



BELIZE

Stann Creek District

Sites: Southern Regional Hospital, Dangriga Polyclinic

Population: 34,500

Specific Challenges: No use of active management of the third stage of labor (AMTSL) to prevent post partum hemorrhage (PPH), a case of PPH was discharged as a 'normal delivery', further inspection of a patient diagnosed with PPH found no evidence to support this diagnosis

Toledo District

Sites: Punta Gorda Community Hospital, Punta Gorda Polyclinic

Population: 31,000

Specific Challenges: Two out of three medical records were complete with diagnoses of PPH, however, AMTSL was not applied in any of these cases

IMPROVING MATERNAL CARE IN BELIZE

Results of the Ministry of Health's Quality Initiative

Background

Belize is a highly diverse country with a population of 333,200. The average life expectancy at birth in 2006 was 65 for males and 74 for females. The national poverty rate has increased, from 33% in 2001 to 41.3% in 2010. In 2005, the maternal mortality ratio was 134 per 100,000 live births with 60% of deaths due to eclampsia. The proportion of under-five and under one deaths occurring in the neonatal period is at 40 and 60% respectively, similarly to other Latin America and Caribbean (LAC) countries. Belize is a signatory to the Convention on the Rights of the Child and the Millennium Development Goals.

In 2009, the Ministry of Health (MOH) approved a complaint policy to provide the opportunity for patient feedback regarding the quality of health care services received. The results from investigations of complaints conducted showed that these were more far reaching than just unsatisfied patients and included challenges such as poor documentation, poor compliance and monitoring of protocol implementation. Having access to information on United States Agency for International Development (USAID) supported health care improvement initiatives in Nicaragua, MOH officials contacted USAID Health Care Improvement Project (HCI) staff in Nicaragua to request technical assistance in order to increase the quality of maternal and neonatal services.

Using their own funding, and with support from the United Nations Population Fund (UNFPA), the MOH contracted with University Research Co., LLC (URC) to invite two personnel who work on HCI in Nicaragua, Country Director, Dr. Oscar Nuñez and Technical Advisor for Maternal

Health, Dr. Luis Urbina, to make three technical assistance visits to Belize over the course of 15 months starting in August 2009. The purpose of this technical assistance was to work with the MOH to apply quality improvement (QI) methods to maternal and neonatal services in Belize, building upon URC's experience of achieving notable improvements in quality of care in Nicaragua. This technical assistance would set up the infrastructure to improve maternal and neonatal health by supporting the implementation of an initial improvement collaborative, thereby building capacity for sustainable improvements in Belize.

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Implementation

Initial consultations were conducted virtually, with MOH and URC personnel discussing quality standards and indicators, improvement objectives, and organizational structure. Based on the package offered by HCI it was noted that in Belize the monitoring and evaluation system was designed with a focus on outputs and outcome indicators, with a poor monitoring system for process of care.

Taking into consideration local health statistics and origin of complaints, the MOH selected the two southern districts, and the quality improvement efforts focused in Punta Gorda Community hospital and polyclinic in Toledo district and Southern Regional Hospitals and Dangriga Polyclinic

Quality Improvement Tools Used at Sites

- Standards and indicators
- Checklists for each indicator
- Rapid Improvement Cycle form
- Excel databases
- Implementation Package
- Documentation journal for QI Teams
- Synthesis of improvement efforts and results
- Norms for presenting data

located in Stann Creek district. The objectives, as determined at the onset of the technical assistance, were to improve the compliance of protocols to prevent and manage obstetric complications; and to improve immediate and routine newborn care and management of most common newborn problems.

During the first technical assistance visit, in August 2009, MOH teams from all six districts worked together to define standards and indicators and monitoring tools, drawing on quality standards and indicators developed in Nicaragua. Baseline data collection was done in the four selected facilities. The teams also worked on defining improvement objectives to improve the quality of maternal and neonatal care. Participants received refresher courses in monitoring of labor with the World Health Organization (WHO) CLAP partograph, that is used widely in the LAC region; and active management of the third stage of labor (AMTSL) among other maternal and newborn complications.

