Why Maternity Care Matters
The National Center for Health Statistics (NCHS) reported that in 2014, American women gave birth to about four million babies. Of the four million births, about 2.7 million (68%) were delivered vaginally, and the balance (32%) via cesarean section.  

In 2014, the NCHS also reported that almost 650,000 babies were born such that they required significant medical care within the first several months of their existence due to low birth weight or prematurity.  

One growing concern is the number of births delivered via cesarean section, resulting in longer hospital stays and the use of specialty medical services – all for a surgery that might not always have been necessary. As the American Congress of Obstetricians and Gynecologists (ACOG) asserts: “Potential risks of cesarean delivery on maternal request include a longer maternal hospital stay, an increased risk of respiratory problems for the infant, and greater complications in subsequent pregnancies, including uterine rupture, placental implantation problems, and the need for hysterectomy."  

The Leapfrog Group, long motivated to explore the quality of maternal care delivered at American hospitals, now includes in its annual Leapfrog Hospital Survey three outcome measures -- rate of early elective deliveries, rate of episiotomies, and rate of nulliparous term singleton vertex (NTSV) cesarean deliveries; and two process measures – percentage of newborns screened for hyperbilirubinemia and percentage of women undergoing cesarean section receiving appropriate prophylaxis to prevent deep vein thrombosis (DVT).

Early Elective Deliveries
Elective labor induction rates and elective cesarean delivery rates increased dramatically in the years from 1990 to 2009. In the US, labor induction rates more than doubled, from 9.5% in 1990 to 32.9% in 2009.  

Although this rate declined to 23.2% in 2014, the rise in rates for elective inductions has outpaced the medically indicated induction rates. The increase in rates is likely due to a number of factors, including incorrect patient belief that it is safe to deliver as early as 36 weeks, physician or patient preferences for scheduling of deliveries, a high intervention culture in hospitals, and fee-for-service payment models.

Earlier use of induction has resulted in more infants being delivered at early term gestation (37-38 weeks), increasing from 19% in 1992 to 29% in 2003). At the same time, there has been a significant reduction in mean birth weights which has received almost no attention. Lower birth weights place infants at greater risk for mortality and are linked to chronic conditions in adulthood.  

A review of the literature shows that these elective deliveries can have serious negative consequences for the mother and baby. Women who are induced in the 37th to 38th weeks have a significantly higher risk of having a cesarean section than mothers who have spontaneous labor. And, given low rates of vaginal births after cesarean section, these mothers are likely to have additional cesarean sections with increasing risks. Some studies have also found a significantly higher risk of other postpartum complications including any of the following: hematoma, wound dehiscence, anemia, endometriosis, urinary tract infection, and sepsis. Babies induced in early term (between 37 and 38 weeks) have a higher risk for neonatal mortality and morbidity, including significant respiratory problems, and placement in neonatal intensive care units (NICU). Placement in a NICU is relatively uncommon for babies delivered at full term (normal delivery). Both maternal and neonatal lengths of stay also increase with either elective induction or elective cesarean section.

Other outcomes of an early delivery include a significant increase in cost, documented in one study as a 17.4% increase over normal delivery costs. An estimate approaching $1 billion dollars could be saved annually in the US if the rate of early term delivery were reduced to 1.7%. Much of the estimated savings accrue from reducing the number of NICU days by one-half million days.

Leapfrog’s Response to Early Elective Deliveries
The Leapfrog Group has historically focused on highlighting the variation in quality of care across hospitals.

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The Leapfrog Hospital Survey asks hospitals to voluntarily report on key maternity care measures. For the early elective delivery measure, hospitals that participate in the survey are asked to report on the total number of live births between the 37th and 39th completed week of gestation, minus a number of medical exclusions, and the number of those births where either an elective induction or cesarean section has taken place without a medical indication. The Leapfrog Group calculates a hospital rate of early elective deliveries, which is benchmarked as either being above or below the national target rate of 5%. The measure used by The Leapfrog Group is endorsed by the National Quality Forum, and in 2010 it was also applied by The Joint Commission.

In 2009, The Leapfrog Group began to highlight hospitals’ overuse of elective deliveries. In 2010, The Leapfrog Group began collaborating with a number of other organizations, including national health plans, the March of Dimes, and Childbirth Connection to increase consumer and provider understanding of the importance of reducing early elective deliveries.

What Hospitals and Physicians Can Do
ACOG has indicated for some time, through a series of guidelines, that elective deliveries with no medical indication in the gestational period of 37 completed weeks to 39 completed weeks is not acceptable practice. Providers can educate patients and hospital staff about the risks of delivery before 39 weeks as well as the benefits of delivery after 39 weeks. Providers should also perform an ultrasound before the 20th week to confirm the gestational age, thereby avoiding too early elective deliveries. Hospitals can and should establish strong policies to prevent elective deliveries and thereby significantly reduce rates. For example, Intermountain Healthcare reduced its rate of non-medically indicated deliveries at all less than 39 weeks from over 30% in 2001 to 2% in 2005. Its rate of stillbirths was also cut in half during this period.

