



SAFER BIRTHS BUNDLE OF CARE

*A national scale-up program in Tanzania
Update May 2023*

IN SUMMARY

The Safer Births Bundle of Care program is implemented in 30 hospitals in five regions in Tanzania. It is funded by the Global Financing Facility and implemented in collaboration with the national health authorities (Ministry of Health and President's Office, Regional Administration and Local Government Tanzania).

Two years in, results show promise that the goals of the program are within reach: Reducing early newborn mortality by 50%, fresh stillbirths by 25%, and maternal mortality by 10%.

In close collaboration with the Ministry of Health, we will in phase 2 expand the program to cover all 140 CEmONC hospitals across the five regions.

Safer Births BUNDLE of CARE

Training innovation

In-service simulation training for Helping mothers and newborns survive.



MamaNatalie

MamaBirthie

NeoNatalie Live



Sustainability

Supported by strong MoH ownership, regular mentorship, supportive supervision and local facilitators trained in simulation methodology.

Clinical innovations

Fast and reliable fetal and newborn heart rate monitoring, efficient bag-mask ventilation and improved maternal care.



Moyo

NeoBeat

Upright

Penguin

Continuous QI

Local training and clinical data used for weekly QI discussions and guiding low-dose, high-frequency training at the worksite.

A combination of low-dose, high-frequency individual skill training and scenario team trainings improve and maintain competence over time, changes the attitudes and creates a non-judgmental culture.

The picture displays a postpartum hemorrhage training scenario (PPH) where health workers are practicing removal of a retained placenta.



Veronica's baby boy was born with the umbilical cord wrapped around his neck and not breathing.

Valentina, a nurse trained through the Safer Births Bundle of Care program, took immediate and appropriate action.

She placed the baby on the resuscitation table, applied NeoBeat and began ventilation.

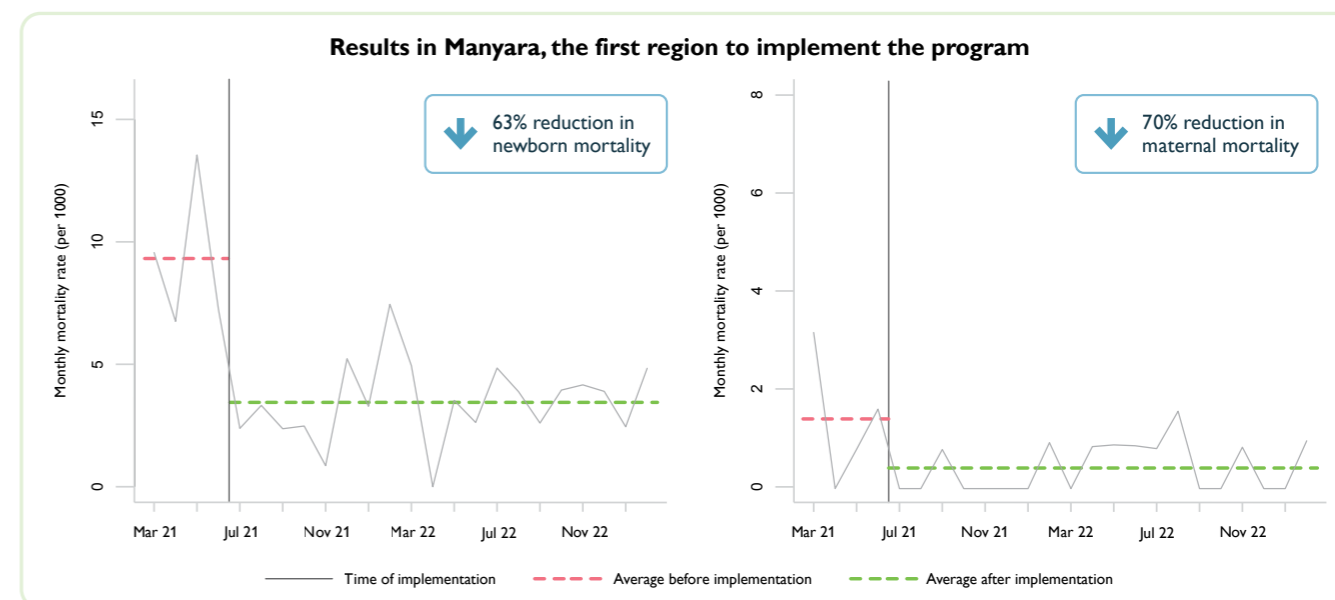
Thanks for Nurse Valentina's skills during the critical first minute of life the baby began to breathe.



PROMISING PRELIMINARY RESULTS

Two years in there is progress across all regions, although some regions are performing better than others. In some regions, maternal mortality has been reduced more than expected, and show more than 50% reduction.

