

Health Care System

Main Line Health

Hospital Name

Lankenau Medical Center, Bryn Mawr Hospital, Paoli Hospital, Riddle Hospital

Title of Initiative

Reducing Primary Cesarean Section Rates and Narrowing the Equity Gap

Abstract

Women are more likely to experience life threatening complications with a cesarean delivery versus a vaginal birth. Additionally, black women are 3-4X more likely to experience pregnancy-related death than white women with a cesarean delivery.¹ Once a woman has had her first cesarean section, she is more likely to have repeat cesarean sections for future deliveries. Therefore, our health system identified an opportunity to improve patient outcomes and to decrease the primary cesarean section rate of nulliparous term singleton vertex presenting pregnancies (NTSV) (CMS Core Measure PC-02) as well as work to eliminate racial disparities across the health system.

The Centers for Disease Control and Prevention released provisional data from 2019 on May 20, 2020 that showed 31.7% of all births were cesarean deliveries and 25.6% of the "low risk", NTSV population had cesarean births. Across our health system, the primary cesarean section rate for the same patient population in CY 2021 was 29.43%, with a variation in the rate of white patients (28.68%) and our black patients (35.89%).² (Figure 2) These two groups make up over 80% of our total population; 13.69% Black and 66.83% White in CY2022.

We will share implemented processes and forward-thinking methods in data isolation and analysis, and clinical practice to show an impact in minimizing the need for primary caesarean sections and narrowing the equity gap.

What were the goals of your initiative?

Our primary goal was to decrease the primary C-section rate (PC-02) across our system. National target goals for primary cesarean section were reviewed prior to implementing the initiative. We set additional goals to identify disparities; improve and align L&D statistics data/EMR information and Tableau data; provide physician access to view their own data; optimize physician documentation of C-Section reasons; provide nursing and provider education regarding tools to minimize cesarean deliveries and follow nursing data trends.

What was the baseline assessment and/or data that indicated there was an opportunity for improvement?

The current national target goal for primary cesarean section is 25.0% (Vizient Clinical Database (2021): 50th Percentile PC-02 Inpatient measure across all Inpatient Hospitals). Initial health system data collection and review indicated an opportunity for improvement with an overall baseline primary cesarean section rate of 28.9%. Implementation of best practices through the

ACOG AIM bundle, “Safe Reduction of Primary Cesarean Birth” began. The subgroup working on a reduction of primary cesarean sections focused on aligning data to further identify current state and needs as well as identify a plan of action. While working to improve EMR data extraction, data visualizations by race helped identify an additional opportunity to improve variation in the cesarean section rate of white patients (28.68%) versus black patients (35.89%). Work was delayed due to COVID-19, with implementation of improvements and continued education reinforced in fall of 2021.

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

The health system team focused on this clinical initiative and implemented novel interventions and approaches to care. Baseline data, from the electronic medical record (EMR), was assessed for documentation accuracy before beginning this clinical initiative. Intervention strategies and implementations for changes in practice included: development of patient education material placed in every obstetrician’s office; aligning the Ongoing Professional Practice Evaluations (OPPE) for physicians and the Safe, Timely, Efficient, Effective, Equitable, Patient Centered (STEEEP) measures for the health system with the quality goals surrounding this initiative; analytics deep dive into equity data including PC-02 rates by Race/Ethnicity and data was further aggregated by payor, zip code, age, and provider to identify any trends; creating reports in a Tableau® dashboard that provides each physician access to their data; optimizing physician workflow in the EMR to improve documentation regarding reasons for cesarean sections; establishing further education for nursing and providers that is specific to clinical strategies for optimizing vaginal delivery (Spinning Babies® methodologies); and sharing nursing specific data with regard to cesarean section rates with nursing leaders as an additional way to identify trends. A Clinical Advisory was developed as a tool for all clinicians. It provides an overview of project work and is utilized as an ongoing guide for clinicians and team members. The Advisory includes key interventions, metrics, goals, and resources.

What were the results of your initiative that demonstrate a notable level of improvement?

Results include a reduction in the overall primary cesarean section rate from 28.9% in CY 2019 to 25.8% in CY 2023 (YTD). (Figure 1) The disparity gap between black and white patients narrowed each year from 7.2 % in CY2021 to 0% in CY2023 Q1. (Figure 3) We hit our target of 25% for both Black and White patients and therefore met our directional goal and positive effect of operational efficiency with a decreased LOS (Length of Stay). In CY 2022 75 days were saved, assuming 1 extra LOS day for each C-section across the health system. (Figure 4)

Explain how the initiative demonstrates innovation.