Episiotomies
Epidemiologic data has shown that episiotomy remains in high use, despite ACOG’s recommendation limiting its use. In 2000, an episiotomy was performed in approximately 33% of vaginal births. Indeed, the International Childbirth Education Association (ICEA) asserts that it “agrees with the World Health Organization...that episiotomy should not be a routine procedure because there is no evidence that routine episiotomy decreases perineal damage and associated concerns.”

Episiotomy has been clearly linked to worse perineal tears and in turn its attendant complications. These complications are noted to include perineal pain, blood loss, and potential for wound break down/abscess formation and necrotizing fasciitis. Predicated on these concerns, ACOG has called for "restricted use of episiotomy.” Restricted use of episiotomy has been firmly linked to lower rates of perineal injury.

The lowest achievable rate of episiotomy remains unclear. Nonetheless, 16.2% of women continued to undergo this procedure in 2010. The Leapfrog Group’s Maternity Care Expert Panel recommended a rate of 5.0% as a national standard for this measure.

NTSV Cesarean Deliveries
The rate of cesarean deliveries in the United States rose by 50 percent between 1998 and 2008. The increased rate of cesarean deliveries is attributed to an increase in first-birth cesareans done in the course of labor as well as a decline in vaginal births after a prior cesarean (VBAC). Babies born by scheduled cesarean delivery have significantly higher rates of respiratory complications, infections and prolonged length of stay in neonatal intensive care units compared to babies delivered vaginally. Health risks to women undergoing a cesarean delivery include increased rates of infection, hemorrhage and hospital readmission.

In addition to the considerable health risks associated with cesarean delivery, there are also associated increased health costs. As labor and delivery account for nearly a quarter of all hospitalizations, costs associated with pregnancy and its complications are a driving factor in the rising cost of health care. Cesarean delivery rates have risen to just over 32 percent in the United States, an increase of about 20 percent from the 1996 rate. Average total payments for maternal and newborn care with cesarean births are about 50% higher than average payments with vaginal births for commercial payers ($27,866 vs. $18,329).
NTSV refers to a first-time pregnancy (nulliparous) that has reached its 37th week or later (term) and consists of one fetus (singleton) in the head-down position (vertex). Unlike other cesarean section delivery measures, the NTSV cesarean section delivery rate is associated with concrete quality improvement activities that can be performed to address the differences in cesarean delivery rates among hospitals. These quality improvement activities include reducing admissions in early labor and eliminating elective labor induction before 41 weeks in the first births. ACOG recognizes the importance of the NTSV population as the optimal focus for measurement and quality improvement action.

The Leapfrog Group’s Maternity Care Expert Panel recommended a hospital’s rate of NTSV cesarean section delivery be measured against a national target of 23.9%.

Appropriate DVT Prophylaxis
Pulmonary embolism (PE) is a leading cause of death in women undergoing cesarean. To reduce the risk of PE, current ACOG recommendations call for the use of pneumatic compression devices (PCD) in all women undergoing cesarean delivery who are not already receiving medical venous thromboembolism (VTE) prophylaxis. PCD use has been shown to reduce the incidence of PE in the general population of patients undergoing major surgery by about 70%. In cesarean deliveries, PCD use has demonstrated a two-thirds reduction in post-cesarean deaths from thromboembolism.

Newborn Bilirubin Screening
If not detected and treated, Hyperbilirubinemia (high bilirubin level) in a newborn can cause irreversible brain damage resulting in permanent visual, muscular or other disabilities and even death. Unfortunately visual inspection of the baby for jaundice frequently fails to identify the presence of the condition, particularly if the infant is discharged after a very short inpatient stay. Simple serum or transcutaneous screenings conducted before discharge significantly improve the detection and treatment of hyperbilirubinemia.

Reporting
The Leapfrog Hospital Survey results are publicly reported on The Leapfrog Group’s website at http://leapfroggroup.org/compar-hospitals. For scoring purposes, a hospital’s rate of early elective deliveries, episiotomy rate, and NTSV C-section rate are scored and reported as independent rates. The two normal delivery-focused process measures are scored and reported as a single composite score.

Why Purchasers Need to Get Involved
Maternity care needs to be safe, guided by sound medical policies, and cost-effective. Purchasers should urge hospitals to adhere to peer-reviewed medical guidelines surrounding maternity care. Complications in maternity care should become the anomaly, not the norm. This approach not only saves the precious lives of mothers and their babies, but also health care dollars.

Purchasers might also consider looking at benefits design and payment reform issues to drive the desired changes. For example, the Washington State Medicaid Purchasing Administration is restricts inductions of labor at less than 39 weeks of gestation without medical indication.

References
12. ACOG - Practice Bulletin-"Episiotomy" No.71 2006