Meeting the SDG challenge to end fistula and preventable childbirth-related morbidity and mortality

Published Online
May 22, 2019
http://dx.doi.org/10.1016/S2214-109X(19)30198-6

This online publication has been corrected. The corrected version first appeared at thelancet.com/lancetgh on June 18, 2019

Lack of safe, affordable, medically indicated caesarean delivery is a primary contributor to global health inequity. In low-income and middle-income countries (LMICs), it perpetuates preventable morbidity and mortality caused by prolonged or obstructed labour (figure).[1] In North America, morbidity and mortality related to prolonged or obstructed labour ended in the early 1900s. Yet both obstetric fistula, which can occur if timely caesarean delivery is not ensured, and the paradoxical occurrence of iatrogenic fistula, when caesarean deliveries are available but not subject to quality-of-care governance, continue to plague health-care systems in LMICs.[2] Adequate intervention alone would avert 1 million disability-adjusted life-years (DALYs), with a median benefit-to-cost ratio of 6·0 at US$304 per DALY averted, reflecting an eradicable burden of disease that undermines sustainable development, economic growth, and human rights.[3]

Preventable maternal and neonatal deaths, obstetric fistula, and iatrogenic fistula are each sentinel indicators of surgery gaps within weak health systems.[2] Unlike the unpredictable, rapid-onset obstetric complications (eg, eclampsia or stroke, haemorrhage, and sepsis) that are the top causes of maternal mortality across wealthy and poor countries alike, prolonged or obstructed labour is a slow-motion complication ameliorated by timely interventions, including pharmacological stimulation, vacuum extraction, and, when these fail, caesarean delivery.

Solutions to the global interventions gap for prolonged or obstructed labour call for profound reinterpretations of Thaddeus and Maine's 1994 three-delays framework.[4] Published as a sequential pathway to safe maternity care, stakeholders conflated the priority on the so-called first delay (ie, delay in seeking care) with validation of, and evidence for, prioritisation of distal (socioeconomic and sociocultural) over proximal (accessibility and quality) determinants of health. For example, assumptions that antenatal care programmes that address delay in seeking care would increase facility-based birth reveal poor return on investment: high engagement in such programmes coexists with inversely low levels of facility-based childbirth.[5]

15 years after Thaddeus and Maine, Gabrysch and Campbell reflected that failure to implement the three-delays framework included "confounding by service availability and other factors".[6] The key to a successful strategy for prolonged or obstructed labour lies within these confounding factors, starting with evidence-based revisions to grass-roots empowerment policies for girls and women. This first delay challenge is poignantly illustrated in the story of a Yemeni midwife whose family refused to take her to hospital when she was in prolonged or obstructed labour, resulting in fistula, abandonment, and stigma.[7] Although valued in the remote villages where she works, she had no decision-making power in her own home. Such first delay incongruities require far-reaching transformations in gender and sociocultural norms. Second delays (in identifying and reaching medical facilities) require cross-sector transportation, health, and finance collaborations, including universal health coverage.

The greatest barrier lies within the hospitals themselves, the third delay. A walk-through LMIC facility bears witness to too few beds; depleted supplies; broken equipment; unreliable power and water, sanitation, and hygiene; frustrated, anxious patients; and underpaid, overworked staff.[2] Yet, high-quality health systems can save more than 8 million lives per year.[8] By fixing third delays, particularly for medically indicated caesarean delivery, we might expect to both reduce first and

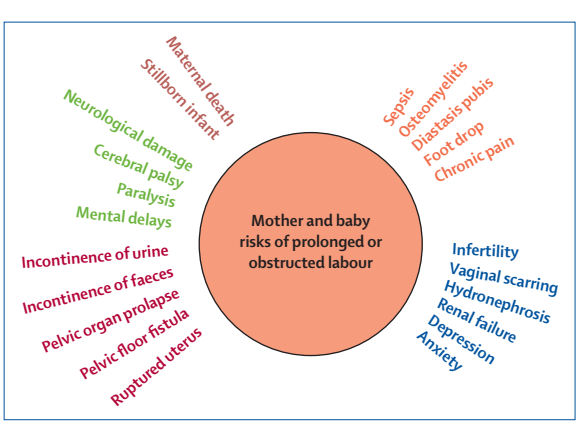

Figure: **The panorama of morbidity and mortality caused by prolonged or obstructed labour**

second delay challenges and improve cost-to-benefit ratios across the three-delays framework.

The 2018 UN resolution to end fistula by 2030 requires investment in basic surgical care.[9] Since the 1978 Alma-Ata Declaration, investment in silo-funded programmes has prioritised one prolonged or obstructed labour morbidity—fistula—over all others, and focused on first delays in the absence of assured and adequate comprehensive emergency obstetric and newborn care (CEmONC).[10] Nowadays, too many childbirth facilities are not only still too far to walk to, but not worth walking to at all.

