

Implementation of an Academic OB/GYN Hospitalist Fellowship Program: A Sustainable Training Model for Labor and Delivery

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Abstract

In April 2014, an obstetrics/gynecology (OB/GYN) hospitalist division was formed at the University of California, Irvine. A one-year hospitalist fellowship program was subsequently implemented and graduated its first fellow in June 2016. The development of both the division and fellowship were responses to the growing need for labor and delivery leadership focused on patient safety. This healthcare model and training opportunity appeals to those who are vested in maximizing outcomes of hospitalized pregnant patients while striving to achieve a personal work-life balance. Fellowship training addresses the disparity between the shortage of experienced OB/GYNs and the resident work-hour limitations that have truncated clinical volume and exposure to obstetric emergency management skills. Our fellowship program offers high-volume and high-acuity clinical exposure in academic and community hospitals, promotes learning through resident and medical student teaching, and encourages active participation in hospital committees and clinical research. Our program involves specialized training beyond residency, as opposed to a re-entry program, with the goal to train the future leaders of our emerging subspecialty. We believe that this will become the future standard of care for all hospitalized pregnant women.

Keywords: hospitalist, academic, patient safety, fellowship, education, leadership, labor and delivery

Introduction

Over the last two decades, there has been an increasing emphasis on patient safety and quality of care on labor and delivery. Inpatient care models have developed to focus on maximizing patient outcomes, and hospitalists play a central role. Several institutions have shown that full-time obstetrics/gynecology (OB/GYN) hospitalists decrease the nulliparous term singleton vertex cesarean delivery rate and the number of annual malpractice claims, indicators of improved patient care [1-3]. Physician work-life balance is also inherently addressed by the shift-work nature of a hospitalist's schedule [4]. Previously known as "laborists" an OB/GYN hospitalist is a physician specializing in the practice of hospital-based obstetric and gynecologic care. This includes services such as obstetric triage, labor and delivery, antepartum and postpartum care, emergency room consults, emergent gynecologic surgeries, and consultative general OB/GYN inpatient care [5]. A hospitalist also leads the integration of care within the clinical team, develops and implements quality and safety protocols, and educates colleagues as part of the overarching mission of providing safer care on labor and delivery.

In April 2014, our institution responded to the need for leadership on labor and delivery by forming one of the first academic OB/

GYN hospitalist divisions in the country. Originally founded by four full-time and three part-time academically appointed faculty, our division expanded by creating an OB/GYN hospitalist fellowship program. The program's goal was to instill essential skills and enable the trainee to function as a consultant for generalists in acute or emergent cases. Our institution is the second in the nation to implement such a training program.

The imbalance between the demand for OB/GYN hospitalists and the relative shortage of experienced OB/GYNs desiring a career as hospitalists has led to the role for formalized training. The optimal management of acute obstetric emergencies is typically provided by experienced and skilled clinicians, but the work-hour limitations of traditional clinical training may impede the development of these necessary skills. This creates a discord in the optimization of patient care and safety. The relatively steady birth rate in the United States coupled with a higher mean age of women at first birth and associated comorbidities implies a need for experienced obstetricians with strong clinical acumen [6]. Fellowship training in acute inpatient care addresses these concerns by enhancing the skills of recent residency graduates.

Many of the clinical competencies covered in accredited OB/GYN residency programs mirror those of our fellowship. However, the restricted resident work-hours coupled with the demographic

increase in maternal morbidity and mortality may render new graduates underprepared for subspecialty fellowships and the optimal management of complicated and emergent conditions [7]. At minimum, there has been a steady decline in the national average of some core OB/GYN procedures performed by Accreditation Council for Graduate Medical Education (ACGME) residency graduates (Tables 1 & 2). The perceived risk that fellows are taking valuable procedures and learning experiences from residents for their own training experience, thereby exacerbating the decline in resident experience, does not exist. Our fellow functions as a clinical instructor and residents remain equally involved in all cases, therefore resident volume is unaffected. Studies from other surgical specialties also corroborate that resident experience has changed, suggesting a negative impact on resident wellness, training, and patient outcomes because of eroded training time [8]. Providing consistent exposure to emergent inpatient conditions in a structured fellowship with faculty supervision adds clinical confidence and competence, ultimately improving skills and patient outcomes.

