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

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. 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 28.3% in 2030.9
- 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.6 Most CS-related maternal deaths (32%) are due to postpartum hemorrhage (PPH); 22% to sepsis and 19% to pre-eclampsia/eclampsia.7

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 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.

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### Surgical Safety Checklist

**Before induction of anaesthesia**

- Has the patient confirmed his/her identity, site, procedure, and consent?
  - Yes
  - Not applicable

- Is the site marked?
  - Yes
  - Not applicable

- Is the anaesthesia machine and medication check complete?
  - Yes

- Does the patient have a:
  - Known allergy?
    - No
    - 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

**Before skin incision**

- Confirm all team members have introduced themselves by name and role.
- Confirm the patient’s name, procedure, and where the incision will be made.

- Has antibiotic prophylaxis been given within the last 60 minutes?
  - Yes
  - Not applicable

**Before patient leaves operating room**

- Are there any equipment problems to be addressed?
- Is essential imaging displayed?
  - Yes
  - Not applicable

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**Anticipated Critical Events**

**To Surgeon:**
- What are the critical or non-routine steps?
- How long will the case take?
- What is the anticipated blood loss?

**To Anaesthetist:**
- Are there any patient-specific concerns?

**To Nursing Team:**
- Has sterility (including indicator results) been confirmed?
- Are there equipment issues or any concerns?

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This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.

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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.

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**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 system-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

- >40% reduction in CS-related maternal mortality
- >50% reduction in surgical site infections
- 0% iatrogenic (CS-related) obstetric fistula
- >30% reduction in intrapartum stillbirths and early neonatal mortality

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MATERNAL HEALTH - THEORY OF CHANGE

**BARRIERS**
- Lack of updated evidence-based policies & guidelines
- Inadequate infrastructure, resources & supplies
- Inadequate surgical and anesthesia workforce capacity
- Lack of standardisation of care
- Sub-optimally functioning referral systems & poor facility-community linkages
- Poor data quality and management

**INTERVENTIONS**
- Support development of costed implementation plans (CIPs);
  Facilitate adoption of global recommendations and guidelines;
  Facilitate translation of global recommendations and guidelines into practice/implementation
- Build surgical infrastructure readiness and organization of services;
  Enhance access to surgical equipment, supplies, medicines, reliable power, oxygen, blood
- Strengthen and expand multidisciplinary human-resources capacity;
  Interprofessional surgical teams;
  Strengthen technical and non-technical skills
- Build a culture of teamwork, patient safety & respectful care;
  Cultivate and support surgical team and facility leadership;
  Implement evidence-based practices and guidelines
- Strengthen referral pathways;
  Foster people-centered linkages throughout the continuum of care
- Build capacity and culture in data quality and management;
  Standardize Key Performance Indicators;
  Foster shared learning platforms

**OUTPUTS**
- Increased number of CIPs implemented;
  Increased number of global recommendations and guidelines adopted
- Increased number of functional surgical facilities
- Increased number of health care workers and teams trained
- Improved provider & team performance
- Improved functioning of referral system and networks of care
- Improvement in data quality, data use, and continuous learning & adaptation

**OUTCOMES**
- Strengthened governance and leadership on maternal health
- Strengthened capacity to provide safe, timely, respectful care throughout the continuum of care
- Improved generation and sharing of evidence across platforms and fora

**IMPACT**
- Improved coverage, quality, safety and equity for maternal health
- Scalable and sustainable model for improving for CS-related maternal and perinatal outcomes