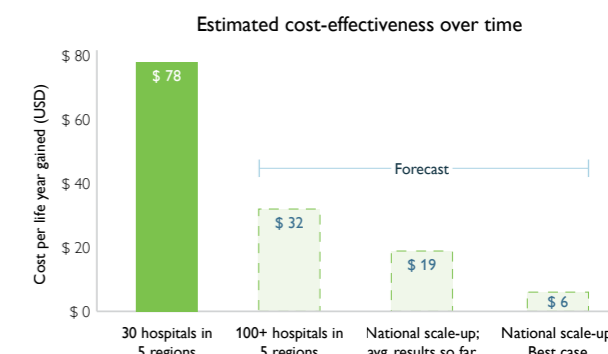
By February 2023, over 500 mothers and newborns had been saved in total. This shows promise that the goals of the program are within reach: Reducing early newborn mortality by 50%, fresh stillbirths by 25%, and maternal mortality by 10%.*



HIGHLY COST-EFFECTIVE

For phase I (30 hospitals), it is estimated to cost 78 US dollars per life year gained. As it scales to an additional 110 hospitals, that cost could come down to 32 dollars and further down to 19 dollars with national scale-up.

And – if results in the best regions so far could be reproduced on national scale, cost could come all the way down to 6 US dollars per life saved.



* Ersdal H et al: "Safer Births Bundle of Care" Implementation and Perinatal Impact at 30 Hospitals in Tanzania—Halfway Evaluation. Children. 2023; and data presented at Annual Stakeholder meeting March 2023.



MAIN LESSONS LEARNT

- The Safer Birth Bundle of Care has been very well received – and much in demand for additional scale up.
- National ownership (MoH) and facility ownership is crucial – from early planning, through implementation.
- Although the results so far are highly encouraging, they differ much among participating hospitals and regions: It is essential to leverage best-practice implementation.
- Unreliable baseline data and missing data on poor outcomes. Changing this culture and fear for “blame and shame” takes time, but the reflection-based simulation methodology is helping drive this change.
- Local clinical data is used on a weekly basis for regular quality improvement discussions and data-guided simulation scenarios – this is critical for sustainable impact and improving clinical behaviour.
- Areas that require particular attention include supportive supervision, mentoring of health workers, and equipment maintenance and reprocessing.

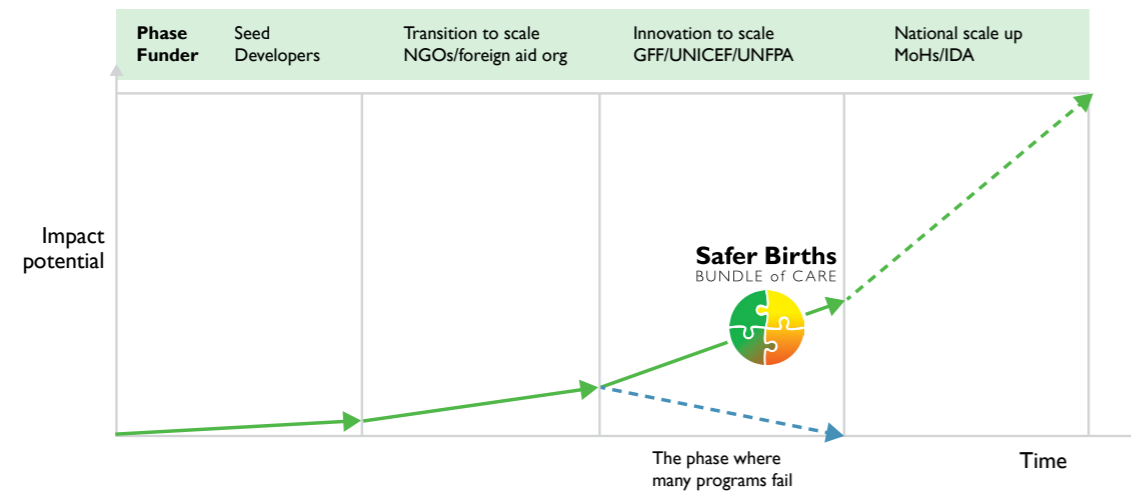
ITERATIVE IMPLEMENTATION PROCESS

The findings of the phase 1 halfway evaluation have informed a joint-proposal by Haydom Lutheran Hospital and UNICEF, presented to the Ministry of Health on the further scale-up in phase 2 to another 110+ additional hospitals.

