

Prevention and treatment of postpartum hemorrhage at the community level:

A guide for policy makers, health care providers, donors, community leaders, and program managers



USAID
FROM THE AMERICAN PEOPLE



POPPHI
Prevention of Postpartum
Hemorrhage Initiative

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2008

**Prevention of Postpartum Hemorrhage
Initiative (POPPHI)**

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Table of contents

Background.....	1
Method	2
Definitions.....	4
Prevention of postpartum hemorrhage.....	9
Treatment of postpartum hemorrhage	13
End Notes	17

List of tables

Table 1. PPH prevention at the community level.....	10
Table 2. PPH treatment at the community level.....	14

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About POPPHI

The Prevention of Postpartum Hemorrhage Initiative (POPPHI) is a USAID-funded, five-year project focusing on the reduction of postpartum hemorrhage, the single most important cause of maternal deaths worldwide. The POPPHI project is led by PATH and includes four partners: RTI International, EngenderHealth, the International Federation of Gynaecology and Obstetrics (FIGO), and the International Confederation of Midwives (ICM).

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Acronyms

AMTSL	active management of the third stage of labor
CCT	controlled cord traction
EOC	essential obstetric care
HLD	high-level disinfection
IM	intra-muscular
MNH	maternal and newborn health
MPS	Making Pregnancy Safer
NGO	non-governmental organization
POPPHI	Prevention of Postpartum Hemorrhage Initiative
RCT	Randomized controlled trial
SBA	skilled birth attendant
TBA	traditional birth attendant
USAID	United States Agency for International Development
WHO	World Health Organization

Background

Efforts such as the Safe Motherhood Initiative and the World Health Organization (WHO) Making Pregnancy Safer (MPS) Division and strategies to meet the United Nations Millennium Development Goals are supporting worldwide activities to reduce maternal and newborn mortality. Despite these efforts, hundreds of thousands of women and babies die or become disabled due to complications of pregnancy and childbirth every year; half of these maternal deaths occur within 24 hours of childbirth.¹

Postpartum hemorrhage (PPH) is the leading direct cause of maternal death in developing countries and results from problems during and immediately after the third stage of labor.² PPH is an **unpredictable** and **rapid** cause of maternal death worldwide, with two-thirds of women with PPH having no identifiable risk factors. Seventy to ninety percent of immediate PPH is attributed to uterine atony (failure of the uterus to properly contract after birth).^{3, 4}

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 (administration of an uterotonic drug, controlled cord traction with simultaneous countertraction of the uterus, 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 active management of the third stage of labor (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.⁵

Women need to have access to a skilled birth attendant to benefit from interventions to either prevent or treat PPH. Unfortunately, more than 50% of women in the developing world face birth alone, with a family member, or with a traditional birth attendant who may or may not be trained. Given this statistic, it is therefore imperative that women, men, families and communities take an active role in contributing to improvements in maternal and newborn health (MNH). The Making Pregnancy Safer division of the WHO has recommended key interventions that are grouped under four priority areas:

- developing capacities at the household and community level to improve MNH and to respond to obstetric and MNH emergencies,
- increasing awareness of rights and needs related to maternal and newborn health,
- strengthening social networks and linkages between communities and health services, and
- ensuring that efforts to improve services take the needs and perspectives of women and communities into account⁶.

This document examines evidence related to the prevention and treatment of PPH, or one or more of its components, at the community level and when a skilled or non-skilled birth attendant is assisting the birth. The purpose of the document is to guide policy makers, health practitioners, donors, community leaders, and program managers who are developing community-based interventions to address the need to increase capacities at the household and community level to improve MNH and to respond to obstetric and MNH emergencies.

Women continue to risk death in order to give life. Unfortunately, the requisite changes in maternal and neonatal care are slow in reaching the majority of women in developing countries — more than half the world's women and babies. Until all women have access to life-saving interventions, communities need access to interventions that can potentially save the life of a woman or baby.

