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ABSTRACT

Title of Thesis/Dissertation: The Transforming Maternity Care Project: Goals, Methods, and Outcomes of a National Maternity Care Policy Initiative, With Construction of a Theoretical Model to Explain the Process

Rachel Rima Jolivet, DrPH, 2011

Thesis directed by: Dr. Galen Barbour, MD
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Outcomes of the current U.S. maternity care system suggest misalignment of important system drivers with fundamental goals for care introducing barriers to evidence uptake in policy and practice.

The Transforming Maternity Care (TMC) Project used an open, discursive process of multi-stakeholder collaboration to develop system-based solutions to identify problems with the quality and value of maternity care in the United States. The TMC Project was grounded in change theory, systems theory, and organizational development. Qualitative examination of the Project process and outcomes using grounded theory methods enabled emergence of a constructivist grounded theoretical model that fosters understanding of the studied experience situated within a scholarly conceptual framework.

I was primary author of two keynote papers published in a supplement of *Women's Health Issues* devoted to the TMC Project. The "2020 Vision for a High Quality, High Value Maternity Care System" articulates fundamental values and principles that apply across the continuum of maternity care, and goals for care in each

phase of the childbearing cycle and each level of the system. It provided a focal point for development of specific action steps for broad-based maternity care system improvement. The "Blueprint for Action: Steps Toward a High Quality, High Value Maternity Care System" synthesizes sector-specific recommendations in eleven critical focus areas developed by five multi-disciplinary stakeholder workgroups to answer the question: "Who needs to do what, to, for, and with whom to improve maternity care quality within the next 5 years?" An original "Constructivist Theoretical Model for Bridging Vision and Action through Multi-Stakeholder Collaboration in a Maternity Care System Change Project" depicts empirical indications drawn from the TMC Project and the supporting theoretical literature.

The TMC Project process resulted in a unified vision for a high-quality, high-value U.S. maternity care system and common agreements about the best ways to move forward to achieve broad-based improvement across the maternity care system. The implementation phase of this project is ongoing. This model provides a template that others in the field of health care quality improvement and system change can replicate, and which qualitative researchers can verify by testing it against their own data.

Uniformed Services University of the Health Sciences

THE TRANSFORMING MATERNITY CARE PROJECT: GOALS, METHODS, AND OUTCOMES OF A NATIONAL MATERNITY CARE POLICY INITIATIVE, WITH CONSTRUCTION OF A THEORETICAL MODEL TO EXPLAIN THE PROCESS

A dissertation submitted to the Faculty of the Department of Preventive Medicine and Biometrics of the Uniformed Services University of the Health Sciences in partial fulfillment of the requirements for the degree of Doctorate of Public Health

by

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THE TRANSFORMING MATERNITY CARE (TMC) PROJECT: GOALS, METHODS, AND OUTCOMES OF A NATIONAL MATERNITY CARE POLICY INITIATIVE, WITH CONSTRUCTION OF A THEORETICAL MODEL TO EXPLAIN THE PROCESS: A DOCTORAL THESIS

INTRODUCTION

This is a practice-based thesis in the domain of health services, demonstrating the application of processes, skills, and theories used in public health. The thesis describes a multi-year project undertaken by the degree candidate (the Candidate), in collaboration with two senior staff colleagues at Childbirth Connection, Maureen P. Corry, Executive Director, and Carol Sakala, Director of Programs, to plan and carry out a national policy initiative, the Transforming Maternity Care (TMC) Project, aimed at bringing system-based solutions to identified problems with the quality and value of maternity care in the United States. As project director, the Candidate had high-level involvement and primary responsibility for the content management of each aspect of the project described in the following thesis. Specifically, the Candidate was a prime mover of the project, instrumental in the conception, as well as the planning, directing and coordinating of all activities leading up to the publication of the "2020 Vision for a High-Quality, High-Value Maternity Care System" and the "Blueprint for Action", and including the Transforming Maternity Care symposium, which took place on April 3, 2009, in Washington, DC. This role included majority facilitation of group authorship in the pre-symposium phase and serving as principal writer for the publications emanating from the TMC Project. This project was from its inception, by the design of its principals, including the Candidate, a collaborative, transparent, multi-stakeholder endeavor. This is reflected in the decision to list group authors of the resulting reports in alphabetical order, although I served as primary writer and editor of both published papers that appear in the

body of this thesis. The ongoing discursive interaction and the group development and ownership of the ideas, events, and recommendations that characterized the project are an integral element of its conceptual framework and a salient critical success factor of the project design. The success of the TMC Project, the symposium, and the acceptance of the published products were directly related to the ideas and efforts of the Candidate. The framework and theoretical basis of the process underlying the project are discussed in detail in the thesis, and an original, explanatory theoretical model is presented.

Background and Literature Review for the TMC Project

The year 2009 marked several important anniversaries in the history of maternity care. It was thirty years since Archie Cochrane awarded the field of obstetrics a "wooden spoon award" designating its dubious distinction as the field of health care that had made worst use of randomized controlled trials to inform practice (Forrester King, 2005). It was thirty-five years since Iain Chalmers started to systematically collect and collate perinatal trials, and twenty years since he first published them as the Oxford Database of Perinatal Trials (Chalmers, et al., 1986), the precursor to the Cochrane Database of Systematic Reviews. It was also twenty years since Chalmers with colleagues Enkin and Keirse released two seminal overviews of best evidence in maternity care: *Effective Care in Pregnancy and Childbirth* (Chalmers, Enkin, & Keirse, 1989), and *A Guide to Effective Care in Pregnancy and Childbirth* (Enkin, Keirse, & Chalmers, 1989). Finally, it was 90 years since Childbirth Connection began its mission, starting out as the Maternity Center Association, to improve the quality of maternity care for all mothers and babies, through research, education, policy and advocacy.

Despite these landmark achievements, which helped to usher in the evidence-based health care movement and to establish the large body of currently available high quality systematic reviews on the effectiveness of maternity care practices, there is widespread concern that evidence remains unreliably translated into routine maternity care practice in the United States today (Ashton, 2010; Baicker, Buckles, & Chandra, 2006; Clark, Belfort, Hankins, Meyers, & Houser, 2007; Declercq, Menacker, & Macdorman, 2006; Sakala & Corry, 2008). A review of practice guidelines issued by the American College of Obstetricians and Gynecologists, the de facto standard-setting organization for maternity care practice in the U.S., revealed that only 29% of recommendations were classified Level A, based on highest quality scientific evidence (Chauhan, Berghella, Sanderson, Magann, & Morrison, 2006). Moreover, many authors contend that the unreliable translation of evidence into practice results in care of poor overall quality and value, and suboptimal outcomes on a range of important measures of interest (National Priorities Partnership, 2009; Sakala & Corry, 2008; The Commonwealth Fund, 2004; Thomson Healthcare, 2007; Tracy & Tracy, 2003).

Opportunities to Improve the Functioning of the Maternity Care System

In 2008, in collaboration with the Milbank Memorial Fund and the Reforming States Group, Childbirth Connection released a landmark Milbank Report titled *Evidence-Based Maternity Care: What It Is and What It Can Achieve* (Sakala & Corry, 2008). This report first established an evidence framework based on the principle of "effective care with least harm", and then provided an overview of best evidence on maternity care practices that conform to this principle, along with an analysis of the

performance of the maternity care system and identification of barriers to reliably achieving maternity care that meets this standard. This analysis of the best available evidence compared with the current performance of the U.S. maternity care system revealed large systematic gaps. The authors identified gaps including overuse and inappropriate application of practices such that the risk of harm outweighs the potential benefit. At the same time, they detailed underuse of practices with proven effectiveness and minimal or no risk of harm, and often superior value. Finally, they described how the high cost of U.S. maternity care, contrasted with the suboptimal outcomes relative to expenditures compared with other developed nations, translates into poor value for childbearing women and families, for payers and purchasers of care, and for society at large.

Wide Practice Variation

Numerous reports signal wide variations in practice patterns within the U.S. maternity care system that are not explained by the health status or values and preferences of childbearing women and their babies. Such unexplained practice variation potentially entails harm and waste. As early as 1989, Rosenblatt described the "perinatal paradox: doing more and accomplishing less". He attributed this paradox to a clinical practice style that was not based on the public's health or the best interests of individual patients but on extrinsic factors, as well as to wholesale adoption of practices that had not been shown to improve outcomes when applied to populations. Since then, many others have corroborated the observation that in health care more is often not better; more intensive utilization of health care services and resources has been consistently associated

with higher cost of care, but paradoxically with overall poorer outcomes of care (Ashton, et al., 2003; Fisher, et al., 2003a, 2003b; Gawande, 2009). Furthermore, a report by Shuster, McGlynn and Brook (2005) asserts that the wide variation in patterns of care and the prevalence of inappropriate utilization of practices and procedures --overuse, underuse and misuse -- seen in maternity care is reflected in varying degrees across the U.S. healthcare system, where no national standards or performance measures are systematically applied.

Overuse of Maternity Care Interventions

In maternity care, cesarean delivery is one intervention reported to be associated with evidence of overuse and inappropriate application. Clark, Belfort, Hankins et al. (2007) compared rates of primary cesarean section across hospitals within the largest health care delivery system in the country and found a degree of variation that suggested "almost random decision making" (p. 526). Their analysis of almost a quarter of a million births across 124 sites revealed 200-300% variation in rates of primary cesarean, along with rates of operative vaginal delivery that varied by approximately one order of magnitude within individual regions. Similarly, Baicker, Buckles and Chandra (2006) found wide variation in the rates of cesarean birth by geographic area, which could not be explained by population health factors. They attributed the fourfold difference in rates of risk-adjusted cesarean section across the largest counties in the U.S. primarily to differences in physician practice style and other non-clinical factors such as health system capacity, fear of professional liability and physician density. Highest rates of the surgery were associated with healthier populations, suggesting inappropriate use, as well as with

higher cost, but not with improved rates of maternal and neonatal mortality. The National Priorities Partnership, a group of influential organizations and agencies convened by the National Quality Forum to establish national priorities for health care improvement, recently named addressing overuse one of six priority areas for quality improvement. They specifically identified overuse of maternity care interventions, among them cesarean section (National Priorities Partnership, 2009).

In addition to evidence of overuse of cesarean delivery, in their overview analysis Sakala and Corry (2008) found patterns of overuse of numerous maternity care practices that could not be supported by evidence of effectiveness with least risk of harm to mothers and babies. They described practices that are used broadly when only warranted in more limited clinical circumstances, such as labor induction and epidural analgesia, as well as continued use of practices that have not shown evidence of effectiveness when submitted to rigorous research, such as continuous electronic fetal monitoring and episiotomy. They interpret that these patterns of care carry unnecessary and unjustifiable risk of harm for women and their fetuses and newborns, and entail significant waste of finite resources, driving up the cost of maternity care.

In the case of labor induction, for example, reported rates derived from birth certificate data demonstrate an increase of 135% in this practice between 1990 and 2005, from 9.5% to 22.3% of all births (Martin, et al., 2007). However, a national survey of childbearing women suggests that labor induction is seriously underreported in birth certificate data: 41% of women surveyed in the *Listening to Mothers II* study reported that a health care professional had attempted to induce their labor (Declercq, Sakala, Corry, & Applebaum, 2006). Others conclude that the overuse of labor induction

significantly drives up the cost of maternity care (Kaufman, Bailit, & Grobman, 2002; The Commonwealth Fund, 2004), adding an estimated 11% to the cost of childbirth among low-risk women (Tracy & Tracy, 2003). Meanwhile, an emerging body of research creates concern regarding the increased likelihood of downstream interventions and adverse effects associated with the practice, especially when performed electively without clear medical indication. Most concerning among the many associated risks, elective induction of labor has been associated with increased odds of cesarean birth for first time mothers or those with an unripe cervix, use of forceps and vacuum extraction, postpartum hemorrhage and transfusion, increased length of hospital stay and late preterm birth (Grobman, 2007; Kaufman, et al., 2002). The latter is particularly concerning, because with the exception of the last three reporting years the rate of preterm birth in the U.S. has risen steadily since the 1980's, despite a stabilization in the rate of multiple births during that period (Hamilton, Martin, & Ventura, 2010a, 2010b). The largest observed increase has been in the proportion of "late" preterm births, those occurring between 34 and 36 weeks' gestation, which are attributed largely to the effects of obstetric practices such as elective induction and cesarean section (Bettegowda, et al., 2008; Main, Bloomfield, Hunt, First, & Delivery Clinical Initiative Committee, 2004). Furthermore, a recent systematic review concluded that there is insufficient evidence to support many commonly cited clinical indications for induction of labor, including fetal macrosomia, oligohydramnios, maternal diabetes or cardiac disease, and twin gestation (Mozurkewich, Chilimigras, Koepke, Keeton, & King, 2009).

Underuse of Beneficial, High Value Practices

In addition to a pattern of overuse of interventions for which the benefits do not outweigh the costs, particularly when applied to the large population of essentially well childbearing women, high-quality systematic reviews reveal missed opportunities within the U.S. maternity care system to improve both the quality and value of care on a large scale. Sakala and Corry (2008) found evidence of underuse of many practices with both demonstrated safety and effectiveness, and few or no known risks of harm associated with them. They highlighted exemplary forms of maternity care supported by high quality systematic reviews that could offer significant public health benefits if applied consistently to the population of childbearing women, with an emphasis on practices aimed at primary and secondary prevention. These included midwifery care (Brown & Grimes, 1995; Hatem, Sandall, Devane, Soltani, & Gates, 2008; Khan-Neelofur, Gülmezoglu, & Villar, 1998; Waldenstrom & Turnbull, 1998; Walsh & Downe, 2004); prenatal vitamins and smoking cessation; external cephalic version to turn breech fetuses; continuous labor support and non-pharmacologic measures to relieve labor pain; delayed and spontaneous pushing; non-supine positions for giving birth; delayed cord clamping; early skin to skin contact; breastfeeding; and psychosocial and psychological interventions for postpartum depression (Sakala & Corry, 2008).

Another practice that merits mention in the category of underused interventions is vaginal birth after cesarean (VBAC). Since 1996 the rate of VBAC has declined precipitously, and 90% of women with a previous cesarean currently deliver via repeat cesarean section (Roberts, Deutchman, King, Fryer, & Miyoshi, 2007). Hospitals and

many maternity care providers have become unwilling to allow women with a cesarean scar a trial of labor due to fear of uterine rupture. However, the most recent systematic review of available observational studies (Guise, et al., 2010) indicated a pooled VBAC success rate of 74% for women undergoing trial of labor, with a reduced risk of maternal death, and no difference in rates of hysterectomy and hemorrhage/blood transfusion. The pooled data suggested a less than 1% increased risk of uterine rupture. Similarly, Rossi and D'Addario (2008) found a 73% pooled success rate for VBAC following trial of labor, and reported that the less than 1% increased risk of uterine rupture or dehiscence observed in women attempting VBAC over those undergoing elective repeat cesarean was outweighed by reductions in hemorrhage, maternal morbidity and uterine rupture among women experiencing successful VBAC.

At the same time, although typically unaccounted for in the calculus of risks of VBAC versus repeat cesarean, the literature documents heightened risk of many short and longer term sequelae for both mothers and babies associated with cesarean section. These include, but are not limited to, for mothers: maternal death, emergency hysterectomy, surgical injury, stroke and blood clots, infection, reduced fertility, abnormal placentation, uterine rupture, hemorrhage, low birth weight and stillbirth in subsequent pregnancies; and for babies: respiratory problems, surgical injuries, lower rate of breastfeeding, increased risk of asthma and diabetes (Childbirth Connection, 2006). Furthermore, research suggests that with each additional cesarean surgery the risks of serious adverse effects grow higher (Silver, et al., 2006). With 36% of U.S. women having three or more births (Chandra, Martinez, Mosher, Abma, & Jones, 2005), the cumulative risks of not providing access to VBAC are of significant magnitude. The

conclusion drawn from a recent consensus conference convened by the National Institutes of Health was that "Given the available evidence, trial of labor is a reasonable option for many pregnant women with one prior low transverse uterine incision" (Cunningham, et al., 2010, p. 2).

In summary, there is growing concern over available data suggesting that the combination of wide variance in practice patterns unexplained by health status, along with systematic overuse of some procedures whose benefits do not outweigh harms when applied to large numbers of the childbearing population, and simultaneous underuse of other high value practices with proven benefits and no known risks, indicates a system in need of performance measurement and widespread quality improvement.

Issues with Quality and Performance Measurement in Maternity Care

Examined broadly, such data on the performance of the U.S. maternity care system demonstrate many opportunities to increase the reliability and quality of care, and to improve the value of services provided in ways that primarily stand to benefit childbearing women, babies, and families, as well as all those with a stake in maternity care, which is all of us. Unfortunately, however, the literature on quality and performance measurement in maternity care, which is critically needed to furnish the essential data for improvement, is considered inadequate and lags behind other fields of health care.

Lack of Data on Maternity Care Quality

Quality assessment and assurance in maternity care is a high priority. However, there is a lack of valid, widely collected data available on the outcomes of maternity care interventions and on the outcomes of the full episode of care. Several attributes of maternity care make quality measurement in this context particularly challenging. These factors include the rarity of severe obstetric adverse events; a lack of agreement on valid, reliable quality indicators; problems with the data sources and methods used to collect information on harm; differences in risk within the maternity care population and between mothers and their offspring; and the influence of medical liability.

Michel et al. (2004), in their comparison of the quality and accuracy of methods for identifying adverse events through medical chart review, actually excluded maternity care practice from their study. In so doing, they cited the paucity of data on the baseline incidence of obstetric adverse events, the low reliability of definitions of adverse events in maternity care, and the poor performance of conventional methods used to detect obstetric adverse events. Janakiraman and Ecker (2010) point out that attributes of maternity care create challenges to quality measurement in this area. Further discussion of issues that contribute to the difficulty of measuring the quality of maternity care is warranted.

First, unlike for other conditions, each care encounter for childbirth has the potential to impact the health of more than one patient: the mother and her offspring, whose safety and quality needs may not be aligned in every circumstance.

Second, because the U.S. childbearing population is generally young and healthy and childbirth is in the vast majority of cases a physiologic rather than a pathological

event, traditionally measured indicators of adverse outcomes, such as mortality ratios, reflect very rare events in maternity care in the United States. The U.S. maternal mortality ratio was 12.7 maternal deaths per 100,000 births in 2007 (Xu, Kochenek, Murphy, & Tejada-Vera, 2010). Therefore, due to their low frequency, severe outcomes measures such as maternal mortality, although important, are of low utility to measure overall quality of care in obstetrics. Furthermore, such outcome measures are subject to variations in underlying risk within the population of childbearing women, complicating the development of universal measures of outcome in maternity care.