Our project is uniquely innovative through the creation of a dashboard that follows trends in disparities metrics. These metrics are specific to primary cesarean section patients and are accessible to each of our campus team leaders enabling further ability to meet or exceed quality of care and equity goals.

How was health equity embedded into your initiative to improve health outcomes in marginalized communities?

We identified and addressed healthcare disparities in equity in our system through an analytics deep dive into our equity data including PC-02 rates by race and ethnicity initially; data was further aggregated by payor, zip code and age to further understand and follow trends. This collective information was developed into a dashboard to be reviewed by senior leadership, team leads and shared with stakeholders to identify community needs and staff education focus.

How did your initiative engage patients and families?

Early in the project work we developed a patient handout "Preparing for Induction" to help patients feel more prepared for the experience and encourage open conversation. These are distributed in outpatient offices. Patients were educated regarding the risk of primary C-section vs. vaginal delivery during their decision-making process.

How does this initiative demonstrate collaboration across care settings within your health system?

Our health system's working model is holistic and patient centric. Our team, known as a Clinical Environmental Workgroup (CEW) is specific to obstetrics care. The Obstetrics CEW is a multidisciplinary team and includes physician leaders, nursing leaders, nurse educators, clinical informatics, information technology, project management/analytics, business managers and administrative support. This larger group has clinical initiative sub-groups with representation from each of the entities that create focused charters with objectives when data trends needing improvement are identified.

Explain ways in which senior leadership exhibited commitment to the initiative.

Obstetric senior leadership act as executive sponsors and share updates regarding this work to the system senior leaders on a regular basis. They often attend working meetings specific to PC-02 to support work, guide decisions and remove barriers.

Describe the key steps required to successfully replicate this initiative throughout the region.

Replication of this initiative is possible through duplication of our key tactics including patient education, streamlined documentation, implementing centralized data reports specific to cesarean section rates, including provider and nursing specific data, as well as providing education of and utilization of Spinning Babies® techniques with EMR documentation ability. Spinning Babies® education is accessible through contact and collaboration with the Spinning Babies® organization and integration within current educational cycles and presentations.

Tables /Graphs (upload file)

Supporting Appendices

Figure 1

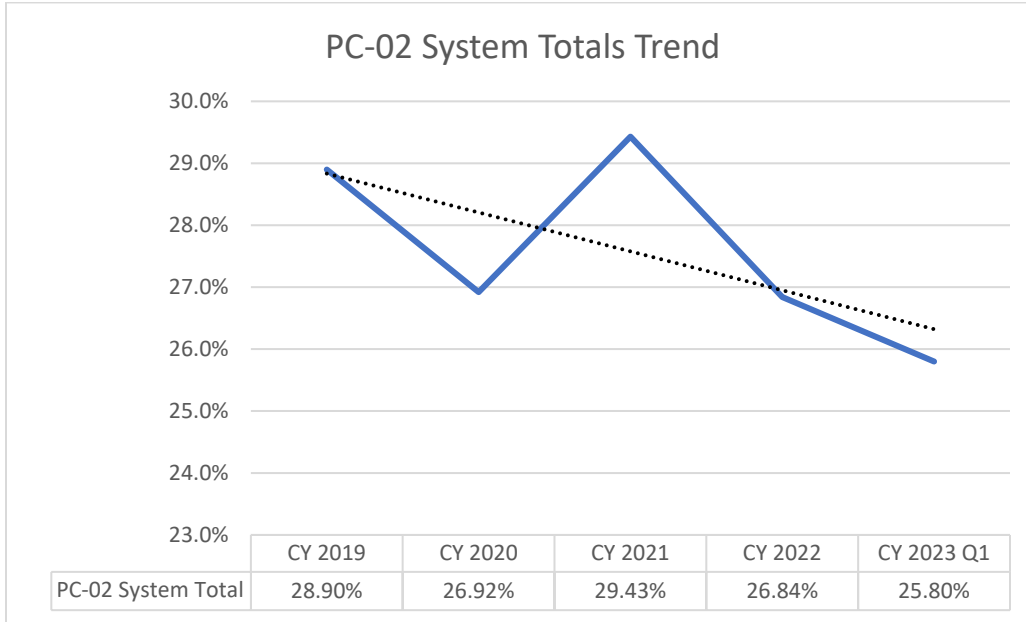


Figure 2. CY Statistics showing the reduction of Primary Cesarean Section Rates as a system, Narrowing the gap between Black and White patients and results for Race/Ethnicity.

