

The Health Care Improvement Foundation
2019 Delaware Valley Patient Safety and Quality Award
Entry Form

1. Hospital Name

Albert Einstein Medical Center – Einstein Healthcare Network

2. Title Of Initiative

A Multi-Faceted and Interdisciplinary Approach to Reducing Cesarean Section In

3. Abstract (Please limit this description to 250 words.)

Cesarean sections are one of the most frequently performed surgeries in the United States. Surgical site infection (SSI) is one of the most common complications following cesarean section and has an incidence of 3%–15%. It places physical and emotional burdens on the mother and is associated with a 3% maternal mortality rate. SSIs can lead to longer hospital stays or re-admissions after discharge. In addition, mothers can become overwhelmed and frustrated with caring for a newborn while simultaneously caring for herself. Interruptions to bonding and breastfeeding, additional provider visits, home visits by nurses, treatment commitments, fatigue, or hospital re-admission can have long-term effects on the mother and the newborn.

A sustained increase in cesarean section SSIs at our organization from August 2017 through January 2018 prompted a multi-faceted and multi-disciplinary approach to combating and decreasing this complication and its' sequelae. The initiation of standardized processes and the on-going commitment to ensuring their sustainability has led to a decrease in SSIs in our organization. These practices are evidence-based and can be utilized by other organizations facing a similar situation.

4. What were the goals of your initiative?

Our organizations' goals were to:

1. Reduce the incidence of cesarean section incision infections in our organization
(Incidence = Total # SSIs/Total # Cesarean Section Procedures x 100)
2. Implement evidence-based best practices both prior to, during, and after surgery.
- 3.

5. What were the baseline data and the results of your initiative?

Our baseline data showed 6 SSIs within a 6-month time frame, leading to an average SSI incidence rate of 2.1%. Given the effect on the mother and the newborn, our Obstetrical leadership took a zero tolerance approach to cesarean section related SSI. (See Graph 1)

At this time, the Obstetrical Department also began an initiative to reduce our primary and overall cesarean section rates.

6. Describe the interventions that were instrumental in achieving the results for your initiative.

The ability to track the data was both key and critical as trends were clearly visible. Upon review of this data in January 2018, the physician and nursing leadership of the Department of Obstetrics

and Gynecology met to ask why there had been a change in the SSI rate and what strategies may be initiated to create a corrective action plan. Discipline-specific literature searches were performed, and spreadsheets were developed to capture the best practices that were to be implemented as well as responsible person(s) or committee(s). The tasks were divided by the type of intervention; physician, nursing, or environmental. The creation of the smaller work groups provided direct opportunities to enhance engagement, ownership and individual accountability.

We utilized the patient tracking technique commonly used by the Joint Commission. We observed each step in the algorithm including admission, labor and delivery, operating room, recovery room, post-partum unit, discharge process, and outpatient follow up. Each facet was critically analyzed by each subgroup. This focused review enabled the team to ask targeted questions and thus identify areas for improvement. For example, patients were to be using chlorohexidine wipes upon admission to Labor and Delivery. The Labor and Delivery nursing staff recommended that the nurses perform the chlorhexidine cleansing, rather than providing patients with the wipes. The chlorohexidine wiping is recorded in the medical record. Further we recognized that patients may not have their cesarean section within this 24-hour time frame; thus, we made a change that the chlorohexidine wipes would be completed by nursing at 24-hour intervals until delivery occurred.

We partnered with the main OR nursing and environmental teams and learned that the processes in the L&D operating rooms were not aligned with the work in the main OR. Therefore, didactic and simulation-based modules were created to standardize measures within the Labor and Delivery OR suite. Environmental Services began verification of cleaning practices, including terminal cleaning. In order to hardwire this work, the cleanings were observed, tracked, and verified.

The obstetricians, anesthesiologist, and infectious disease providers reviewed the literature to determine the optimal antibiotic dosing and created workflow adjustments within the electronic medical record (EMR) to document the timing for dosing of the antibiotics. Each pre-operative step associated with direct patient care was analyzed from hair clipping to Foley placement.

Intra-operatively, we engaged the main operating room clinical educator to be an observer in the Labor & Delivery operating suite (L&D OR). Our goal was to ensure compliance with all operating room regulations and practices. The observations were compiled and all areas of non-compliance were addressed immediately. The physical structure of our operating suite was somewhat modified to ensure compliance with best practices identified by our observer. We empowered the OR technicians to “own the L&D OR”. This role became the source of expertise of best OR practices and the enforcer of these best practices for all who entered the L&D OR.

Surgical techniques, principles and practices were also analyzed and reviewed.

Post-operative wound assessment and care became a focus of the education provided to mothers on the Mother Baby Unit. Mothers were taught to inspect their incisions and to report abnormal findings to their provider.

Our data showed that most of our SSI were noted to occur between 9 to 15 days post-operatively. Therefore, we instituted incision checks at one week post discharge.

Quarterly meetings consisting of L&D nursing leadership, Infection Prevention, Environmental Services, and Quality were started that continue to this day. Issues from all areas are openly discussed and solutions agreed upon. This work allowed our team to independently evaluate each variable via a quality and cost analysis process, thereby enabling us to remove superfluous actions.

