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CASE STUDY

Using a scientific approach to improve early identification of complicated labour cases

Summary

In May 2016, the head of the department of obstetrics and gynaecology at Shaheed Suhrawardy Medical College Hospital (SSMCH) in Dhaka, Bangladesh initiated an effort to use improvement methods to increase the early identification of labour complications by increasing complete and correct use of partograph among the women who are at active labour. A partograph is a tool to record progress during labour of critical statistics—such as cervical dilation, fetal heart rate, duration of labour, and vital signs—to quickly detect and manage high-risk deliveries. A baseline assessment showed that the partograph was being used in only 30% of the cases. The hospital quality improvement (QI) team set a goal of increasing partograph use to 50% of deliveries in 8 weeks. Through the application of quality improvement methods, the team was able to meet—and exceed—their initial goal; increasing the use of partograph during delivery from 30% to 80% within 8 weeks.

Background

Shaheed Suhrawardy Medical College Hospital (SSMCH) is a 600-bed government tertiary referral hospital in Sher-e-Bangla Nagor, Dhaka, Bangladesh. The hospital is a state-of-the-art facility in the country and caters to the health care needs of the population in the region, especially the poor population in and around Dhaka and patients referred from smaller public facilities. The hospital is well-equipped with all essential clinical and support services and is a centre of learning and education for associated medical college students. The department of obstetrics and gynaecology has multiple units functioning within the department.

In May 2016, the head of this department – along with the director of the facility, a surgeon, and a senior staff nurse – attended a workshop on quality improvement (QI) organized by WHO SEARO and USAID and led by staff from All India Institute of Medical Sciences (AIIMS) and the USAID ASSIST Project. The workshop introduced them to the quality improvement (QI) approaches developed by the USAID ASSIST Project.

Motivated by this experience, the head of the department and the director of the facility decided to improve the quality of care in the obstetrics and gynaecology department at SSMCH using QI approaches. When these members started brainstorming potential problems in their department that could be addressed with QI approaches, they realized that the partograph is not always used or is not always completed appropriately. Facilitated by the ASSIST team, they were able to define an outcome-based aim and approach to resolve this problem scientifically. They decided to increase the early identification of labour complications by increasing complete and correct use of partograph among the women who are at active labour from 25% to 50% in 8 weeks.

Improvement approach and measurement indicators

The head of the department, with other members, went back to SSMCH and held an initial team meeting on 19 May 2016; five days after the workshop. This meeting was done to involve the team members and start working on the improvement process. The improvement project then started on 21 May 2016 with the four units in the department. The head of the department, a medical professor from SSMCH, led this QI project. Team members consisted of an assistant professor, a medical officer, and a senior staff nurse. In addition, the

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QI team appointed one person from each of the four units in the department of obstetrics and gynaecology as a point person.

The QI team, with consensus from their other colleagues in the department, decided to start the project with the QI aim which was selected during the workshop. With an aim of increasing the efficient use of a partograph, the team started looking for possible reasons for why the partograph is not used and completed correctly. The QI team leader used a fishbone diagram with four categories (process, people, place, and policy) to gather inputs from other QI team members and list all possible reasons. The QI team leader took this idea of using a fishbone diagram from the USAID ASSIST case studies shared during the workshop.

The QI team postulated that the unavailability of forms and a lack of knowledge, skills and accountability were the major reasons resulting in staff not using partograph appropriately. To resolve these issues, the team prepared a tentative action plan which involved:

- streamlining regular supply of forms,
- on-the-job training for doctors,
- protocol to fill the partograph, and
- incentivizing the best performer.

The team started the improvement project by conducting a baseline survey on usage of the partograph using retrospective data for the previous month and found that it was being used in only 30% of the cases.¹ To analyse progress for this improvement intervention, three measurement indicators were identified (two process indicators and one outcome indicator):

1. Proportion of deliveries with partially or completely filled-in partograph (*process*)
2. Proportion of deliveries with partograph completely and appropriately filled (*process*)
3. Number of complicated labour cases identified by partograph and appropriately managed (*outcome*)

One of the QI team members, the assistant professor, took the responsibility of data collection and analysis to track the progress against these three indicators at the end of every week. The data sources were mainly the delivery register and case files.

