

Global Surgery Foundation's Women's Health Programme on Maternal Health



Catalyzing Meaningful Impact for Women and Communities

Background: Facts on Maternal Health and Safe Cesarean Section



- An estimated 287,000 maternal deaths occur globally every year from preventable pregnancy and childbirth related causes.¹
- While global maternal mortality declined by 33% from 2000 – 2015, and by more than 50% in 58 countries with the highest rates of maternal mortality, these earlier positive trends have stalled on a global level.¹
- Stillbirths continue at an alarmingly high frequency, with nearly 1.9 million stillbirths occurring in 2021, 40% occurring during labor.²
- The burden of maternal deaths and stillbirths is inequitable, with the vast majority of maternal deaths and stillbirths occurring in low- and middle-income countries (LMICs). Sub-Saharan Africa itself accounts for 70% of all maternal deaths globally¹, while mothers in sub-Saharan Africa and Southern Asia suffered 77% of the stillbirths.²

EVERY DAY



800 women die during pregnancy, childbirth and postnatal period.¹



Over 5,000 stillbirths occur, 40% during labor.²

Why Safe Cesarean Section?

- Cesarean section (CS) is one of the most common surgeries performed worldwide and accounts for nearly a third of operations in most resource-limited settings.³ It is a lifesaving intervention for women and newborns when conducted safely, timely, and for the right reason, potentially preventing nearly 100,000 maternal deaths and reducing neonatal deaths by 30-70%.⁴
- CS rates are rapidly increasing. Trend of increasing rates globally, from 5% worldwide in 1990, to 21.1% in 2018, with projection to 28.5% in 2030.⁵
- Significant disparities across the regions, ranging from 5% in sub-Saharan Africa representing underuse (too few, too late) to 42.8% in Latin America and the Caribbean, representing overuse (too many, too soon).⁵
- Population based estimates mask equity differences within countries and amongst population groups that either get too few (underuse) or too many CS (overuse).⁶ In many LMICs, there is a double burden of 1) some experiencing lack of access to/underuse of CS and 2) others exposed to overuse or unnecessary CS without proper indications.
- In many LMICs, CS is occurring without an enabling environment for safe surgical care. Women in LMICs are 50-100x more likely to die following CS than women in high-income countries.^{7,8} Most CS-related maternal deaths (32%) are due to postpartum hemorrhage (PPH); 22% to sepsis and 19% to pre-eclampsia/eclampsia.⁷

Timely access to Safe CS is an essential component for maternal and newborn health continuum of care, but is often missing in programming.

Safe, timely CS can avert 100,000 maternal deaths (1/3 of maternal deaths) and reduce perinatal deaths (newborn deaths and stillbirths) by 30-70%.³

Our Approach

Obstacles around Safe CS emerge from similar root causes: **system factors** such as facility location, design and readiness, lack of an enabling environment (e.g. leadership, policies, funds) and poorly functioning referral systems; as well as **human factors** such as community care-seeking behaviors, lack of provider/team knowledge and skills, lack of surgical leadership, entrenched professional hierarchies blocking effective teamwork and communication, lack of a culture of patient safety and respect.

A seamless connection between these health system factors and human factors is essential to improve maternal health outcomes, yet this interconnectedness is often overlooked. **The GSF Women's Health Programme takes an inter-related systems and human factors approach to co-designing programs that work across the health system.** This approach functions across the community to the provider/teams/facility, the subnational and national level with a focus at the district hospital level, as well as leveraging existing platforms to achieve meaningful and sustainable impact.

We prioritize:

- ✓ **Partnerships:** We work in close partnership with ministries of health and other ministries (e.g., finance, transportation, etc.), professional associations, academia, implementers, and other key frontline stakeholders/partners to co-design programs to ensure local ownership that are context appropriate and sustainable.
- ✓ **Workforce capacity development:** We facilitate translation of global recommendations and guidelines into practice utilizing an interdisciplinary team-based, hands-on approach to capacity building of surgical teams - with a focus on both technical and non-technical skills (e.g., teamwork and communication, leadership skills, etc.) - and to build a culture of patient safety, through the entire perioperative continuum of care.

