Impact of Obstetrician/ Gynecologist Hospitalists on Quality of Obstetric Care (Cesarean Delivery Rates, Trial of Labor After Cesarean/Vaginal Birth After Cesarean Rates, and Neonatal Adverse Events)

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KEYWORDS

• Hospitalist • Laborist • Cesarean delivery • VBAC • TOLAC • Value-based care

KEY POINTS

- Obstetric hospitalist programs are increasing rapidly in the United States, providing 24-hour in-hospital coverage in attempts to improve patient safety and quality.
- Full-time obstetric hospitalist programs reduce cesarean delivery rates.
- Obstetric hospitalist coverage improves the rate of trial of labor after cesarean/vaginal birth after cesarean.
- Full-time obstetric hospitalist coverage is a cost-effective solution for coverage of a labor and delivery unit and appears to add value to women's health care.
- Further research is needed on maternal and neonatal outcomes to confirm the initial promising results of the obstetric hospitalist model.

INTRODUCTION

The era of the hospitalist model in obstetric care is currently progressing through its initial stages. From the early formation of the hospitalist movement in the 1990s, to the further thoughts of Weinstein on "laborists" in 2003, and now the initial outcome studies of these programs, the obstetric hospitalist movement has gained acceptance inside the realm of maternal health.[1,2] Within other specialties, the hospitalist concept inched forward and expanded without specific initial plans for measuring quality and

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outcomes, but instead initially grew because of perceived improvements in work conditions, efficiency, and theoretic gains in quality performance. Nonetheless, later multiple studies regarding internal medicine hospitalists have shown improvement in care quality for pneumonia, myocardial infarction, and hospital stay, and readmission rates.[3,4] With these quality and known workplace improvements, the utilization of hospitalists now covers a quarter of all Medicare admissions and has increased by 25% from 2009 to 2011.[5] The obstetric hospitalist movement initially developed in a similar means with limited early data, but is now progressing toward measurement of its effects on patients.

There has been a large growth in obstetric hospitalist programs over the past decade, with the recent growth rate of programs averaging 1 to 2 per month in the United States.[6] Nonetheless, there has been a paucity of clinical data on patient outcomes and this has led to a call by some to slow the growth of these programs until more data are obtained.[7] Despite this call, there exists little chance of slowdown in obstetric hospitalist program growth. Postresidency obstetric hospitalist programs have formed to fill a void in establishing special training for these providers who are becoming integral parts of the modern maternal care unit. With this workplace transformation, it has become increasingly important to document the possible changes these providers may have in the provision of intrapartum and antepartum care. As expected, data at this point are limited, as most programs are less than a decade old and many are newly developed.[6] Furthermore, unlike other disciplines, agreed-on quality measures are not generally known for maternal care, making evaluation difficult. Health care Effective Data and Information Set guidelines have been used in the past; however, these provide minimal insight on measurement of meaningful obstetric care quality. The goal of quality measurement lies in the improvement of outcomes of a healthy mother-infant unit.

Looking at the mother, maternal mortality is a rare event and maternal morbidity has only recently been given some standardized measurement options.[8] With regard to the neonate, measures indicative of true improvement in neonatal outcome are problematic to truly ascertain, as neonatal intensive care unit (NICU) admission rates, NICU length of stay, and other neonatal morbidities are affected by underlying maternal conditions and the gestational age at which they present. Furthermore, in cases with medical conditions or pregnancy-related diseases that require more intensive observation, providers increasingly send these difficult cases to a center staffed for these problems, which thus have an increased likelihood of possessing an obstetric hospitalist program. Therefore, the limited data thus far have centered on a frequently examined outcome: cesarean delivery rates.

CESAREAN DELIVERY

With more than 4 million deliveries per year in the United States, obstetric admissions are the leading cause of female hospitalization. As a measure for quality, cesarean delivery often is used as a clinical measure. Across the United States, the rate of cesarean delivery increased dramatically from 26.1% in 2002 to a stable peak of 32.8% in 2012 (**Fig. 1**).

However, as multiple clinical factors affect this outcome, the measure of unadjusted cesarean rates as a measure of quality has been considered flawed. Instead, the risk-adjusted cesarean delivery rate, primary cesarean rate, and nulliparous term singleton vertex (NTSV) cesarean delivery rate have been brought forward as more meaningful measures.[9] A measure of the NTSV rate in the entire United States is currently not available. The primary cesarean delivery rate currently exists for 38 states and