Third, while process measures are sometimes used as surrogate measures to evaluate the quality of care in obstetrics, they do not directly provide information about health outcomes. Finding process measures that are strongly associated with outcomes of interest in maternity care is challenging.

Developing and collecting maternity care quality measures that are valid, reliable, and generalizable, which provide meaningful information about both maternal and newborn outcomes, and which address outcomes that are sensitive to changes in provider or health system processes of care is a problem. This difficulty is reflected in the limited number of existing nationally recognized maternity care measures, and the controversy surrounding those that have been put forward by various researchers, government and private entities (Bailit, 2007; Mann, et al., 2006).

In addition to problems identifying reliable, valid measures for maternity care outcomes, problems exist with the quality of data obtained from some of the most common sources used to collect such information, birth certificate data and administrative reimbursement data, known as ICD-9 codes. Neither of these sources was

designed to capture data specific to the evaluation of quality of patient care, and as such both sources are limited or flawed when used for this purpose. In a review of the literature evaluating the accuracy of birth certificate data, demographic data were generally shown to be reliable, but clinical data demonstrated poor reliability and sensitivity (Bailit, 2007). Likewise, the reliability of hospital discharge codes has been studied, and considerable variability was found in sensitivity and positive predictive value when discharge codes were compared with information in the medical chart (Romano, Yasmeen, Schembri, Keyzer, & Gilbert, 2005; Yasmeen, Romano, Schembri, Keyzer, & Gilbert, 2006). However, these sources continue to be used by researchers attempting to evaluate maternity care due to their wide scope and accessibility.

Another factor that influences the availability of quality data about obstetric adverse events is medical liability. Present across the spectrum of healthcare, but particularly salient in the domain of maternity care, is the impact of the fear of litigation on the quality of patient care and the quality of data describing adverse effects of healthcare delivery. Fear of liability impacts the reporting of data on adverse events and impairs ability to track and learn from these occurrences and near misses.

Throughout healthcare, information about adverse events in clinical care is significantly underreported in risk management incident reports (Layde, et al., 2002; Olsen, et al., 2007). The extent of under-reporting is difficult to ascertain. Although there is no gold standard for identification of the "true rate" of adverse events, incident reports detected between 1.2-1.8% of adverse events identified using trigger tools in two studies (Classen, Pestotnik, Evans, & Burke, 1991; Rozich, Haraden, & Resar, 2003), and 6% of those identified through unfocused chart review in another study, none of which was

maternity care-specific (Cullen, et al., 1995). Other authors report on the under-representation of adverse events in incident reports (Cullen, et al., 1995; Layde, et al., 2002; Sharek & Classen, 2006; Sharek, et al., 2006), and medical records in general (Andrews, et al., 1997).

Two recent studies criticize the most commonly tracked quality indicators in maternity care: maternal and neonatal mortality, cesarean birth or the rate of primary cesarean births, vaginal birth after cesarean section (VBAC), and maternal obstetric trauma. Bailit (2007) argues that maternal and neonatal mortality are rare events that should be tracked due to their severity, but have limited utility as quality indicators. She furthermore suggests that cesarean section rates unadjusted for differences in patient characteristics may not provide a valid measure of obstetric care quality, and argues that the controversies surrounding the safety and availability of VBAC make it a poor marker for obstetric care quality. Obstetric trauma has been shown to be associated with intrinsic patient characteristics (Bailit, 2007; Mann, et al., 2006).

Grobman, Feinglass and Murthy (2006) question the validity of maternity care patient safety indicators based on maternal obstetric trauma released in 2005 by the Agency for Healthcare Research and Quality (AHRQ). Their study demonstrated that maternal obstetric trauma was significantly associated with numerous patient-specific characteristics as well as hospital coding standards, neither of which reflects the safety of care received by women experiencing obstetric trauma. The findings led the authors to question the validity of these indicators to evaluate safe patient care, and they have subsequently been withdrawn by AHRQ.

Lack of a Comprehensive Set of Performance Measures for Maternity Care

Despite the size of the childbearing population and the impact of maternity care on both health outcomes and health care costs, until recently maternity care was largely absent from the national discussion about performance measurement and reporting to spur quality improvement. One reason for this oversight may be that the preponderance of progress in this field has been led by the Centers for Medicare and Medicaid Services (CMS) for example, through its programs such as the Physicians Quality Reporting System, and the Medicare Hospital Compare program that use Medicare data, a program in which childbearing women are largely not represented. This is a phenomenon that some analysts who have focused on maternity care have termed the "Medicare bias" (Jolivet, Corry, & Sakala, 2010b).

According to its website, the National Quality Forum (NQF), founded in 2001, "promotes change through development and implementation of a national strategy for health care quality measurement and reporting" (n.d., retrieved from: http://www.google.com/search?q=NQF&rls=com.microsoft:en-us&ie=UTF-8&oe=UTF-8&startIndex=&startPage=1&rlz=1I7GGLL_en) but until 2008, had few measures that were maternity-specific. NQF identifies priorities and calls for measures development, and then evaluates proposed measures for their potential to improve care, sound scientific basis, straightforwardness for use and ease of collection. In October, 2008, following a multi-stakeholder consensus process and public comment period, NQF endorsed a starter set of 17 national voluntary consensus perinatal performance measures. The endorsed measures represent an important step forward, but focus narrowly on care provided between the third trimester and postpartum discharge from the site of delivery (National

Quality Forum, 2008). Measurement experts support this important step, recognizing that further work is needed to achieve a comprehensive set of measures to track other important aspects of care quality around the time of birth, as well as care during the prenatal and postpartum periods, patient experiences and racial, ethnic and socioeconomic disparities (Main, 2009). The lack of a comprehensive national set of consensus performance measures for maternity care may contribute to the wide variation in care that characterizes U.S. maternity practice (Janakiraman & Ecker, 2010; Mann, et al., 2006).

Significance

With over 4.3 million births per year, maternity care is the leading reason for hospitalization in this country (DeFrances, Cullen, & Kozak, 2007), and the fourth most common reason for seeking outpatient care (Sakala & Corry, 2008). Twenty-five percent of U.S. hospital discharge codes in 2007 were for childbearing women and newborns (Levit, Wier, Stranges, Ryan, & Elixhauser, 2009). The combined costs of maternal-newborn care during hospitalization for childbirth in the U.S. totaled $86 billion dollars in 2006, far outstripping total costs for any other hospital condition and representing 9.1% of the national hospital bill (Andrews, 2008). Despite the high rate of expenditure on maternity care and the heavy toll that it exacts on the U.S. health care budget, maternity care outcomes in this country compare poorly with those of other developed nations with far lower rates of expenditure. The U.S. ranking in maternal mortality, a crude measure of overall quality, recently dropped from 37th to 41st among developed nations in the World Health Organization global ranking (Hill, et al., 2007; Say & Inoue,

2007). U.S. infant mortality, similarly, compares poorly to the rates in other developed nations (MacDorman & Mathews, 2009). A recent systematic review of the worldwide incidence of preterm birth from the World Health Organization revealed that rates of preterm birth in the U.S. are among the highest in the world (Beck, et al., 2010), and have generally been increasing over the last two decades. In 2006, the preterm birth rate was 12.8%, a 36% increase since 1986, with the largest rate increases observed in the late preterm period. Recent studies suggest that this increase is associated at least in part with changing obstetric care practices favoring labor induction and cesarean section, and can be reduced through hospital quality improvement programs aimed at elective induction without medical indication before 39 weeks' gestation (Ashton, 2010; Bettegowda, et al., 2008). Preterm birth rates declined modestly in 2007 (12.7%), 2008 (12.3%), and 2009 (12.2%) (Hamilton, et al., 2010a, 2010b). Low birth weight has risen from 6.7% in 1984 to 8.2% in 2007; both preterm birth and low birth weight disproportionately affect non-Hispanic black infants compared to white and non-white Hispanic infants (Hamilton, Martin, & Ventura, 2009).

Specific Problem: Drivers for Change and Barriers to Improvement Go Beyond Lack of Evidence

Looking both at studies that document the appropriateness of maternity care currently being delivered (Baicker, et al., 2006; Chauhan, et al., 2006; Clark, et al., 2007), and more widely at the overall perinatal outcomes in the United States detailed above, the results point to many opportunities to improve the practice of maternity care and more

closely align it with best evidence to achieve the goal of effective care with least harm for all childbearing women and their fetuses and newborns in the United States.

"Every system is perfectly designed to get the results it gets," healthcare quality expert Paul Batalden famously remarked (Carr, 2008, p. para. 1). The results of the current U.S. maternity care system suggest that important system components and features are misaligned with fundamental goals for maternity care. Countervailing system pressures and priorities, including negative and perverse incentives built into the system, represent barriers to evidence uptake in policy and practice. The TMC project aimed to identify the most salient barriers and the critical drivers of change in the maternity care system, and to develop stakeholder engagement and concrete solutions to address them.

Barriers Outlined in the Milbank Report on Evidence-Based Maternity Care

In their Milbank report, "Evidence-based Maternity Care: What It Is and What It Can Achieve," Sakala and Corry (2008) describe systemic barriers to closing the gaps between best evidence and observed practice patterns that characterize the U.S. maternity care system. The report outlines twelve challenges to closing evidence-practice gaps in maternity care in the United States, supported by literature.

Among these challenges, Main (2009) describes a performance measurement system in maternity care that lags behind other fields and the need for a comprehensive national set of standardized perinatal performance measures and a functional public reporting system. Sakala (2008) points out that these, if available, would help caregivers and care settings to evaluate and improve the care they provide, and also help consumers

and purchasers of care make informed decisions about the care they choose, driving system quality and performance through market demand for better quality care and payer incentives for improvement.

Another identified barrier to appropriate care detailed in the Milbank report is the misalignment of financial incentives with quality in maternity care. These include both negative and perverse financial incentives. Negative financial incentives include, for example, the opportunity cost of clinician time reimbursed at a lower rate for patiently assisting a woman to have a spontaneous vaginal birth than for performing a scheduled cesarean delivery and using the recaptured hours to perform other reimbursable services. As evidence of a negative financial incentive, Tracy & Tracy (2003) report higher rates of obstetric interventions in privately insured patients. Perverse financial incentives include, for example, the revenue generated by hospitals in the form of higher insurance reimbursement for cesarean delivery than for vaginal birth (Thomson Healthcare, 2007). Lantos (2010) reported that neonatal intensive care unit (NICU) services bring in revenue representing a significant proportion of many hospital net profits, which may introduce financial incentives independent and sometimes counter to the health needs of patients.

The Milbank report details further challenges to closing gaps between evidence and practice. The influence of risk of litigation and the related practice of defensive medicine are documented by numerous authors (Clark, Belfort, Dildy, & Meyers, 2008; Hankins, MacLennan, Speer, Strunk, & Nelson, 2006; Pearlman, 2006; Pearlman & Gluck, 2005; Studdert, et al., 2005). Declercq et al. (2006) and Reime et al. (2004) describe a prevalent style of care that is interventionist, and procedure-intensive although applied broadly to a primarily healthy population at low risk for complications. Chauhan

et al. (2006) report the disproportionate reliance on expert opinion to formulate standard-setting clinical guidelines. Lalonde (2009) and Kotaska (2009) describe the loss and underuse of core clinical knowledge and skills to support, promote, and protect the physiologic progression of spontaneous vaginal birth, for example, skills to assist vaginal breech delivery. Chalmers and Matthews (2006) point out an "optimism bias" that leads to the emphasis of benefits of treatments with inadequate attention to studying harms in clinical research studies. Fraser and Dunstan (2010) depict the information overload that hampers caregivers' ability to stay abreast of current best evidence. Wall and Brown (2007) reviewed evidence of conflicts of interest related to pressure from industry and the commercial promotion of devices, drugs, products and services. Numerous authors report poor processes for ensuring adequate consumer understanding of harms, benefits and alternatives and obtaining informed consent (Akkad, et al., 2004; Dixon-Woods, et al., 2006; O'Cathain, Thomas, Walters, Nicholl, & Kirkham, 2002). Other authors report on the impact of a pervasive culture of doubt and fear of childbirth among childbearing women and caregivers, reinforced through popular media depictions of the processes, experiences and outcomes of birth (E. R. Declercq, et al., 2006; Sakala, 2007; Sakala & Corry, 2008).

Building on the foundation of this landmark evidence report and analysis, the Candidate was engaged to develop and direct a national policy initiative designed specifically to identify and address the highest priority barriers to closing salient gaps between the best available evidence and the current practice of maternity care in the United States. This objective was to be achieved through the engagement of relevant stakeholders to obtain their expertise and buy-in, and the development of feasible,

concrete solutions to critical system issues developed through multi-stakeholder representation to ensure widespread relevance and acceptability.

Key Informant Interviews

In April, 2007, initial formative research to launch the TMC project was undertaken. Through a process of discussion, the Candidate and colleagues Corry and Sakala formulated a plan to conduct "key informant" interviews with experts in the fields of health care quality improvement and system change to serve as a needs assessment and validation of critical drivers for change identified by the Candidate and colleagues. A model for the key informant interview was the process used by the National Breast Cancer Coalition Fund in preparation for their 2007 workshop titled "Measuring What Matters", in which Maureen Corry was a participant (Corry, 2009, personal communication). The decision was made to build on the findings of the Milbank Report on "Evidence-Based Maternity Care," particularly the barriers to system change identified in the authors' analysis, as well as foundational work of the Institute of Medicine (IOM) in its report on health care system improvement in the seminal report, *Crossing the Quality Chasm*, specifically the report's six aims for healthcare quality (Institute of Medicine, 2001).

The Candidate developed a brief proposal to share with key informants describing the planned TMC Project and symposium with input from senior staff colleagues, adapting the IOM Six Aims to maternity care, and proposing preliminary goals and objectives (Appendix A). The Candidate also developed an interview guide (Appendix B) to query leading experts in health care quality including the following topics:

- Need for project aimed at system-wide maternity care system improvement
- Priorities for improvement and major obstacles
- Correct format, framework, timing
- Correct stakeholders
- Correct strategic topic areas for change
- Markers of success

Forty-two interviews were conducted from June-October, 2007, by the Candidate and colleagues Corry and Sakala, as well as a member of the Childbirth Connection Board of Directors, and lasted about one hour each. A list of Key Informants is included in the TMC Symposium Leadership List (Appendix C).

The Candidate tabulated the response rate for dichotomous questions and extracted recurring qualitative themes from the narrative responses. The findings from the key informant interviews were subsequently used by the Steering Committee to inform its planning. A summary was published along with the other outcomes and proceedings of the TMC Project (Jolivet, Corry, & Sakala, 2010a).

Among those interviewed, there was broad consensus (97%) on the need to call attention to maternity care quality and system issues. The most frequently cited specific concerns with maternity care quality were lack of awareness about its deficiencies among consumers, healthcare providers, leaders of healthcare organizations, and policy makers (22%); a lack of national standardized quality measures that contributes to significant practice variation (27%); and the need to frame maternity care reform within the larger healthcare reform effort, taking a systems approach to maternity care quality improvement (22%).

Informants were queried for their opinions about the key priorities for maternity care quality improvement as well as the major challenges to be faced. Significant overlap emerged between these two areas. Key priorities for improvement included, in the following order of frequency: development of national standardized quality measures to address practice variation (41%); reduction in the overuse of cesarean and/or induction of labor (32%); payment reform (30%); reduction of perinatal harm (27%); elimination of health disparities in quality and access to care (27%); improvement of interdisciplinary teamwork within and beyond maternity care (19%); and professional liability reform (11%).

Major challenges to improvement included, again in order of frequency: lack of public awareness and consumer demand for change (30%); lack of evidence-based quality measures (27%); problems with the payment system for maternity care services (27%); resistance to change from various providers of care (24%); lack of teamwork among disciplines and coordination across the healthcare system (19%); and disparities in quality and access to care (14%).

All key informants supported the idea of a national policy symposium to focus attention on maternity care quality issues, creating and communicating the political will for change and proposing concrete steps to achieve improvement. It was felt that the timing was optimal (although six percent of informants expressed regret that the symposium could not be held sooner in light of the election cycle and Congressional schedule). Also, it was felt that a symposium was the right format to meet these objectives, as long as broad participation, concrete deliverables, and concrete action plans emanating from the event could be assured.

Asked to prioritize among the following six key drivers for improvement: performance measurement, payment reform, professional liability reform, health information technology, healthcare workforce issues and health professions education, there was agreement in the opinions of a wide majority of key informants (97%) that performance measurement and payment reform currently represent the priority areas of focus for reforms to improve maternity care quality. While many informants (86%) mentioned the importance of professional liability reform, they also expressed reservations about the availability of effective strategies at this time. Some (22%) viewed health information technology as a high priority, but it was viewed by many as a means to enhance quality improvement efforts but not an end in itself (24%). Several informants (19%) discussed workforce distribution as an important factor but it did not rank as highly as other factors among the priorities of most informants; still, 30% mentioned the need to increase the involvement of primary care providers/non-physician providers.

When asked to comment on a proposal to use the IOM framework for optimal health system performance embodied in its widely recognized "six aims for improvement" (Institute of Medicine, 2001) to address the project objectives, by and large key informants felt this framework provided common ground for discussion, being familiar and respected, but several (16%) cautioned that it could be limiting in certain ways.

Key informants were questioned about the most effective methods to engage and impact key stakeholder groups through the symposium process. The following qualitative themes emerged. They commented that consumers are a difficult group to impact through

the means of a policy symposium, and suggested that Childbirth Connection might plan follow-on efforts to translate the results of the policy initiative for them after its completion; however, several also remarked on the vital importance of consumer involvement, adding that policymakers and journalists respond best to consumers' concerns and demands. To optimally engage private and public purchasers, some recommended a focus on the business case for quality improvement, emphasizing cost containment and value-based purchasing. Similarly, to engage leaders of health plans and hospital systems the advice was to create opportunities for purposeful interaction with purchasers to design complementary reforms for both sectors, where there are similar concerns and needs for guidelines and measures to guide reimbursement decisions. There was agreement that it would be important in engaging health professionals to foster cooperation between obstetricians and other types of maternity care providers as well as proponents of other maternity care delivery models. Furthermore, many informants recommended broad representation from the provider organizations of other relevant disciplines and models of care delivery beyond obstetrics, midwifery and nursing, including pediatrics, anesthesia, primary and chronic care providers, and community-based and public health delivery models. In specifically engaging public and community health and national policy agencies, the general advice was to focus on the Centers for Medicare and Medicaid Services and to push for alignment within the Medicaid programs with other quality efforts through the engagement of Medicaid state policymakers.