Initial findings demonstrated that in the majority of maternal and neonatal cases reviewed, the set criteria for diagnosis and management (routine care and/or complications) was not fully met. Providers were not using AMTSL as a strategy to prevent post-partum hemorrhage (PPH). Partograph forms were available, but not being filled out. Some recently introduced midwifery forms to recollect data on care provided were causing duplication and sometimes triplicate entry in records, dispersing the information across documents, further preventing a complete understanding of the patient's current situation. The findings were shared with the teams from the health facilities as a demonstration of where there were opportunities for making improvements.



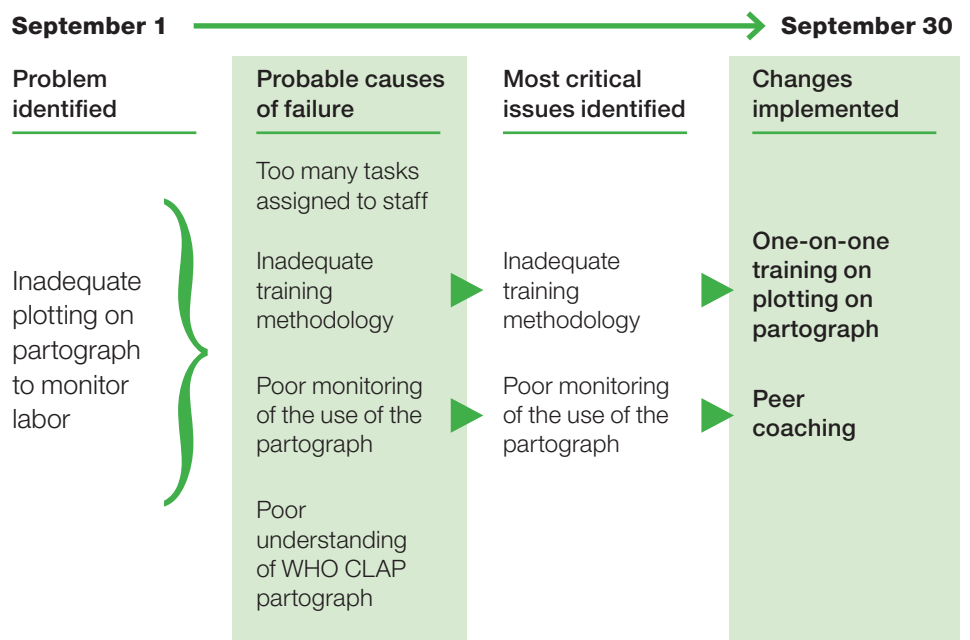
The QI Team from Stann Creek District prepares their Plan-Do-Study-Act cycles. Using QI techniques, teams were able to find locally appropriate solutions to challenges they were facing, efforts which led to a reduction in neonatal mortality. *Photo by Luis Urbina, URC*

Personnel were highly responsive and motivated to make changes in order to provide higher quality services to their patients. As one local coach commented, “quality of maternal and neonatal care is measurable.” QI teams were also trained in planning rapid improvement cycles focusing on the points in each process of care where the baseline had detected the lowest level of performance.

In order to increase providers' use of partographs correctly, teams identified the need to train midwives in the use of

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Figure 1. Example of a Rapid Improvement Cycle Implemented in Belize



partographs through group sessions as well as peer-to-peer coaching. The MOH issued a policy on QI of maternal and neonatal care to ensure the sustainability of the improvements achieved and reoriented staff on the use of the CLAP partograph. The MOH accompanied the local QI teams in the data collection process, analysis, rapid improvement cycle planning, and evaluation on a monthly basis. During a rapid improvement cycle, teams work to address a poor outcome by identifying potential causes for the failure, selecting among those the key causes which are the most critical to be addressed, and implementing changes to address them. The entire process can be implemented in the span of one month (please see Figure 1 for an example of a rapid improvement cycle implemented in Belize). QI teams implemented multidisciplinary approaches to improve communication among different levels of care, non-traditional training methodology (one to one coaching), and scheduled sharing of results with health professionals, support staff, and district health committees.

