

# Preventing Postpartum Hemorrhage with the use of heat-stable carbetocin

## THE PROBLEMS

 **Postpartum hemorrhage (PPH)** accounts for 20% of total maternal mortality, resulting in nearly 36,000 deaths\*\* in low and lower-middle-income countries\*.

\*  **Uterotonics** are effective in saving women's lives from postpartum hemorrhage, but primary therapies are susceptible to climactic conditions, such as heat, and degradation.

## THE SOLUTION

 **Heat-stable carbetocin (HSC)** is a uterotonic that does not require refrigeration and, as seen in the scenarios presented, could ensure more mothers have access to life-saving uterotonics and decrease maternal mortality due to PPH. **A targeted, swift approach to making HSC available could save up to 8,500 mothers.**

\* Low and Lower-Middle-Income Countries, as defined by the World Bank in 2020.

\*\* All statistics are for ages 10-54, IHME Global Burden of Disease 2017.

**Maternal hemorrhage is the leading cause of maternal death worldwide.** Deaths due to postpartum hemorrhage (PPH), excessive bleeding after birth, are especially high in low and lower-middle-income countries\*, where the vast majority of maternal deaths occur.

Increased focus on preventing hemorrhage has reduced the number of maternal deaths, but PPH still threatens the lives of far too many mothers. Approaches for preventing and treating maternal hemorrhage include identifying women at risk sooner, encouraging women to give birth at a health care facility or with a skilled attendant for active management of labor, and developing low-cost, accessible interventions that help reduce bleeding. To help prevent PPH and save lives, the current recommendation by the World Health Organization is the use of an effective uterotonic during the third stage of labor for all births (WHO 2018). However, oxytocin, which is currently recommended for all births must be refrigerated; otherwise, it may degrade and become less effective. Due to the need for cold chain transport and storage, not all facilities have access to oxytocin. Network Meta-Analysis (Gallos et al. 2018) shows that heat-stable carbetocin for PPH prevention may be more effective than oxytocin, with the added benefit of being stable in tropical climates. Heat-stable carbetocin can be made available in settings where refrigeration is limited or unavailable, potentially making space available for other critical medications requiring cold-chain.

The Institute for Health Metrics and Evaluation modeled the impact of providing heat-stable carbetocin in settings where regulation of temperature is problematic on maternal outcomes, PPH specifically.

### About this project

**Goal: Understand the impact of transitioning from the current standard of care for PPH prevention to the use of heat-stable carbetocin for PPH prevention.** This report was made possible by IHME Client Services, a social enterprise within the University of Washington that promotes and provides access to IHME's population health data to private-sector organizations. The design and production of this report was funded by Merck for Mothers, an initiative of Merck (known as MSD outside of the US and Canada). The content is solely the responsibility of the authors and does not necessarily represent the official views of the funders.

## THE MODELS

This summary demonstrates the impact that transitioning to use of heat-stable carbetocin (HSC) within 5 years could have on women's health by 2030. Scenarios presented include transitioning to use of HSC in **20%**, **50%**, and **80%** of facility births.

## KEY FINDING

Swift, targeted adoption of heat-stable carbetocin in health facilities in these settings could help **more mothers survive childbirth and avoid suffering** from PPH than currently expected by 2030.

• = 25 women saved

### 20% transition

### 50% transition

### 80% transition

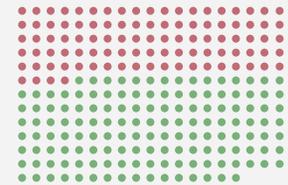
## Targeted approach



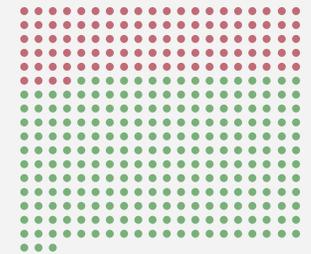
A targeted approach ensures HSC is available first to those **without access** to uterotonics before **with access**.



**4,194 women saved**  
1.3 million fewer cases



**6,400 women saved**  
2.3 million fewer cases



**8,578 women saved**  
3.2 million fewer cases

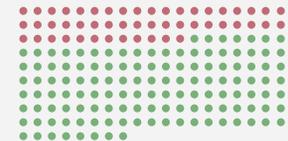
## Broad approach



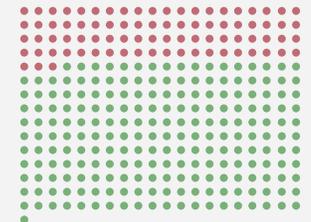
A broad approach makes HSC available to facilities regardless of current access to uterotonics.



**1,881 women saved**  
761,872 fewer cases



**4,704 women saved**  
1.9 million fewer cases



**7,526 women saved**  
3.0 million fewer cases

Using a **targeted** approach rather than a broad one **saves two times as many women** with a 20% transition to use of heat-stable carbetocin.

Increasing coverage to 50% **saves an additional 2,000 lives** in both targeted and broad approaches.

With an ambitious approach, **8,500 more mothers could survive childbirth and over 3 million more than predicted will avoid suffering.**