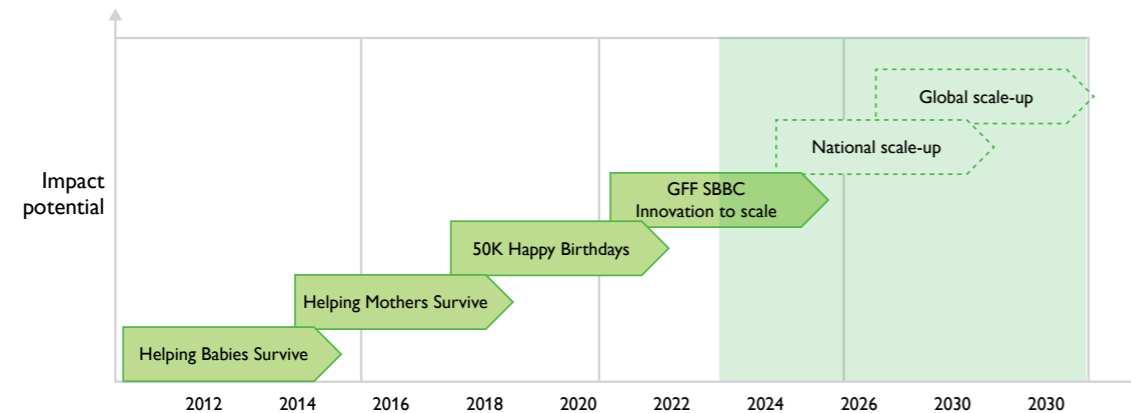
FROM DONORSHIP TO OWNERSHIP

In 2019, the Global Financing Facility (GFF) partnered with Norad, Unicef and Laerdal for an innovation-to-scale initiative to scale-up and test the investment cases of promising innovations with high impact potential.

Out of 320 proposals received, Safer Births Bundle of Care was rated to have the highest impact potential.



Safer Births Bundle of Care was one of the programs that received funding from GFF. If the program shows the expected impact and cost-efficiency it may set an example for full national scale-up not only in Tanzania but also in the 36 other GFF countries.



OPTIMIZING IMPACT THROUGH MONITORING AND EVALUATION

The Safer Birth Bundle of Care program was developed and launched at Haydom Lutheran Hospital in Tanzania.

It is an iterative program building on 12 years of research in Tanzania, Norway, and the US, and more than 100 published, peer-reviewed papers.



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BMC Health Services Research

STUDY PROTOCOL Open Access

SaferBirths bundle of care protocol: a stepped-wedge cluster implementation project in 30 public health-facilities in five regions, Tanzania

Benjamin A. Kamala^{1,2*}, Hege L. Ersdal^{3,4}, Estomih Mduma¹, Robert Moshiri^{1,5,6}, Sakina Ginary⁷, Ole Terje Østrem¹, Jørgen Lindelø⁸, Ingvild Dalen⁹, Elsa Sayland⁷, Dunstan R. Bishanga⁷, Felix Ambrose Bundala¹⁰, Ahmad M. Makuwani¹⁰, Boniface Marwa Richard¹¹, Plus David Muzzazze⁶, Ivony Kamala^{1,12} and Paschal F. Mdoe¹

Abstract
Background: The burden of stillbirth, neonatal and maternal deaths are unacceptably high in low- and middle-income countries, especially around the time of birth. There are scarce resources and/or support implementation of evidence-based training programs. SaferBirths Bundle of Care is a well-proven package of innovative tools coupled with data-driven on-the-job training aimed at reducing perinatal and maternal deaths. The aim of this project is to determine the effect of scaling up the bundle on improving quality of intrapartum care and perinatal survival.
Methods: The project will follow a stepped-wedge cluster implementation design with well-established infrastructures for data collection, management, and analysis in 30 public health facilities in regions in Tanzania. Healthcare workers from selected health facilities will be trained in basic neonatal resuscitation, essential newborn care and essential maternal care. Fetal heart rate monitors (Moyo), neonatal heart rate monitors (NeoBeat) and skills trainers (NeoNatalie Live) will be introduced in the health facilities to facilitate timely identification of fetal distress during labour and improve neonatal resuscitation, respectively. Heart rate signal-data will be automatically collected by Moyo and NeoBeat, and newborn resuscitation training by NeoNatalie Live. Given an average of 4000 baby-mother pairs per year per health facility giving an estimate of 240,000 baby-mother pairs for a 2-years duration, 25% reduction in perinatal mortality at a two-sided significance level of 5%, intraclass correlation coefficient (ICC) to be 0.0013, the study power stands at 0.99.