Adapting the WHO Surgical Safety Checklist⁹ to the local context and its proper use decreases perioperative complications and death by 30-50%^{10,11} and fosters a culture of patient safety, and teamwork and communication.

Surgical Safety Checklist

World Health Organization
A World Alliance for Safer Health Care

Patient Safety
A World Alliance for Safer Health Care

Before induction of anaesthesia	Before skin incision	Before patient leaves operating room
<p>(with at least nurse and anaesthetist)</p> <div style="background-color: #e0f2f1; padding: 5px; border: 1px solid #ccc;"> <p>Has the patient confirmed his/her identity, site, procedure, and consent?</p> <input type="checkbox"/> Yes </div> <div style="background-color: #e0f2f1; padding: 5px; border: 1px solid #ccc;"> <p>Is the site marked?</p> <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable </div> <div style="background-color: #e0f2f1; padding: 5px; border: 1px solid #ccc;"> <p>Is the anaesthesia machine and medication check complete?</p> <input type="checkbox"/> Yes </div> <div style="background-color: #e0f2f1; padding: 5px; border: 1px solid #ccc;"> <p>Is the pulse oximeter on the patient and functioning?</p> <input type="checkbox"/> Yes </div> <p>Does the patient have a:</p> <p>Known allergy?</p> <input type="checkbox"/> No <input type="checkbox"/> Yes		

Difficult airway or aspiration risk?

 No
 Yes, and equipment/assistance available

Risk of >500ml blood loss (7ml/kg in children)?

 No
 Yes, and two IVs/central access and fluids planned

Ensuring facility readiness: We promote adequate infrastructure and organization of services; reliable electrical power, water, oxygen, sterilization capacity, and safe blood availability; adequate equipment, supplies and medicines; and adequate biomedical technical support.

Strengthening networks of care and referral systems: We strengthen and integrate surgical care/Safe CS into primary health care and leverage existing maternal and newborn health platforms. We strengthen referral pathways and foster people-centered linkages throughout the continuum of care.

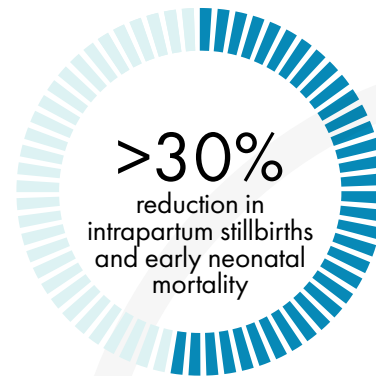
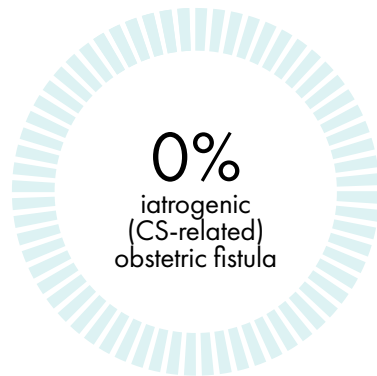
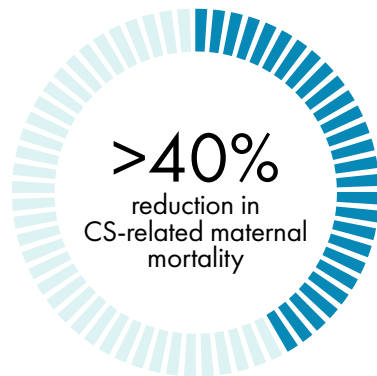
Use of data for continuous learning and adapting, and for generating evidence: We integrate practical innovations and digital health; ensure patients' experience of care are captured; and evaluate efficiencies, costs, and effectiveness of surgical care models.