Method

This document was developed by the POPPHI community-based task force using the following methodology:

1. A list of possible interventions for prevention and treatment of PPH was developed.
2. Each intervention was classified as a practice, device, or medication.
3. A non-exhaustive list of persons who could potentially carry out the intervention was made. (It is important to note that this will vary by country.)
4. For each intervention, the community-based task force assessed studies for size, design, quality, and setting. The level of evidence is categorized as follows:⁷
 - I.** Evidence of no benefit. Interventions for which evidence exists showing they have no important benefits—either singly or in combination with other measures—for postpartum hemorrhage;
 - II.** No evidence of benefit. Interventions for which evidence for or against an effect on PPH was absent;
 - III.** Uncertain evidence of benefit. Interventions for which there was some evidence of benefit, but contradictory evidence, or issues such as study design, location, or size precluded any firm conclusions. These interventions merit further assessment in low-income and middle-income countries;
 - IV.** Evidence of efficacy. Interventions effective in preventing or treating PPH, but there is a lack of data on effectiveness in large-scale community-based programs;
 - V.** Evidence of efficacy and effectiveness. Interventions of incontrovertible efficacy and which seem feasible for large-scale implementation based on effectiveness trials.
5. For each intervention, the community-based task force made a recommendation for its use:⁸
 - A:** Recommendation based on consistent and good quality patient-oriented evidence;

- B:** Recommendation based on inconsistent or limited quality patient-oriented evidence;
- C:** Recommendation based on consensus, usual practice, opinion, disease-oriented evidence, and case series for studies of diagnosis, treatment, prevention, or screening.
6. A non-exhaustive list of practical issues that might affect using the intervention was developed. Whether or if these issues present a barrier will depend upon each country's norms and protocols.

Go to the POPPHI website, <http://www.pphprevention.org> for the most up to date information and check back periodically to get the most current information.

There is more research currently underway to review the three components of AMTSL and their efficacy.

This document will be revised periodically to reflect the most recent published research.

Definitions

Active management of the third stage of labor (AMTSL): A combination of actions performed during the third stage of labor to prevent PPH. AMTSL speeds delivery of the placenta by increasing uterine contractions and prevents PPH by minimizing uterine atony. The three components of AMTSL are:

1. **Administration of a uterotonic drug** (oxytocin 10 IU IM is the uterotonic of choice)

Before performing AMTSL, the provider will gently palpate the woman's abdomen to rule out the presence of another baby. At this point, the provider will NOT massage the uterus.

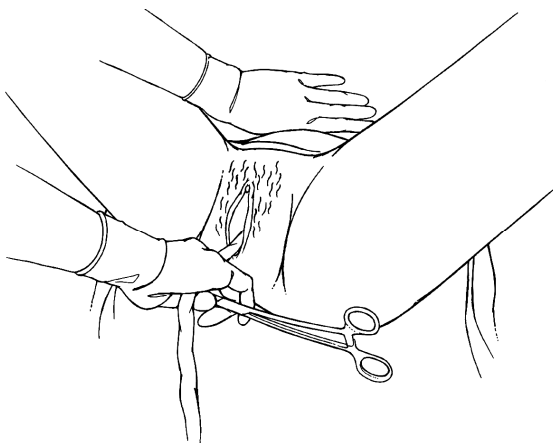
If there is not another baby, the provider will begin the procedure by giving the woman a uterotonic drug (oxytocin 10 IU IM, Syntometrine 1 mL IM, ergometrine 0.2 mg IM, or misoprostol 600 mcg po). This should be done within one minute of childbirth.

Administration of a uterotonic drug⁹



2. **Controlled cord traction**

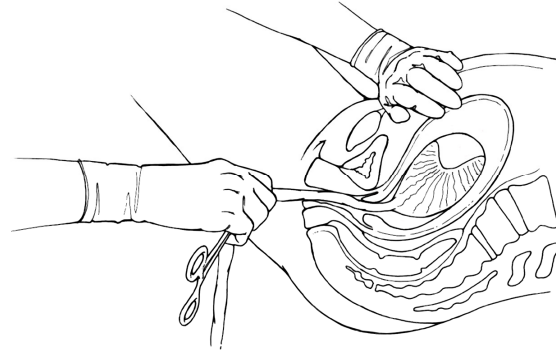
(CCT): Controlled traction on the cord during a contraction combined with counter-traction upward on the uterus with the provider's hand placed immediately above the symphysis pubis. CCT facilitates expulsion of the placenta once it has separated from the uterine wall.



