

Why hospitals adopt the laborist model of obstetric care: A qualitative analysis

This article was published in the following Scient Open Access Journal:

Women's Health & Gynecology

Received March 12, 2015; Accepted March 24, 2015; Published March 30, 2015

Anna O Jesus¹, Donna Caldwell² and Sindhu K Srinivas^{1*}

¹University of Pennsylvania, Department OBGYN, Maternal and child health research program, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, USA; ²National Perinatal Information Center/Quality Analytic Services, Providence, Rhode Island, USA

Abstract

The practice of obstetrics is evolving to include more laborists staffing obstetric units. However, there is little data regarding individual hospitals' reasons for adoption, the adoption process, and the perceived outcomes. In order to gain a better understanding of the rationale behind the adoption of the laborist model, role of the laborist, costs involved in the adoption, and perceived changes in patient care, we interviewed several leaders involved in the adoption process at their respective institutions. Eight National Perinatal Information Center/Quality Analytic Services (NPIC/QAS) hospitals that employ laborists consented to take part in a qualitative study on adoption of the laborist model. Representatives at seven of the eight NPIC/QAS member hospitals that had consented were interviewed over the phone. Four thematic areas emerged from the interviews: Model as Adopted; Adoption Process; Roles and Division of Labor; and Quality of Care. These themes elucidated the evolution of the laborist model within the hospitalist framework, the implementation of the model, and the perceived implications for patient safety. Six institutions indicated that the model was adopted primarily to improve patient safety, and five institutions noticed improved patient safety and satisfaction with fewer adverse events. Quantitative research is now needed to substantiate the claims of improved patient safety. Additionally, further evaluation of the different models is needed to understand the most optimal model for obstetric care delivery.

Keywords: Labor and delivery; Laborist model; Patient satisfaction

Over 4 million women give birth in the United States annually, with the vast majority of deliveries taking place in the hospital setting. Historically, obstetrics was practiced by a solo practitioner who was on-call 24 hours a day for his/her patients. This obstetrician would see patients in the office, and then would be interrupted to perform a delivery for another patient on the labor and delivery unit. Due to a variety of practice changes, technologic advances, and financial pressures, the solo practitioner is becoming obsolete, particularly in urban areas.

The concept of the hospitalist, a term coined in 1996 by Dr. Robert Wachter, refers to a physician whose primary focus is in the care of hospitalized patients [1]. In part due to market pressures, the number of hospitalists providing inpatient medical care to both children and adults has increased over the last 15 years, with currently over 20,000 practicing hospitalists [2]. Following the success of the hospitalist concept, the laborist was introduced nearly a decade ago as a plausible model of obstetric care delivery. These physicians are often employed by hospitals to staff labor and delivery with the underlying premise being continuous coverage on labor and delivery without competing clinical duties.

The laborist model represents a significant change in the way obstetrics has been experienced and practiced historically, from both a patient and provider perspective. Two recent studies show that the obstetric practice environment is evolving to include more laborists staffing obstetric units. In a 2010 survey of the 74 National Perinatal Information Center/Quality Analytic Services (NPIC/QAS) member hospitals, nearly 40% employed laborists [3]. In a 2010 American College of Obstetricians and Gynecologists (ACOG) membership survey, 25% of respondents identified as either laborists or hospitalists [4]. Theoretically, adoption of the model is with the hope of improving provider satisfaction and quality of care while reducing liability, but there is little data in support of this assumption.

In order to gain a better appreciation for the rationale behind the adoption of the laborist model, the various conceptions of the laborist role, the costs involved in

*Corresponding author: Sindhu K. Srinivas, MD, MSCE, Department of obstetrics and gynecology, Division of maternal fetal medicine, Perelman school of medicine at the university of Pennsylvania, 3400 spruce street, 5 dulles philadelphia, PA 19104, USA, Tel: 215-662-4789, Email: sssrinivas@obgyn.upenn.edu

the adoption, and any perceived changes in patient care, we interviewed several leaders involved in the adoption process at their respective institutions. These leaders included a Director of Obstetrics, a chair of Obstetrics and Gynecology, a Division Chief of Maternal-Fetal Medicine, and several Medical Directors of Quality Improvement and Patient Safety. The representatives interviewed were selected from eight NPIC/QAS member hospitals that employ laborists and were enrolled in a larger quantitative study evaluating the impact of laborists on perinatal outcomes. Specifically, 8 NPIC/QAS member hospitals with laborists and 16 without laborists were enrolled in a quantitative study [5]. The 8 laborist hospitals were further consented to participate in the qualitative study described here.

