The Laborist Revolution-
What is the evidence?

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Objectives

1) Who is a laborist?

2) What are the outcomes associated with laborists?

3) What are the difficulties in studying outcomes of laborists?

Disclosures & Funding

- No conflict of interest
- Women’s Reproductive Health Research, NIH – 5K12HD001262-15

Do you have laborists at your hospital?

A. Yes
B. No

52% 48%
Are YOU a laborist?

A. Yes
B. No

(Physicians Only)

Workforce Concerns

• 35% of obstetrician-gynecologists in practice are over the age of 50 years.
• Fewer US medical students entering OB/GYN
• Dissatisfaction leads to early retirement
• 41% of full time OB/GYNs would be interested in part-time work
  – Most don’t have that option

Anderson 2008

Workforce Concerns

• Conflict between L&D responsibilities and office practice
  – Ob/Gyns who do not perform deliveries have higher career satisfaction
  – Have more personal control, manageable workload

Bettes 2004

The best of times, the worst of times

• Most satisfying activities:
  – vaginal deliveries, planned cesarean deliveries, and surgery
  – “fulfillment, competence, friendliness, and energy”
• Least satisfying activities
  – on-call/in-hospital time
  – “frustration, anxiety, fatigue, and impatience for it to end, depression, pressure, hostility, and criticism”

Bettes 2004
Laborist

- “a physician whose sole focus of practice is managing the patient in labor”
  - Weinstein, AJOG, 2003
- may be able to:
  - improve patient care and satisfaction
  - remove from the obstetrician the need to be always available to the laboring patient
  - decrease stress, improve physician well-being, increase length of professional practice, and decrease burnout.

Types of Laborists

- Who are they?
  - Full-time laborist
    - No office responsibilities
  - “Community” Laborist
    - Physicians who do have office responsibilities but spend dedicated shifts on Labor and Delivery
  - OB/GYN Hospitalist
    - minimal outpatient and elective surgical responsibilities
    - primary role is to care for hospitalized obstetric patients and to help manage obstetric emergencies that occur in the hospital
    - may provide urgent gynecologic care and consultation to the emergency department or hospital inpatient services.

Laborists

- Whom do they serve?
  - All patients on L&D?
  - Only those without assigned physician and emergencies?

Laborists: Prevalence

- ACOG survey 2010:
  - 25% response rate
  - 15% responders described themselves as laborists
- SOGH 2014:
  - >1,700 ob-gyn hospitalists
  - >243 hospitals in the United States,
    - (~10% of obstetric hospitals)
- National Perinatal Information Center survey 2010
  - 74 hospitals in 26 states
    - Most are regional perinatal center, have residents
    - 40% using laborists

Laborists in California

California maternity hospital survey

Table 2: Survey results by domain, stratified by hospital type (n = 239)*

<table>
<thead>
<tr>
<th>Domain</th>
<th>Total (n = 239)</th>
<th>Community (n = 197)</th>
<th>Teaching (n = 27)</th>
<th>IRH (n = 25)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-hour physician coverage (in house)</td>
<td>45.5%</td>
<td>40.6%</td>
<td>37.0%</td>
<td>53.0%</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>24-hour MD in-house coverage for all patients</td>
<td>75.0%</td>
<td>69.7%</td>
<td>77.8%</td>
<td>80.0%</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>24-hour MD coverage but not in house</td>
<td>14.5%</td>
<td>14.6%</td>
<td>11.1%</td>
<td>12.0%</td>
<td>0.25</td>
</tr>
<tr>
<td>Board of a hospital and out of hospital coverage</td>
<td>48.9%</td>
<td>59.1%</td>
<td>33.3%</td>
<td>44.0%</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Kord, AOGS 2015

Hospitalists Across Specialties

Diagram showing the percentage of physicians in sample who are hospitalists by self-identified specialty and age.

Committee Opinion

Committee on Patient Safety and Quality Improvement

The Obstetric and Gynecologic Hospitalist

- ACOG supports the continued development and study of the ob-gyn hospitalist model as one potential approach to improve patient safety and professional satisfaction across delivery settings.

- Additional outcomes research is needed to determine the effect of the ob-gyn hospitalist model on the safety and quality of care and to determine the economic feasibility of various models.
**Laborists**

**Possible Positives**
- 24hr coverage
- Lack of distraction
- Improved team work
- Improved ability to respond to emergencies
- Reduced liability claims
- Improved work hours
- Improved work/life balance
- Increased oversight residents

**Possible Negatives**
- Discontinuity of care
- Disagreement between inpatient and outpatient
- Decreased patient satisfaction
- Decreased pay
- Worse outcomes due to increased handoffs
- Overmedicalization due to overvigilance
- Decreased autonomy senior residents

*Srinivas, AJOG, 2012*

**Laborists: Cesarean Delivery**

- Potential decrease in CD rate
  - More comfortable monitoring equivocal FHR tracing
  - More comfortable being patient with labor dystocia

