

CONCEPT NOTE



**Medical Aid
International**

Supporting Healthcare in Low Resource Environments

Strengthening Maternal and Newborn Health Through a Multifaceted Approach



BACKGROUND

Maternal and neonatal mortality remains a critical global health challenge, particularly in low and middle income countries (LMICs). Many, many deaths are preventable through timely access to **quality maternal and newborn care**. Evidence shows that improving **clinical services, neonatal support, and reproductive health interventions** significantly reduces maternal and neonatal mortality.

Achieving this requires **multifaceted strategies** addressing clinical, infrastructural, and organisational challenges across the continuum of care.

The challenges include:

- Limited access to **quality diagnostics**, such as ultrasound and foetal monitoring, for early detection of complications.
- **Inadequate delivery, surgical and neonatal facilities**, delaying emergency interventions.
- **High rates of preventable complications**, such as haemorrhage, preeclampsia, and birth asphyxia.
- Lack of medicines and the high amount of fake, ineffective drugs in circulation
- Lack of **context-appropriate, durable equipment**
- Insufficient **infection control and sterilisation systems**, compromising maternal and neonatal safety.
- Fragmented service delivery, with **gaps between family planning, antenatal, delivery, and postnatal care**.



Medical Aid International has instigated its own neonatal resuscitation campaign such as the need in this area



HOW CAN WE WORK TOGETHER TO FIX THE ISSUE?

Reducing deaths among both mothers and babies requires addressing three key components:

- **Providing appropriate, LMIC-appropriate and sustainable medical equipment**
- **Ensuring safe and reliable pharmaceutical supplies**
- **Ensuring sufficient trained staff**

All three are clearly vital and it is essential to recognise this **broader context** which is that saving lives in maternal and neonatal LMIC environments is a **multifactorial challenge**.

Likewise in our experience, **providing appropriate equipment and medicines also helps attract and retain healthcare professionals**, as clinicians are far more willing to work in facilities where they can safely and effectively care for patients. Ultimately success breeds success.

Maternal care requirements can broadly be divided into three areas:

- **Antenatal Care**
- **Delivery**
- **Postnatal Care**

ANTENATAL CARE

Antenatal care is essential to ensure proper care for both the mother and the developing baby. This includes:

- **Medical monitoring**
- **Monitoring the health and development of the foetus**
- **Identifying pregnancy risks early**

Proper monitoring helps ensure that complications are detected early. For example, where risk factors are identified, **Caesarean sections can be planned in advance**, significantly reducing the risk of emergency complications.

Where adequate antenatal care is not available, mothers may experience serious complications during childbirth. One example is **obstructed labour**, which can lead to **obstetric fistula**. This condition can cause devastating long-term health consequences for the mother, including chronic incontinence, social isolation, and additionally in sometimes the **death or serious injury of the baby**.

Aside from routine patient monitoring equipment the **main item** required in **antenatal care** is an **ultrasound** for the following reasons:

- Confirm pregnancy and rule out **Ectopic Pregnancy**
- Estimate **gestational age** and **due date**
- Detect **multiple pregnancies** (e.g., twins)
- Monitor **foetal growth** and identify **Foetal Growth Restriction**
- Check **placenta location** and detect **Placenta Previa**
- Identify major **foetal abnormalities** such as **Spina Bifida**
- Assess **foetal heartbeat, movement, and amniotic fluid levels**
- Help determine if the mother may need a **caesarean section**
- Help determine if the mother needs **referral to higher-level care**

ESSENTIAL EQUIPMENT FOR A DELIVERY & SPECIAL CARE SUITE IN LMICS



Functional Autoclave (Steriliser): Ensures all surgical and delivery instruments and equipment are sterile, reducing the risk of infections for both mother and baby.

Comfortable, Adjustable Delivery Beds: Allow safe positioning for labour, delivery, and immediate postpartum care. Easy-to-clean surfaces are crucial to maintain hygiene.

Properly Equipped Operating Room: Must be capable of performing emergency caesarean sections and include equipment for general anaesthesia.

Resuscitation Equipment for Mothers and Newborns: Needed to manage complications such as postpartum haemorrhage or neonatal asphyxia. Includes resuscitator, oxygen, suction devices, and bag-mask ventilators.

Incubators: Provide warmth, monitoring, and oxygen support for premature or sick newborns. Critical for reducing newborn mortality in LMIC settings.

CPAP (Continuous Positive Airway Pressure): This helps newborns with breathing difficulties maintain oxygenation without invasive ventilation. Lifesaving for premature babies with underdeveloped lungs.

Phototherapy Lamp: Used to treat **neonatal jaundice**, a common condition where newborns have high bilirubin levels.

Emergency Drugs: These should include oxytocin, magnesium sulphate, antibiotics, IV fluids, and syringes. Essential for managing postpartum haemorrhage, eclampsia, and infections.

Foetal Monitoring Equipment: Foetal heart rate monitors or Dopplers ensure timely detection of complications during labour and after delivery.

POSTNATAL CARE

Postnatal care is **not optional**. Even **simple, routine, low-cost interventions** like checking vital signs, supporting breastfeeding, monitoring jaundice, and ensuring infection prevention can **drastically reduce maternal and neonatal deaths** in LMICs.

SUMMARY



The reality is that achieving a significant reduction in maternal and neonatal mortality is not as complex as it is often perceived. The key lies in **common sense interventions, well-coordinated planning, and strong collaboration with local partners on the ground**.

Providing **basic but essential equipment**—such as sterilisers, delivery beds, resuscitation devices, incubators, and foetal monitors—can make a dramatic difference. Equally important is ensuring the **availability of essential medications**, including **oxytocin, magnesium sulphate, antibiotics, IV fluids, and emergency drugs**, which are critical for managing complications like **postpartum haemorrhage, eclampsia, infections, and neonatal emergencies**.

Success also depends on having **safe, functional delivery suites, trained staff, and timely referral systems** for emergencies, along side biomedical engineering support. When these elements are in place, even resource-limited settings can achieve major improvements in maternal and newborn outcomes.

In short, **life-saving change in LMICs doesn't require high-tech solutions**, it requires practical equipment, essential medications, proper training, and strong teamwork at every level of care.



Twin being born by emergency caesarean section at a remote hospital in Ghana equipped by Medical Aid International. Mother and twins survived thanks to the properly equipped maternity department, the fully functioning operating room and appropriate staff supported by the full range of required medicines



A maternity unit equipped by MAI, Madagascar.

Medical Aid International delivers complete solutions for maternal healthcare.

"The numbers of maternal deaths have been brought right down in hospitals we support with MedAid"

Dr Nigel Pearson, Semiliki Trust, DRC



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