The majority of these member hospitals had more than 1000 deliveries annually and were teaching hospitals. Phone interviews were conducted between December 2011 and March 2012. The interviews consisted of 27 scripted questions regarding the obstetrics department and the laborists' role within it, the reasons for the adoption of the laborist model, the process of adoption, and the costs involved. At any time during the conversation, the interviewer could ask follow-up questions, and the representative was given the opportunity to provide any additional information at the end of the interview. Each interview lasted between 25 and 60 minutes. The interviews were recorded and transcribed using the voice recording software Cogi, Inc. The transcriptions were then given to the Mixed Methods Research Lab (MMRL) in the Department of Family Medicine and Community Health at the University of Pennsylvania for analysis. These discussions provided novel information as to the evolution of the laborist in practice, how the model was implemented, and why it was adopted. IRB approval was obtained through the University of Pennsylvania as part of the larger quantitative study.

Evolution within the Hospitalist Framework

Title

In the setting of the widely adopted hospitalist model, the title and role of laborist varied by institution. Three hospitals referred to the laborists as such, while the other four hospitals used titles that harkened back to the hospitalist model: hospitalists; Ob/Gyn hospitalists; unit attendings; or triage doctors.

Roles and responsibilities

While the roles of the "hospitalist" varied by institution, they seemed to consistently include serving as a catchall for any responsibilities that might have fallen by the wayside due to the sometimes chaotic and unpredictable nature of labor and delivery. One institution described, "The hospitalist is the hospital-employed physician...[who] will cover inpatients [to manage] them regardless of whether it's OB or GYN and they will also see the patients that come through our emergency department or are off service in other parts of our hospital." At another institution, hired laborists were scheduled for additional shifts as triage specialists. Although laborists were called to cover unattended patients and emergencies, non laborist physicians were still expected to see their own patients within this model.

Similarly to their colleagues, laborists supervise and work alongside fellows, residents, and midwives who staff the labor and delivery unit. As one institution clarified, "We're a residency

training program. So...for much of [the] time those attendings are supervising residents and students and then there are certain times of the week where we don't have residents in-house, so we have attending physicians who work together with midwives and various trainees."

Coverage

Most hospitals specified that there was at least one physician acting as a laborist to provide in-house attending physician coverage at all times. An institution explained, "On occasion, they might see a GYN patient and do a quick surgical procedure in the outpatient surgery center. Because they are there 24 hours a day, [they] also cover GYN emergencies, GYN cases from the ER that we might get...[However] their first priority is [any of the] laboring patients." As in the hospitalist model, the laborist ensures uninterrupted inpatient coverage with, specifically in the laborist model, laboring patients taking precedence.

Relationships with other physicians

As a benefit of the continuous coverage they provide, laborists add a level of support for private obstetricians. One site explained, "When [the private obstetrician] can't physically be there at the same time [his] patient is in labor...As you might imagine patients can be in labor a long period of time and the practicing physicians are in their office. So, [private obstetricians] do require some kind of support in being able to look after their patients in their absence." In this respect, laborists are largely responsible for improving the transfer of care, improving any gaps in coverage, and making sure that no laboring patient is unattended. One institution specified that, as a safety component to their new model, the laborists "manage rounds every 4-6 hours to discuss issues on the labor floor."

Implementation of the Laborist Model

Leaders

In most cases, high-level administrators, such as the chairmen, medical directors, and CEOs, spearheaded the decision to adopt the model. These leaders had the broad support of hospital stakeholders including other administrators, private physicians, and patients.

Reactions preceding adoption

One site encountered resistance among the medical staff prior to implementation: "I think the initial perception was a little bit skepticism about how the triage doctors were going to help in management the patients." Yet, even at this site, the transition was reportedly fluid since laborists were often culled directly from the hospital staff or from practices familiar to the hospital. These seasoned physicians came on board knowing practice patterns and had a comfort level with hospital routines.