Proposed markers of success for this symposium, in addition to robust attendance and media attention, included the creation of a concrete set of recommendations for

achievable systematic improvement (27%), ensuing publications (19%), and the genesis of ongoing collaborative working groups (14%).

Some of the suggested next steps to capitalize on the momentum created by this symposium were for Childbirth Connection to provide a continued context for stakeholders to participate in multidisciplinary, collaborative work to push forward a legislative agenda, policy changes at the national level, and quality initiatives across the nation.

The Candidate shared these interview results at the onset of the initial meeting of the Symposium Steering Committee that took place in November 2007 in Washington DC. The insights were instrumental in guiding the work of the Steering Committee to set the framework and processes for the project.

Background and Literature Review for the Theoretical Analysis and Model Construction

Theoretical Framework

The theoretical framework for the TMC Project draws upon the work of John Kotter in the area of organizational change theory. Kotter, an expert in business theory, developed an "Eight Stage Change Process" (Table 1) describing fundamental steps in sequence that are necessary to engineer successful change within organizations. This framework was first put forward in an article for a special issue of the Harvard Business Review on the subject of change, which evaluated reasons for the failure of efforts to institute transformational change within organizations (Kotter, 1991). The concept has been further developed and illustrated in subsequent works by the same author (Kotter, 1996, 2005). Kotter's framework posits that each of the eight steps is necessary, but not

sufficient, to achieve lasting change. Furthermore, it states that following the sequence of the steps is imperative, as each step builds upon the last, creating momentum and consolidating gains.

Table 1. Kotter's Eight-Stage Process of Creating Major Change

1. Establishing a Sense of Urgency
2. Creating the Guiding Coalition
3. Developing a Change Vision and Strategy
4. Communicating the Change Vision for Understanding and Buy-In
5. Empowering Broad-Based Action
6. Generating Short-Term Wins
7. Consolidating Gains and Producing More Change
8. Anchoring New Approaches in the Culture

Source: Kotter, J.P. (1991) Leading Change. Boston, MA: Harvard Business School Press

There is convergence between Kotter's theoretical framework and the methods undertaken in sequence to plan and carry out the Transforming Maternity Care Project.

Establishing a Sense of Urgency

Following a period of over a decade in which the principal work of Childbirth Connection was grounded in a mission to translate, expand and clarify the evidence about best practices in maternity care, the organization was commissioned to develop a report for the Milbank Memorial Fund, in collaboration with the Reforming States Group, to

appraise the performance of the maternity care system in the United States (Sakala & Corry, 2008). This report was an overview and analysis of current evidence from high quality systematic reviews. It concluded that there are many gaps between best evidence and practice, including overuse of practices that are beneficial in more limited circumstances and under use of beneficial practices. The overall conclusion of the report was that the U.S. maternity care system fails to reliably apply evidence to form the basis for population-based maternity care that is effective with least potential for harm to mothers and babies. It described worse performance relative to many other nations in cross-national comparisons of perinatal, neonatal, and maternal mortality, preterm and low birthweight, and rates of cesarean birth, with loss of ground over time in critical areas. The report, issued in 2008, provided a strong impetus for undertaking an initiative designed to create both political will and a coherent action plan for broad-based transformational change in the U.S. maternity care system. The TMC Symposium Steering Committee recognized the potential of this report to "set the hair on fire" of stakeholders to the maternity care system, and designated the report as a primary resource document for the TMC Project. Thereafter, this report was provided to the TMC Vision Team and all stakeholder workgroups to serve as a baseline and create a sense of urgency for needed change.

Creating a Guiding Coalition

Kotter's framework emphasizes the distinction between management and leadership. Strong leadership is necessary to steward the process of change, while effective management serves to carry forward the concrete steps designed to achieve that

change. Drawing upon this distinction, the leadership role of a guiding coalition is to establish the direction for desired change, align people in the service of visionary goals, and motivate and inspire them to overcome barriers they are likely to encounter along the way. Kotter (1996) describes four key characteristics of an effective guiding coalition: "power, expertise, credibility, and leadership" (p. 57). These four characteristics are interconnected and overlap to a certain degree. Power is achieved by assuring the leadership team includes a critical mass of "key players," thus pre-empting the creation of opposing blocs with sufficient influence to derail the change effort. Expertise is needed to ensure access to a representative array of perspectives, grounded in experience, for decision making on each of the critical success factors for change and how best to enact them. Credibility is based on the reputations and power to influence exercised by members of the guiding coalition. Finally, Kotter defines leadership as a proven track record in driving change.

The TMC Symposium Steering Committee was identified and recruited through a process aimed at creating balance across these criteria. Members of the TMC Symposium Steering Committee were chosen to include leaders in key positions of influence representing each of the relevant disciplines with a stake in the creation of a high quality, high value maternity care system. Leaders with a scope of expertise and influence that extends beyond the field of maternity care and reflects the greater health care system were recruited to prevent parochialism and internecine conflicts of interest, and to ground the project in a larger health systems perspective. Members were recruited based on specific expertise within critical focus areas identified by the Candidate and colleagues, and validated through key informant interviews with national experts. The

national reputation and high community standing of the members of the TMC Symposium Steering Committee lent credibility to the project to transform maternity care. A list of members of the TMC Symposium Steering Committee appears in Appendix C.

The strength of this guiding coalition helped engage the members of the Vision Team that was recruited to develop a direction-setting visionary platform for change to serve as the focal point for the project. It also helped attract the members of the stakeholder workgroups. These groups were recruited to develop the sector-specific strategies and recommend concrete steps to enact system-wide change as articulated in the Vision. The Steering Committee was mobilized to develop the overall goals, objectives, and format for the TMC Project, to approve the composition of the workgroups and to review their output at each stage of development. Finally, the TMC Symposium Steering Committee placed its ultimate imprimatur on the centerpiece and end product of the TMC Project by jointly issuing the "Blueprint for Action: Steps Toward a High Quality, High Value Maternity Care System." This keynote paper, which is one of the published papers comprising the body of this doctoral thesis, was synthesized by the Candidate from the five sector-specific workgroup reports, with review feedback provided by the Steering Committee at two junctures to achieve consensus and final approval of all members.

Developing a Change Vision

Kotter's change process ascribes great importance to the creation of an effective vision to serve as an organizing framework for achieving transformation. According to Kotter, an effective vision serves three essential purposes:

> to clearly define the proposed change thus eliminating confusion and disagreement; to provide motivation to undertake actions to achieve the desired change even when such actions are difficult or counter to short-term interests; and to coordinate these actions efficiently among the multiple factions that will be called upon to carry out the actions. (Kotter, 1996, pp. 68-69)

Zander and Zander (2000, p. 169) describe a vision as "a framework for possibility." To be effective, according to these authors, a vision must reflect universal human desires and eschew a level of specificity about how to achieve them that could be experienced as exclusionary to some. A vision provides a focal point for change, while allowing those involved to become the architects of that change such that they are able to "buy in" and take ownership of the transformation. Thus, for Zander and Zander, "A vision is an open invitation and an inspiration for people to create ideas and events that correlate with its definitional framework" (p. 169). Instituting major change entails making sacrifices, surmounting resistance and addressing barriers and a common vision can provide a rallying point that helps people override their short-term interests in service of a perceived greater good.

A multi-disciplinary, multi-stakeholder "Vision Team" was recruited to develop a bold, creative vision for the future of maternity care in the United States (Appendix C.). The team came together for a one-day intensive creative planning conference held in San

Francisco in April, 2008, under the direction of the Candidate. A skilled professional graphic facilitator with extensive experience in strategic visioning for health care helped guide the proceedings. The outcomes of this visioning exercise were a graphic report and taped transcripts, which the Candidate translated and synthesized into a draft vision paper. The full Vision Team provided extensive feedback on this paper over several iterations to reach consensus on the final vision statement, which was collectively issued by the members of the Vision Team. The methodology for this process is described in detail in the Logic Model appearing later in this thesis. The purpose of this exercise was to create a view of the desired result, a common definition, and a shared vision for a maternity care system that delivers high quality and high value. The vision was designed to articulate fundamental values and principles that apply across the continuum of maternity care, and broad goals for care in each phase of the childbearing cycle and at each level of the maternity care system. The goal was to provide a focal point for the development of specific action steps for broad-based maternity care system improvement. The ultimate aim was to provide both rationale and motivation to stakeholders and decision makers called upon to implement the vision. The "2020 Vision for a High Quality, High Value Maternity Care System" is included as one of the published papers comprising the body of this doctoral thesis.

Kotter, in expounding the role of an effective vision in the change process, makes the point that a good vision engages both "the head and the heart" (1996, p. 81). In this sense, a vision appeals both to the cognitive/analytical thinking orientation often ascribed to the left brain and the emotional, affective orientation ascribed to the right brain. In a natural extension of this tenet, Kotter discusses the power of fables to convey the

complexity of the many elements of a change story; through the vehicle of storytelling, a fable can deliver both factual and emotional content in one elegant package. Fables use allegory and metaphor to translate complicated concepts into an instantly graspable narrative that is not easily forgotten. To illustrate his theoretical framework of the eight-stage change process Kotter published a fable titled, "Our Iceberg is Melting: Changing and Succeeding Under Any Conditions," which became a longstanding New York Times bestseller in the business category (Kotter, 2005).

Similarly, to illustrate the Vision for the TMC Project, the Candidate authored an allegory illustrating two contrasting birth stories. The allegory contrasts two hypothetical women's experiences of maternity care. It illustrates one possible example of an optimal experience of maternity care, using words and concepts that reflect the seminal values and principles put forward in the TMC Vision of a maternity care system in which care is structured and prioritized to deliver the highest quality and value to its beneficiaries. It contrasts that account with another woman's possible experience of maternity care, describing an experience that illustrates many opportunities for improvement in the way maternity care is currently provided. The allegory was designed to "bring home" through first person narrative the very different experiences of care that is delivered in a manner designed to protect, promote and support physiologic childbearing and prioritize the provision of effective care with least harm as delineated in the TMC Vision, in contrast to care as it is delivered in too many cases in the U.S. maternity care system at this time. Vera Keane, a former executive director of the Maternity Center Association, now Childbirth Connection, once remarked, "…facts do not change feelings, and feelings are what influence behavior. The accuracy and clarity with which we absorb information has

little effect on us: it is how we feel about the information that determines whether or not we will use it!" (Rising, 2005, p. 553)

The birth allegory written by the Candidate for the TMC Project relates in human terms the reasons that system-wide change is of great importance to the ultimate beneficiaries of maternity care: mothers, babies and their families. The allegory was published online on the Childbirth Connection website at http:/transform.childbirthconnection.org, along with other outcomes of the TMC Project (Appendix D).

Communicating the Change Vision for Understanding and Buy-In

Kotter proposes that for people to buy into a vision, especially people in positions of influence who are used to being independent thinkers, they need to "wrestle with it". For Kotter, "Wrestling means asking questions, challenging, and arguing" (1996, p. 100). Thus, it is important for a guiding coalition to vet its vision with its stakeholders and engage them in putting it to the test. In the process of vetting, the vision is strengthened as errors and inconsistencies are uncovered and can be corrected. This process involves repetition to revise and hone the vision in order to ensure that all stakeholders can understand and become invested in its message for change. Without success at this stage, the following steps are likely to fail because stakeholders in the change will not implement a vision that they have not accepted.

The Candidate delivered the draft Vision to the TMC Symposium Steering Committee to solicit their review feedback and to the chairpersons of each of the five TMC stakeholder workgroups who would be engaged to develop sector-specific

recommendations that should be taken to move toward the articulated vision within their domain. The Candidate engaged in active discussions with each of these entities to explore any concerns or questions they had and to resolve them until all were satisfied with the final outcome. All review feedback was addressed and incorporated into the final draft of the "2020 Vision for a High Quality, High Value Maternity Care System," and each member of these leadership groups received a detailed accounting of the way in which their concerns had been addressed. This process was undertaken with care and diligence to ensure ownership, investment, and consensus about specific maternity care system aims moving forward, enabling the success of the following steps in the change process.

Empowering Broad-Based Action

Kotter points out that major transformation is impossible without the energy and efforts of many people throughout the system targeted for change. Without an active role, key stakeholders are disengaged and their power cannot be effectively harnessed to drive the change forward. At this stage of the change, Kotter's framework emphasizes the removal of structural barriers to change. He describes how most systems have evolved to include "structural silos" (p. 103) that undermine the ability to create movement and coalesce across groups, which are often delineated and circumscribed by their specific functions within the system.

In the case of the U.S. maternity care system, such silos are in evidence and authors have interpreted that they create roadblocks to achieving highest quality and value (Ebrahim & Atrash, 2006; Lunn, 1997), simply because payers, providers, health

system administrators, academics, and consumer advocates work most often in parallel. When queried about potential barriers to change within the maternity care system, key informants interviewed prior to launching the TMC Project identified several relevant themes: resistance to change primarily from obstetricians as well as from other providers of care; lack of teamwork among disciplines; and lack of coordination across the health care system. Interviewees pointed to functional silos between the field of maternity care and other disciplines across the health care spectrum, as well as fragmentation across time, settings, and disciplines within the field of maternity care.

The TMC Symposium Steering Committee took these problems into consideration in planning the composition of the Symposium Stakeholder Workgroups. During the formative meeting of the Steering Committee facilitated by the Candidate, the group decided specifically to cluster stakeholders into categories with intersecting and sometimes competing interests, so that these issues could be tackled by exploring and deliberating transparently together and sharing different vantage points and experiences, and then addressed in the recommendations each group would develop for operationalizing quality and value. In addition, such a composition might be expected to harness the self-interest of each group member, providing them with incentive to participate to ensure representation in the implementation recommendations. The planned TMC Project process, as conceived, goes beyond Kotter's conceptualization of empowerment as taking place primarily through the removal of structural barriers within an organization, and addresses structural barriers at the system level. As an example, the payer workgroup included public and private payers, from free for service, managed care,

and integrated payment systems, as well as employer purchasing groups, and also professional liability insurers.

In the case of the TMC structure and format, five multidisciplinary, cross-functional stakeholder workgroups were created explicitly to break the siloed structure seen at each level of maternity care system administration and practice, and these cross-functional teams were empowered to address the structural barriers inherent in the broader maternity care system. They were called upon to achieve this through a cooperative, deliberative, collaborative group process. The methodology for this process, including composition of groups, scope of work, and structured work plan is described in detail in the logic model that appears later in this section.

Workgroup categories were modeled roughly on the typology used by the National Quality Forum in its member councils (National Quality Forum). The five TMC stakeholder domains are:

- consumers and their advocates;
- maternity care clinicians and health professions educators;
- measurement and quality research experts;
- health plans, private and public purchasers, and professional liability insurers; and
- hospitals, health systems, and other care delivery systems

Each stakeholder workgroup was asked to prepare a report to answer the question: "How would you operationalize this vision of quality and value within your stakeholder domain and what would be the focal points for change, the challenges, and the solutions to address them?" Each paper resulted in a succinct set of recommendations, and it is these recommendations that form the basis of the project end product and centerpiece, the

"Blueprint for Action: Steps Toward a High Quality, High Value Maternity Care System". The five full stakeholder reports were presented at the TMC symposium, and discussion and feedback from symposium participants was solicited and taken into consideration by the workgroups. Upon finalization, the five reports were published online at http://transform.childbirthconnection.org.

Generating Short-Term Wins

The sixth step in Kotter's framework focuses on creating what he refers to as "short-term wins" (Kotter, 1996, p. 117). These are things that provide evidence of movement in the right direction and serve to reanimate the stakeholders and maintain momentum in the change process. According to Kotter (1996), the role of short-term wins is to justify sacrifices made by stakeholders, providing them with positive reinforcement and a cause for celebration of accomplishments to date. Short-term wins also provide a platform for consolidating and expanding support for the change effort, as they help to dissolve resistance from skeptics and replace it with shared vigor and a communication of the sense of urgency that sparked the transformational effort to begin with. Zander and Zander (2000) clarify the difference between persuasion and "enrollment":

> Persuasion is typically used to get the thing *you* want, whether or not it is at someone else's expense (p. 128)…Enrollment is not about forcing cajoling, tricking, bargaining, pressuring, or guilt-tripping someone into doing something your way (p. 125)...Enrollment is the art and the practice of generating a spark of possibility for others to share. (p. 128)

Thus, a short-term win can help enroll a larger group into the effort to achieve transformational change. An effective short-term win has three characteristics: it is visible, unambiguous, and clearly related to the change effort (Kotter, 1996, pp. 121-122).

For the TMC project, the Transforming Maternity Care symposium event served as the most visible short-term win on the pathway to change. This symposium took place on April 3, 2009, in Washington, DC, with 230 invited participants in attendance. Forty-two key informants, 20 members of the TMC Symposium Steering Committee, nine members of the TMC Vision Team, and 60 workgroup members in five stakeholder groups had dedicated precious volunteer time and effort to craft the basis for a broad platform aimed at transforming the U.S. maternity care system to reliably deliver care of the highest quality and value to mothers, babies, and families. The symposium event brought these leadership groups together in a public forum to present the results of their efforts to a wider community of peers and stakeholders, and to enroll this larger community in a commitment to carrying the proposed change forward.

At a luncheon event during the TMC symposium, Childbirth Connection presented its inaugural Maternity Quality Matters award, sponsored by UnitedHealthcare, to the Seton Family of Hospitals. The award was intended to celebrate the vision and innovative leadership of a recipient whose work is making a significant contribution to transforming maternity care. Specifically, the award criteria were designed to reflect achievement of many of the core values, principles, and goals for care encapsulated in the "2020 Vision for a High Quality, High Value Maternity Care System." Seton was recognized for its system-wide quality improvement program in maternity care, which

resulted in the virtual elimination of preventable birth trauma within the health care organization through a program based on interdisciplinary teamwork to develop and monitor best practices in care during labor and delivery (Mazza, et al., 2008; Mazza, et al., 2007). Several members of the TMC Symposium Steering Committee served as jurors for the award and the winner was chosen from a pool of 35 nominees whose significant achievements were also described in the award program. The MQM award program appears as Appendix E.

Consolidating Gains and Producing More Change

Kotter's framework describes elements of success in the seventh stage of a major change effort. Success at this stage is achieved through the proliferation of activities designed to achieve various elements of the envisioned change, implemented through a model of decentralized management by stakeholders "on the ground", with guidance and leadership that keeps the movement proceeding in the direction outlined by the vision.