Intervening in the current process and testing changes

The first change that the QI team decided to test was to provide a training to orient staff on the use of the partograph and reinforce the importance of its use in the department. The team predicted that this change would result in 80% of deliveries with a partially or completely filled-in partograph and 60% of deliveries with partograph completely and appropriately filled within one week.

Training on use and importance of the partograph was done in all four units of the department and results of the intervention were reviewed at the end of the week. Results were encouraging – but well below the predicted success rate – with 45% of admitted labour cases being monitored by using a partograph and more than half of these partographs being correct. Two cases of labour complications were identified using these partographs and appropriately managed.

The team decided that to achieve better results, the director of the facility should issue instructions to the department mandating that the partograph must be filled in all labour cases. Also, they hung a large example partograph in the ward, which had instructions on how to fill it. The team predicted that, by the end of the week, partographs will be filled for all cases and 80% of them would be correct. Simultaneously, the team also started supervision to monitor their progress and study what additionally could be done to further improve the process.

The director's instructions and the posted job aid resulted in a slight improvement of cases with partographs filled, but the correctness of these partographs didn't improve much. Some of the staff members indicated discomfort in being supervised while filling the partograph.

Considering the discomfort that supervision caused, and the lack of sustainability of any results achieved from this change, the team realized that they should see what happens when there is no supervision. They

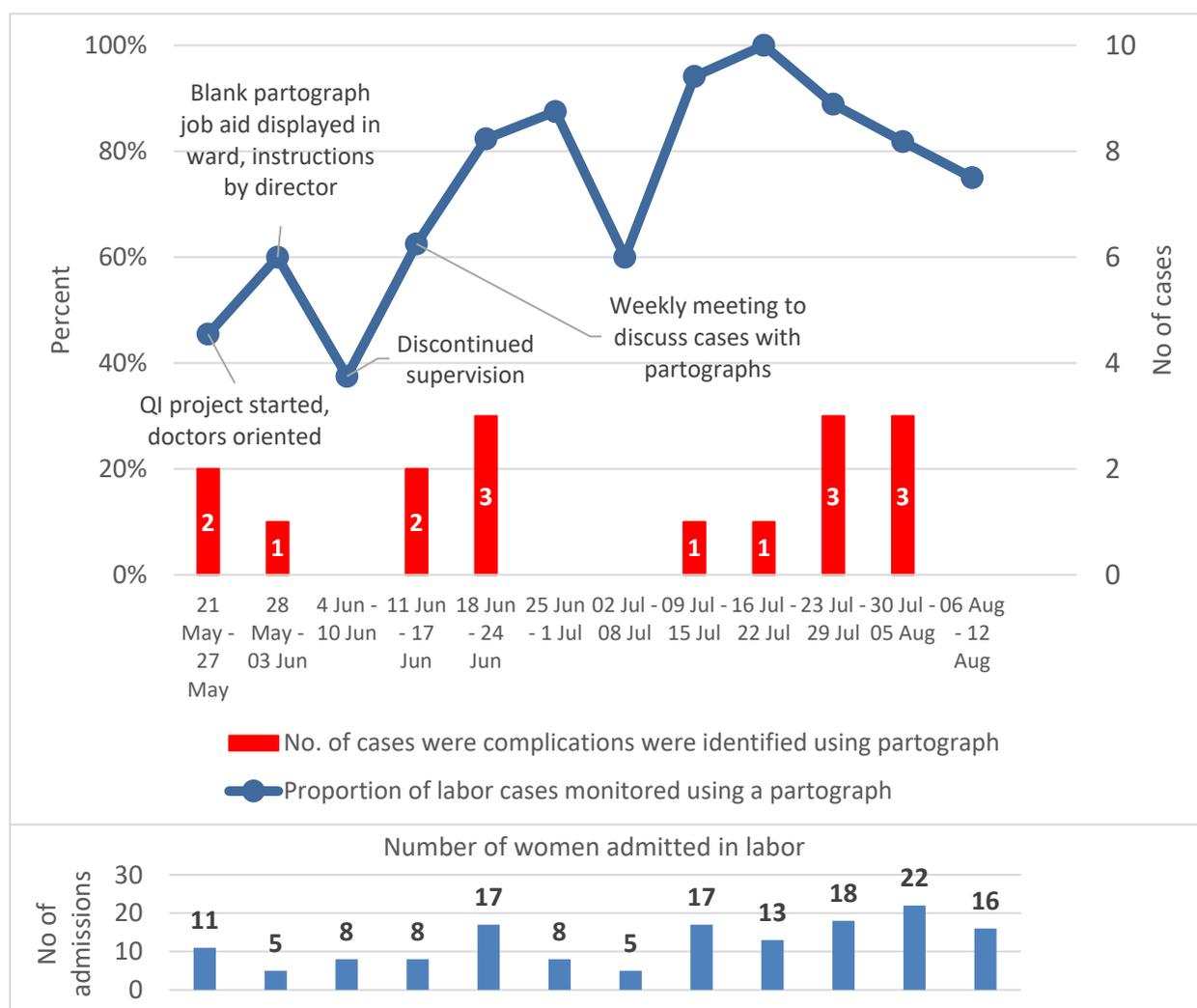
¹ Indicator 1. No baseline data was collected for Indicator 2 or 3.