Reactions following adoption

Following the adoption of the model, reactions of the private physicians were often overtly positive: "They love it. They loved it from day 1." Other institutions demonstrated more guarded yet still enthusiastic responses: "[The private physicians] viewed it as potentially helpful. Most of them continued to deliver their own patients, and so [the laborist model was] mainly a back up system for them in case of emergencies."

Costs

Nearly all sites anticipated the related cost increases, which grew primarily if not entirely from laborists' salaries and benefits. One site succinctly summarized, "[The related cost] was just increased salaries, benefits, and liability insurance coverage." Hospitals that hired laborists from within found that there were no upfront costs, as one explained, "We were already paying a group of...doctors to cover the unassigned and the medical screening law. So since we were already paying physicians to do that we were able to do it at the same cost...there was no additional cost."

Demographics

Only one hospital noticed a change in the patient case mix or demographics: "The population that we get from the clinic and our Hispanic pop – it's primarily Hispanic – population has increased tremendously. But that's the population we...knew we were getting into the business of." No other hospital observed a change in demographics.

Perceived Implications for Patients Safely

In the field of obstetrics, adverse outcomes are considerably uncommon given the high volume of normal outcomes. A study by Chauhan et al. indicates that based on the estimation that an obstetrician performs approximately 140 deliveries per year, a clinician would encounter a case of permanent brachial plexus palsy due to shoulder dystocia once in 33 years of practice, or a case of cerebral palsy attributable to intrapartum hypoxia once in 48 years [6]. As a result, there might be low motivation for initiating an intervention that has a limited scope for improving patient safety.

However, as Dr. Larry Veltman describes in his recent commentary on patient safety, weaknesses exist in the defenses and safeguards against system failures. In his detailed list of system modifications that might lessen the risk for adverse outcomes, he emphasizes the importance of the role of laborist to insure the availability of an obstetrician in labor and delivery at all times [7]. In addition, several trends in the obstetrical patient population, specifically an increase in birthrate of women in their 40s and 50s, a pronounced rise in multiple birth rates, and a tendency toward obstetric intervention earlier in pregnancy due to changing maternal demographics and medical risk profiles, make patient safety a growing concern [8].

In our data regarding the adoption process, we found that the key motivation for adopting the laborist model was to improve patient safety. Six out of the seven institutions specifically indicated that the model was adopted first and foremost to improve patient safety, with the added benefit of increased efficiency. One institution noted, "I think the physicians just generally...talked about implementing a laborist program for patient safety. For the 'what if that happens in the middle of the night when no one is there?'...Administratively, we were able to increase our volume and the physicians were getting what they wanted from a safety side, so it's kind of a win-win." Another hospital made a similar comment: "Our deliveries and our acuity were increasing at a rapid rate. We had that 24-hour attending model and the volume just got such that they weren't able to manage the residents effectively. And so that's what prompted [the laborist model] to go into place. So that we could have two

attendings to help supervise any concerns off the floor elsewhere in the house in addition to resident supervision." The data collected in the interviews indicates that the institutions hired or assigned physicians to roles in which their primary focus and, consequently, expertise are labor and delivery in an effort to counteract weaknesses within the system and increased medical risks associated with childbirth.

As observed by the institutions, the adoption of the laborist model, anecdotally, seems to have improved patient safety and decreased the number of adverse events. More specific improvements in clinical outcomes include fewer unattended deliveries, better turnover time in patient care, more timely pain management, and a decrease in the average length of emergency room stay. Each of these improvements likely contributes to increased patient satisfaction. At one institution: "Our patient satisfaction is good, because they're getting treated quicker... one of the things we have dropped tremendously is our elective deliveries less than 39 weeks, because...we were able to tie quality metrics to that outcome and help drive the number down. We started out at like 19% and now we're at like 4% of elective deliveries less than 39 weeks because [the laborists] are helping driving that. They don't have...to induce [women] in their time, as opposed to the times when it's appropriate [because] there's somebody there to help manage that patient in labor." This drop in the number of elective deliveries less than 39 weeks gestation is particularly reassuring in the context of a trend toward shorter average gestational ages [8].