Consolidation of the gains of the TMC Project are embodied in the concrete results of the multi-stakeholder process: the Vision, the five stakeholder reports, and especially the comprehensive Blueprint for Action, which literally consolidates and synthesizes all of the recommendations and strategies developed by the workgroups into a detailed roadmap that can be used to produce more change throughout the system. The Blueprint for Action and all other TMC Project outcomes were published in a special supplement of the peer-reviewed journal, *Women's Health Issues*, the academic journal of the Jacobs Institute of Women's Health, George Washington University School of Public Health and Health Services.

The post-symposium phase of the Childbirth Connection initiative, the Transforming Maternity Care Partnership, revolves around the creation of partnerships, as well as outreach and dissemination to facilitate awareness and uptake of Blueprint elements by key individuals, agencies and organizations throughout the health care system and policy arena, leading to implementation of various recommendations generated during the TMC Project, outlined in the five sector-specific stakeholder workgroup reports, and synthesized in the Blueprint for Action. The Blueprint for Action is the focal point of ongoing uptake and proliferation of the TMC Project results and recommendations: by Childbirth Connection, among various stakeholder organizations, and in numerous legislative provisions in Congress.

Anchoring New Approaches in the Culture

Merriam Webster dictionary defines culture as "the integrated pattern of human knowledge, belief, and behavior that depends upon the capacity for learning and transmitting knowledge to succeeding generations" (Merriam-Webster, n.d.). Kotter (1996, p. 148) describes it as "norms of behavior and shared values among a group of people." He emphatically places this step last in the process of change, because it involves evolution over time. This evolution derives from social learning that follows from successfully altering behaviors and witnessing the results of these changes enough times with enough consistency that underlying schemata are altered and the change is integrated. Kotter (1996) reports that while changes in attitudes and behaviors may take place early in the change process, it is only at the end when the results are assured such

that the stakeholders can trust them that they become part of a new integrated pattern of knowledge, belief, and behavior.

This potentiality is expressed at the end of the "2020 Vision for a High Quality, High Value Maternity Care System" by the following closing passage:

> Finally, the 'long clear sightline of this framework for possibility' (Zander & Zander, 2000) radiates forward to culminate in the following ultimate vision: The 2020 Vision for a High Quality, High Value Maternity Care System has been actualized through concerted multi-stakeholder efforts ensuring that all women and babies are served by a maternity care system that delivers safe, effective, timely, efficient, equitable, woman- and family-centered maternity care. The U.S. ranks at the top among industrialized nations in key maternal and infant health indicators and has achieved global recognition for its transformative leadership. (Carter, et al., 2010, p. S16)

The last stage in Kotter's eight-stage change process relates to expected outcomes and potential implications for practice ensuing from the TMC Project and will be described in greater detail in that section of this thesis. The last step is largely beyond the scope of the Candidate's dissertation project to develop and carry out a public health policy initiative, the intended outcome of which is a resulting body of original published work; however it is integrally linked through the theoretical framework of the TMC Project to the future direction for Childbirth Connection's overall Transforming Maternity Care Partnership program. It serves as a platform and an organizing framework for the ongoing implementation phase of the TMC Project following

publication of its major outcomes. These direction-setting papers provide a coherent action plan that can serve as the vehicle to drive forward policy action and practice reform by willing stakeholders in the wake of the symposium.

Further Theoretical Underpinnings in Organizational and Systems Theory

In addition to the framework for organizational change exemplified in Kotter's eight-stage process, the TMC Project is further grounded in the theories of open systems and organizational development. Specific influences from each of these theoretical areas are discussed in this section.

Systems Theory

Constantine (1993) uses the constructs of family systems theory to propose a paradigmatic framework for work organization, and specifically for the establishment and management of effective teamwork. He presents a taxonomy to describe underlying assumptions and mechanisms through which groups organize themselves and coordinate their actions to achieve common goals and tasks. His model is based on four taxons into which working groups fit; while discrete for the purpose of theoretical discussion, in practice groups may exhibit features of more than one taxon. The relationship between the discrete, categorical paradigms is antipodal, like the cardinal points on a compass. The four paradigms are based on typology drawn from general systems theory: systems can be closed, random, open or synchronous (Katz & Kahn, 1966; Von Bertalanffy, 1967).

OPEN SYSTEMS

Constantine furthers elaborates on the organizational assumptions underlying these four compass points. Closed systems are governed through traditional hierarchy. The organizing principle of the antithesis to closed systems, random systems, is innovative independence. Open systems are based on the principle of adaptive collaboration; the antithesis of the open system is a synchronous system, whose governing principle is harmonious alignment. Any one of these system types has the potential to be effective; each type of system has strengths and vulnerabilities. See Figure 1. Source: (Contantine, 1993, p. 37)

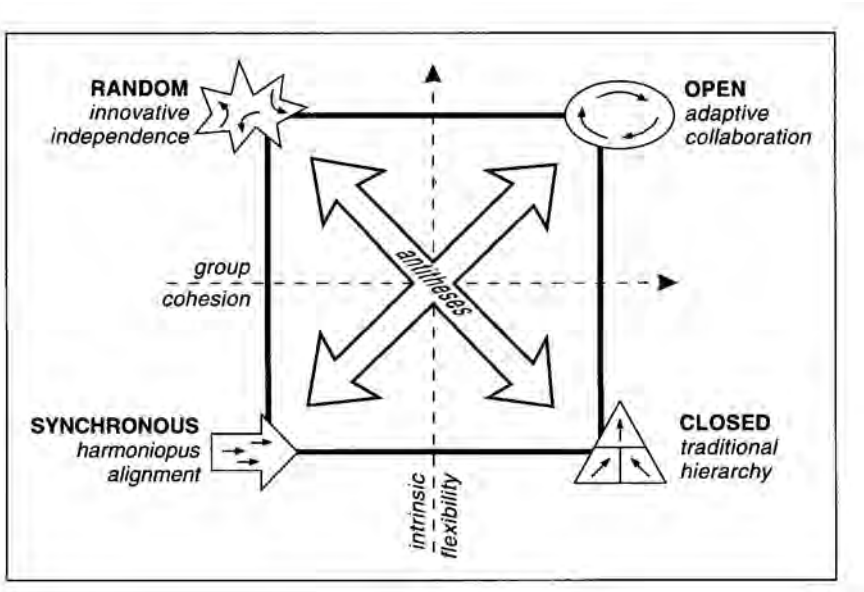

Figure 1

The group process of the various stakeholder workgroups from the TMC Project is fully concordant with Constantine's open system of adaptive collaboration. The elements of the TMC Project methodology that illustrate convergence with this theoretical framework are discussed here; further detail of the methodology for TMC

stakeholder workgroup process appears later in the Logic Model included in this methods section.

According to Constantine's theory, open systems integrate elements of stability and innovation, and balance the needs of participating individuals and the collective through a process of negotiation and discussion. The work achieved by open systems is egalitarian and process-based, and is enacted through negotiated consensus that is the product of the "combined feedback" of group members regulated through "flexible responsiveness" to arrive at "adaptive effectiveness" (p. 39). Constantine posits that open systems are best suited to complex problem solving and provide an effective platform for activities such as strategic planning and agenda-setting because their mode is "cooperative, explorative, strategic and flexible" (p. 39). Because of the governing principles of this organizational paradigm, interpersonal skills are the primary critical success factor within this model (Contantine, 1993). Each of the TMC workgroups was charged with the task of collaboratively developing a sector-specific report with concrete recommendations for improvement that should be taken within their domain to move in the direction of the articulated Vision, through a deliberative process of discussion and negotiation. The group style was democratic, open, and transparent, and group process was relational, relying on dialogue as the preeminent system tool.

Constantine's paradigmatic framework also predicts the leadership characteristics most likely to be adaptive for each type of system. This framework also accurately describes the leadership style utilized by the Candidate in the management of the TMC Project group work. The work organization framework for open systems predicts that the successful management style for this type of group model will place the manager within

the group, functioning on the level of a peer, and setting the tone and style for the group's work without being overly directive, taking responsibility for administrative and support functions that allow group members the controlled freedom to accomplish the creative work of meeting its objectives. The primary role of the manager in open systems is that of facilitation and mediation to shepherd the work and steward the development of group trust, along with maintaining the structural stability needed for effective group process. For the TMC Project, the Candidate served in this role for three of the five groups whose joint efforts are reflected in the planning and implementation of the symposium and the papers and proceedings that emanate from the project. The Candidate created a stable structure for workgroups in the form of a dedicated group content management website and online platform for each group using Microsoft SharePoint, and was responsible for the administration of the site, which allowed for electronic discussion, task allocation, resource sharing and collaborative document development. The Candidate facilitated group discussion and negotiation by means of multiple conference calls with both full groups and subgroups throughout the process of report development within three out of five of the stakeholder workgroups; two other groups were managed primarily by the Candidate's colleague, who provided progress reports and consulted with the Candidate as needed on the similar group process taking place in those workgroups.

STRUCTURED OPEN TEAMWORK

Constantine elaborated on the open system model and described a practical hybrid adaptation to this basic paradigmatic framework that he calls "structured open teams" (1993, p. 41). In this permutation, formal structures are added to the open system

framework to bolster areas of intrinsic weakness or vulnerability inherent to open systems; the grounding in structural stability frees the groups to exercise creativity in problem-solving more efficiently. The Candidate used many of the elements of structure described by Constantine to direct the TMC stakeholder workgroup process.

Constantine's model of open structured teamwork (1989) calls for identification of key group roles. Each TMC stakeholder workgroup had a chair and a co-chair. While the principal vehicle for group work was democratic deliberation and negotiation within each full group at large, roles of lead authorship were adopted and flexible small groups were convened for specific topic areas within the larger writing assignment through a process of self-selection. These roles were understood to fall within the collective responsibility of the full group, which allowed for both greater efficiency and greater depth in the development of each report topic section, through dispersion of group expertise for maximal effectiveness.

Structured open teams feature consensus building rather than decision making by majority vote. The following definition of consensus was adopted for all TMC Project group work and provided to all participants along with their work charge: Consensus is defined as general agreement although not necessarily unanimity among team members, and is reached through a process of discussion to resolve individual concerns to the satisfaction of all participants.

In structured open teams, in addition to facilitated group discussion, Constantine calls for the institution of an "externalized group memory" (p. 41), which he conceives as a record of the group's experiences together which, because externalized, injects reliability into the group process and is not subject to recall bias. This structural

component also increases efficiency by providing a record of events for reference and place-holding. In the TMC workgroup process, the Candidate simultaneously facilitated and recorded minutes of the group discussions, delivering a written transcript of each meeting's proceedings back to the groups for reflection and reference.

Finally, Constantine recommends that the externalized group memory for open structured teams includes certain essential elements, which he terms "processes, products, parts bins, and rejects bins" (Constantine, 1989, p. 42). For the TMC stakeholder workgroup process, the dedicated SharePoint site for each workgroup created by the Candidate became the holder for these elements. Processes were captured in the workgroup conference call transcripts described above, which were posted to SharePoint for ready group access. Products were the draft sections and full draft versions of the workgroup reports, which were also posted to SharePoint for group review and discussion. The parts bin for the TMC stakeholder workgroups was a shared resource folder for each critical topic area to which resource documents in electronic format could be posted by any workgroup member from all five workgroups; a baseline compendium of resources was compiled and posted by Childbirth Connection senior staff including the Candidate. A copy of this resource list will be published online for transparency at http://transform.childbirthconnection.org. The reject bin for each stakeholder workgroup was a Drafts folder included on each group's SharePoint page, where old drafts were stored for consultation and referral as needed by any member of each workgroup.

Constantine's theoretical framework for work organization explains the underlying structural and paradigmatic elements that defined the TMC workgroup process and the system regulations that contributed to the manner in which group

leadership helped these groups conduct their work activities to achieve their common charge.

Cooperation as a Functional Subset of Open Systems Theory

Cooperation, working with others to achieve a common benefit, has been studied as an aspect of the role and function of systems. Clemmer, Spuhler, Berwick and Nolan (1998, p. 1004) define a system as " a collection of interdependent elements that interact to achieve a common purpose." They theorize that the extent to which cooperation is necessary to the success of system improvement efforts is a function of the degree of interdependence found within that system. Drawing from the work of various theorists, they constructed a methodology that is grounded in evidence for fostering cooperation. The authors considered the problem of transaction costs in social negotiations (Coase, 1960), as well as the problem of self-interest exemplified in the classic game theory problem, the "prisoner's dilemma" (Axelrod, 1984), along with principles of conflict negotiation and crew resource management to extrapolate five steps to foster cooperation. The five proposed steps are:

> "1) develop a shared purpose; 2) create an open, safe environment; 3) include all those who share the common purpose and encourage diverse viewpoints; 4) learn how to negotiate agreement; and 5) insist on fairness and equity in applying rules." (Clemmer, et al., 1998, p. 1006)

These steps are congruent with Kotter's change theory and complementary to Constantine's paradigmatic framework for work organization. They contribute to the theoretical foundation that underlies the methodology chosen for the TMC Project, which

was founded on the belief that effective change within a complex maternity care system defined by multiple interdependent components is best fostered through collaborative multi-stakeholder efforts, echoing quality improvement expert Donald Berwick's exhortation, "Cooperation is the highest professional value of all" (Berwick, 2004, p. xi).

"Dialogic" Permutations of Organizational Development (OD)

The TMC Project is fundamentally grounded in the principle of collaborative, multi-stakeholder efforts that arise from open, transparent processes rooted in discourse and dialogue. As such, its philosophical and theoretical basis belongs within the framework of organizational development theory (Bushe & Marshak, 2009) and reflects, more specifically, newer approaches to OD. Organizational development theory emerged in the 1950s out of humanistic and open systems theories (Katz & Kahn, 1966; Lawrence & Lorsch, 1969; Von Bertalanffy, 1967). Classical OD theory is positivist, based on the underlying precept that change theories can be developed through the gathering of valid empirical data that reflect an objective, knowable reality which can then be diagnosed and fixed (Argyris, 1973). More recently, OD practices reflect a constructivist orientation, with new theories emerging from the experimental application of practices to see if they produce effective change. Bushe and Marshak (2009) hypothesize that through these attempts to effect change through modes that ensue from practical experimentation rather than action research, a new strain of OD practice is emerging, which they label "Diologic" in nature.

Examples of dialogic approaches to OD include appreciative inquiry (Cooperrider & Whitney, 2005), Search Conferences and Future Search (Emery & Purser, 1996;

Weisbord & Janoff, 2000), Open Space Technology (Owen, 1997), and World Café (Brown & Issacs, 2005). All of these programs utilize discursive methods as the basis for change. They do so by creating a platform for understanding the diverse multiple perspectives that contribute to a complex organizational reality, and from this more holistic, equitable understanding to collectively engineer action steps for system improvement.

Both traditional "diagnostic" OD and newer "dialogic" OD theories share a common grounding in humanistic, democratic values, and aim to increase self-awareness within systems as a means of fostering change. Both forms are process-oriented and strive to promote improvement by encouraging progress to higher levels of development within and across organizations, communities, and broader social systems (Bushe & Marshak, 2009). However, whereas the basic premise of traditional diagnostic approaches to OD is that organizations function as complex adaptive systems that adjust to or co-evolve in response to their environment such that correctly diagnosing environmental problems can lead to the design of successful changes in processes or structures, the underlying premise in dialogic approaches focuses on the organizational development task as one of "meaning-making." While both approaches call for broad multi-stakeholder participation to analyze the system and propose changes for improvement, the leadership activities involved in dialogic forms of OD change efforts serve primarily to create a safe forum or container for "collective sensemaking about structures, processes, leadership actions, change models, interventions," etc (Bushe & Marshak, 2009, p. 354). This process not only allows participants to better understand the perspectives of others within the system, but also allows for better self-understanding,

evoking the reflection by author E. M. Forster (1927, p. 101), "How do I know what I think till I see what I say?"

Dialogic approaches to community and social change interventions are "opportunity-centric" as opposed to problem-centric (Boyd & Bright, 2007). As such, the purpose of the collaborative, participatory methods they use is not just to diagnose problems, but to bring about innovation and system change by the organic emergence of a deeper understanding of the system that is born out of a multiplicity of shared perspectives. The starting point for dialogic change interventions is a common aspiration or shared vision, and the purpose of the participatory process is to raise self-awareness about the system through discourse that brings to light the multiple perspectives of all stakeholders. Through this discursive process, "stakeholders can share their views of social reality and seek common agreements in real time" (Bushe & Marshak, 2009, p. 356).

According to these theorists, the hallmarks of both forms of OD are free and informed choice, authenticity, integrity, participation, and collaboration. However, dialogic OD practices center around discourse, whose purpose is to "change the conversation" within a system. Dialogue thus serves to "circumvent the power of entrenched interests to equalize the variety of interests represented in the system" (Bushe & Marshak, 2009, p. 358). Participatory, collaborative inquiry is the means through which to reveal and validate the viewpoints of diverse stakeholders, and through so doing to arrive at a fuller understanding that can bring forward transformational change by changing how people think and act. The presumption is that through such participatory

exercises in making meaning, changes are anchored into the culture as a new integrated pattern of knowledge, belief, and behavior.

For the TMC Project, the Candidate used the vehicle of a common Indian folktale to translate the power and purpose of this discursive process through metaphor to participating stakeholder workgroups. In describing the workgroup process, at critical junctures the Candidate referred to the story of the Six Blind Men and an Elephant. Kotter emphasizes the power of metaphor to communicate complex concepts quickly and effectively, appealing at both the intellectual and emotional level (Kotter, 1996). This story elegantly communicates the need for multiple perspectives, shared through a process of dialogue, to arrive at a full understanding of a complex reality. Appearing in its best known version in the western world in a poem by John Godfrey Saxe, the story begins,

> It was six men of Indostan
> To learning much inclined,
> Who went to see the Elephant
> (Though all of them were blind),
> That each by observation
> Might satisfy his mind. (Saxe, 1873)

As each of the men was blind, depending on their position vis-à-vis the elephant, their experience gave them an idiosyncratic perspective and a very different understanding of the nature of the beast. The man who felt the elephant's side declared that the elephant was like a wall; the one who felt the elephant's tusk was sure the

elephant was like a spear; the man who took the elephant's trunk in his hands concluded that the elephant was like a snake; the man who felt the elephant's leg perceived that the elephant was like a tree; one who was positioned at the elephant's ear marveled that the elephant was like a fan; while the experience of the last man who had the elephant by the tail told him that the elephant was like a rope. Although "to learning much inclined," until they could share their perspectives, which in each case were valid representations of their lived experiences, none of them had the whole picture. This story illustrates that it is through "collective sensemaking" that a construction of the best approximation of the whole system becomes possible, which in turn is what allows all parties to form common agreements and embrace a change model based on a common, negotiated consensus.

