Leading Change on Labor and Delivery: Reducing Nulliparous Term Singleton Vertex (NTSV) Cesarean Rates

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It is easy to get into a rut in life. Unfortunately, this seems to be the pattern in many American maternity units. During the last several decades, rates of interventions—in particular labor inductions and cesarean births—have steadily increased without evidence of maternal or neonatal benefit.\textsuperscript{1} External scrutiny of maternity practices dwindled, giving the impression to providers that procedure rates did not matter. External pressures grew, including changing payment models emphasizing the office as the major source of revenue and recurrent back-of-the-mind worries for liability exposure. In this new environment, a culture developed in many labor and delivery units that seemed to de-emphasize and even devalue normal labor and birth. In spite of numerous editorials along the way decrying the rise in cesarean rates, little changed until a recent growing consensus emerged that there is a better way to support birth.\textsuperscript{2}

How can we lead change in our maternity units? Like many multifactorial problems, the solution almost always involves culture change. Culture change is neither easy nor quick but requires multidisciplinary leadership, a reason to change, and a sustained series of intervention strategies that are all focused on measureable outcomes. The article “Quality Improvement Initiatives Lead to Reduction in Nulliparous Term Singleton Vertex Cesarean Delivery Rate,” by Vadnais et al., in this issue of The Joint Commission Journal on Quality and Patient Safety\textsuperscript{3} describes such an effort and provides pathways for other health care organizations to follow. Nationally, there are several important efforts under way to address these issues that have common features. Let us examine their key shared characteristics.

Creating a reason to change is often the first challenge in quality improvement (QI). It is often described with metaphors such as a “burning platform” or a “melting iceberg,” implying an urgency to move from the status quo. In the Vadnais et al. study, the initial driver was peer comparison data indicating that their hospital was an outlier. Transparency can be powerful force but usually requires additional voices, indicating the importance of publicly reported measures. Accreditation agencies, payers, and purchasers all can have a voice (and even better, have action) on the same measure. This is beginning to happen with maternity Value-Based Purchasing among both commercial and Medicaid plans\textsuperscript{4} and with The Joint Commission, which reports data on its Perinatal Care set of performance measures.\textsuperscript{5} An equally powerful force is the women themselves, who can begin asking their obstetric provider about his or her cesarean rates.

Cesarean delivery is actually quite a diverse topic, with many subtypes and drivers, some more amenable to change and others less so. Therefore, an important first step is focus. Vadnais et al. choose nulliparous term singleton vertex (NTSV) cesarean delivery, which has emerged as the best metric for cesarean assessment. As a first birth–centered metric, it excludes all the common significant risk factors for cesarean birth, thereby enabling a focus on labor management.\textsuperscript{6,7} Women having their first births have a fivefold higher risk of cesarean in labor than women (without a prior cesarean) having their second or third labor, and so it is this population for which labor management and labor support are particularly critical. By definition, NTSV excludes breeches, twins, and preterm births, all of which have considerable legitimate risk for cesarean delivery. Furthermore, the bulk of cesarean variation among hospitals is due to the NTSV population. An NTSV cesarean measure is endorsed by the National Quality Forum (NQF),\textsuperscript{8} as well as The Joint Commission,\textsuperscript{9} the Leapfrog Group,\textsuperscript{10} the Centers for Medicaid & Medicare Services,\textsuperscript{11} and Healthy People 2020\textsuperscript{12} and 2020.\textsuperscript{13} In California, we use it extensively for public reporting and benchmarking and make it our primary aim for our statewide cesarean QI initiative (California Maternal Quality Care Collaborative [CMQCC]).\textsuperscript{14} Several health plans are building the metric into their Value-Based Payment programs.

Avoidance of unintended harm is a concern for all intervention projects. For maternity projects, balancing measures for both mother and infant should be monitored. Vadnais et al. tracked low Apgar scores, neonatal ICU (NICU) admissions, meconium aspiration syndrome, and shoulder dystocia for the infant, as well as perineal lacerations and blood transfusions for the mother. Their only significant finding was a small increase in meconium aspiration syndrome without an increase in NICU admissions.\textsuperscript{7} For families, the most important outcome for birth is a healthy baby, so in California the CMQCC project uses, as the balancing metric, the NQF–endorsed composite term neonatal measure, Unexpected Newborn Complications.

Many studies have noted the importance of audit and feedback of provider-specific measures.\textsuperscript{14} Even more effective is the ability to share provider-level rates in an unblinded manner among peers.\textsuperscript{15} Although Vadnais et al. used audit and feedback late in their study, we recommend that it be introduced much earlier in similar interventions for greatest impact.

Leadership from physician, nursing, and administrative leaders is considered a fundamental requirement for successful QI initiatives.\textsuperscript{16} The initiative described by Vadnais
et al. benefited from consistent physician leadership for its eight years’ duration. In perhaps an omission, the authors did not stress the key role of nursing and nursing leadership in implementing change on labor and delivery. Labor support and management entails the important role of the labor nurse at the bedside, whose key roles include supportive early labor triage, intermittent monitoring, assistance with walking and upright positioning, hydrotherapy, support for the woman and her family, optimized pushing, and balanced communications with the obstetric provider—as all detailed in the CMQCC’s Toolkit to Support Vaginal Birth and Reduce Primary Cesareans.17

The results of the initiative reported by Vadnais et al. were impressive, with a decrease in the NTSV cesarean rate from 34.8% to 21.2%. To achieve this level of reduction, the initiative included multiple smaller projects with different interventions. An important first step for every QI project is a thorough analysis to determine the drivers, or interventions, that affect the desired outcome. A useful construct to communicate these factors is the “Driver Diagram.”18 As the project continues, subsequent reassessments can be performed to identify additional drivers. The series of sequential or even near-simultaneous interventions, as Vadnais et al. acknowledge, result in cumulative change for which the impact of any single intervention cannot be determined.17 In addition, it is plausible that changes occurred in the institution’s culture, although Vadnais et al. did not use measures of safety or labor support culture. Similarly, multiple pressure points for change (for example, data transparency, professional society leadership, formal QI projects within a collaborative, value-based payment, employer interest, patient engagement) can lead to greater change through collective impact. This is likely the reason for the rapid success seen for the nationwide QI initiative for Early Elective Delivery in the United States.19

In summary, to “get out of a rut” and have maximal culture change, a QI project will take perseverance, involve multiple interventions, and may take external leverage. Vadnais et al. do a good job of illustrating “improvement at work.”

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REFERENCES