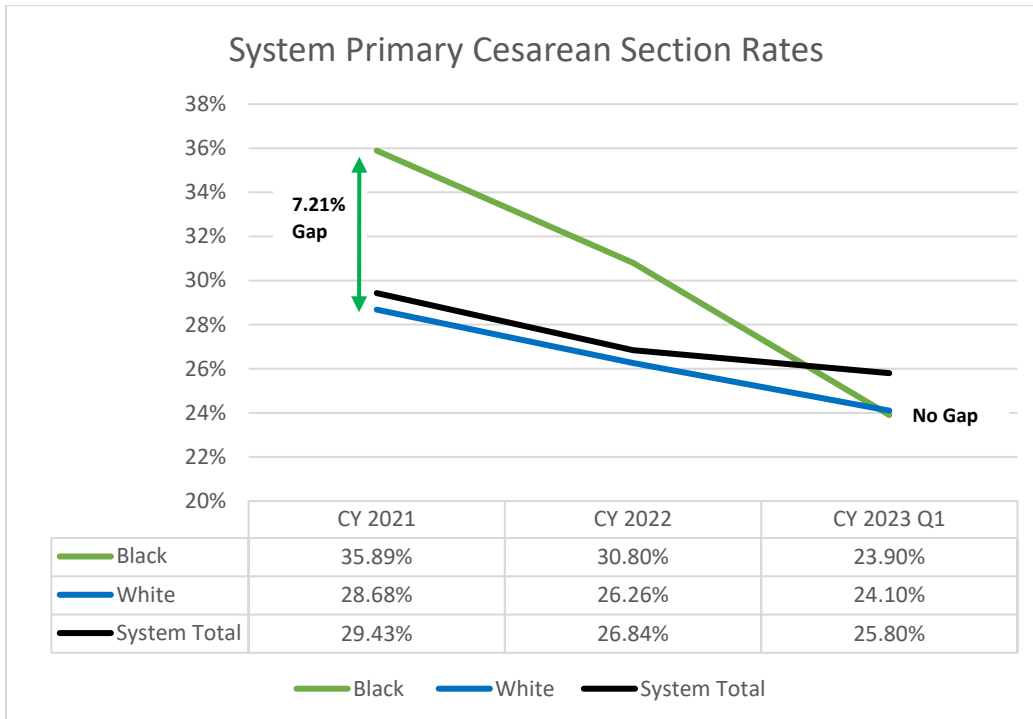


Figure 3. Statistics show the percentage gap narrowing between Black and White PCO2 patients over the years CY2021, CY2022, and CY2023 (YTD).