Table 1: National average of obstetric procedures per resident

Obstetric Procedure	Academic Year 2015/2016	Academic Year 2005/2006	Academic Year 1996/1997
Spontaneous Deliveries	264.1	275	336
Cesarean Deliveries	217.4	222.1	177
Forcep Deliveries	6.5	13	37
Vacuum Deliveries	16.5	21.7	24

Table 2: National average of gynecologic procedures per resident

Gynecologic Procedure	Academic Year 2015/2016	Academic Year 2005/2006	Academic Year 1996/1997
Abdominal Hysterectomy	45.7	80.4	81
Vaginal Hysterectomy	24.5	32.2	35
Operative Laparoscopy	100.9	67.2	74
Operative Hysteroscopy	77.7	56	28
Transvaginal Ultrasound	87.8	125.1	96

Traditionally, OB/GYNs spent the majority of their clinical time in the office while managing laboring patients remotely via nursing staff. Because of the financial constraints imposed by third party payers, private practitioners were incentivized to allocate time in the office where revenue is generated faster. This practice model, however, challenges the optimal management of unpredictable and emergent peripartum conditions. Providing a curriculum focused on the full-time management of emergent conditions on labor and delivery reinforces proficiency and can improve patient outcomes, as hospitalist intervention in emergent cases is on-site and timely.

Furthermore, it is impractical for the remotely practicing OB/GYN to champion the development and implementation of hospital-based quality improvement projects and safety protocols. Conversely,

hospitalists spend all of their clinical time in the hospital, making them inherently available to attend quality and safety meetings, initiate quality improvement projects and lead teams. Fellowship training strongly focuses on leadership and quality improvement skills through active participation in core hospital committees, and involvement with protocol development and implementation.

The full-time OB/GYN hospitalist's schedule is typically comprised of seven to eight 24-hour shifts per month. Clinical care and patient responsibilities begin and end with the beginning and end of a shift. There is usually no outpatient follow-up required, effectively containing work hours. This mitigates physician fatigue and offers opportunities for work-life balance, a component of professional life that has been deemed important by residents [9]. By creating more OB/GYN hospitalists, we are better able to align the supply of formally trained hospitalists with the commercial demand for our evolving subspecialty, since there is a growing pool of physicians attracted to the lifestyle, and hospitalist work is known to correlate with higher career satisfaction [10].

Our program trains fellows as educators. Our fellows have ongoing opportunities with residents and medical students to develop teaching skills on rounds, labor and delivery, and in the operating room. OB/GYN hospitalist faculty directly supervise the fellow, however the fellow is given autonomy with a supervisory role of residents and medical students.

It is clear from the pediatrics, general and vascular surgery literature that hospitalists enhance the experience of trainees, likely the result of increased time teaching at the bedside and during handoff rounds [10-12]. Hospitalists also have a positive impact on patient outcomes and cost-containment [13,14]. Studies on resident education demonstrate the benefits of hospitalist faculty in the domains of resident satisfaction, improved teaching, and higher quality teaching rounds [7,12]. Similar studies on medical student education corroborate these findings [11]. Ultimately, the impact is improved patient care and satisfaction, demonstrated by higher hospital consumer assessment scores [8].

Indeed, an extra year of training requires foregoing an attending-level income and likely deferred repayment of educational loans. There is a paucity of data assessing the effect of fellowship pay and long-term financial impact of prolonged training; however surveys of graduating medical students and economic analyses indicate that future income is not an important factor in specialty choice [15]. It's plausible that physicians attracted to hospital medicine prioritize non-financial factors, such as schedule control and containment of work hours.

Fellowship Structure

Our program provides exposure to academic and community hospitals. The Clinical Instructor title enables the fellow to bill for all patient care services rendered at both hospitals, generating sufficient revenue to cover training expenses, salary and benefits. Training occurs with OB/GYN hospitalist, intensivist, maternal fetal medicine, gynecologic oncology and anesthesia faculty. Viable candidates are board-eligible or certified graduates from ACGME OB/GYN residency programs.

Five core learning objectives embody our fellowship (Table 3).

Table 3: OB/GYN Hospitalist Fellowship Core Learning Objectives

1	Become clinically proficient at managing obstetric and gynecologic emergencies.
2	Create and implement protocols, tools and clinical pathways that improve patient safety and quality of care, as defined by hospital-based metrics.
3	Master the dynamics of working within academic and community healthcare systems as physician extenders and inpatient generalist consultants.
4	Develop leadership and teaching skills for medical students, residents, nursing staff and colleagues.
5	Complete a novel hospital-based research project culminating in a formal presentation.

Our longitudinal curriculum consists of ultrasound, obstetric anesthesia, hospitalist shifts, gynecologic surgery, simulation training, administrative time and formal didactics (Table 4). The work-week averages 65 hours over 4 weeks. A typical month includes one day of ultrasound experience, a full day of obstetric anesthesia, ten 12-hour daytime and four 12-hour night shifts, two 24-hour weekend shifts, three administrative days, and weekly didactics. Our fellows also attend Grand Rounds, Morbidity and Mortality conference, and work in the simulation lab. In-situ simulations include maternal code, postpartum hemorrhage, eclampsia, shoulder dystocia, cord prolapse, and emergent cesarean delivery.