predicted that without supervision, the percentage of cases with partographs filled might be lower than current rates. The team again reviewed the results and found that even without direct supervision, a similar proportion of cases were monitored using a partograph, but all the partographs were correctly filled.

Realizing that partographs filled without supervision were always correct, but all cases were not monitored using a partograph, the team thought it was necessary to provide a feedback. They initiated a weekly meeting to discuss cases from the previous week every Saturday. The intention of this meeting was to provide on-the-job training on filling partographs correctly using the ones from the previously week as an example, and, also, to provide accountability. Monitoring using partograph increased to 63% and correctness remained at 100%. Two cases of prolonged labour were identified and managed, which motivated the team by allowing them to see the usefulness of filling partographs correctly.

Buoyed by successful changes, the team worked on strengthening availability and provision of partographs by estimating the weekly requirement and ordering accordingly. They also initiated a unit-wide review of partograph filling performance by the head of the department and shared the results of the review in a monthly meeting and developed a system for the unit heads to appreciate and reward the doctors who filled partographs for all cases they attended. Over the next 8 weeks, 85% (99/116) of the cases admitted to the hospital were monitored using a partograph and three-quarters of the partographs were correctly and completely filled out. Because of this, eight high-risk cases were identified and managed appropriately.

Figure 1: Proportion of eligible women admitted in labour monitored using a partograph and number of complications identified and managed, obstetrics department, Shaheed Suhrawardy Medical College Hospital, Dhaka, Bangladesh, 21 May – 12 Aug 2016



Results

The improvement team in the obstetrics department achieved their aim of improving partograph use from 30% to 80% in eight weeks and continue to sustain this momentum. Over 12 weeks between 21 May to 12 Aug 2016, they were able to identify 16 complicated cases among 148 admissions and manage them appropriately. The improvement intervention helped the department use objective, scientific, evidence-based decision-making to identify complicated labour cases.

Way forward

Motivated by the results, the team decided to integrate an improvement approach into their routine. They continue to meet every Saturday to discuss problems and use a scientific approach to address them.

The head of the obstetrics and gynaecology department was very happy in sharing the success with USAID ASSIST for facilitating them in using a scientific approach for improving quality of care. She is leading efforts to build the capacity of health providers in the country to use QI methods to improve quality of health services.

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