erage as compared to those without an obstetrician in house at all times.

STUDY DESIGN: A decision-analytic model was built using TreeAge that compared the cost of maternal and neonatal outcomes after emergent delivery in hospitals that had laborists versus those that did not. We assumed that acute placental abruption and umbilical cord prolapse constituted emergent deliveries, and our model was not applied to hospitals who offer trial of labor after cesarean section. We also assumed a baseline hospital population of 1,000 deliveries per year. Outcomes included: intrapartum fetal demise, asphyxia, neonatal death, and long-term neurodevelopmental disability (NDD). All probabilities were derived from the literature. Utilities were applied to discounted life expectancy at a discount rate of 3% to generate quality-adjusted life years (QALYs). The cost-effectiveness threshold was set at $100,000 per QALY. Sensitivity analyses were performed in order to assess the robustness of our assumptions.

RESULTS: Our model found that the addition of laborists resulted in improved fetal outcomes. In a population of 100,000 women, 24hr obstetric coverage results in a reduction of 47.1 neonatal deaths per year, 38.4 stillbirths per year and 24.9 fewer cases of NDD. Additionally, at our baseline hospital, there was a gain of 0.0221 QALYs per patient when a laborist was available. Our sensitivity analysis found a laborist remains cost effective at hospitals with as few as 450 deliveries/yr.

CONCLUSION: Employment of laborists is a cost-effective strategy for most medium to large size hospitals, and can produce better fetal outcomes in hospitals where obstetricians cannot respond to obstetric emergencies within 30 minutes.

Hospital of 1,000 deliveries/year in a Population of 100,000 women		
Outcomes	**No Hospitalist**	**Hospitalist**
Intrapartum Fetal Demise	46	8
Neonatal Death	115	100
NDD	148	123
QALYs	5,712,960	5,715,170
Cost	$1,043,236,000	$1,143,929,000

82 Increase in cesarean operative times following institution of the 80-hour work week

Michael Smrtka[1], Ravindu Gunatilake[2], Benjamin Harris[3], Miao Yu[4], Lan Lan[4], Chad Grotegut[1], Haywood Brown[1]

[1]Duke University, Obstetrics and Gynecology, Durham, NC, [2]University of Oklahoma Health Sciences Center, Obstetrics and Gynecology, Oklahoma City, OK, [3]University of North Carolina, School of Medicine, Chapel Hill, NC, [4]Duke University, Biostatistics, Durham, NC

OBJECTIVE: In 2003, the Accreditation Council for Graduate Medical Education (ACGME) limited resident duty hours to 80 hours per week. The aim of this study was to assess the effect of duty hour restrictions on resident performance of an uncomplicated cesarean delivery, using operative times as a proxy for proficiency.

STUDY DESIGN: All unlabored primary cesarean deliveries performed at our hospital after 34 weeks gestation between 2003 and 2011 were reviewed retrospectively. Women with multiple gestations, prior pelvic surgery, or undergoing additional procedures at delivery were excluded. Descriptive statistics and linear regression were used to compare total operative time (primary outcome) and incision-to-delivery time (secondary outcome) as a function of years since institution of the "80-hour work week". Resident training level (junior / senior), subject body mass index, estimated blood loss, and skin closure method were included in the regression model. Comparisons were also made between junior (PGY 1-2) and senior (PGY 3-4) residents.

RESULTS: We identified 444 unlabored primary cesarean deliveries that met study criteria. Over the study period, no significant changes in training level allocation of cesarean cases were observed. Mean (SEM) total operative time in 2003-04 was 43.3 (2.2) minutes and in 2010-11 was 59.6 (1.8) minutes ($p < 0.0001$). Linear regression demonstrated rate increases in total operative time of 1.9 min/year ($p<0.0001$) and incision to delivery time of 0.2 min/year ($p<0.05$). The magnitude of increased total operative time was more pronounced among junior residents (2.0 min/year; $p<0.0001$) than senior residents (1.2 min/year; $p = 0.06$).

CONCLUSION: There has been a steady increase in the time required to perform a routine cesarean delivery, such that an additional 20 minutes will be needed to perform the same surgery a decade after introduction of the "80-hour work week". As additional residency duty hour limitations are considered, careful attention to adequate surgical exposure must also be weighed.

83 Efficacy and safety of misoprostol vaginal insert compared with dinoprostone vaginal insert for labor induction

Deborah Wing[1], Raymond Brown[2], Lauren Plante[3], Hugh Miller[4], Olof Rugarn[5], Barbara Powers[6]

[1]University of California, Irvine, Obstetrics and Gynecology, Orange, CA, [2]Temple University School of Medicine, Obstetrics and Gynecology, Philadelphia, PA, [3]Drexel University College of Medicine, Obstetrics and Gynecology, Philadelphia, PA, [4]Watching Over Mothers & Babies, Obstetrix Medical Group, Tucson, AZ, [5]Ferring Pharmaceuticals Inc, Women's Health, Copenhagen, Denmark, [6]Ferring Pharmaceuticals Inc, Women's Health, Parsippany, NJ

OBJECTIVE: To compare the efficacy and safety of a controlled-release 200 mcg misoprostol vaginal insert (MVI 200) to a 10 mg dinoprostone vaginal insert (DVI) for use in labor induction.

STUDY DESIGN: This was a phase 3, double-blind, multicenter study conducted in pregnant women, aged 18 years or older and ≥ 36 weeks gestation, requiring cervical ripening prior to induction of labor (baseline modified Bishop score ≤ 4). Women were randomized to receive either MVI 200 or DVI. Vaginal inserts were removed at the onset of active labor, when adverse events required discontinuation of therapy, or at 24 hours post insertion. The primary efficacy outcome was the time from administration of the vaginal insert to vaginal delivery. The co-primary safety outcome was the rate of cesarean delivery.

RESULTS: 1360 women were randomized and data from 1358 women were included in the intent-to-treat analysis (MVI 200, n = 678; DVI, n = 680). No statistically significant differences were observed between treatment groups for baseline demographic or obstetric characteristics. Median time to vaginal delivery was significantly shorter for women treated with MVI 200 compared to DVI (21.5 hours [95% CI 20.0 - 23.4] vs 32.8 hours [95% CI 30.2 - 34.9], $P < .001$). Most women delivered vaginally (MVI 200 73.6% [499/678]; DVI 72.2 % [491/680]). The cesarean rates were similar between the MVI 200 (26.0% [176/678]) and DVI (27.1% [184/680]) treatment groups ($p = 0.65$; RR 0.96 [95% CI: 0.80 - 1.15]).

CONCLUSION: MVI 200 reduced the time to vaginal delivery compared to treatment with DVI with similar rates of cesarean delivery.

84 Comprehensive maternal hemorrhage protocols reduce utilization of blood products and improve patient safety

Larry Shields[1], Benda Chagolla[1], Janet Fulton[1], Barbara Pelletreau[1]

[1]Dignity Health, Patient Safety and Quality, San Francisco, CA

OBJECTIVE: To improve patient safety and address a source of major morbidity, we initiated a comprehensive maternal hemorrhage (CHP) protocol within a large health care system with 31 different delivery units with >60,000 system-wide annual births. The objective of this study was to determine if the CHP reduced the severity of obstetrical hemorrhage.