East Africa
Preterm Birth Initiative

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THE QUALITY IMPROVEMENT COLLABORATIVE:

East Africa Preterm Birth Initiative (PTBi EA) experiences and lessons to scale

Background

Globally each year, an estimated 13 million infants are born before 37 completed weeks of gestation. Complications from these preterm births are the leading cause of neonatal mortality globally, and specifically in Uganda where 12.1% of babies are born preterm. Preterm birth is responsible for an estimated one million neonatal deaths annually and is also an important contributor to child and adult morbidities.

Low-and-middle-income countries are disproportionately affected by preterm birth and carry a greater burden of disease attributed to preterm birth. Causes of preterm birth are multifactorial, vary by gestational age, and likely vary by geographic and ethnic contexts.
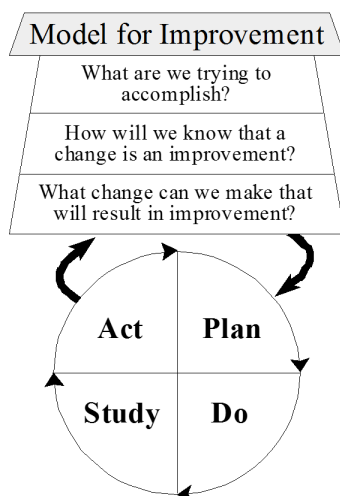
Known interventions such as antenatal corticosteroid (ACS) administration, kangaroo care, and job-aid reminders of evidence-based practices demonstrate effectiveness, but are not widely implemented. Quality improvement (QI) efforts can help to identify barriers to uptake and test ideas to address those barriers. It is a proven methodology that can affect significant changes in the behavioral practices of providers and the systems in which they occur.

The intervention

The East Africa Preterm Birth Initiative (PTBi EA) works in 6 hospitals in the Busoga Region of Eastern Uganda. These hospitals are part of a pair-matched cluster randomized control trial testing an intrapartum package of interventions which includes data strengthening, use of a modified version of the WHO Safe Childbirth Checklist (mSCC), PRONTO simulation and team training, and a QI collaborative.

The QI teams meet biweekly at each facility and collect data relevant to the indicators tracked as well as on the phase and effectiveness of change ideas. The data was recorded by the PTBi-EA QI mentors in an Open Data Kit database.

The Do-Know gap and Plan-Do-Study-Act cycle data were analyzed and those change ideas that were adopted, sustained, and showed the most improvement on the indicator were included in the results. Five collaborative learning sessions have been held so far between January 2017 and July 2018.

Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

Act | Plan

Study | Do

QI indicators implemented and tracked

- Proportion of admissions to maternity with a documented gestational age (GA).
- Proportion of eligible deliveries monitored on a partograph.
- Proportion of eligible babies initiated on appropriate Kangaroo Care (KMC) before discharge.
- Proportion of eligible mothers with preterm labour <34 weeks that were started on ACS
- Proportion of discharges with a completed mSCC.
- Proportion of sick newborns whose vitals were monitored at least 3 times in 24 hours.

Mentorship on Phototherapy and data validation during QI visits at Iganga and Buluba Hospitals
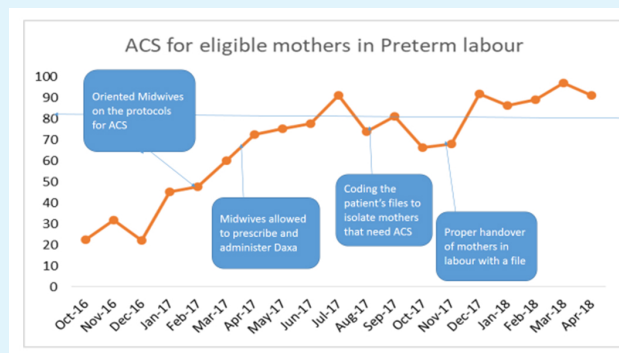