* Correspondence: kamalab@bmc.com
¹Department of Research, Haydom Lutheran Hospital, Haydom, Manyara, Tanzania
²School of Public Health and Social Sciences, Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam, Tanzania
Full list of author information is available at the end of the article

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A SUPPLEMENT TO PEDIATRICS

Helping Babies Breathe: A Decade of Experience in Improving Newborn Care

Sara K. Berkelhamer, MD, and Danielle E. Y. Ehret, MD, MPH, Supplement Editors

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"Safer Births Bundle of Care" Implementation and Perinatal Impact at 30 Hospitals in Tanzania—Halfway Evaluation

Hege Ersdal^{1,2,*}, Paschal Mdoe³, Estomih Mduma^{3,4}, Robert Moshiri^{4,5}, Godfrey Guga^{3,6}, Jan Terje Kvaloy^{6,7,8}, Felix Bundala⁹, Boniface Marwa⁹ and Benjamin Kamala^{3,4,10}

Abstract: Safer Births Bundle of Care (SBBC) consists of innovative clinical and training tools for improved labour care and newborn resuscitation, integrated with new strategies for continuous quality improvement. After implementation, we hypothesised a reduction in 24-h newborn deaths, fresh stillbirths, and maternal deaths by 50%, 20%, and 10%, respectively. This is a 3-year stepped-wedge cluster randomised implementation study, including 30 facilities within five regions in Tanzania. Data collectors at each facility enter labour and newborn care indicators, patient characteristics and outcomes. This halfway evaluation reports data from March 2021 through July 2022. In total, 138,357 deliveries were recorded; 67,690 pre- and 70,667 post-implementation of SBBC. There were steady trends of increased 24-h newborn and maternal survival in four regions after SBBC initiation. In the first region, with 13 months of implementation (n = 15,658 deliveries), an estimated additional 100 newborns and 20 women were saved. Reported fresh stillbirths seemed to fluctuate across time, and increased in three regions after the start of SBBC. Uptake of the bundle varied between regions. This SBBC halfway evaluation indicates steady reductions in 24-h newborn and maternal mortality, in line with our hypotheses, in four of five regions. Enhanced focus on uptake of the bundle and the quality improvement component is necessary to fully reach the SBBC impact potential as we move forward.

Keywords: newborn resuscitation; simulation-based training; safer births; quality improvement; perinatal mortality; newborn mortality; fresh stillbirths; maternal mortality; helping babies breathe; helping mothers survive

1. Introduction
Deaths related to childbirth, including young women, unborn and newborn babies, are still a huge global concern and challenge. Approximately 98% of these perinatal deaths occur in low- and middle-income countries, with 50% in sub-Saharan Africa [1]. Overall global maternal mortality is estimated to be around 211 deaths per 100,000 live births [2], but in Tanzania, a sub-Saharan country, as many as 556 deaths per 100,000 births are reported [3]. This means that 1 in 33 women die in relation to pregnancy and childbirth, with postpartum haemorrhage as the leading cause of death. The global estimates for stillbirths and newborn mortality are 13.9 and 17.6 per 1000 births, respectively [4,5]. In Tanzania, the burden is higher; there are 39 stillbirths per 1000 births and 25 newborn

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PLOS ONE

Successful implementation of Helping Babies Survive and Helping Mothers Survive programs—An Utstein formula for newborn and maternal survival

Hege L. Ersdal^{1*}, Nalini Singhal², Georgina Msemu³, Ashish KC^{4,5}, Santorino Data⁶, Nester T. Moyo⁷, Cherrie L. Evans⁸, Jeffrey Smith⁹, Jeffrey M. Perlman¹⁰, Susan Niermeyer¹⁰, on behalf of the participants in the Utstein consensus process: How to implement successful Helping Babies Survive and Helping Mothers Survive programs*

Abstract
Globally, the burden of deaths and illness is still unacceptably high at the day of birth. Annually, approximately 300,000 women die related to childbirth, 2.7 million babies die within their first month of life, and 2.6 million babies are stillborn. Many of these fatalities could be avoided by basic, but prompt care, if birth attendants around the world had the necessary skills and competencies to manage life-threatening complications around the time of birth. Thus, the innovative Helping Babies Survive (HBS) and Helping Mothers Survive (HMS) programs emerged to meet the need for more practical, low-cost, and low-tech simulation-based training. This paper provides users of HBS and HMS programs a 10-point list of key implementation steps to create sustained impact, leading to increased survival of mothers and babies. The list evolved through an Utstein consensus process, involving a broad spectrum of international experts within the field, and can be used as a means to guide processes in low-resourced countries. Successful implementation of HBS and HMS training programs require country-led commitment, readiness, and follow-up to create local accountability and ownership. Each country has to identify its own gaps and define realistic service delivery standards and patient outcome goals depending on available financial resources for dissemination and sustainment.

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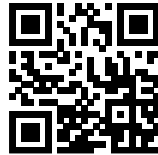
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