Applying controlled cord traction with counter traction to support the uterus¹⁰

Countertraction (counter pressure): The action of lifting or elevating the uterus toward the mother's head during CCT to help prevent uterine inversion.

Applying controlled cord traction with counter traction to support the uterus⁸



3. **Uterine massage:** An action used after the delivery of the placenta in which the provider places one hand on top of the uterus to rub or knead the uterus until it is firm. Sometimes blood and clots are expelled during uterine massage.



Massaging the uterus immediately after the placenta delivers¹¹

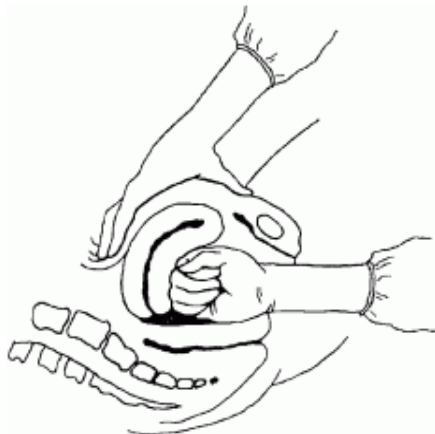
Bimanual compression of the uterus: Bimanual compression techniques are applied postpartum when uterine bleeding persists and the placenta is either partially adhered to the uterine wall or separated and the uterus is atonic. When previous management – uterine massage, giving a uterotonic drug, and emptying the uterine bladder – has been unresponsive, the provider will need to choose a method of compressing the uterus. Internal bimanual compression is more effective than external but should only be attempted if the provider is trained in its use and has sterile, elbow-length gloves.

External bimanual compression of the uterus: The uterus is compressed externally between two hands to constrict uterine blood vessels and stop bleeding.



Hand positions for external compression¹²

Internal bimanual compression of the uterus: The uterus is compressed between one hand inserted into the vagina and a second hand supporting the uterus externally to constrict uterine blood vessels and stop bleeding.



Internal bimanual compression of the uterus¹³

Community health worker (CHW): A widely accepted definition was proposed by WHO:

Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities for their activities, should be supported by the health system but not necessarily a part of its organization, and have shorter training than professional workers.¹⁴

CHWs are trained to carry out one or more functions related to health care. CHWs may receive training that is recognized by the health services and national certification authority, but this training does not form part of a tertiary education certificate. The profile of community health workers internationally is very diverse. While there are some broad trends, they can be men or women, young or old, literate or illiterate. In almost all cases they come from the communities they serve. Most importantly, there is broad agreement that who and what CHWs are must respond to local societal and cultural norms and customs to ensure community acceptance and ownership.

Delayed PPH: Excessive vaginal bleeding (vaginal bleeding increases rather than decreases after delivery), occurring **more than** 24 hours after childbirth.

Immediate PPH: Vaginal bleeding in excess of 500 mL, occurring **less than** 24 hours after childbirth. Blood loss in excess of 1000 ml is categorized as Severe PPH.

N.B. Estimates of blood loss at the time of childbirth are subjective and generally inaccurate. Studies have suggested that caregivers and providers consistently underestimate actual blood loss. The identification of PPH is based on the pregnant woman and/or her family's perception of excessive bleeding. Because it is often underestimated, it is recommended to err on the side of caution.

Nipple stimulation: Gentle rubbing or rolling of the nipple, or suckling of the nipples to encourage uterine contractions.

Prophylaxis: A medical or public health procedure whose purpose is to prevent, rather than treat or cure, disease. Roughly, prophylactic measures are divided between *primary* prophylaxis (to prevent the development of a disease) and *secondary* prophylaxis (to protect against the disease worsening when it has already developed).

Randomized controlled trial (RCT): A type of scientific experiment most commonly used in testing healthcare services (such as medicine or nursing) or health technologies (such as pharmaceuticals or surgery). Trials are used to establish average effectiveness of a treatment as well as learn about its most frequently occurring side-effects. RCTs are considered the most reliable form of scientific evidence in healthcare. As their name suggests, RCTs involve the random allocation of different interventions (or treatments) to subjects. This ensures that known and unknown confounding factors are evenly distributed between treatment groups.