**Night float**

- Change to night float system associated with
  - Fewer induction of labor
  - Less oxytocin
  - Fewer perineal lacerations
  - No change in CD rates (14.5% v 13.2%)

*Barber, Obstet Gynecol, 2011*

**Laborists: Cesarean Delivery Rates**

- Sunrise Hospital and Medical Center, NV
  - Tertiary care hospital without residents or CNMs
  - ~4500 deliveries/year
  - Analysis of 3 time periods:
    - Feb 2008 – April 2009: community laborist
    - Nov 2009 – October 2011: full-time laborist
  - Laborist cared for emergencies, unsassigned patients, and for private patients on request
    - 10% of all deliveries with “full-time” program

*Iriye, AJOG, 2013*
**Laborists: Cesarean Delivery**

<table>
<thead>
<tr>
<th>Variable</th>
<th>No laborist (n = 1830)</th>
<th>Community laborist (n = 1722)</th>
<th>Full-time laborist (n = 2654)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesarean delivery</td>
<td>717 (39.2%)</td>
<td>666 (38.7%)</td>
<td>832 (33.2%)</td>
</tr>
<tr>
<td>Gestational age, wk²</td>
<td>39.15 ± 1.04</td>
<td>39.08 ± 1.01</td>
<td>39.16 ± 0.93</td>
</tr>
<tr>
<td>Maternal age, y</td>
<td>22.9 ± 6.4</td>
<td>22.7 ± 5.3</td>
<td>22.8 ± 6.2</td>
</tr>
<tr>
<td>Delivering physician age, y</td>
<td>47.7 ± 9.2</td>
<td>47.5 ± 9.9</td>
<td>50.5 ± 9.8</td>
</tr>
<tr>
<td>Induction of labor</td>
<td>623 (54.0%)</td>
<td>719 (41.8%)</td>
<td>1109 (41.8%)</td>
</tr>
<tr>
<td>1-min Agar²</td>
<td>8.26 ± 1.18</td>
<td>8.18 ± 1.11</td>
<td>8.30 ± 1.02</td>
</tr>
<tr>
<td>5-min Agar</td>
<td>8.93 ± 0.43</td>
<td>8.91 ± 0.40</td>
<td>8.94 ± 0.41</td>
</tr>
<tr>
<td>Birthweight, g</td>
<td>3284.2 ± 432.8</td>
<td>3275.2 ± 428.3</td>
<td>3285.1 ± 432.8</td>
</tr>
<tr>
<td>Diabetes</td>
<td>72 (3.9%)</td>
<td>54 (3.1%)</td>
<td>86 (3.2%)</td>
</tr>
<tr>
<td>Maternal weight, lb²</td>
<td>176.8 ± 37.8</td>
<td>178.9 ± 37.8</td>
<td>180.7 ± 39.6</td>
</tr>
</tbody>
</table>

*Irive, AJOG, 2013*

**Laborists: Community vs. Full-time**

- Why CD reduction seen only with full-time?
  - Community laborist still has competing duties
  - Competitive market discourages relinquishing care to community laborist
  - Infrequent in-house call (>1 shift/month)

- Other possibilities
  - Laborists only cared for 10% of patients
  - Time periods too short
  - No indication of secular trends

**Laborists + Midwives**

- Marin General Hospital
  - Equal mix of publicly and privately insured
  - Publicly insured cared for by CNM and laborist
  - Privately insured delivered under “private practice model”
  - Higher CD among privately insured

*Nijagal, AJOG, 2014*

**The New Model**

- Privately insured and publicly insured managed within same system
- Midwifery care offered to privately insured patients
- Private practice OBs participate in laborist call pool caring for all patients

*Rosenstein, Obstet Gynecol, 2014*
NTSV CD Rate Among Privately Insured Women Before and After Expansion

Before Expansion: Annual change in rate: 0.6%
After Expansion: Annual change in rate: -1.7%

Change due to expansion: 7% decrease (p=0.0009)

NTSV CD Rate Among Privately Insured Women Before and After Expansion

Before Expansion: Annual change in rate: 0.6%
After Expansion: Annual change in rate: -1.7%

p=0.01

NTSV CD Rate Among Publicly Insured Women

Before Expansion: Annual change in rate: 1.1%
After Expansion: Annual change in rate: -1.4%

p=0.1
VBAC Rate Among Privately Insured Women Before and After Expansion

- Before Expansion (Observed Quarterly Rate)
- After Expansion (Observed Quarterly Rate)
- Before Expansion (Regression Line)
- After Expansion (Regression Line)

Before Expansion: Annual change in rate: -0.4%
After Expansion: Annual change in rate: 8%

VBAC Rate Among Publicly Insured Women Before and After Expansion

- Public - Before Expansion (Observed Quarterly Rate)
- Public - After Expansion (Observed Quarterly Rate)
- Public - Before Expansion (Regression Line)
- Public - After Expansion (Regression Line)