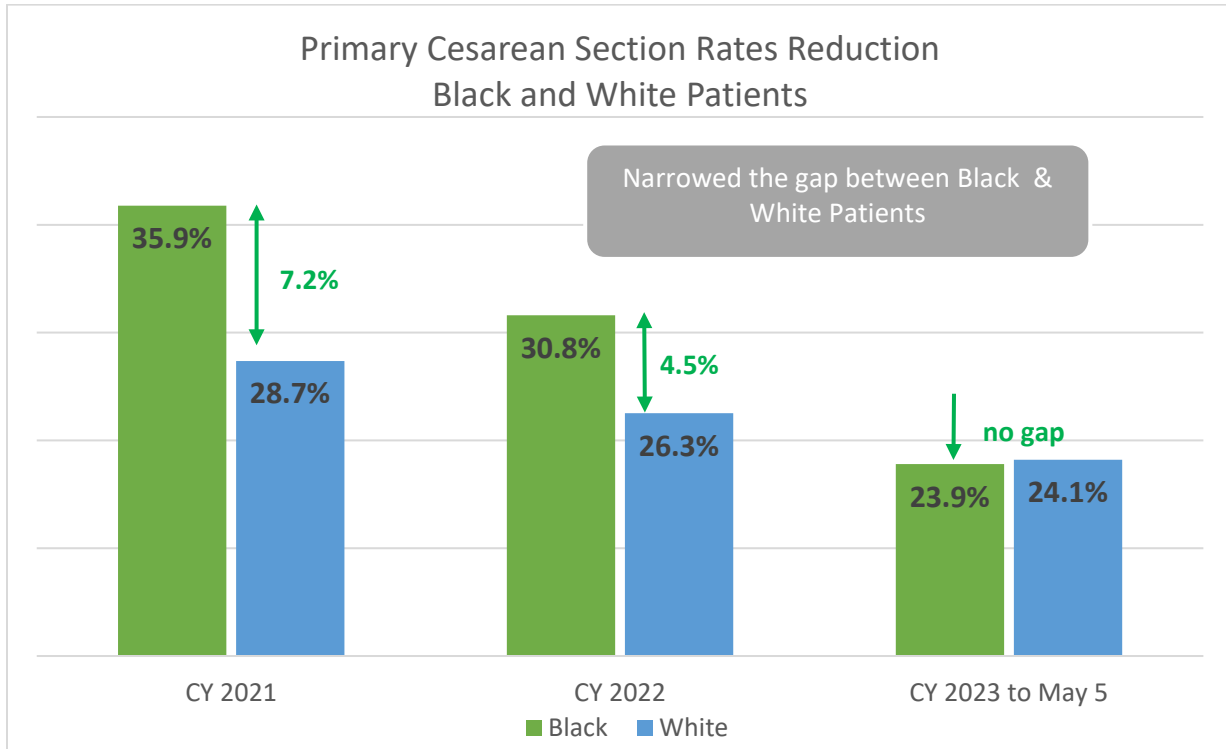
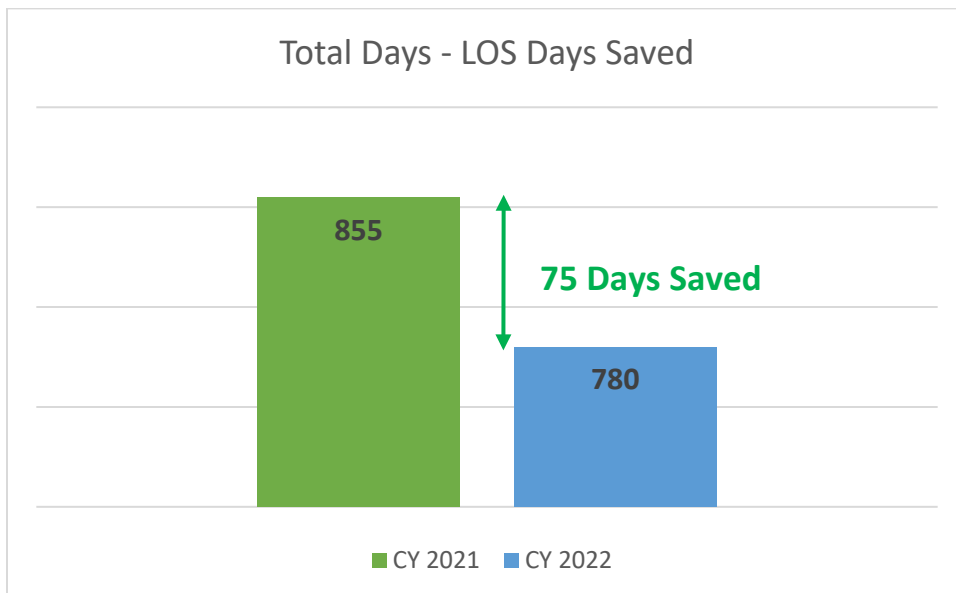


Figure 4. Results shows 75 LOS days saved for the PCO2 population from CY2021 to CY2022. (Assuming 1 extra LOS day for c-sections)



Reference Table:

1. Howell EA. *Reducing Disparities in Severe Maternal Morbidity and Mortality*. Clin Obstet Gynecol. 2018 Jun;61(2):387-399. [https://doi: 10.1097/GRF.0000000000000349](https://doi:10.1097/GRF.0000000000000349). PMID: 29346121; PMCID: PMC5915910.
2. ACOG: *Racial and Ethnic Disparities in Primary Cesarean Birth and Adverse Outcomes Among Low-Risk Nulliparous People*. (2022, December 1). <https://opqic.org/acog-racial-and-ethnic-disparities-in-primary-cesarean-birth-and-adverse-outcomes-among-low-risk-nulliparous-people/>