Risk factor: Something that increases a person's chances of developing a disease or a complication. Risk factors may be associated with but do not necessarily cause a particular disease or complication, because association does not imply causation.

Skilled birth attendant: A "skilled" birth attendant refers exclusively to people with midwifery skills (for example, midwives, doctors and nurses) who have been trained to proficiency in the skills necessary to manage normal deliveries and diagnose, manage or refer complications. Skilled attendants must be able to manage normal labor and delivery, recognize the onset of complications, perform essential interventions, start treatment and supervise the referral of mother and baby for the interventions that are beyond the attendants' competence or not possible in the particular setting. Depending on the setting, other health-care providers, such as auxiliary nurse/midwives, community midwives, village midwives and health visitors, may also have acquired appropriate skills if they have been specially trained. "Non-skilled" birth attendants are those care providers who do not satisfy the above conditions.¹⁵

Stages of labor

- **First stage of labor** - The first stage of labor begins with the onset of contractions and ends when the cervix is fully dilated (10 cm). This stage is divided into two phases, known as latent and active phases of labor. During latent phase (0 to 4 cm dilatation), the uterine cervix gradually effaces (thins out) and dilates (opens). This is followed by active labor (4 to 10 cm dilatation), when the uterine cervix begins to dilate more rapidly and contractions are longer, stronger, and closer together.

- **Second stage of labor** - The second stage of labor begins when the uterine cervix is fully dilated and ends with the birth of the baby. This is sometimes referred to as the pushing stage.
- **Third stage of labor** - The third stage of labor begins with birth of the newborn and ends with the delivery of the placenta and its attached membranes.
- **Fourth stage of labor (also known as the “immediate postpartum” period)** - The fourth stage of labor begins with delivery of the placenta and goes from one to six hours after delivery of the placenta, or until the uterus remains firm on its own. In this stabilization phase, the uterus makes its initial readjustment to the non-pregnant state. The greatest numbers of women die from PPH during this period.

Traditional birth attendant (TBA): Traditional, independent (of the health system), non-formally trained and community-based providers of care during pregnancy, childbirth and the postnatal period.¹⁵

Uterine atony: Loss of tone in the uterine muscle. Normally, contraction of the uterine muscles compresses the uterine blood vessels and reduces blood flow, increasing the chance of coagulation and helping to prevent bleeding. The lack of uterine muscle contraction or tone can cause an acute hemorrhage. Clinically, 75 to 80 percent of PPH cases are due to uterine atony.¹⁶

Uterine inversion: A turning of the uterus inside out, whereby the uterine fundus is forced through the cervix and protrudes into or outside of the vagina.

Uterotonics: Substances that stimulate uterine contractions or increase uterine tone. Uterotonics include oxytocin, misoprostol, and ergometrine.

Prevention of postpartum hemorrhage

Predicting who will have PPH based on risk factors is difficult because **two-thirds of women who have PPH have no risk factors.**¹⁷ Therefore, all women are considered at risk, and hemorrhage prevention must be incorporated into care provided at every birth.

Note: Every woman is at risk for PPH.

Actions can be taken during the antenatal period that will improve the pregnant woman's hemoglobin level and thus increase her ability to tolerate blood loss in childbirth. The most effective way to prevent PPH is to ensure that each woman give birth with a skilled birth attendant who is trained and skilled in preventing PPH.

The following table reviews actions that can be taken at the community level during the third stage of labor and the immediate postpartum period to prevent PPH.