Before Expansion: Annual change in rate: -2.1%
After Expansion: Annual change in rate: -3.8%
Neonatal Outcomes Among Privately Insured Before and After Expansion

Before Expansion (Observed Quarterly Rate)  After Expansion (Observed Quarterly Rate)
Before Expansion (Regression Line)  After Expansion (Regression Line)

Before Expansion: Annual change in rate: 0.06%
After Expansion: Annual change in rate: 0.34%

p=0.15

Outcomes

• No difference in primary cesarean delivery rates (14.8% vs. 13.9%)
• Increased VBAC rate (8.2% vs. 6.47%, p=0.03)
• Increased maternal composite morbidity — 14.4% vs. 12.1%, p=0.006 (difference persisted after adjusting for patient level characteristics, disappeared after adding hospital level factors)
• No difference in severe maternal morbidity — 1.43% vs. 1.41%

Laborists in California

• 182 Community Hospitals in CA
  – 43 (24%) have laborists
• Laborist defined as: “≥1 physicians physically present in the hospital in specified shifts whose primary focus is to care for some or all patients in labor and delivery”

Variation at a single hospital

Variation in primary cesarean delivery rates by individual physician within a single-hospital laborist model.
Obstetrician Volume and CD rates

**Laborists and Willingness to perform CD**

- 1486 OB/GYNs, MFM, FPs in AMA
- Responses to clinical vignettes classified as low, medium, or high threshold for CD
- Laborists more likely to recommend CD
  - OR 1.93 (1.28 – 2.90)

Cheng, JMFNM. 2014

Patient satisfaction

- Post-laborist implementation survey at urban teaching hospital (n=4166, 54% response rate)
  - 90% highly satisfied
  - No statistically significant difference in satisfaction ratings before and after laborist implementation
    91% vs. 93% favorable (p=0.08)

Srinivas, Patient Preference and Adherence 2013:7 217–222

Financial Sustainability

- Depends on volume
  - (more difficult with <1000 deliveries/year)
- Cost savings can be seen with
  - Decreased malpractice premiums/payments
  - Standardized procedures (pharmacy savings)
  - Increased volume with advertising of services
Comprehensive Patient Safety Program

- Outside Expert Review
- Protocols and Guidelines
- Obstetric Safety Nurse
- Anonymous Event Reporting
- Obstetric Hospitalists
- Obstetric Patient Safety Committee
- Safety Attitude Questionnaire
- Team Training
- Electronic FHR Certification

Decrease in Liability Cases

- Decrease in Liability Cases
  - Median annual cases 1998-2002
  - Median annual cases 2003-2007
  - p<0.02

Levels of Maternity Care

<table>
<thead>
<tr>
<th>Required Services</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor minor birth</td>
<td>Obstetric physician</td>
<td>Dynamic provider with privileges to perform emergency cesarean delivery</td>
<td>Ob/gyn or MMAs</td>
<td>Ob/gyn or MMAs</td>
</tr>
<tr>
<td>Obstetric surgeons</td>
<td>Available for emergency cesarean delivery</td>
<td>Available for consultation, by phone, or by telemedicine, as needed</td>
<td>Available at all times, by phone, or by telemedicine, as needed</td>
<td>Available at all times, by phone, or by telemedicine, as needed</td>
</tr>
<tr>
<td>MMAs</td>
<td>Available for consultation, by phone, or by telemedicine, as needed</td>
<td>Available at all times, by phone, or by telemedicine, as needed</td>
<td>Available at all times, by phone, or by telemedicine, as needed</td>
<td>Available at all times, by phone, or by telemedicine, as needed</td>
</tr>
<tr>
<td>Director of Perinatal Services</td>
<td>Board-certified obstetrician/gynecologist with specialized training in obstetrics, available for consultation, by phone, or by telemedicine</td>
<td>Board-certified obstetrician/gynecologist with specialized training in obstetrics, available for consultation, by phone, or by telemedicine</td>
<td>Board-certified obstetrician/gynecologist with specialized training in obstetrics, available for consultation, by phone, or by telemedicine</td>
<td>Board-certified MMAs or MMAs with expertise in obstetric care obstetrics</td>
</tr>
<tr>
<td>Anesthesia</td>
<td>Anesthesia services available</td>
<td>Anesthesia services available at all times</td>
<td>Anesthesia services available at all times</td>
<td>Anesthesia services available at all times</td>
</tr>
</tbody>
</table>

Level 1 (Basic Care)

Any patient appropriate for a birth center, plus capable of managing higher-risk conditions such as

- term twin gestation
- trial of labor after cesarean delivery
- uncomplicated cesarean delivery
- preeclampsia without severe features at term

References


2. Conclusions

- Laborists/Hospitalists are becoming more common, here to stay
- May be a good strategy to decrease physician dissatisfaction, improve patient safety, decrease CD rates
- Many models are available, each hospital should decide which is best

References