In the TMC Project, this process was reflected within each individual stakeholder workgroup, which brought together diverse disciplinary perspectives within that stakeholder domain to construct collective understandings of the problems in critical topic areas and sector-specific recommendations for interventions to effect needed change in structures, processes, and outcomes. The metaphor carries through and is repeated in the process undertaken by the Candidate and the TMC Symposium Steering Committee to synthesize the multiplicity of stakeholder perspectives and recommendations into a comprehensive Blueprint for Action, which integrates the perspectives of each stakeholder interest group to answer the question, "Who needs to do what, to, for, and with whom to improve maternity care quality within the next 5 years?"

SPECIFIC AIMS, METHODS, AND RESULTS

Specific Aims for the Thesis

The specific aims of this thesis project are: to apply public health skills and theory to practice to contribute to health system strengthening and stimulate broad-based system improvement in maternity care; to describe the conception, planning, direction, and implementation of a national maternal health policy initiative, the TMC Project, designed to achieve these aims; and to construct an empirically grounded theoretical model situated within a scholarly framework to explain the process.

TMC Project Specific Aims

The specific aim of the TMC Project was to answer the question:

> "Who needs to do what, to, for, and with whom to improve maternity care quality within the next 5 years?"

TMC Project Goals and Objectives

A multi-disciplinary Steering Committee of experts was convened to help plan and guide the implementation of the TMC Project. In a day-long meeting chaired by the Candidate, the Steering Committee was called together to decide on the major goals and objectives of the TMC Project and the format for the symposium event through a process of facilitated discussion led by the Candidate. During this meeting, the Candidate guided the group discussion to establish the strategic vision and parameters for the project, querying members based on a pre-determined semi-structured agenda planned by the

Candidate with input from senior staff colleagues. The Candidate first shared the results of the key informant interviews with the Steering Committee members and then led them through a series of discussion questions.

Through guided exploration, the Steering Committee defined the following goal statement for the Project: "to improve maternity care quality by focusing on measurement to reduce unwarranted practice variation, and by aligning economic and other system incentives to support the safest, most effective care with the least harm to women and babies." Furthermore, the Steering Committee decided that the intended outcome objective for the symposium event was to garner and communicate political will to move maternity care forward in the United States, to raise the salience of identified maternity care issues, and foster a more coherent plan for political action while creating a pivotal organizing moment.

The Steering Committee designated the evidence overview and analysis in the Milbank Report by Sakala and Corry (2008), "Evidence-Based Maternity Care: What It Is and What It Can Achieve", as a primary resource document for the TMC Project, to ground the symposium event and preparatory work in an evidence-based framework, and to establish the baseline performance of the U.S. maternity care system.

The group agreed that a paper describing the vision for ideal maternity care should be commissioned for the event, conceived as a "magisterial paper" to help the conveners and the stakeholder workgroup members to see their charge. The Steering Committee felt that the Vision Paper should be commissioned by Childbirth Connection, thus leveraging the organization's neutral vantage point to make the case for the desired state of maternity care quality. Childbirth Connection is a national non-profit

organization whose mission is to improve the quality of maternity care in the U.S. through research, education, advocacy, and policy. It is not a member organization, and exists solely to further the advancement of high quality, evidence-based maternity care for all mothers and families, and other system stakeholders. The committee directed that the draft paper be reviewed in advance by its members and by representatives from each stakeholder group, to help generate maximal buy-in across the field. The Steering Committee imagined this paper to be definitional and vision-setting, providing a framework for what constitutes quality and value in maternity care, and a focal point to construct a plan for improvement in order to achieve the articulated vision.

The Steering Committee also recommended convening workgroups representing all major stakeholders in maternity care and asking each to prepare a report that answers the question: How would you operationalize this vision of quality and value within your stakeholder domain? What would be the priority strategies for change, the major challenges, and the solutions to address them? It was agreed that each paper should result in a succinct set of recommendations. The Steering Committee grouped stakeholders into categories with intersecting and sometimes competing interests, so that the members of the respective workgroups could deliberate about issues of mutual concern and devise mutually acceptable solutions in the recommendations for operationalizing quality and value. It was hoped that this configuration would provide key stakeholder representatives with an incentive to participate to ensure their representation in the ensuing recommendations.

Finally, congruent with the guidance from the key informant interviews, Steering Committee members broadly agreed that a concrete blueprint for action should emanate

from the project. This document, issued by the Steering Committee after the symposium and included in the published proceedings, was conceived to provide a multi-stakeholder roadmap to move expeditiously from the current baseline toward the articulated vision for a high quality, high value maternity care system.

The objective of the TMC Project was the development of actionable strategies to improve maternity care quality and value by focusing on the following eleven critical focus areas for change:

- Performance measurement and leveraging of results
- Payment reform to align incentives with quality
- Improved functioning of the liability system
- Disparities in access and outcomes of maternity care
- Scope of covered services for maternity care
- Clinical controversies, such as home birth, VBAC, vaginal breech and twin birth, elective induction of labor, and maternal demand cesarean section
- Decision making, patient choice, informed consent and refusal
- Scope, content and availability of health professions education
- Workforce composition and distribution
- Development and use of health information technology
- Coordination of maternity care, across time, settings and disciplines

TMC Project Methods: Logic Model

The TMC Project was a complex, longitudinal multi-step, multi-stakeholder policy initiative (Figure 3).

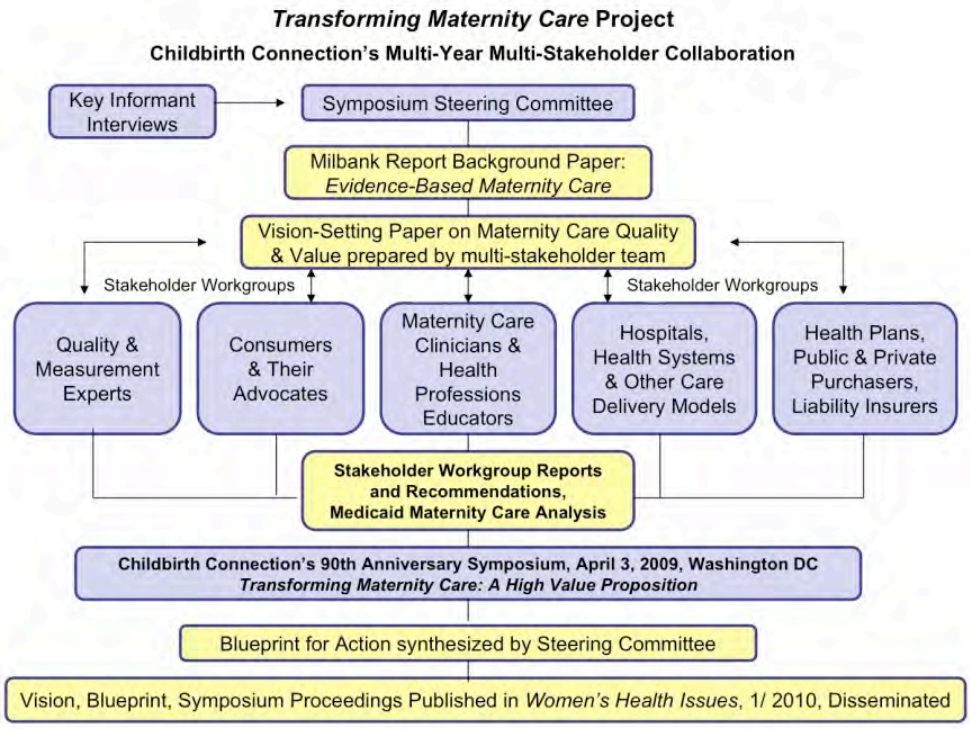

Figure 3. TMC Project Diagram, Source: http://transform.childbirthconnection.org

In this section, a logic model was constructed to describe the methodology for developing each of the three major concrete components of the TMC project: the direction-setting Vision Paper, titled "2020 Vision for a High Quality, High Value Maternity Care System"; five sector-specific stakeholder workgroup reports presenting feasible strategies to move from the current state toward the state depicted in the Vision; and the "Blueprint for Action: Steps Toward a High Quality, High Value Maternity Care

System", synthesizing the sector-specific recommendations into a comprehensive roadmap for system improvement. Each logic model includes a detailed description of the methodology used to achieve the product: Inputs, Activities/Processes, Outputs/Outcomes, and Impact (Kellogg Foundation, 2004).

To achieve the desired impact, the strategies developed and presented in the "Blueprint for Action" must be implemented, a dynamic process that must include an evaluative mechanism for assuring effectiveness, which is to say that the actions taken are resulting in the intended results. A hypothetical process model with outcome metrics is presented for selected Blueprint strategies in the area of "performance measurement and leveraging of results" to serve as an exemplar for how to approach implementation of recommendations.

What is a Logic Model?

Developed by Joseph Wholey (1979), the logic model is a concise way to represent work and what it entails, most often used for program planning and evaluation. Displayed graphically, a logic model breaks work down into its component parts, describing *why* the work is needed, *how* the work is done, and *what* the outputs and impacts of the work are. Many variations on the theme exist, but in its most basic form, a logic model—also called a logframe-- is a diagram of a scope of work that displays inputs, processes or activities, outputs or outcomes, and impacts. In this section, the Candidate uses the construct of a logic model as an organizing framework and an efficient vehicle to describe in detail the methodology and results for the three major work projects comprised within the TMC policy initiative:

1. The development of the "2020 Vision for a High Quality, High Value Maternity Care System"
2. The development of five stakeholder workgroup reports
3. The development of the "Blueprint for Action: Steps Toward a High Quality, High Value Maternity Care System"

Logic Model for the 2020 Vision for a High Quality, High Value Maternity Care System

Inputs	Activities or Processes	Outputs/Outcomes	Impact
• "Vision Team" of innovators in maternity care delivery and health systems design • Wide array of disciplinary expertise: childbirth education, consumer and employer advocacy, family medicine, general obstetrics and gynecology, health economics, health policy, health system administration, labor support, maternal-fetal medicine, maternity nursing, nurse-midwifery, community/public health, and quality and measurement research in health care • Direction and lead authorship of the Candidate • Skilled professional	• One-day intensive creative planning conference in San Francisco on April, 2008 • Structured discursive brainstorming captured through "graphic facilitation" into wall-sized drawings and depictions of shared values, principles and goals for a High Quality, High Value Maternity Care System • Use of Berwick's paradigm of four levels of care (labeled Levels A through D) as an organizing framework to generate goals for maternity care system change • Division of maternity care into three phases: 1) Care During	• A rich graphic report produced • Taped voice recordings of the planning conference proceedings produced • A written statement of general values and principles that apply across the continuum of maternity care developed • Maternity-care-specific definitions developed to describe critical dimensions of quality and value, using and elaborating on the 6 Aims framework from the Institute of Medicine's landmark report, Crossing the Quality Chasm (2001) • Goals defined for each level (A through	• A definitional framework of fundamental values, principles, and goals developed to serve as a focal point to drive improvement strategies, both those developed by TMC Project stakeholder workgroups and more generally • A Vision statement for a maternity care system that reflects fundamental values, principles and goals for care designed to deliver the highest quality and value to mothers, babies, families and other system stakeholders published

facilitator with extensive experience in strategic visioning for health care • Background resources: Evidence-Based Maternity Care: What It Is and What It Can Achieve (Sakala & Corry, 2008); "A User's Manual for the IOM's 'Quality Chasm' Report" (Berwick, 2002); the Sicily Statement on Evidence-based Practice (Dawes, et al., 2005); a compendium of systematic reviews and better quality evidence of the effectiveness of different core elements of the maternity care system derived from the body of Childbirth Connection's work over the past decade to compile and disseminate systematic	Pregnancy, 2) Care Around the Time of Birth, and 3) Care After Birth • Consideration of: 1) the woman's experience of care, 2) the key features of care, 3) the key participants involved, and 4) the settings and locations of care • Refinement into a draft Vision Paper by the Candidate • Group input and discussion via telephone and email directed and facilitated by the Candidate over a period of months • Peer review by the Symposium Steering Committee and all Stakeholder Workgroup Chairs • Discussion between the Candidate and reviewers and incorporation of	D) of the maternity care system	

reviews on the effectiveness of all aspects of maternity care • Open structured agenda • Clear definitions: 1) Consensus was defined as general agreement although not necessarily unanimity among team members, to be reached through a process of discussion to resolve individual concerns to the satisfaction of all participants; 2) Quality was defined as the degree to which maternity care services provided to individuals and populations increase the likelihood of optimal health outcomes and are consistent with current knowledge (Institute of Medicine, 2001); 3) Value was defined as	review feedback by the Candidate into the final paper • Candidate provides written response to each reviewer detailing the disposition of the input • Vision Team members give approval and sign-off on final draft • Vision undergoes peer review by guest editorial panel appointed by the publishing journal, *Women's Health Issues* • Candidate implements changes to address peer review feedback and provides written response to each reviewer detailing the disposition of the input		

the optimal cost to quality ratio in the delivery of maternity care services; 4) Consideration of values and principles was defined as taking account of moral, ethical and cultural issues important to consumers and other stakeholders; 5) The scope of maternity care was defined as follows: Care During Pregnancy begins with confirmation of pregnancy and continues until the onset of labor; Care Around the Time of Birth comprises the care that begins with labor and continues until mother and baby are stable at home; Care After Birth is conceived as a continuum that includes all care			

delivered within the first six weeks of life of the newborn and extends forward across time, settings and disciplines to anticipate and respond to continuing and new onset mental, physical and social needs of the mother, baby, and family.			

Logic Model for Five Stakeholder Workgroup Reports

Inputs	Activities or Processes	Outputs/Outcomes	Impact
• TMC Project SharePoint website created by the Candidate for group work • A flow diagram that provides an overview of the TMC Project and its process, participants and products • Direction of the Candidate • Background resources: 1) A summary of key informant guidance to provide background context for the TMC Project and areas for focused attention; 2) A Milbank Report, *Evidence-based Maternity Care: What It Is and What It Can Achieve* (Sakala &	• Staff facilitation of workgroups activities, processes and outputs by the Candidate for three workgroups, and colleague Carol Sakala for two workgroups • The Candidate and Childbirth Connection colleagues invite a chair and co-chair from within each of the five stakeholder sectors to help steward the activities of each stakeholder workgroup and to present the final results at the TMC Symposium • The stakeholder workgroup chairpersons helped constitute the workgroups, by identifying and engaging the	• A report drafted by each stakeholder workgroup that includes a set of sector-specific strategies for actions that should be taken within that domain to make significant progress toward the realization of the "2020 Vision for a High Quality, High Value Maternity Care System" within the next five years • A succinct set of recommended action steps developed to implement the needed initiatives and a timeline for expected results • Priority strategies and feasible initiatives outlined in each of	• Five workgroup reports and recommendations presented at the TMC Symposium • Final workgroup reports published online on the Childbirth Connection website as a resource and template for stakeholders who wish to implement sector-specific strategies and actions steps for maternity care system improvement, supplementary to the Blueprint for Action • Workgroup reports and recommendations synthesized into a Blueprint for Action by the Candidate in collaboration with and

Corry, 2008); 3) A draft of the "2020 Vision for a High Quality, High Value Maternity Care System" to serve as the focal point for the development of concrete, sector-specific recommendations for system change and comprehensive quality improvement over the first five-year period; 4) Resource folders on the SharePoint site where Childbirth Connection staff and workgroup members could post resource materials for each critical focus area • Five stakeholder workgroups whose members represent a broad range of stakeholder perspectives, including the	participation of key representatives across their stakeholder sectors • Stakeholder workgroup chairs and co-chairs reviewed and strengthened the vision-setting paper to ensure buy-in to the vision that will stimulate workgroup reports and recommendations • Task allocation, scheduling of group meetings, and joint document development and editing using SharePoint • Regular conference calls with each full group and smaller subgroups of lead authors for specific critical focus areas, facilitated by the Candidate for three groups and colleague Sakala for two groups • Discourse within an open dialogic	the first four and 1-2 other selected focus areas that should be undertaken within the stakeholder sector to move toward the desired state in the first five-year period • Lead responsibilities designated within the sector for carrying out proposed strategies and action steps • Likely challenges and achievable solutions identified for carrying out proposed strategies and action steps • Mechanisms for coalition and collaboration identified across stakeholder sectors	the TMC Symposium Steering Committee who will issue this report for policy deliberation and uptake by system stakeholders and decision makers

intersecting and sometimes competing interests that affect quality and value in U.S. maternity care: consumers and their advocates; health plans, public and private purchasers, and liability insurers; hospitals, health systems and other delivery models; maternity care clinicians and health professions educators; and quality and measurement experts • Choice among twelve critical topic areas: the first four are common core topics required by all workgroups, who were then asked to choose two or more from among the subsequent eight additional topics (no group chose to address Research	framework to conduct all group work • Creative problem solving • Negotiated consensus: Workgroup members are encouraged to come to consensus whenever possible. Consensus is defined as general agreement, but not necessarily unanimity, and includes a process for attempting to resolve concerns; as long as all comments have been fairly considered, each member is advised of the disposition of his or her suggestion(s) and the reasons why, and the consensus body members are given an opportunity to change their opinions after reviewing the resulting draft. Complete consensus is optimal, yet may not always be possible; thus, papers		

Gaps) : 1)Performance measurement and leveraging of results; 2) Payment reform to align incentives with quality; 3) Improved functioning of the liability system; 4)Disparities in access and outcomes of maternity care; 5)Scope of covered services for maternity care; 6) Clinical controversies: home birth, VBAC, vaginal breech and twin birth, elective induction, and cesarean section without indication; 7)Decision making and consumer choice; 8) Scope, content and availability of health professions education; 9) Workforce composition and distribution; 10) Development and use of health information	may describe majority and minority perspectives in their reports and recommendations • Externalized group memory in the form of meeting minutes and posted drafts • Identification by consensus of critical focus areas specific to the stakeholder sector where change is needed: all groups address the first 4 topics, then choose 2 or more further topic areas from the list • Assignment to each group of a liaison from Steering Committee and from Vision Team, who could be called on for support and had option to actively participate • Group development of first draft documents following a provided template report format		

technology; 11)Coordination of maternity care, across time, settings and disciplines; 12) Research gaps	with support and editorial assistance from the Candidate for three groups, and colleague Sakala for two groups • Workgroups submit a first draft and receive comments from the TMC Symposium Steering Committee, then revise and complete report and recommendations taking into consideration Steering Committee feedback • Each report is finalized under editorial direction of the Candidate, and circulated to two discussants invited to provide prepared responses to each of the stakeholder group recommendations during the TMC Symposium • Workgroup chairs present stakeholder		

	sector reports and recommendations in a public forum at the TMC Symposium • Workgroup members finalize their reports taking into consideration audience feedback collected during the TMC Symposium and during an online comment period of a few weeks following the event • Final workgroup reports posted online at Childbirth Connection website		