Table 4: Formal Didactics

Asthma in Pregnancy
Billing and The Hospitalist Model
Ethics in Medicine
Evidence Based Medicine
Hematomas (Vulvar, Vaginal, Broad Ligament, Retroperitoneal)
Hospital Finances
Interpersonal Communication Skills
Leadership vs Management – Business Model
Patient Satisfaction
Risk Management
Substance Abuse in Pregnancy
Surgical Management of Gastrointestinal & Genitourinary Injuries
Surgical Techniques -Bakri, B-Lynch, O’Leary, Cesarean Hysterectomy, Hypogastric Artery Ligation, Uterine Artery Embolization
Teaching Skills

Our curriculum models the Core Competencies in Hospital Medicine and is divided into clinical, procedures and healthcare systems sections. We established institutional standards for the topics we believe require mastery to be a competent hospitalist. Evaluations occur quarterly. Competency-based milestones model the ACGME milestones. Our institution utilizes New Innovations to track performance and clinical experience; New Innovations dually serves as a database for future research to evaluate the impact of hospitalist fellows on clinical outcomes.

Approximately half of the fellow’s clinical time is at a community

hospital where residents are not present. This unique exposure teaches fellows how to effectively collaborate with private physicians and recognize when and how to intervene in emergencies. In both the academic and community hospitals, the fellow teaches nursing staff, develops expertise in drills and simulation, attends quality and safety committee meetings, and assumes leadership roles in hospital initiatives.

Rotating with obstetric anesthesiologists allows the fellow to learn physiology and resuscitation from another perspective. This unique opportunity enables the fellow to function as an anesthesia trainee by administering regional anesthesia, placing intravenous lines, executing transfusion protocols, and aiding with intubations. This in-depth exposure to the anesthesiology discipline equips the trainee with more tools for optimization of patient care as the obstetrician. The curriculum also includes one month in the Surgical Intensive Care Unit (SICU), where the fellow is under direct surgical attending supervision. On this rotation, the fellow’s schedule includes daily SICU weekday shifts and two OB/GYN hospitalist weekend calls.

The fellow’s selection of a research project is based on interest and feasibility. At the commencement of training, the fellow is encouraged to design a novel project that culminates in a thesis defense and formal Grand Rounds presentation. We strongly encourage fellows to present their project at the Society of OB/GYN Hospitalists (SOGH) Annual Clinical Meeting. The SOGH meeting, attended annually, allows the fellow to attend didactics, participate in hands-on training courses and network with national leaders.

Lessons Learned

Upon graduation, our first fellow pursued Peace Corps global health advocacy and subsequently secured a full-time hospitalist position. Her fellowship demonstrated that clinical responsibilities, administrative work and completion of a research project are demanding goals for a one year training period. Since research is an important fellowship component, we now strongly encourage trainees to select a project early, ensuring time for administrative approval, data collection and presentation. The research emphasis has also led to the consideration of offering formalized training in a combined Master of Science in Biomedical and Translational Science. This would extend training by another year and confer a master’s degree, an appealing option for candidates interested in academic careers.

Other growth opportunities are in simulation. Our institution has a 65,000 square-foot state-of-the-art simulation center, including a full-scaled operating room and obstetric suite. Interested candidates have the possibility of a combined OB/GYN hospitalist and simulation fellowship. This would involve simulation training beyond the core curriculum, including developing simulation curricula, leading debriefing sessions, performing simulation research, and leading multidisciplinary simulations.

Due to high clinical volume during fellowship, board eligible fellowship graduates will be prepared to complete their oral board examination and seek jobs at institutions recruiting leaders in quality and safety. While most hospitalist jobs require board certification and five years of post-residency experience, the complexity and volume of our clinical training program well-positions fellowship graduates for hospitalist leadership roles.

Conclusion

The development of an OB/GYN hospitalist division and fellowship resulted from the growing need for leaders on labor and delivery. Our fellowship program provides opportunities for trainees to hone their acute clinical skills while participating in research, quality improvement initiatives and hospital committees. As fellowship directors, we believe that the skills acquired by OB/GYN hospitalist-trained subspecialists will benefit patients, hospitals and physicians. This will become the standardized approach to delivering care to the parturient. Our training goals are reinforced by the American Congress of Obstetricians and Gynecologists' recommendation that "hospitals and other health care organizations should ensure that candidates for positions as ob-gyn hospitalists are drawn from those with documented training and experience appropriate for the management of the acute and potentially emergent clinical circumstances that may be encountered in obstetric care [16]." We envision our graduates as leaders in OB/GYN hospital medicine as this subspecialty becomes increasingly recognized, accepted and competitive.

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