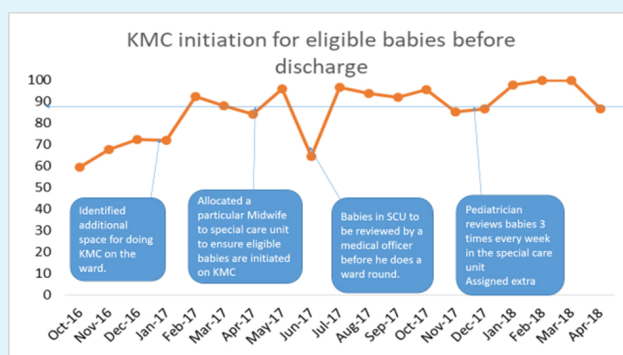## Other activities undertaken during the intervention included:

- Leadership engagement at the Hospitals.
- Introduction of QI Learning Sessions.
- Selection and training of mentors in QI.
- Selection of indicators of monitoring.
- Identification of data collection sources.
- Formation of QI teams.
- Mentorship and Coaching at facilities.

Observed results

Appropriate ACS administration improved from 22% in October 2016 to 90% in May 2018. Effective change ideas included: allowing midwives to prescribe and administer ACS with approval from a medical officer, ensuring that there were always emergency stock piles, pinning up reminders, streamlining the protocols for ACS administration.

Appropriate Kangaroo Care use improved from 58% in October 2016 to 89% in May 2018. Effective change ideas: *Identifying additional space for Kangaroo Care near the duty stations in the hospitals.*

mSCC utilization improved from 30% in May 2017 to 65% in May 2018. Effective change ideas included: Handing over of mothers in labour with a file and spot checking by the in charge on completeness

of the checklist. Other observed effects included: pre-discharge mortality among preterm infants has decreased from 9.5% in October 2018 to 8.2% in April 2018. Current data indicates that there have been significant improvements in identification of preterm labour and its management.

Ongoing Challenges

- Inadequate space for practice of Kangaroo care as opposed to the growing numbers.
- Human resource gaps in hospitals where most specialists are unavailable.
- Staff turnover due to changeovers of trained staff and therefore relapse in skills and knowledge on care for preterm.
- Stock outs of critical essential supplies and drugs for the management of preterm labour and babies.
- Competing activities and schedules within the Hospitals, some of which are duplicated by other implementing partners.

Other constraints in reducing maternal mortality in Uganda

- High poverty levels that limit access to services.
- Negative cultures (ways of disposing of the placenta and foetal cord, etc.).
- Lack of awareness on usefulness of health interventions.
- High fertility rate in Uganda (high adolescent pregnancy 32%).
- High population growth rate not matching existing resources.
- Low male involvement/politicians in advocating for maternal health.
- Poor accessibility to health services due to long distances
- Inadequate drugs, supplies, blood and equipment at health units
- Understaffing at health units.
- Poor infrastructure, lack of lighting and water in health units.
- Poor funding of priority Reroductive Health programs.

Learning sessions Five and two of the first and second phase collaboratives

Implications for program for policy

- QI methods have shown to have an impact on improved indicator performance in Uganda.Preterm mortality has decreased in the Hospitals which cannot be directly attributed to the QI process, but rather as a result of the larger improvement initiative of which QI is critical.

About PTBi-EA

The East Africa Preterm Birth Initiative (PTBi-EA) is working to reduce the number of preterm births and save the lives of preterm infants and their mothers, by improving quality of care and engaging in discovery research in regions of Uganda, Kenya and Rwanda. In Uganda the study sites include the Jinja Regional Referral Hospital, Iganga Hospital, Kamuli General Hospital, Bugiri Hospital, St Francis Hospital Buluba and Kamuli Mission Hospital.

PTBi-EA is a collaboration among the University of California San Francisco's Institute for Global Health Sciences; Kenya Medical Research Institute; Makerere University School of Public Health; University of Rwanda and the Rwanda Biomedical Center.

Website: https://pretermbirtheastafrica.ucsf.edu/

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