Logic Model for the Blueprint for Action: Steps Toward a High Quality, High Value Maternity Care System

Inputs	Activities or Processes	Outputs/Outcomes	Impact
• Draft version of the "2020 Vision for a High Quality, High Value Maternity Care System" • Five sector-specific stakeholder workgroup reports • Multi-disciplinary TMC Symposium Steering Committee • Direction by the Candidate • Eleven critical focus areas for maternity care system change addressed by stakeholder workgroups: 1)Performance measurement and leveraging of results; 2) Payment reform to align incentives with quality; 3)Improved functioning of the	• Candidate unpacks the recommendations from each sector-specific report and reorganizes them according to the eleven identified critical focus area topics • For each critical focus area topic Candidate extracts and codes themes across all recommendations • Candidate groups the extracted themes into a logical organizing framework to identify three to four major recommendations per critical topic area • Candidate orders major recommendations for each topic area • Candidate identifies	• Executive Summary produced, including Major Recommendations at a Glance • Problem Statement, System Goals, and Major Recommendations and Action Steps outlined for eleven critical focus areas for maternity care system change	• A roadmap for broad-based maternity care system improvement published in a first-tier, peer-reviewed journal for wide dissemination • Comprehensive, concrete recommendations and action steps identified to move from the current state toward the articulated "2020 Vision for a High Quality, High Value Maternity Care System" • Actionable answers provided to the fundamental question: "Who needs to do what, to, for, and with whom to improve the quality of maternity care over the next five years?"

liability system; 4)Disparities in access and outcomes of maternity care; 5)Scope of covered services for maternity care; 6) Clinical controversies: home birth, VBAC, vaginal breech and twin birth, elective induction, and cesarean section without indication; 7)Decision making and consumer choice; 8)Scope, content and availability of health professions education; 9)Workforce composition and distribution; 10) Development and use of health information technology; 11)Coordination of maternity care, across time, settings and disciplines	similarities and convergence among strategies proposed by different stakeholder workgroups for each recommendation, and in those cases, synthesizes such strategies into a balanced composite, retaining essential aspects of the original individual strategies • For strategies that are discrete to one sector and represent a priority action to achieve the major recommendation, Candidate retains the original strategy • Candidate submits draft to TMC Symposium Steering Committee, the five Stakeholder workgroup chairs and selected topical experts from the TMC leadership list and solicits review		

	feedback • Candidate incorporates review feedback and provides written response to each reviewer detailing the disposition of the input • Blueprint undergoes peer review by guest editorial panel appointed by the publishing journal, *Women's Health Issues* • Candidate implements changes to address peer review feedback and provides written response to each reviewer detailing the disposition of the input • Candidate submits final version of the Blueprint for Action to the TMC Symposium Steering Committee and receives approval and		

	sign-off from all members, who will jointly issue the paper		

The Blueprint for Action is a compendium of actionable steps to improve the U.S. maternity care system in eleven critical focus areas. In order to carry out the actual work required to achieve the desired impact in a change model such as that presented in the Blueprint for Action, interested stakeholders will need to formulate and execute a logical process that uses evaluative data to build knowledge and shape decisions. Building upon the conceptual framework of the scientific method, all effective quality improvement projects implement a system for systematically testing ideas and collecting data to evaluate their results. One example of such a process is embodied in the well-known quality improvement framework, the Plan-Do-Study/Check-Act cycle (Plsek, 1993). In the following section, a systematic process model with outcome metrics for implementing selected Blueprint recommendations has been developed. These examples are included with the aim of providing an illustration of the kind of detailed model that, if implemented, could move Blueprint recommendations effectively forward to reach the desired impact, an answer to the question, "Who needs to do what to improve quality and value of care for each individual woman and family in the U.S. maternity care system?" The following examples show how one could take strategies from the Blueprint for Action and thoughtfully create a workable agenda for maternity care system quality improvement in the critical focus area of Performance Measurement and Leveraging of Results over the next five years, with examples that reflect the current policy environment and recent passage of the Patient Protection and Affordable Care Act (PPACA) and related provisions. These examples are provided to illustrate, in the hypothetical, how implementation of selected Blueprint recommendations could be approached using a project mapping plan, and are not intended to imply the involvement

of those entities listed in the process models provided. Process models with hypothetical outcome metrics are included for recommendations related to filling gaps to a achieve a full set of performance measures for maternity care, making sure that introduced measures do not represent an undue burden to end-users, and developing a functional national performance reporting system.

Blueprint for Action: Selected Recommendations in the area of Performance Measurement and Leveraging Results

Process Model and Outcome Metrics

Performance Measurement Major Recommendation #1: Fill gaps to obtain a comprehensive set of high-quality national consensus measures to assess processes, outcomes, and value of maternity care; care coordination; and experiences of women and families.	
Strategy #1: **Support development, testing, and refinement of priority measures to submit to NQF.**	
Step 1: Undertake a multi-stakeholder review and consensus process to identify a minimum list of priority measures needed	
What is measurable?	List of priority maternity care measured to be developed
Where does this information come from?	A maternity care performance measurement consortium made up of National Priorities Partners (NPP) members, and members of Childbirth Connection TMC stakeholder workgroups. This consortium should be managed and administered through a public-private partnership through the National Quality Forum (NQF), the Agency for Healthcare Research and Quality (AHRQ), and Childbirth Connection, to be established for this purpose.
Who is responsible for measuring the outcome?	NQF is an independent, national, non-profit organization whose mission includes assembling multiple stakeholders to define and reach consensus on priority needs for performance measures through its NPP, and evaluating and endorsing national voluntary consensus standards for performance measurement that are developed and submitted by stakeholders in the field of health care.

Step 2: Identify a comprehensive list of potential funding organizations, to include but not be limited to: government agencies (AHRQ), maternity care professional organizations (e.g., ACOG, ACNM, AWHONN, AAFP, NACPM), large maternity care delivery systems (e.g., HCA, Intermountain, Ascension, Magee, Geisinger)	
What is measurable?	The number of funding organizations who have agreed to provide financial support
Where does this information come from?	Funding databases from Childbirth Connection and other quality organizations
Who is responsible for measuring the outcome?	Public-private partnership between NQF, AHRQ, and Childbirth Connection. The Agency for Healthcare Research and Quality (AHRQ) is the lead Federal agency charged with improving the quality, safety, efficiency, and effectiveness of U.S. health care, which is does by developing successful partnerships and generating knowledge and tools for long-term improvement. Childbirth Connection is a national non-profit organization whose mission is to improve the quality of maternity care through research, education, advocacy, and policy; the Transforming Maternity Care project is its major policy initiative. These three entities in partnership would provide the most effective vehicle for implementing these recommendations and stewarding the process to achieve success.
Step 3: Analyze the cost to develop, field test, and sponsor one performance measure	
What is measurable?	Number of measures for which funding is secured at budgeted cost
Where does this information come from?	Survey of health organizations that submitted measures to NQF in first round of perinatal measures in 2008
Who is responsible for measuring the outcome?	Project manager, Public-private partnership between NQF, AHRQ, and Childbirth Connection

Step 4: Develop RFP and disseminate to potential applicants (U.S. maternity care delivery organizations and quality collaboratives)	
What is measurable?	Number of RFP applications sent out, number of applicants yielded from total number sent
Where does this information come from?	Project database, derived from all partner funding organizations
Who is responsible for measuring the outcome?	Project manager, Public-private partnership between NQF, AHRQ, and Childbirth Connection
Step 5: Evaluate proposals according to predetermined criteria	
What is measurable?	Number of applicants that meet criteria for funding
Where does this information come from?	Project database, derived from list of total applicants
Who is responsible for measuring the outcome?	Project manager, Public-private partnership between NQF, AHRQ, and Childbirth Connection
Step 6: Evaluate percentage of the total number of priority measures needed that are in the pipeline	
What is measurable?	Number of measures under development
Where does this information come from?	Project database, derived from list of priority measures developed in Step 1.
Who is responsible for measuring the outcome?	Project manager, Public-private partnership between NQF, AHRQ, and Childbirth Connection
Step 7: Evaluate ultimate outcome of process undertaken to support development, testing, and refinement of priority measures to submit to NQF	
What is measurable?	Number of test measures submitted to NQF for endorsement
Where does this information come from?	NQF
Who is responsible for measuring the outcome?	NQF perinatal measures project director

Performance Measurement Major Recommendation #2: Improve availability and ease of collection of standardized maternity care data, both to encourage high-quality clinical care and to allow performance measurement and comparison.	
Strategy #1: Establish a uniform dataset (UDS) of maternity care variables and a standard data dictionary. Include items needed for provision of high-quality clinical care and its coordination across sites and professionals, as well as data needed to fill gaps in existing maternity care performance measures. Work in concert with those identifying and developing priority measures.	
Step 1: Engage the Office of the National Coordinator of Health Information Technology, charged with leading the implementation of a nationwide interoperable, privacy-protected health information technology infrastructure as called for in the American Recovery and Reinvestment Act, to provide funding and oversight for this project	
What is measurable?	• Funding allocated to maternity UDS and electronic health record project • Staff allocated to project
Where does this information come from?	A multi-stakeholder coalition convened by the Office of the National Coordinator of Health Information Technology for the purpose of creating a national consensus standard maternity UDS. This coalition is charged with lobbying for the implementation of this strategy, and engaging concretely in the process required to achieve its completion. Members should include representative leaders from the consumer, clinical, health delivery and payment, and health information technology sectors, as well as NQF Perinatal Steering Committee and Health Information Technology Expert Panel (HITEP) members. Input should be obtained from the American Association of Birth Centers (AABC) and Midwives Alliance of North America (MANA), who have made extensive progress on developing uniform maternity datasets.
Who is responsible for measuring the outcome?	U.S. Department of Health and Human Services, Office of the National Coordinator of Health Information Technology

Step 2: Undertake a multi-stakeholder review and consensus process to identify essential variables for inclusion in a UDS and data dictionary for maternity care	
What is measurable?	• Number, representativeness and diversity of participants in the coalition • Degree of consensus on variables to be included in dataset
Where does this information come from?	Maternity care UDS project, housed at Health and Human Services, Office of the National Coordinator of Health Information Technology
Who is responsible for measuring the outcome?	Maternity care UDS project coordinator, HHS
Step 3: Evaluate existing maternity care uniform datasets and extract best elements for inclusion in a model national, voluntary, consensus standard maternity care UDS	
What is measurable?	Number of variables from existing UDS projects evaluated
Where does this information come from?	AABC, MANA, entities with experience enacting CHIPRA quality provisions calling for the development of model EHR incorporating performance measures, and other entities as revealed by comprehensive search strategy
Who is responsible for measuring the outcome?	Maternity care UDS project coordinator, HHS
Step 4: Identify core working group of measurement experts, and clinical advisors, and IT specialists to develop model maternity care UDS, including a data dictionary of standard terms, with consideration and planning for ease of collection and incorporation into interoperable HIT platforms, reporting to coalition and HHS Maternity care UDS project coordinator	
What is measurable?	• Successful recruitment of technical experts • Completion of model UDS
Where does this information come from?	A core working group recruited from and in consultation with the multi-stakeholder coalition in Step 1, Childbirth Connection TMC stakeholder workgroups, NQF Perinatal Measures Steering Committee, Office of the National Coordinator of Health IT
Who is responsible for measuring the outcome?	Maternity care UDS project coordinator, HHS

Step 5: Submit draft model maternity care UDS for public review and comment as well as expert external peer review, evaluate responses, and incorporate those with merit and feasibility	
What is measurable?	• Number of calls for public comment sent out • Number of reviewers solicited • Number of responses
Where does this information come from?	Maternity care UDS project, housed at Health and Human Services, Office of the National Coordinator of Health Information Technology
Who is responsible for measuring the outcome?	Maternity care UDS project coordinator, HHS
Step 6: Pilot UDS among multiple stakeholders who are intended end-users and solicit feedback through structured evaluation survey to determine acceptability, perceived utility, and ease of collection	
What is measurable?	Performance of the UDS as measured by predetermined criteria
Where does this information come from?	Pilot sites
Who is responsible for measuring the outcome?	Maternity care UDS project coordinator, HHS
Step 7: Incorporate needed changes based on pilot outcomes, and develop a mechanism and criteria for regular review, incorporation of new nationally endorsed maternity care performance measures, and retirement of variables that do not meet criteria	
What is measurable?	• Number and interval of review meetings • Number of new measures incorporated • Number retired variables
Where does this information come from?	Maternity care UDS project, housed at Health and Human Services, Office of the National Coordinator of Health Information Technology
Who is responsible for measuring the outcome?	Maternity care UDS project coordinator, HHS

Performance Measurement Major Recommendation #3: Create and implement a national system for public reporting of maternity care data to all relevant stakeholders so that they can be leveraged to improve maternity care.	
Strategy #3: Begin implementation with pilots to identify barriers to wholesale implementation that may result due to administrative variation across and within systems, and scale up to a standard, systemic reporting program.	
Step 1: Recruit The Joint Commission to convene a multi-stakeholder group to identify an initial core subset of national consensus measures for rapid reporting focused on intrapartum hospital care, because measures addressing this phase of care are already endorsed, and this segment of care is about five times as costly as the prenatal and postpartum segments and poses many opportunities for quality improvement	
What is measurable?	Number of nationally endorsed maternity care performance measures included in initial reporting set
Where does this information come from?	NQF
Who is responsible for measuring the outcome?	Performance Reporting project coordinator, The Joint Commission. The Joint Commission, supports NQF in its efforts to develop and endorse national voluntary consensus standards for performance in healthcare. It issues core hospital measure sets from among NQF-endorsed measures for reporting to consumers, payers and to inform quality improvement efforts, and for use in Joint Commission facility accreditation surveys. TJC works to collaborate with other national entities, such as the Centers for Medicare and Medicaid Services and the Hospital Quality Alliance to harmonize measures and reporting efforts.
Step 2: Compare and contrast reporting practices from successful regional programs such as the Northern New England Perinatal Quality Improvement Network and the European Union's PERISTAT program to identify best reporting practices	
What is measurable?	Number of best practices identified for inclusion in standard national perinatal performance reporting system
Where does this information come from?	NNEPQIN, PERISTAT, others identified through a

	comprehensive search strategy
Who is responsible for measuring the outcome?	Performance Reporting project coordinator, The Joint Commission
Step 3: Incorporate reporting provisions from CHIPRA legislation to the large proportion of the maternity care population included under adults covered by Medicaid, as directed in the Patient Protection and Affordable Care Act	
What is measurable?	Number of CHIPRA/PPACA provisions identified for inclusion in standard national perinatal performance reporting system
Where does this information come from?	CHIPRA/PPACA
Who is responsible for measuring the outcome?	Performance Reporting project coordinator, The Joint Commission
Step 4: Secure funding and project oversight through a public-private partnership between MACPAC and the JC to pilot reporting system through collaborative Regional Health Information Organizations (RHIOs). Disseminate RFP for demonstration projects including state Medicaid programs in partnership with local private payers and consumer representatives, provider groups and care delivery systems.	
What is measurable?	• Total funds allocated to RFP for RHIOs • Number of applicants to RFP • Number of RHIOs constituted
Where does this information come from?	MACPAC-JC
Who is responsible for measuring the outcome?	Performance Reporting project coordinator, The Joint Commission
Step 5: Incorporate needed changes to reporting system based on demonstration outcomes, and develop a mechanism and criteria for regular review, incorporation of new nationally endorsed maternity care performance measures for reporting, and retirement of variables that do not meet criteria	
What is measurable?	• Number and interval of review meetings • Number of new measures incorporated for reporting • Number retired variables

Where does this information come from?	Multi-stakeholder Performance Reporting Project, housed at the Joint Commission
Who is responsible for measuring the outcome?	Performance Reporting project coordinator, The Joint Commission

TMC Project Results

Special Themed Supplement in a Peer-Reviewed Public Health Policy Journal

The primary short-term outcome of the TMC Project is the publication of a special themed issue of *Women's Health Issues*, the academic journal of the Jacobs Institute of Women's Health at the George Washington University School of Public Health and Health Services. The Candidate and colleagues Corry and Sakala served as guest editors for this special issue of the journal. This supplement includes a major direction-setting vision, the "2020 Vision for a High Quality, High Value Maternity System" and a comprehensive roadmap for broad-based maternity care system improvement, the "Blueprint for Action: Steps Toward a High Quality, High Value Maternity Care System", as well as the summary of key informant interview outcomes, and the Proceedings from the Childbirth Connection 90th Anniversary Symposium, Transforming Maternity Care: A High Value Proposition. The TMC Project, including the symposium and all published outcomes were developed under the direction of the Candidate, who is primary writer, co-author, and corresponding author of these jointly issued papers. The supplement also includes a commissioned paper authored by Anne Rossier Markus and Sara Rosenbaum of the George Washington School of Public Health and Health Services on the role of the Medicaid program in improving access and quality in maternity care. The two major direction setting papers, the "2020 Vision for a High-Quality, High-Value Maternity Care System" and the "Blueprint for Action: Steps Toward a High-Quality, High-Value Maternity Care System," were published for widespread dissemination to stakeholders in each of the domains with a major interest in the U.S. maternity care system, as well as the broader health care system, and are presented here as the primary

outcome of the TMC project. The hope and expected outcome is that they will elicit debate and deliberation by maternity care decision makers and policymakers, and provide a focal point and concrete direction for system-wide improvement, leading to action designed to achieve needed system change.

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2020 VISION FOR A HIGH-QUALITY, HIGH-VALUE MATERNITY CARE SYSTEM

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A concrete and useful way to create an action plan for improving the quality of maternity care in the United States is to start with a view of the desired result, a common definition and a shared vision for a high-quality, high-value maternity care system. In this paper, we present a long-term vision for the future of maternity care in the United States. We present overarching values and principles and specific attributes of a high-performing maternity care system. We put forth the "2020 Vision for a High-Quality, High-Value Maternity Care System" to serve as a positive starting place for a fruitful collaborative process to develop specific action steps for broad-based maternity care system improvement.

Introduction

A concrete and useful way to create an action plan for improving the quality of maternity care in the United States is to start with a view of the desired result, a common definition and a shared vision for a high-quality, high-value maternity care system. In this paper, we present a long-term vision for the future of maternity care in the United States. We present overarching values and principles and specific attributes of a high-performing maternity care system. We put forth the "2020 Vision for a High-Quality, High-Value Maternity Care System" to serve as a positive starting place for a fruitful collaborative process to develop specific action steps for broad-based maternity care system improvement.