2 years after the adoption of the Alma-Ata Declaration, UN Secretary-General Halfdan Mahler advocated for surgery within primary health-care models. Mahler's 1987 speech to the Safe Motherhood Initiative proposed surgical strengthening within CEmONC. Deemed a luxury, surgery was shelved as communicable disease took priority. Maternal and neonatal health programmes attempted to fill the caesarean delivery gap with variable success. Ending obstetric fistula requires country-owned strategies, accelerating stakeholder policies that rebalance historic prioritisation of distal over proximate determinants of health.[11] Contemporary new aid approaches might increase domestic ownership and rectify historic depletion of CEmONC surgical services within the three-delays model.[11,12] Ignoring Mahler's vision has not only failed communities, but also resulted in maternal and neonatal health programmes that fail to deliver.

The best way forward could lie within CEmONC strengthening frameworks emerging from *The Lancet* Commission on global surgery.[13] This Commission interprets the three-delays model within its "surgery-obstetrics-anaesthesia" mandate that prioritises quality caesarean delivery. If we are to end preventable maternal and neonatal deaths, iatrogenic fistula, obstetric fistula, and the entire prolonged or obstructed labour burden of disease within the Sustainable Development Goal (SDG) era, we must redesign midwifery, CEmONC, and referral systems from the inside out, achieving a fistula-free generation through country-owned, sustainable, integrated maternal and neonatal health care that ensures universal access to safe caesarean section worldwide.

Lauri Romanzi, John G Meara, Erin Anastasi, Anneka T Knutsson

EngenderHealth, New York, NY 10036, USA (LR); Boston Children's Hospital and Harvard Medical School Program in Global Surgery and Social Change, Boston, MA, USA (JGM); and Sexual and Reproductive Health Branch (ATK) and Campaign to End Fistula (EA), UN Population Fund, New York City, NY, USA
lromanzi@engenderhealth.org

We declare no competing interests.

1 Arrowsmith S, Hamlin CE, Wall LL. Obstructed labor injury complex: obstetric fistula formation and the multifaceted morbidity of maternal birth trauma in the developing world. *Obstet Gynecol Surv* 1996; **51:** 568–74.

2 Fistula Care Plus and Maternal Health Task Force. Cesarean section safety and quality in low-resource settings: report of a technical consultation, July 27–28, 2017. https://fistulacare.org/wp-fcp/wp-content/uploads/2017/09/C-Section-Consultation-Report_final.pdf (accessed Dec 14, 2018).

3 Alkire BC, Vincent JR, Burns CT, et al. Obstructed labor and caesarean delivery: the cost and benefit of surgical intervention. *PLoS One* 2012; **7:** e34595.

4 Thaddeus S, Maine D. Too far to walk: maternal mortality in context. *Soc Sci Med* 1994; **38:** 1091–110.

5 National Statistics Office, Eritrea, and Fafo AIS. Eritrea population and health survey 2010. 2013. https://www.afro.who.int/sites/default/files/2017-05/ephs2010_final_report_v4.pdf (accessed May 17, 2019).

6 Gabrysch S, Campbell OMR. Still too far to walk: literature review of the determinants of delivery service use. *BMC Pregnancy Childbirth* 2009; **9:** 34.

7 UN Population Fund. Midwife escapes death after being denied maternal health care. June 25, 2018. http://www.endfistula.org/news/midwife-escapes-death-after-being-denied-maternal-health-care (accessed Jan 6, 2019).

8 Kruk ME, Gage AD, Arsenault C, et al. High-quality health systems in the Sustainable Development Goals era: time for a revolution. *Lancet Glob Health* 2018; **6:** e1196–252.

9 UN General Assembly. Intensifying efforts to end fistula within a generation. Report of the Secretary General. http://www.endfistula.org/sites/default/files/pub-pdf/SG_Report_Fistula_2018_FINAL.pdf (accessed Nov 23, 2018).

10 Ahmed S, Anastasi E, Laski L. Double burden of tragedy: stillbirth and obstetric fistula. *Lancet Glob Health* 2016; **4:** e80–82.

11 Khan MS, Meghani A, Liverani M, Roychowdhury I, Parkhurst J. How do external donors influence national health policy processes? Experiences of domestic policy actors in Cambodia and Pakistan. *Health Policy Plan* 2018; **33:** 215–23.

12 Banke-Thomas AO, Wilton-Waddell OE, Kouraogo SF, Mueller JE. Current evidence supporting obstetric fistula prevention strategies in sub Saharan Africa: a systematic review of the literature. *Afr J Reprod Health* 2014; **18:** 118–27.

13 Meara JG, Leather AJ, Hagander L, et al. Global surgery 2030: evidence and solutions for achieving health, welfare, and economic development. *Lancet* 2015; **386:** 569–624.