Responsible for Setting Health Policy
Central Board of Health:	Responsible for Implementation of Policy
General Nursing Council:	Official government institution responsible for nursing education and quality, which has led the effort to strengthen midwifery education in Zambia over the past 2 years
District Health Mgmt Teams:	Responsible for setting priorities and developing their own work plans for their decentralized budgets; responsible for providing quality services within the district
Hospital Mgmt Teams:	Some lower-level hospitals report to the DHMT, however some hospitals are independent of the DHMT; all have management boards and their own managers, responsible for the services provided by the hospitals (and they are often called on by the District to provide technical guidance and assistance to District programs)
Registered Midwifery Schools:	There are three RM schools in the country, which have begun implementing a new RM curriculum incorporating AMTSL and have taken the lead in training service providers in the sites around the schools where students go for practical training (in 3 of the 4 districts selected)
University Teaching Hospital:	The teaching hospital for Zambia's only medical school, and also a leading nurse training school, as well as the highest level referral hospital in the country and the largest single delivery-center in the country
ZIHP:	Zambia Integrated Health Programme, the USAID bi-lateral health program that works in 12 "model" districts, including two of the 4 districts selected, and which has an interest in the prevention of PPH work and has partnered with JHPIEGO and MNH on a number of other maternal health activities

### **APPENDIX 3-Zambia: DATA TABLES**

Table 1: Skilled Provider Information

Characteristic	AMTSL Checklist (n=31)	Skilled Attendant Interview (n=38)
Facility: Hospital	12 (39%)	16 (42%)
Clinic	19 (61%)	22 (58%)
Cadre: Enrolled MW	16 (49%)	21 (63%)
Reg MW	12 (39%)	13 (26%)
Sr House Off	1 (3%)	1 (3%)
Doctor	1 (3%)	--
Years working	--	10+ years

Table 2: Patient Characteristics (Exit Interview)

Characteristic	N=37
Average age	25 years
Married	87%
Average highest grade	9 <sup>th</sup> year
Husband is head of household	89%
Work outside home	34%
Traveled less than hour to clinic	84%
Delivered at facility last birth	96%

Table 3: AMTSL is Not Being Practiced Regularly

Skill	Score
All AMTSL skills	45%
Subscales: CCT	94%
Oxytocic	61%
Clamp Cord early	90%
Fundal Massage	Immediate = 100%
	Until contract = 77%
	Every 15 mins = 29%

Table 4: AMTSL Knowledge is Not Accurate

AMTSL Knowledge	Score
"I practice AMTSL"	75%
"I mean": CCT	92%
Oxytocic	74%
Fundal massage	58%
Clamp/cut cord	50%
All the above	21%

Table 5: Infection Prevention Practices are Poor

Infection Prevention Practice	% obs
AMTSL Observation	
Hands washed	26%
Gloves worn	94%
Protective apron, glasses, shoes worn	42%
ANC Observation	
Prepares sterile instruments, supplies	90%
Washes hands before phys contact	37%
Applies gloves	17%
Immerses gloved hands in disinfectant	6%
Washes hands after exam	47%