In preparation for Childbirth Connection's *Transforming Maternity Care* symposium, this vision paper was provided to the members of five stakeholder workgroups, who were asked to develop sector-specific recommendations for moving toward the ideal model it describes (summaries of the stakeholder reports appear in the Symposium Proceedings included in the current special supplement issue; the full reports are available online at www.childbirthconnection.org/workgroups). These five stakeholder reports form the basis for a comprehensive "Blueprint for Action" that also appears in this issue.

2020 Vision Methodology

In April, 2008, Childbirth Connection convened a "Vision Team" of innovators in maternity care delivery and health systems design from diverse backgrounds to develop a definitional framework of fundamental values, principles, and goals for a high-quality, high-value maternity care system that could serve as a focal point to inspire improvement strategies. To benefit from of a broad range of expert perspectives and ensure the representation of essential viewpoints, we assembled contributors to this vision with a wide array of disciplinary expertise that includes childbirth education, community/public health consumer advocacy, employer perspectives, family medicine, general obstetrics and gynecology, health economics, health

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policy, health system administration, labor support, maternal-fetal medicine, maternity nursing, nurse-midwifery, and quality and measurement research in health care.

The team came together for a 1-day, intensive, creative planning conference held in San Francisco in April 2008. A skilled professional facilitator with extensive experience in strategic visioning for health care helped guide the proceedings. This meeting generated a rich graphic report and taped transcripts, which were refined into the Vision Paper through a process of group input and discussion via telephone and e-mail over a period of months. The final paper was peer reviewed by the Symposium Steering Committee and all Stakeholder Workgroup Chairs.

The "2020 Vision for a High-Quality, High-Value Maternity Care System" reflects the collaborative work and consensus viewpoints of the Vision Team. Consensus was defined as general agreement although not necessarily unanimity among team members, and was reached through a process of discussion to resolve individual concerns to the satisfaction of all participants.

Before the Vision Team meeting, all participants received pre-publication copies of "*Evidence-Based Maternity Care: What It Is and What It Can Achieve*" (Sakala & Corry, 2008), as well as Donald Berwick's *Health Affairs* article, "A User's Manual for the IOM's 'Quality Chasm' Report" (2002) and the "Sicily Statement on Evidence-based Practice" (Dawes et al., 2005). The latter provides a standard definition of evidence-based practice and the core critical appraisal skills and education necessary for health care providers.

The Vision Team also received a compendium of systematic reviews and better quality evidence of the effectiveness of different core elements of the maternity care system. This compendium was derived from the body of Childbirth Connection's work over the past decade to compile and disseminate systematic reviews on the effectiveness of all aspects of maternity care, through its online evidence-based maternity care resource directory and quarterly evidence columns published simultaneously in two peer-reviewed clinical care journals. The compendium provided to the Vision Team was composed of systematic reviews published through April 2008, focused on elements of the structure and organization of maternity care, which included various models for provision of maternity care, cadres of professionals who care for childbearing families, and settings where maternity care is provided, including the physical environment. On core topics for which no recent systematic review was available, high-quality substitutes were provided and noted as such. A bibliography of these sources is posted online at www.childbirthconnection.org/vision. These background resources were used to provide a general framework grounded in evidence-based maternity care to serve as a foundation for the ensuing vision.

The team worked together to generate a vision for the highest quality and value maternity care system under the assumption of no constraints. Consistent with the Institute of Medicine (IOM) definition, quality is defined as the degree to which maternity care services provided to individuals and populations increase the likelihood of optimal health outcomes and are consistent with current knowledge (IOM, 2001). Value is defined as the optimal cost to quality ratio in the delivery of maternity care services. In contrast, consideration of values and principles takes account of moral, ethical, and cultural issues important to consumers and other stakeholders.

Vision Structure and Content

The team developed a statement of general values and principles that apply across the continuum of maternity care. These values and principles present maternity care-specific definitions to describe critical dimensions of quality and value, using and elaborating on the framework put forward in the IOM's landmark report, *Crossing the Quality Chasm* (2001).

In 2002, Donald Berwick published a "user's manual" for the *Crossing the Quality Chasm* report. In it, he described the framework that its authors used to plan, discuss, and propose health system change and redesign. The Vision Team used Berwick's paradigm of four levels of care (labeled A through D) to achieve granularity and specificity in looking at maternity care system change. When applied to maternity care, the four levels are: A) the experience of women, their families and support networks, B) the clinical microsystems that provide direct maternity care, C) the hospitals and health care organizations that house and support clinical microsystems, and D) the environment of policy, payment, regulation, accreditation, litigation, and other macro-level factors that influence the delivery of maternity care. The group generated goals for each level of care. Features of care that apply across the continuum of maternity care were incorporated into the Values and Principles, and features specific to a particular phase of care were incorporated into the summary of goals for that phase.

For Care Levels A and B (women and their support networks, and the microsystems that provide direct care), the Vision Team divided maternity care into three phases: 1) care during pregnancy, 2) care around the time of birth, and 3) care after birth. For each phase of care, the group considered: 1) the woman's experience of care, 2) the key features of care, 3) the key participants involved, and 4) the settings and locations of care.

In keeping with the definition adopted by the Symposium Steering Committee for the overall symposium, the team defined the scope of maternity care as follows: *Care during pregnancy* begins with confirmation of pregnancy and continues until the onset of labor. *Care around the time of birth* comprises the care

that begins with labor and continues until mother and baby are stable at home. *Care after birth* is conceived as a continuum that includes all care delivered within the first 6 weeks of life of the newborn and extends forward across time, settings, and disciplines to anticipate and respond to continuing and new-onset mental, physical, and social needs of the mother, baby, and family.

The *Transforming Maternity Care* project does not address the pre- and interconceptional periods for two reasons. First, the focus on maternity care during pregnancy, around the time of birth, and in the initial period after birth is in itself a large, challenging scope of work. Second, although the importance of pre- and interconceptional health for childbearing is well recognized, the current scientific literature reveals very little high-level evidence about the positive impact of specific interventions during these periods on childbearing, as clarified by recent commentators (Atrash et al., 2008; Jack, Atrash, Bickmore, & Johnson, 2008) and a new Cochrane review (Whitworth & Dowswell, 2009). In keeping with its direction-setting goal, the "2020 Vision" contextualizes maternity care within a coordinated, integrated system of life-span, family-oriented, preventive and supportive health care, and calls on the stakeholders to develop actionable strategies to ensure the integration of evidence-based interventions for the periods before and between pregnancy.

All Vision Team members agree on the fundamental values and principles expressed in the "2020 Vision for a High-Quality, High-Value Maternity Care System"; their application to maternity care practice and the delivery of maternity care services is beyond the scope of the Vision Team's work. With this paper, the Vision Team aims to provide both reasoned rationale and motivation to stakeholders and decision makers whom it calls on to implement the vision.

Values and Principles for a High-Quality, High-Value Maternity Care System

The IOM's landmark 2001 report, *Crossing the Quality Chasm*, called for a fundamental redesign of the U.S. health care system. The report provided a rational framework for improvement through six dimensions of care. In accordance with this framework, the mission of a maternity care system that delivers the highest quality and value is to achieve optimal health outcomes and experiences for mothers and babies through the consistent provision of woman-centered care grounded in the best available evidence of effectiveness with least risk of harm, and the best use of resources. Such care is provided in ways that are safe, effective, timely, efficient, and equitable for all women and their families. The ideal maternity care system protects, promotes, and supports physiologic childbirth, and optimal experiences for childbearing women based on shared decision making and respect for informed choice; provides care that is coordinated, evidence-based, and subject to ongoing performance measurement and quality disclosure; and promotes a work environment that is satisfying and fulfilling for its caregivers.

Six Aims Applied to Maternity Care

These aims serve as a foundation for our vision. The Vision Team elaborated on each of these aims to describe their distinctive features within the context of maternity care in the United States:

Woman-centered means that care respects the values, culture, choices, and preferences of the woman, and her family, as relevant, within the context of promoting optimal health outcomes. It means that all childbearing women are treated with kindness, respect, dignity, and cultural sensitivity, throughout their maternity care experiences.

- Pregnancy and birth are unique for each woman. Women and families hold different views about childbearing based on their knowledge, experiences, belief systems, culture, and social and family backgrounds. These differences are understood and respected, and care is adapted and organized to meet the individualized needs of women and families.
- To promote positive maternity care experiences, care teams engage in high-quality relationships with women and their families, based on mutual respect and trust.
- Caregivers and settings have a powerful effect on childbearing women. Attention is given to the power of language, communication, and care practices to create a climate of confidence and enhance outcomes of care, as well as women's childbearing experiences.

Safe means that care is reliable, appropriate, and provided in systems that foster coordination, a culture of safety, and teamwork to produce the best outcomes for women and babies and minimize the risk of harm. Maternity care processes impact outcomes for both mothers and babies; safe care considers and balances the risks and benefits to both recipients, taking into account the health status of each.

Effective means that the care is based on sound evidence applied properly to the circumstances of the individual pregnant woman and her baby to achieve desired outcomes. Effective care minimizes overuse, underuse, and misuse of care practices and services and emphasizes care coordination to prevent duplication, omission, fragmentation, and error.

Timely means that care delivery is structured so that all care is delivered at the time that it is needed. In

maternity care, this means that the timing of the onset and course of all stages of labor and the birth of the baby are determined by maternal–fetal physiology whenever possible, and not by time pressures exerted externally without clear medical indication. In the context of informed consent/refusal in maternity care, timely means that whenever possible discussions and information to facilitate women's decision making around the time of birth are available well in advance of the onset of labor and again as relevant during labor. Finally, unnecessary wait times do not compromise safety, system efficiency, cost effectiveness, and satisfaction with maternity care.

Efficient means that the maternity care system delivers the best possible health outcomes and benefits with the most appropriate, conservative use of resources and technology. Overuse and misuse of treatments and medical interventions are avoided because they waste resources and can result in preventable iatrogenic complications. Similarly, efficient maternity care captures the unrealized benefits from effective underutilized measures.

Equitable means that all women and families have access to and receive the same high-quality, high-value care. Any variation in maternity care practice is based solely on the health needs and values of each woman and her fetus/newborn, and not on other extrinsic, nonmedical factors. Furthermore, an equitable maternity care system addresses disparities in the baseline health status of women related to class, race, ethnicity, and language to ensure optimal maternity care outcomes and experiences for every woman and her children.

Further Foundational Values and Principles for Maternity Care

In addition, the following values and principles are foundational to our vision for a maternity care system of highest quality and value.

Life-changing experience. Pregnancy, labor and birth, and the early postpartum and newborn period are important life-changing and memorable times in the lives of women and their families. Taken together, they represent a time of great opportunity to promote and improve health, because women and families often are greatly motivated to improve their lives at this time. The outcomes and experiences of childbearing have wide-ranging impact.

Care processes protect, promote, and support physiologic childbirth. Women and their fetuses/newborns share complex innate, mutually regulating, hormonally driven processes that constitute the biological foundation for childbearing. These physiologic neuroendocrine feedback mechanisms facilitate the period from the onset of labor through birth of the baby and placenta, as well as the establishment and continuation of breastfeeding and the development of mother–baby attachment. These processes confer physical, psychological, and social benefits. The complex hormonal orchestration of the process of parturition taken in its entirety constitutes physiologic childbirth.

Effective care with least harm is optimal for childbearing women and newborns. This entails conservative, preventive practices and support for physiologic childbearing for all women and babies without significant complications, for whom unnecessary intervention is likely to incur more harm than benefit. The majority of childbearing women are healthy and have good reason to expect an uncomplicated pregnancy and birth and a healthy newborn. Thus, practice variation for low-risk women is minimized under the principle that any intervention in the physiologic processes of pregnancy and childbirth must be shown to do more good than harm. Higher levels of care are only appropriate for those with a demonstrated need. Women and fetuses/newborns who experience complications, adverse situations, and unexpected outcomes require additional treatment and support tailored to their individual needs.

To this end, all providers of maternity care recognize, protect, promote, and support physiologic childbirth; respond appropriately to complications; and receive adequate training to do both. Protection of physiologic childbearing involves avoiding disruption and interference (e.g., unnecessary interventions, noise, personnel), promotion involves the health system (e.g., research, education, measurement, policies, values), and support involves skillful facilitation (e.g., comfort measures, encouragement, supportive care).

Care is evidence-based. Maternity care policy and practice evolve with the emergence of new research evidence and new ability to refine research methods. There is a focus on continuous critical appraisal of the existing research literature and investment in the ongoing study of the comparative effectiveness of a wide array of practices and approaches in maternity care, using a variety of validated methodologies in keeping with the mandate of the "Sicily Statement on Evidence-based Practice", to continue to advance toward optimal care, defined as effective care with least harm, for all childbearing women and their fetuses/babies.

Quality is measured and performance is disclosed. Quality measurement and disclosure through public reporting are essential features of a high-performing maternity care system. They are critically important to those who seek, provide, purchase, and pay for maternity care. System capacity is enhanced to evaluate and report the quality and outcomes of care at clinician,

facility, health plan, and other levels. Both performance measurement and public reporting are inherent in the obligation to advance knowledge of the effects of care. A comprehensive set of nationally endorsed, evidence-based consensus standards to assess the quality of prenatal, intrapartum, and postpartum services is in place to foster system-wide capacity for quality improvement, and these standards are regularly incorporated into care at all levels. Consumers have excellent support for understanding and using performance measures and other quality measures to make informed health care decisions. Health professionals and systems have ready access to reliable measures to support continuous quality improvement. Purchasers and payors have access to results of performance measurement to inform value-based purchasing decisions.

Care includes support for decision making and choice.

- *Decision making.* Support for shared decision making is built into care at every level. Shared decision making is an ongoing, interactive process that takes place between childbearing women and their caregivers. To make fully informed decisions, women receive complete, objective information based on the best available research. This includes information about known benefits, harms, and areas of uncertainty associated with care offered to them, and with other available options, including the decision to avoid intervention. Such information is available to all women in a variety of consumer-friendly formats through trustworthy sources. Consistent with highest standards for informed consent and informed refusal processes, such information is discussed in a shared decision-making process that allows for the desired level of family involvement, conducted in language that is understandable and at a time that is conducive to optimal information processing, whenever possible. It includes support in the form of decision aids, values clarification, and discussions of risk expressed in terms of probability.
- *Choice.* Women have the opportunity and the responsibility to make informed choices about their care from early pregnancy through the postpartum period. The ultimate control over choices surrounding the events of pregnancy and birth resides primarily with the woman, who has access to the full range of safe and effective care options, including choice of care providers, care settings, family participation, labor companions, help with labor pain, mode of birth, and infant feeding method. Following a supportive, shared decision making process, caregivers respect and honor a woman's informed choices and her right to change her mind.

Care is coordinated. Highest quality and value in maternity care are increased through seamless, effective coordination of care across settings and disciplines to maximize safety and efficiency and reduce waste. Care is coordinated to best meet the needs of mothers and their fetuses/newborns through effective teamwork, communication, coordinated management of care plans and provider responsibilities, medication reconciliation, and other shared information using electronic health records and interoperable data systems. There is particular attention to transitions of care, including from pregnancy to childbirth to postpartum care, and between settings or providers of care, to ensure consistent consideration of the woman's health history, values and wishes, plan of care, medications, and evolving needs.

Caregiver satisfaction and fulfillment is a core value. Caring for women, babies, and families during the critical time from pregnancy through the early postpartum period is both a great honor and a joy. To experience it as such, all caregivers in the maternity care system have a safe and respectful environment in which to practice, grow, and learn. This system welcomes and values caregiver contributions. It has and supports high standards of performance and respects the human needs and limits of providers. A just culture, grounded in a systems perspective and founded on appropriate assignment of accountability rather than individual blame, also protects caregivers from harm, and encourages continuous learning and professional development to maximize professional fulfillment and the ability to provide high-quality care.

Care Levels A and B: Women and Their Support Networks, and the Microsystems That Provide Direct Care

Applying Berwick's framework (2002) of four levels of care to the maternity care system, this section addresses key goals and principles for Care Levels A and B: women and their support networks, and the microsystems that provide direct care to them. It proposes a vision for the care experience of women and their support networks within a high-quality, high-value maternity care system, and describes the essential attributes and characteristics of the microsystem that reliably delivers such an experience.

Maternity care at Care Levels A and B is divided into three phases. The vision begins with a set of goal statements for each phase of maternity care—care during pregnancy, care around the time of birth, and care after birth—that describe the optimal experience of care from the perspective of the woman and her family and support network. This is followed by a description of the criteria for key participants and the principles that inform decisions about who takes part in providing high-quality, high-value care during each phase.

Principal considerations concerning decisions about settings, locations, or the environment of care that are conducive to the realization of the vision goals in each phase are also described.

Care During Pregnancy: Summary of Goals

1. Each woman is engaged as a partner in her own care and education during pregnancy; she receives affirmation and practical support for her role as the natural leader of her care team to the extent that she so desires, and is encouraged to provide input to shape her own care.
2. Each woman's preferences are known, respected, and matched with individually tailored care that meets her needs and reflects her choices during pregnancy, delivered by a care team whose composition is also customized based on her needs and preferences.
3. Each woman has access to complete, accurate, up-to-date, high-quality information, decision support, and education to help ensure that she feels emotionally and psychologically prepared to make decisions during her pregnancy, and confident about her birth care options and choices well in advance of the onset of labor.
4. Education and care during pregnancy are designed and delivered to be empowering to women, emphasizing a climate of confidence.
5. Education and care during pregnancy include support for breastfeeding; most women make decisions about infant feeding well before they give birth.
6. Each pregnant woman receives personalized coaching and has access to high-quality resources for comprehensive health promotion, disease prevention, and improved nutrition and exercise for optimal wellness during her pregnancy.
7. Care during pregnancy is available when needed and can be accessed in a time and place that is convenient and accessible for each woman, as balanced with concerns for value and efficiency.
8. Care during pregnancy acknowledges the social context in which pregnancy occurs for each woman and includes opportunities for social networking and access to adequate professional and peer support during pregnancy.