Table 1. PPH prevention at the community level

Interventions practiced in the community for prevention of PPH	Category (practice, devices, medications)	Persons who can provide the drug, device or practice	Level of evidence (I, II, III, IV, V)	Recommendations for the intervention (A, B, C)	Practical issues	
<p>AMTSL (oxytocin 10 IU IM is the uterotonic of choice but ergometrine 0.2 mg IM, Syntometrine 1 mL IM, or misoprostol 600 mcg orally may also be used)</p>	<p>Practice Medication</p>	<ul style="list-style-type: none"> ▪ SBA¹⁸ 	<p>Efficacy: IV¹⁹ Community / home use: Community practice in Indonesia, Bangladesh and Nepal</p>	<p>A</p>	<ul style="list-style-type: none"> ▪ Presence of SBA at time of birth. ▪ Timing, dose, storage, supply chain. ▪ If using injectable uterotonic: Authority to administer injection, Infection prevention measures, Injection safety. ▪ If ergometrine – knowledge of contraindications, side effects, and management of side effects. ▪ If misoprostol or oxytocin in Uniject™ - registration, procurement. 	
<p>Uterotonic use <u>ONLY</u> (before delivery of the placenta)</p>	<p>Oxytocin injection – 10 IU IM</p>	<p>Medication: Oxytocin ampoules Medication and Device: Oxytocin in Uniject™</p>	<ul style="list-style-type: none"> ▪ SBA (in situations where the birth attendant is not trained to perform controlled cord traction) 	<p>Efficacy: IV Community / home use</p>	<p>B (Recommended in the absence of AMTSL)</p>	<ul style="list-style-type: none"> ▪ Infection prevention measures, injection safety. ▪ Timing, dose, storage, supply chain, authority to administer injection; possible misuse of medication. ▪ For Uniject™: Device – all of the above + registration, procurement, safety and administration issues are minimized with Uniject use.
	<p>Misoprostol – 600 mcg Oral</p>	<p>Medication</p>	<ul style="list-style-type: none"> ▪ SBA ▪ CHW ▪ TBA ▪ Family ▪ Self 	<p>Efficacy: IV Community/home use</p>	<p>B (Recommended in the absence of AMTSL)</p>	<ul style="list-style-type: none"> ▪ Timing of administration and distribution, dose, storage, supply chain, correct administration; Possible misuse of medication. ▪ Drug registration, procurement. ▪ To ensure proper use of medication: community-based health workers should be trained in misoprostol use and in how to educate women / families to use it. ▪ Women / families need to be educated in correct use of misoprostol.

Table 1. PPH prevention at the community level

Interventions practiced in the community for prevention of PPH		Category (practice, devices, medications)	Persons who can provide the drug, device or practice	Level of evidence (I, II, III, IV, V)	Recommendations for the intervention (A, B, C)	Practical issues
	Ergometrine injection	Medication	<ul style="list-style-type: none"> ▪ SBA 	Efficacy: IV	<ul style="list-style-type: none"> ▪ Not recommended before delivery of the placenta in the absence of AMTSL 	
	Ergometrine tablets	Medication		Efficacy: II		
CCT Only		Practice	<ul style="list-style-type: none"> ▪ SBA 	II	Not recommended	
Uterotonic use after delivery of the placenta (if uterotonic is not administered before delivery of the placenta)	Oxytocin injection – 10 IU IM	Medication: <ul style="list-style-type: none"> ▪ Oxytocin ampoules Medication and Device <ul style="list-style-type: none"> ▪ Oxytocin in Uniject™ 	<ul style="list-style-type: none"> ▪ SBA 	Efficacy: IV	B: Uterotonic administration before delivery of the placenta is preferable	<ul style="list-style-type: none"> ▪ Infection prevention measures, injection safety ▪ Timing, dose, storage, supply chain Authority to administer injection ▪ Possible misuse of medication ▪ For Uniject™: Device – all of the above + Registration, procurement, safety and administration issues are minimized with Uniject use
	Misoprostol – 600 mcg Oral	Medication	<ul style="list-style-type: none"> ▪ SBA ▪ Community Health Worker ▪ TBA ▪ Family member ▪ Self 	Efficacy: IV	B: Uterotonic administration before delivery of the placenta is preferable	<ul style="list-style-type: none"> ▪ Timing, dose, storage, supply chain, correct administration ▪ Timing of distribution ▪ Drug registration, procurement ▪ Possible misuse of medication ▪ To ensure proper use of medication Community-based health workers should be trained in misoprostol use and in how to educate women / families to use it ▪ Women / families need to be educated in correct use of misoprostol