In total, 38 different interventions were implemented throughout the first 6 months of 2018, during which time our SSI incidence rate reached a high of 5%. Beginning in July 2018, our SSI incidence rate decreased significantly to an average of 1.7%. The singular increase in December was analyzed and determined to be an outlier, and not part of the downward trend noted for the balance of the year. Analysis of the data continues to today, and each SSI case is reviewed for adherence to processes and for any new learnings. (See Graph 2)

Our mandate was to maintain a zero tolerance for SSI. Though the data would suggest that patients with certain risk factors may be destined to succumb to a SSI, we were aligned to prove the data wrong. Through our steadfast efforts which continue to today, we have created a process that allows our team to continue to respond to new data with processes to allow patients optimal opportunities to avoid the devastating impact of a post cesarean section SSI.

7. Describe the key steps required to successfully replicate this initiative throughout the region. (Please limit this description to 100 words.)

Our process can be replicated by any organization that is faced with increasing SSIs. The interventions themselves are based on best practice, obtained via literature from obstetrics, nursing, anesthesia, OR, and infection prevention. To quote LEAN methodology, “going to the gemba”, which means “going to the place where the process is occurring”, led to our success. Having the operating room educator, an expert with fresh eyes, see our processes revealed what was being done, what was not being done, and what needed improvement. Organizations could implement this practice without difficulty.

8. Explain how the initiative demonstrates innovation (Please limit this description to 100 words.)

Creating quality improvement initiatives within a single department is common practice. Our work is novel and innovative in that we created a multidisciplinary and multifaceted approach to address our SSI rate. Our work created long term and sustainable collaborative efforts among departments. We utilized the Comprehensive Unit Based Safety methodology in that all team participants were equal and that the mission critical question was “How can or will the next patient be harmed and what can I/we do to

prevent this harm?”. Through this approach we formed alliances with the direct and indirect care teams to identify and solve problems.

9. How does this initiative demonstrate collaboration with other providers within the continuum of care? (Please limit this description to 100 words.)

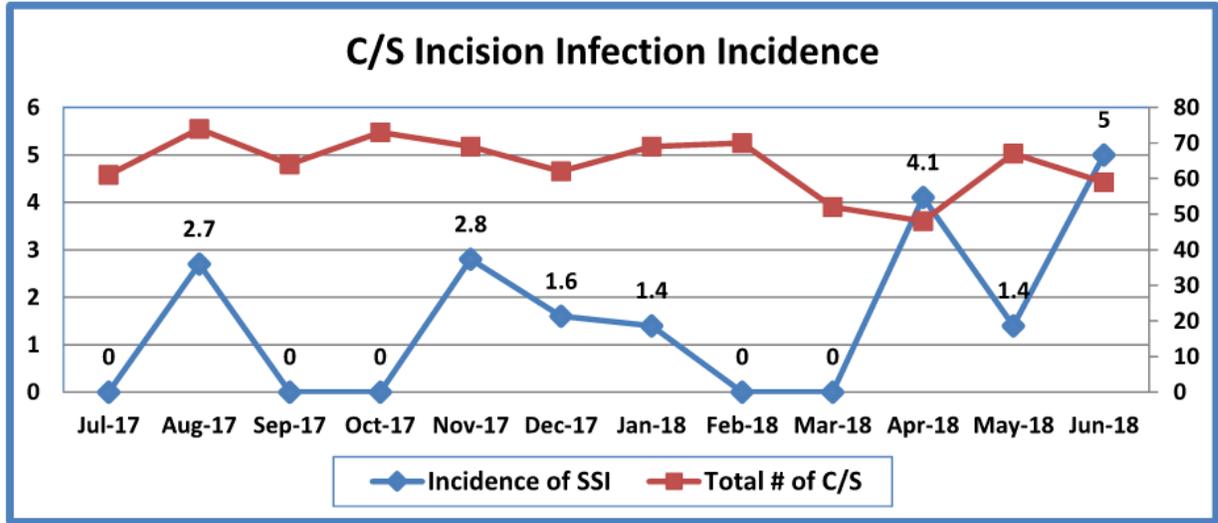
The results of decreasing our SSI incidence rate could not have been accomplished without the input and efforts of a multi-disciplinary team. Each stakeholder owned a piece of either the pre-op, intra-op, or post-op processes that were being initiated. From Anesthesia investigating and monitoring their timing of pre-op antibiotics, to Environmental Services monitoring mop changes, to the OR technicians overseeing hand washing techniques, to nursing ensuring chlorhexidine wipe usage every 24 hours until delivery, to providers participating in education on abdominal prep technique – all disciplines worked together to provide a safe experience for each patient undergoing a cesarean section.

10. Explain ways in which senior leadership exhibited commitment to the initiative (Please limit this description to 100 words.)

The OBGYN Department Chairman analyzed the data and immediately formed a team to tackle this issue. This Chairman was not afraid to take risks, to implement multiple interventions, and to hold everyone accountable for their processes. This Chairman also trusted that the team’s recommendations were based on current evidence and best practices from the literature and governing bodies (e.g. ACOG, AWHONN, IPAC, AORN). The senior leadership from Environmental Services, Anesthesia, Nursing, and Infection Prevention were also engaged and vested in this process. This collaboration continues to the present, as sustainability of these processes is paramount for patient safety and satisfaction.

11. Appendices (i.e., tables and graphs)

Graph 1 - Baseline Data



Graph 2 - Post intervention Data

