

## Time-saving and life-saving impact of a dedicated childbirth operating room in hospitals in Ghana

Despite global efforts to improve medical care in Sub-Saharan Africa, childbirth remains one of the most dangerous experiences that women and their babies can face. Delays in receiving appropriate emergency care during the crucial moments of childbirth continue to lead to unnecessary deaths. For women who give birth in a hospital, the ability to rapidly recognize the need for and perform an emergency Cesarean (C-section) delivery is essential to saving the lives of women and their babies in times of distress.

Experts recommend hospitals be able to achieve a 30-minute or less “decision-to-delivery interval”—the time needed to perform an emergency Cesarean after the decision to operate has been made. However, the limited resources and inadequate infrastructure and systems in low-income countries can hinder the ability to reach this goal.

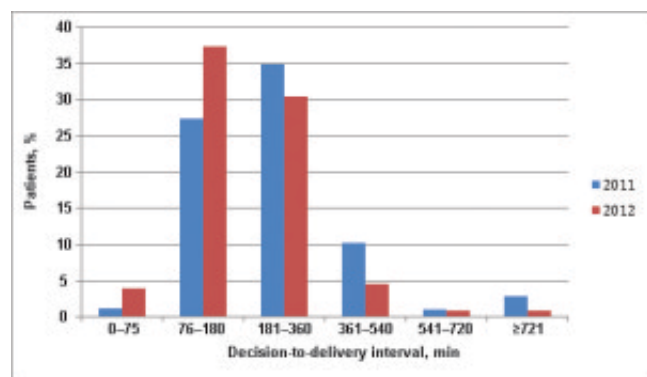


Fig. 1. Decision-to-delivery intervals for emergency cesarean delivery before (August–September 2011) and after (August–September 2012) introduction of an obstetric operation and recovery room.

In 2007, the U.S.-based non-profit organization Kybele began work in the West African country of Ghana in a high-risk childbirth referral hospital in the capital city Accra. Kybele aimed to reduce maternal and newborn deaths by addressing health provider skills, hospital systems, and gaps in quality. After five years, the rates of women who died in childbirth decreased by 23% and the rates of stillbirths decreased by half (52%). However, the lack of a childbirth-specific operating room led to long waiting times and increased risk for women requiring emergency Cesareans. Thus, Kybele and the hospital converted an unused space in the hospital into a childbirth-specific operating and recovery room. To determine if this improved health outcomes, a study was conducted among all 1,155 patients who delivered by Cesarean over a year to compare the “decision-to-delivery interval” and the newborn survival rates of births before and after the introduction of the childbirth-

specific operating room. Various time intervals throughout a woman's childbirth experience were measured to help determine when delays occur throughout the process.

Overall, the decision-to-delivery time intervals decreased from 259 minutes before the creation of the childbirth operating room to 195 minutes afterwards, showing a significant decrease in the delay time for both emergency and planned Cesarean deliveries due to increased space, additional supplies, and decreased competition from other operating rooms. Additionally, after introduction of the operating room there was a 30% reduction in newborns admitted to the NICU and 29% more newborns were discharged from the NICU within 7 days. However despite these significant impacts, only one emergency Cesarean out of over a thousand was conducted within the recommended 30-minute timeframe, showing that improving the rooms and resources of a hospital is not enough. A lack of physical resources is often said to be the root cause of poor health outcomes in developing countries. However, this study showed that even with better facilities, proper hospital procedures and processes must be in place and followed.

Even in a developing country context, the goal should be for hospitals to be able to provide high-quality, timely routine and emergency birthing services, 24 hours a day and 7 days a week. This research study shows that to achieve this requires a combination of an adequate operating room capacity as well as good health provider skills and well-functioning systems and processes.

While it is still unclear what a realistic standard "decision-to-delivery" time interval is for low-income countries, it is certain that the typical 3 hour delay for emergency deliveries seen in the present study should be improved. At Ridge Regional Hospital in Ghana, the findings of the current study led Kybele to implement a multi-component program to address a wide range of skills and systems related to maternal and newborn care. These kinds of efforts are necessary to improve the quality of health services for women and their babies and ultimately ensure survival for mothers and newborns undergoing emergency childbirth surgery.

## **Publication**

[The effects of resource improvement on decision-to-delivery times for cesarean deliveries in a Ghanaian regional hospital.](#)

Onuoha O, Ramaswamy R, Srofenyoh EK, Kim SM, Owen MD.

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