Our **Theory of Change** (Annex 1) illustrates key pathways on how we aim to improve coverage, quality, safety, and equity and develop scalable and sustainable models to address for maternal health needs. Working with countries and country stakeholders, we implement our approach through contextualized support, co-creating and co-investing in systems-oriented plans, ensuring technical rigor of programs, and expanding and strengthening partnerships and accountability.

Key Performance Indicators

Maternal Health

Sustained reduction in maternal and perinatal morbidity and mortality



¹ Trends in maternal mortality 2000 to 2020: estimates by WHO, UNICEF, UNFPA, World Bank Group and UNDESA/Population Division. Geneva: World Health Organization; 2023. License: CC BY-NC-SA 3.0 IGO

² UN-IGME Stillbirth Report 2022 at <https://childmortality.org/wp-content/uploads/2023/03/UN-IGME-Stillbirth-Report-2022.pdf>

³ Weiser TG, Haynes AB, Molina G, et al. Size and distribution of the global volume of surgery in 2012. *Bulletin of the World Health Organization*. 2016;94(3):201-209F. <https://www.ncbi.nlm.nih.gov/pubmed/2696631>. doi: 10.2471/BLT.15.159293

⁴ Molina G, MD, Esquivel MM, MD, Uribe-Leitz T, MD, et al. Avoidable maternal and neonatal deaths associated with improving access to caesarean delivery in countries with low caesarean delivery rates: An ecological modelling analysis. *The Lancet (British edition)*. 2015;385: S33. <https://www.clinicalkey.es/playcontent/1-s2.0-S0140673615608285>. doi: 10.1016/S0140-6736(15)60828-5

⁵ Betran AP, Ye J, Moller A, Souza JP, Zhang J. Trends and projections of caesarean section rates: Global and regional estimates. *BMJ global health*. 2021;6(6): e005671. <http://dx.doi.org/10.1136/bmjgh-2021-005671>. doi:10.1136/bmjgh-2021-005671

⁶ Boerma T, Ronsmans C, Melesse DY, et al. Global epidemiology of use of and disparities in caesarean sections. *The Lancet (British edition)*. 2018;392(10155):1341-1348. [https://dx.doi.org/10.1016/S0140-6736\(18\)31928-7](https://dx.doi.org/10.1016/S0140-6736(18)31928-7). doi: 10.1016/S0140-6736(18)31928-7

⁷ Sobhy S, Arroyo-Manzano D, Murugesu N, et al. Maternal and perinatal mortality and complications associated with caesarean section in low-income and middle-income countries: A systematic review and meta-analysis. *The Lancet (British edition)*. 2019;393(10184):1973-1982. [https://dx.doi.org/10.1016/S0140-6736\(18\)32386-9](https://dx.doi.org/10.1016/S0140-6736(18)32386-9). doi: 10.1016/S0140-6736(18)32386-9

⁸ Bishop D, Dyer RA, Maswime S, et al. Maternal and neonatal outcomes after cesarean delivery in the African Surgical Outcomes Study: a 7-day prospective observational cohort study. *The Lancet*. 2019; 7: 513-522. doi: 10.1016/S2214-109X(19)30036-1

⁹ WHO Patient Safety, World Health Organization. WHO guidelines for safe surgery : 2009 Safe surgery saves lives

¹⁰ Haynes AB, Weiser TG, Berry WR, et al. A surgical safety checklist to reduce morbidity and mortality in a global population. *The New England Journal of Medicine*. 2009;360(5):491-499. <http://content.nejm.org/cgi/content/abstract/360/5/491>. doi: 10.1056/NEJMs0810119

¹¹ Ademuyiwa AO, Medina AR, Nawara C, et al. Pooled analysis of WHO surgical safety checklist use and mortality after emergency laparotomy. *British journal of surgery*. 2019; 106(2):e103-e112. <https://onlinelibrary.wiley.com/doi/abs/10.1002/bjs.11051>. doi: 10.1002/bjs.11051

MATERNAL HEALTH - THEORY OF CHANGE