It must be noted, however, that other initiatives could be implicated in the perceived patient safety changes. Some institutions described the adoption of the laborist model as only one component in a larger effort to improve patient safety. Simulation drills, crew resource training, and fetal monitoring training were sometimes initiated in conjunction with the adoption of the laborist model. One institution qualified, "The number of adverse events has decreased over this time period. It's hard to say how much of it is due to [the laborist model] and how much to other safety initiatives because a number of them have been implemented."

Regardless, there remains an observable association between the laborist model and patient safety benefits. Quantitative research is now needed examining maternal and neonatal outcomes, unattended deliveries, pain management response time, length of emergency room stay, and the percentage of non medically indicated deliveries at less than 39 weeks to substantiate the goals and claims of improved patient safety. Other system changes concomitant with the adoption should be further explored.

Workforce Implications

Our interviews only touched upon the workforce implications during the discussions of the private physicians' reactions to the adoption of the laborist model. More so than other medical fields, obstetrics and gynecology is at risk of physician shortage. Studies show that obstetrician-gynecologists rank as one of the most dissatisfied specialties in medicine [9,10], and fewer US students are interested in the specialty than in years past [11]. Increased liability and an often inflexible work schedules are thought to be major contributing factors [12]. If the use of laborists does improve patient safety, thereby ideally reducing

liability, it might be an important component in medical students' decisions regarding specialties. Furthermore, laborists were also introduced in an effort to demonstrate the ability of the specialty to create jobs with schedules that might increase provider satisfaction [13]. The model's broad adoption could therefore encourage more students to pursue obstetrics, which should be assessed by future studies. Further evaluation and understanding of how the varying laborist models are used and quantitative assessment on patient outcomes, will give us a better vision of the changing face of obstetrics and help us continually work to improve patient safety as well as provider and patient satisfaction.

Acknowledgements

The authors have financial support from the Maternal and Child Health Bureau R40MC17164 (PI Srinivas) for the submitted work.

References

1. Wachter RM, Goldman L. The emerging role of "hospitalists" in the American health care system. *N Engl J Med*. 1996;335(7):514-517.
2. Wachter RM. Reflections: The hospitalist movement a decade later. *J Hosp Med*. 2006,1(4):248-252.
3. Srinivas SK, Shocksnyder J, Caldwell D, Lorch S. Laborist model of care: who is using it? *J Matern Fetal Neonatal Med*. 2012,25(3):257-260.
4. Funk C, Anderson BL, Schulkin J, Weinstein L. Survey of obstetric and gynecologic hospitalists and laborists. *Am J Obstet Gynecol*. 2010,203:177e1-4.
5. Srinivas SK, Macheras M, Small D, Lorch S. Does the laborist model improve obstetric outcomes? *Am J Obstet Gynecol*. 2013,208:S48.
6. Chauhan SP, Magann EF, McAninch CB, Gherman RB, Morrison JC. Application of learning theory to obstetric maloccurrence. *J Matern Fetal Neonatal Med*. 2003,13:203-207.
7. Veltman LL. Getting to Havarti: Moving Toward Patient Safety in Obstetrics. *Obstet Gynecol*. 2007,110(5):1146-1150.
8. Martin JA, Hamilton BE, Ventura SJ, et al. (2012) Births: Final Data for 2010. *National Vital Statistics Report*. 61(1).
9. Zuger A. Dissatisfaction with medical practice. *N Engl J Med*. 2004,350(1):69-75.
10. Leigh JP, Kravitz RL, Schembri M, Samuels SJ, Mobley S. Physician career satisfaction across specialties. *Arch Intern Med*. 2002,162:1577-1584.
11. Dorsey ER, Jarjoura D, Ruteeki GW. Influence of controllable lifestyle on recent trends in specialty choice by US medical students. *JAMA*. 2007,290(9):1173-1178.
12. Anderson BL, Hale RW, Salsberg E, Schulkin J (2008) Outlook for the future of the obstetrician-gynecologist workforce. *Am J Obstet Gynecol*. 2008,199(1):88.e1-8.
13. Weinstein L. The laborist: A new focus of practice for the obstetrician. *Am J Obstet Gynecol*. 2003,188(2):310-312.