Table 1. PPH prevention at the community level						
Interventions practiced in the community for prevention of PPH		Category (practice, devices, medications)	Persons who can provide the drug, device or practice	Level of evidence (I, II, III, IV, V)	Recommendations for the intervention (A, B, C)	Practical issues
Uterotonic use after delivery of the placenta (if uterotonic is not administered before delivery of the placenta)	Ergometrine injection – 0.2 mg IM	Medication	<ul style="list-style-type: none"> SBA 	Efficacy: IV	B	<ul style="list-style-type: none"> Infection prevention measures, injection safety Timing, dose, storage, supply chain Authority to administer injection knowledge of contraindications, side effects, and management of side effects
	Ergometrine tablets	Medication		No evidence	Not recommended	
Nipple stimulation (manual or breastfeeding)		Practice	<ul style="list-style-type: none"> SBA Community Health Worker TBA Family member Self 	III	C: Nipple stimulation stimulates oxytocin production in the mother and is likely to play a role in reducing postpartum bleeding and breastfeeding just after birth has many benefits for the woman and baby ¹⁴	<ul style="list-style-type: none"> Requires no access to medication or other specialized services
Uterine massage after delivery of the placenta (without uterotonic and CCT)		Practice		IV	B: No Randomized Controlled Trials (RCT)	
Bladder emptying		Practice		Anecdotal	C: Routinely recommended in textbooks	

Treatment of postpartum hemorrhage

The loss of some blood during childbirth and postpartum is normal and cannot be avoided. However, losing any amount of blood beyond normal limits can cause serious problems even for the woman with normal hemoglobin levels.

Note: The importance of a given volume of blood loss varies with the woman's health status.

A woman with a normal haemoglobin level may tolerate blood loss that would be fatal for an anaemic woman.

—WHO 2007²⁰

For many anemic women, even the normal amount of blood loss might be catastrophic. PPH is defined as vaginal bleeding in excess of 500 mL; severe PPH is blood loss exceeding 1,000 mL. Because it is difficult to measure blood loss accurately, research shows that blood loss is frequently underestimated. For instance, nearly half of women who deliver vaginally often lose at least 500 mL of blood, and those who give birth by cesarean delivery normally lose 1,000 mL or more. For many women, this amount of blood loss does not lead to problems; however, outcomes are different for each woman. For severely anemic women, blood loss of as little as 200 to 250 mL can be fatal. This is especially important for women living in developing countries, where significant numbers of women have severe anemia.

Despite the best efforts of health providers, women may still suffer from PPH. If PPH does occur, positive outcomes depend on how healthy the woman is when she has PPH (particularly her hemoglobin level), how soon a diagnosis is made, and how quickly effective treatment is provided after PPH begins. In order to facilitate timely action and appropriate referral of women experiencing PPH, it is recommended that measuring blood loss be standardized at a country and/or district level. In Tanzania, for example, a definition of "too much bleeding" was provided to women, their families, CHWs, TBAs, and SBAs as "any bleeding that exceeds 2 *kangas**."

The following table reviews interventions that can potentially be carried out in the community level for women with PPH. Providers and managers should refer to WHO and national guidelines for dosage and timing of administration of medications used to manage PPH.

* A *kanga* is a 2-meter piece of cloth, usually made of cotton.

Table 2. PPH treatment at the community level

Interventions practiced in the community for treatment of PPH		Category (practice, devices, medications)	Persons who can provide the drug, device or practice	Level of evidence (I, II, III, IV, V)	Recommendations for the intervention (A, B, C)	Practical issues
Uterotonic	Oxytocin injection	Medication: Oxytocin ampoules Medication and Device: Oxytocin in Uniject™	<ul style="list-style-type: none"> ▪ SBA 	V	A	<ul style="list-style-type: none"> ▪ Infection prevention measures, injection safety. ▪ Timing, dose, storage, supply chain. ▪ Authority to administer injection. ▪ Possible misuse of medication. ▪ For Uniject™: Device – all of the above + registration, procurement, safety and administration issues are minimized with Uniject use.
	Misoprostol tablets	Medication	<ul style="list-style-type: none"> ▪ SBA ▪ CHW ▪ TBA ▪ Family member ▪ Self 	III-IV	B	<ul style="list-style-type: none"> ▪ Timing, dose, storage, supply chain. ▪ Correct administration. ▪ Timing of distribution. ▪ Drug registration, procurement; possible misuse of medication. <p>N.B. To ensure proper use of medication: community-based health workers should be trained in misoprostol use and in how to educate women / families to use it; women / families need to be educated in correct use of misoprostol.</p>
	Ergometrine injection	Medication	<ul style="list-style-type: none"> ▪ SBA 	V	A	<ul style="list-style-type: none"> ▪ Infection prevention measures, injection safety. ▪ Timing, dose, storage, supply chain. ▪ Authority to administer injection. ▪ Knowledge of contraindications, side effects, and management of side effects.
	Ergometrine tablets	Medication		II	▪ Not recommended	