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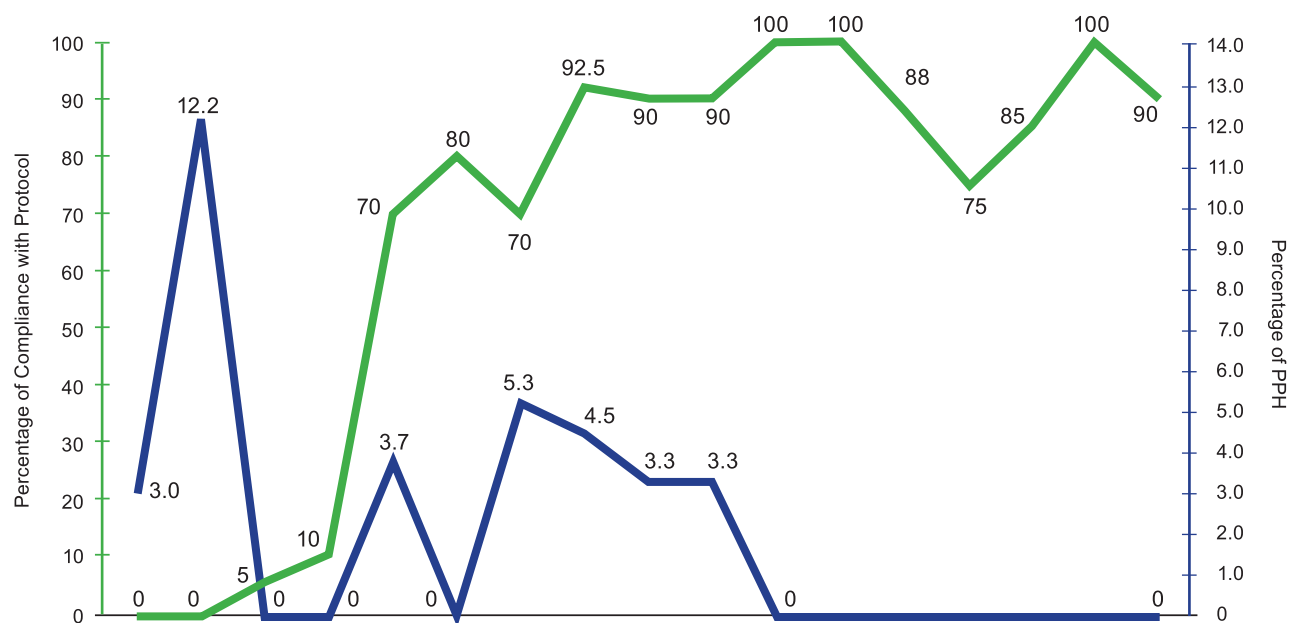
During the second technical assistance visit, conducted in late September 2010, a strategy document was developed for QI of maternal and neonatal care, an evaluation system was established, and technical assistance was provided to QI teams in selected health facilities in the analysis and presentation of results. At the second learning session, working groups refined improvement objectives, prioritized quality indicators, and practiced the use of time-series charts.

The third and final visit, held in November 2010, evaluated the first year of implementation with stakeholders and shared outcomes and best practices with providers from all districts including representatives from the private sector. The MOH also took this opportunity to announce that these QI strategies would be expanded to the rest of the districts.