Table 2. PPH treatment at the community level

Interventions practiced in the community for treatment of PPH	Category (practice, devices, medications)	Persons who can provide the drug, device or practice	Level of evidence (I, II, III, IV, V)	Recommendations for the intervention (A, B, C)	Practical issues
Nipple stimulation / Breastfeeding	Practice	<ul style="list-style-type: none"> ▪ SBA ▪ CHW ▪ TBA ▪ Family member ▪ Self 	III	C¹⁴	<ul style="list-style-type: none"> ▪ Requires no access to medication or other specialized services.
Uterine Massage			III	B	
Bladder emptying			III	B	
If uterine atony: External bimanual compression					III
If uterine atony: Internal bimanual compression	Practice	<ul style="list-style-type: none"> ▪ SBA 	IV	A	<ul style="list-style-type: none"> ▪ Presence of SBA. ▪ Infection prevention measures, Elbow-length sterile or HLD gloves. <p>(N.B. if an SBA is managing PPH, external bimanual compression should not be attempted before internal compression as precious time may be lost)</p>
If retained placenta: Administration of uterotonic followed by CCT (when AMTSL was not practiced)	Practice Medication		IV	A	<ul style="list-style-type: none"> ▪ Presence of SBA. ▪ Timing, dose, storage, administration of uterotonic (injection/tablet). ▪ Infection prevention measures. ▪ Injection safety ▪ Authority to administer injection
If retained placenta: Removal of placenta / fragments	Practice Medication		IV	A	<ul style="list-style-type: none"> ▪ Presence of SBA. ▪ Infection prevention measures, Elbow-length sterile or HLD gloves. ▪ Injection safety. ▪ Time, dose, storage, administration of prophylactic antibiotics, valium, pethidine.
If genital lacerations: Perineal / vaginal Compression to stop bleeding (with no suture)	Practice		<ul style="list-style-type: none"> ▪ SBA ▪ CHW ▪ TBA ▪ Family member 	III	A, Referral recommended

Table 2. PPH treatment at the community level					
Interventions practiced in the community for treatment of PPH	Category (practice, devices, medications)	Persons who can provide the drug, device or practice	Level of evidence (I, II, III, IV, V)	Recommendations for the intervention (A, B, C)	Practical issues
If genital lacerations: Suturing of genital tract laceration	Practice	<ul style="list-style-type: none"> ▪ SBA 	V (No studies available)	A	<ul style="list-style-type: none"> ▪ Presence of SBA trained to diagnose and suture genital tract tears. ▪ Infection prevention measures. ▪ Injection safety. ▪ Sterile suture needles and suture thread.
IV infusion for fluid replacement*	Practice Medication		IV	A	<ul style="list-style-type: none"> ▪ Presence of SBA. ▪ Infection prevention measures. ▪ Injection safety. ▪ Time, dose, storage, administration of IV fluids.
Anti-shock garment**	Practice Device	<ul style="list-style-type: none"> ▪ SBA ▪ CHW ▪ TBA ▪ Family member 	Research is ongoing to study use for treatment of PPH and prevention of shock.		<ul style="list-style-type: none"> ▪ Training for application, removal, and washing. ▪ Cost implications. ▪ Operational issues.

*This is not a treatment strategy but will replace fluid loss, prevent shock, and improve the chances that the woman will survive PPH.

** This is not a treatment strategy but will prevent shock and improve the chances that the woman will survive PPH until she receives definitive treatment at the appropriate level of care.

End Notes

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