Results

Since the completion of the technical assistance, QI teams in the four facilities have continued their work in the hospitals; basic information and documentation, such as logbooks of deliveries and QI team meeting records are available in the facilities; and the QI policy was approved and disseminated to regional health management teams. Furthermore, as facility personnel began to work increasingly as teams rather than individuals, personal conflicts that affected the process of care reduced, and instead teamwork and staff attitudes have improved, positively

Figure 2. Increased Compliance of AMTSL Lead to a Reduction in the Percentage of PPH
Punta Gorda Community Hospital – August 2009 to December 2010



	Aug '09	Sept '09	Oct '09	Nov '09	Dec '09	Jan '10	Feb '10	Mar '10	Apr '10	May '10	Jun '10	Jul '10	Aug '10	Sept '10	Oct '10	Nov '10	Dec '10
# Deliveries	33	41	27	22	27	31	19	22	30	30	27	23	27	23	30	25	22
# PPH	1	5	0	0	1	0	1	1	1	1	0	0	0	0	0	0	0
% AMTSL	0	0	5	10	70	80	70	92.5	90	90	100	100	88	75	85	100	90
Den	0	0	20	10	20	15	10	13	20	20	16	11	16	20	20	20	20
Num	0	0	1	1	14	12	7	12	18	18	16	11	14	15	17	20	18
% PPH	3.0	12.2	0	0	3.7	0	5.3	4.5	3.3	3.3	0	0	0	0	0	0	0



Health care personnel work together to define standards and indicators, and refine monitoring tools as part of the QI process. *Photo by Luis Urbina, URC.*

impacting the services they are providing to their patients. Processes of care in maternal and neonatal health are now standardized, and monitoring has demonstrated consistent performance in preventing and reducing undesirable outcomes.

Toledo District

At the Punta Gorda Community Hospital, there was a 65% reduction in the number of birth asphyxia cases from 2009 to 2010. The percentage of women with completed partographs rose from zero at baseline to 100% at follow-up. Importantly, the teams found that as they increased compliance with AMTSL, the percentage of PPH decreased (please see Figure 2). Since the improvement work began, nurses and doctors at the Punta Gorda Community Hospital have been working together more closely to identify failures in the quality of care provided, and all personnel at the hospital are familiar with quality improvement processes. Nurses at Punta Gorda Community Hospital found that “all personnel at Punta

Gorda hospital, no matter the work they do are familiar with the processes implemented in order to improve health services. Midwives and nurses feel well supported by doctors and administrative personnel.”

Stann Creek District

Compliance with protocols for the AMTSL in Southern Regional Hospital increased from 50% at baseline, to 100% at follow-up 16 months later. Compliance for newborn care at the hospital grew from zero at baseline to 85% at follow-up. The total number of neonatal deaths decreased from 17 in 2009 to 5 in 2010.

In both districts, the use of specific criteria to support the diagnosis of severe pre-eclampsia has lowered the number of over diagnosed cases, reducing the amount of drugs provided to patients. In the year prior to the QI technical assistance, at the Punta Gorda Community Hospital, there were 44 cases of pre-eclampsia diagnosed. Among these, the cases of severe pre-eclampsia

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were unknown, leading to unnecessary referral of some patients to higher levels of care. During the August 2009 – July 2010 time period, there were 61 cases of pre-eclampsia, and none were severe, demonstrating improved diagnosis in the hospital.

Lessons and Future Directions

The MOH in Belize, motivated by the positive results in a short time period as a result of the consistent use of the QI tools and rapid improvement cycles are currently developing strategies to expand these efforts to the remaining four districts in the country and are exploring ways of applying these methods to other important technical areas of health care provision, such as patient safety and family planning. While challenges remain, such as high turnover of staff, the MOH found the use of collaborative improvement to be not only effective in increasing compliance with protocols, but it provided other benefits of increased teamwork and objective assessments. Patient satisfaction has increased as expressed by patients and stakeholders outside of the health system. In October 2010, the Minister of Health received the Americas Award 2010 Laureate in the category of Improvement of Maternal Health from CIFAL for the strides made by the Ministry in improving access, coverage and quality of care for mothers and children.

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