Care Around the Time of Birth: Summary of Goals

1. Each woman has a comfortable, confident relationship of trust with her birth care provider(s).
2. Each woman is engaged as a partner in her own care around the time of birth; she receives affirmation and practical support for her role as the natural leader of her care team and approaches birth prepared and confident to express her preferences and make informed choices about key decisions for labor and birth.
3. Each woman can decide where to labor and give birth as appropriate based on her health status and that of her fetus/baby; she is free to make this choice without judgment and can change her mind without sanction, as an array of risk-appropriate birth setting choices is available and supported system wide.
4. Low-risk women planning hospital birth remain at home during early labor with adequate support and appropriate contact with their care team.
5. All maternity caregivers have knowledge and skills necessary to enhance the innate childbearing capacities of women. Each woman is attended in labor and birth in the manner that is most appropriate for her level of need and that of her baby and experiences only interventions that are medically indicated, supported by sound evidence of benefit, with least risk of harm compared with effective alternatives. Women and babies at high risk for complications for whom a higher level of specialized care is appropriate have specialty care available to them that adheres to the same basic values and principles.
6. Each woman is well-supported physically and emotionally throughout labor and birth; continuous labor support is built in to maternity care.
7. Each woman has access to a full-range of evidence-based, nonpharmacologic and pharmacologic strategies for pain management and relief as appropriate to each birth setting and to staff that is trained to implement them effectively.
8. Providers are trained to maintain skills and have system support to offer the fullest range of management options supported by evidence for women with special clinical circumstances.
9. Mothers and babies routinely stay together, skin to skin, receiving evidence-based care, support, and minimal disruption in the minutes and hours after birth to promote early attachment and the initiation of breastfeeding, whenever neither requires specialized care at this time.

Care After Giving Birth: Summary of Goals

1. Each woman, baby, and family receives care that effectively addresses their needs starting in the immediate postpartum period, and extending seamlessly forward across time, settings and disciplines to anticipate and respond to both continuing and new-onset mental, physical, and social needs that may develop throughout the first year of life and beyond.

2. Each woman receives strong support for breastfeeding through an array of community-based resources and the implementation of workplace supports for breastfeeding.
3. Each woman receives strong support for mother–baby attachment that includes educational offerings, experiential learning opportunities, and peer group support available through a web of services and support systems.
4. Each woman has adequate help to cope with the challenges of the period after birth, including physical changes, shifting priorities, changes in primary relationships, family planning, and issues related to sexuality, isolation, mother–baby codependence, and postpartum depression and other mood disorders. Care at this time includes opportunities to connect with people and services through innovative mechanisms and delivery models that emphasize community and social networking, and facilitate the development of longitudinal supportive relationships.
5. Each woman receives practical support at home as needed to cope with increased demands and fatigue in the period after birth and to develop confidence in her competence as a new mother. Each woman has access to social support, health care services and information, and practical advice and assistance in the period after birth. To this end, given consideration for value and efficiency, maternity care extends beyond the direct provision of health care services to routinely include postpartum services that facilitate optimal family development. This helps to ensure that each woman is valued and supported by society in her role as a new mother.

Key Participants

The goals for maternity care are best met by implementing a holistic, relationship-based model of care that is woman-centered, inclusive, and collaborative. Caregivers are included as dictated by the health needs, values, and preferences of each woman, taking into account her social and cultural context as she defines it, and given consideration for evidence of effectiveness, value, and efficiency.

In each phase, starting with *Care During Pregnancy*, maternity care is a team endeavor coordinated by a primary maternity care provider. Qualified primary providers of maternity care have completed an accredited education program, passed a board certification examination with a mechanism for certification maintenance, and are legally licensed to practice within their jurisdiction. Professional cooperation is a system priority. There is innovation to formalize the inclusion and effective functioning of more multidisciplinary team roles. The rules and systems of care are rewritten to make room for the advent of a variety of complementary coaches, advisors, and experts, who may be involved according to their scope of practice and as desired by each woman and indicated by her individual health needs and those of her fetus.

For *Care Around the Time of Birth*, each woman is able to assemble the team of caregivers that best meets her needs for ample support and safe, effective care with least risk for harm during labor, birth, and the immediate postpartum period. The goal of the birth care team is to optimize her health outcomes and care experience during this critical time and to protect, promote and support her innate ability to give birth while providing for her individual health needs and those of her fetus.

Care After Giving Birth is envisioned as a team endeavor orchestrated around, and directed by, the needs of each woman to provide optimal care for her, for her baby, and for her family. During this vulnerable developmental period, each woman's care is coordinated by a primary caregiver with postpartum care competencies.

Care Settings

For all maternity care phases, safe, effective care is available to women in the locations that are most convenient and accessible to them, given consideration for value and efficiency. The environment of care in all settings is designed to be woman-centered and to facilitate the realization of goals for care during this phase. Specific elements of design that may contribute to achieving these goals are considered.

An array of community, ambulatory and hospital-based choices for *Care During Pregnancy* optimizes the possibilities for each woman to take advantage of this time of great opportunity to make improvements in her life and overall health, and to prepare for giving birth and parenting.

For Care Around the Time of Birth, a full range of safe birth settings is available and receives system-wide support, so that each woman is free to choose the setting that is most appropriate for her level of need and that of her fetus/baby and that best reflects her values, culture, and preferences. This choice can be made with confidence because each setting assures her a consistent standard of safe, effective, risk-appropriate care, within an integrated system that provides for coordinated consultation, collaboration, or transfer in either direction should her level of need or that of her baby change.

An expanded choice of settings for *Care After Giving Birth* continues the possibilities for each woman to make effective use of this time of opportunity for improving her life and overall health, and that of her family. To that end, care after birth is community-based, situated within the social context of the woman, and founded on a holistic model that prioritizes wellness and preventive services.

Care Levels C and D: Health Care Organizations and the Macro Environment

Applying Berwick's framework of four levels of care to the maternity care system, this section addresses key goals and principles for Levels C and D: the hospitals and health care organizations that house and support clinical microsystems, and the greater environment of health care policy, payment, regulation, accreditation, litigation, and other macro-level factors that influence the delivery of maternity care. This section describes a vision for the key attributes and characteristics at the macro levels of a high-quality, high-value maternity care system that can best support the goals put forward for the care experiences of women and babies receiving maternity care and the microsystems that directly provide such care.

Level C: Health Care Organizations

This section outlines the goals for the system features and roles of health care organizations providing maternity services within a high-quality, high-value maternity care system.

To strengthen the structure of the maternity care delivery system.

- Health care organizations align the capacity for community-level, multidisciplinary, multiservice maternity and family wellness care and the capacity for acute maternity care to be commensurate with the needs of childbearing women and families.
- Health care organizations providing maternity care shift their focus to be primarily community-based and wellness-centered, with regionalized tertiary care settings focusing specifically on the specialized needs of high-risk women and babies. Health care organizations fulfill the role of regional maternity care coordinators, integrating maternity care across settings, providers, and levels of care.
- The role of hospitals with maternity services is not only to provide inpatient maternity care with a focus on the highest level of risk, but also to provide support, training, back-up, and resources to community-based maternity care centers and service providers, including well woman and well baby services.

To strengthen the maternity workforce.

- Health care organizations providing maternity services restructure care to deploy the most appropriate providers for wellness care during the childbearing cycle, making best use of primary care providers and paraprofessionals, with mechanisms to ensure that the most appropriate, most cost-effective level of care is provided to each woman and baby according to their needs.
- Health care organizations, through their policies and programs, ensure that all maternity care providers are skilled in best practices for protecting, promoting, and supporting physiologic labor and birth.
- Health care organizations provide leadership in promoting and supporting professional cooperation through high functioning multidisciplinary team models for maternity care rather than individual provider models and silos that separate maternity caregivers from one another and from other relevant health care fields.
- Health care organizations give attention to staffing of maternity care personnel to foster professional work/life balance in a manner that enables provision of high-quality maternity care.

To foster high-quality maternity care.

- At the leadership level, all health care organizations embrace and incentivize quality measurement and reporting, and quality improvement programs aimed at fostering the provision of effective care with least harm and improving the processes, structures, and outcomes of maternity care, as well as the experiences of childbearing women and families.
- All health care organizations collect, evaluate, and make publicly available data about performance in maternity care.
- All health care organizations provide maternity care staff with access to electronic databases, resources, clinical tools and programs to promote safety, care coordination, quality improvement, and continuous learning.
- Health care organizations participate in and provide a locus for clinical and comparative effectiveness research to contribute to better understanding of the full range of effects of maternity care treatments and practices in the uncontrolled settings and diverse patient populations in which they are used.
- Health care organizations participate in integrated systems of care provided on a regional basis, including maternity care quality collaboratives designed to address disparities of care based on geography, socioeconomic status, race and ethnicity, and language.

To provide woman- and family-centered care.

- Maternity care is organized, structured, formatted, and delivered to meet the needs of the

individual and the community rather than the institution. The timing, duration, interval, setting, format, and content of maternity care prioritize the consumer/patient perspective.
- Health care organizations collect feedback from all women and their families regarding their experiences of maternity care and use the information for continuous quality improvement.
- Health care organizations convene quality boards with representation from users of the maternity care system and their advocates to participate in shared governance.
- Health care organizations test innovations to increase maternity care access and community-based services.

Level D: Macro Environment of Care

This section outlines the goals for the system features and roles of the environment of policy, payment, regulation, accreditation, litigation, and other macro-level factors that influence the delivery of care within a high-quality, high-value maternity care system.

To strengthen performance measurement.
- A comprehensive set of national standardized evidence-based maternity care performance measures, including measures of process, structure, outcome, access, and patient experience of care, is developed and maintained to foster a high standard of effective care with least harm; these measures are widely applied and transparently reported and all accrediting bodies reinforce them.
- Performance data are collected and shared in a manner that permits calculation of performance benchmarks and subpopulation analysis to address disparities in maternity care access, quality, and outcomes according to geography, socioeconomic status, race, ethnicity, and language.
- There is a mechanism for ensuring meaningful consumer engagement in the development, assessment, and reporting of maternity care performance measures.
- In all professions providing maternity services, certification and recertification are linked with performance and improvement on measures of quality and safety.
- Benchmarking for maternity care quality is organized through national organizations, regional and state organizations, and multi-stakeholder quality collaboratives.

To improve the functionality of payment systems.
- There is a comprehensive health care system in the United States that includes maternity care coverage for all women and newborns.
- Medicaid and other payors analyze positive, negative, and perverse incentives and align financial incentives with optimal care. Payors monitor and foster quality improvement through contracting and payment systems with individual, group, and facility care providers that reward the provision of effective care with least harm and desired outcomes, and do not provide financial incentives for inappropriate care.
- Health and employee benefits plans offer women and families financial incentives for choosing maternity care, including practices, providers, and settings, associated with the best outcomes for the most efficient use of resources, while preserving women's choice among comparably effective options.
- There is reimbursement for health education and expanded preventive services across the childbearing continuum through a redesigned package of priority maternity care services, as supported by current evidence of enhanced health outcomes and good value.
- Payors explore and pilot value-based payment system alternatives to the present reimbursement system for maternity care services and track their impact on rates of intervention and harm, resource utilization, and maternity care outcomes.
- There is equitable reimbursement through the Centers for Medicare and Medicaid Services, and other public and private payors for equivalent care provided by all types of qualified maternity care providers.

To strengthen professional education and guidance.
- The content of health professions education and continuing education for all maternity caregivers emphasizes critical appraisal skills for ongoing evaluation of the quality and relevance of evidence on maternity care practices and their effects, and confers adequate knowledge, skills and judgment for the protection, promotion, and support of physiologic childbearing.
- An independent multi-stakeholder body develops, collects, updates, and disseminates evidence-based practice guidelines and decision tools for maternity care through processes that are transparent and governed by multiple stakeholders.

To close priority gaps in research.
- Comparative effectiveness and outcomes research, supported through federal funding, helps to refine the evidence base for maternity care and identify variation in processes and structures that have the greatest impact on outcomes. These data inform

the development of maternity care guidelines and performance measures, the provision of maternity care, the reimbursement of maternity services, and professional and consumer education.
- There is a multi-stakeholder process that includes meaningful consumer engagement for identifying research priorities for comparative clinical effectiveness to avoid financial and industry conflicts of interest and to ensure funding for studies of clinical importance and high value to the public.
- There is targeted federal funding to support research on quality measurement and quality improvement in maternity care.
- It is a national priority to learn more about the physiology of labor and to evaluate the outcomes of physiologic management of labor in comparison with usual care practices, through randomized, controlled trials and using other comparative effectiveness methodologies.
- It is a national research priority to evaluate long-term effects of health care treatments and interventions, nutrition and lifestyle, and environmental exposures during the childbearing cycle.
- A national entity supports practice-based research networks that collect, measure, analyze, and feedback data to maternity care providers in outpatient microsystems.

To improve the functioning of the liability system.
- As a complement to safety and quality initiatives, a system that is fair and equitable for patients and providers handles compensable adverse events and maternity claims to reduce the likelihood that fear of litigation will compromise the provision of effective maternity care with least harm.
- As a complement to safety and quality initiatives, the functionality of the liability insurance system is improved through regulatory intervention and by better integrating it with health insurance, the source of payment for liability costs.

To pursue other strategies for fostering high-quality maternity care.
- Interoperable health information technology systems are in place for providing high-quality clinical care and coordination, and for capturing and sharing maternity care performance data at state, regional, and national levels, with appropriate safeguards for patient privacy and security.
- Coordination of financial, licensure, accreditation, and other relevant systems ensures that each mother can designate her maternity care "medical home" led by the qualified provider of her choice for the coordination of all aspects of care for herself and that of her baby.
- National health care quality organizations are committed to continuous learning from effective systems to identify lessons that could be adapted in maternity care settings.
- Motherhood and fatherhood are valued as reflected in family-friendly programs and policies.

Finally, "the long clear sightline of this framework for possibility" (Zander & Zander, 2000) radiates forward to culminate in the following ultimate vision:

The "2020 Vision for a High-Quality, High-Value Maternity Care System" has been actualized through concerted multi-stakeholder efforts ensuring that all women and babies are served by a maternity care system that delivers safe, effective, timely, efficient, equitable, woman- and family-centered maternity care. The U.S. ranks at the top among industrialized nations in key maternal and infant health indicators and has achieved global recognition for its transformative leadership.

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A compendium of systematic reviews and better quality evidence of the effectiveness of core elements of systems in maternity care used as a resource bibliography by the Vision Team is available at: www.childbirthconnection.org/vision.

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BLUEPRINT FOR ACTION
Steps Toward a High-Quality, High-Value Maternity Care System

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Abstract. **Childbirth Connection hosted a 90th Anniversary national policy symposium, *Transforming Maternity Care: A High Value Proposition*, on April 3, 2009, in Washington, DC. Over 100 leaders from across the range of stakeholder perspectives were actively engaged in the symposium work to improve the quality and value of U.S. maternity care through broad system improvement. A multi-disciplinary symposium steering committee guided the strategy from its inception and contributed to every phase of the project. The "Blueprint for Action: Steps Toward a High Quality, High Value Maternity Care System", issued by the Transforming Maternity Care Symposium Steering Committee, answers the fundamental question,**

"Who needs to do what, to, for, and with whom to improve the quality of maternity care over the next five years?"

Five stakeholder workgroups collaborated to propose actionable strategies in 11 critical focus areas for moving expeditiously toward the realization of the long term "2020 Vision for a High Quality, High Value Maternity Care System", also published in this issue. Following the symposium these workgroup reports and recommendations were synthesized into the current blueprint. For each critical focus area, the "Blueprint for Action" presents a brief problem statement, a set of system goals for improvement in that area, and major recommendations with proposed action steps to achieve them. This process created a clear sightline to action that if enacted could improve the structure, process, experiences of care, and outcomes of the maternity care system in ways that when anchored in the culture can indeed transform maternity care.

Executive Summary

Childbirth Connection marked its 90th Anniversary with the multi-stakeholder Transforming Maternity Care Symposium, held on April 3, 2009, in Washington, DC. The project began with the development of a direction-setting paper, the "2020 Vision for a High-Quality, High-Value Maternity Care System." It brought together policy makers, public and private purchasers and payors, administrators, advocates, clinicians, educators, researchers, and quality experts to devise feasible solutions to transform the U.S. maternity care system so that it reliably delivers high-quality, high-value care that is optimal for women and babies.

The goal of the Transforming Maternity Care symposium was to answer the question:

> Who needs to do what, to, for, and with whom to improve maternity care quality within the next 5 years?

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More than 100 leading experts contributed to the project, and close to 250 people attended the symposium. Five stakeholder workgroups collaborated to develop reports and recommendations that offer concrete solutions to salient issues. The development of actionable strategies to improve maternity care quality and value centered on 11 critical focus areas for change:

- Performance measurement and leveraging of results
- Payment reform to align incentives with quality
- Disparities in access and outcomes of maternity care
- Improved functioning of the liability system
- Scope of covered services for maternity care
- Coordination of maternity care, across time, settings, and disciplines
- Clinical controversies (home birth, vaginal birth after cesarean [VBAC], vaginal breech and twin birth, elective induction, and cesarean section without indication)
- Decision making and consumer choice
- Scope, content, and availability of health professions education
- Workforce composition and distribution
- Development and use of health information technology (IT).

This Executive Summary presents the major recommendations to come out of the Transforming Maternity Care project at a glance (see below). The main body describes, for each of the critical focus areas: leading concerns with the status quo, system goals, priority recommendations and action steps for their implementation, and the sectors, organizations and agencies with lead responsibilities. The five full stakeholder workgroup reports, which provide in rich detail the sector-specific strategies that gave rise to this comprehensive roadmap for improvement of the U.S. maternity care system, can be accessed online at www.childbirthconnection.org/workgroups.

Introduction

Childbirth Connection hosted a 90th Anniversary national policy symposium, *Transforming Maternity Care: A High-Value Proposition*, on April 3, 2009, in Washington, DC. The symposium was a partnership with The Jacobs Institute of Women's Heath of the George Washington University School of Public Health and Health Services. This multi-stakeholder project was carried out to address the fact that despite the dedicated work of many maternity caregivers and other stakeholders, the U.S. maternity care system does not reliably deliver high-quality, high-value care that is optimal for women and babies.

Maternity care in the United States is characterized by wide, unjustified variations in care and outcomes across geographic regions, facilities, and providers. Best available evidence is not consistently applied in practice. Many practices are overused, entailing harm and waste, and there is underuse of beneficial practices that would improve outcomes. These problems are well-documented in a Milbank Report on evidence-based maternity care, a collaborative project among Childbirth Connection, the Reforming States Group and the Milbank Memorial Fund (Sakala & Corry, 2008). This report, along with its extensive reference bibliography, served as a primary resource document for the symposium project.

More than 100 national leaders from across the range of stakeholder perspectives were actively engaged in the symposium work, and close to 250 gathered at the symposium to address these problems through broad system improvement. A multidisciplinary Symposium Steering Committee has guided the strategy from its inception and contributed to every phase of the project. A Symposium Vision Team developed a keynote paper, the "2020 Vision for a High-Quality, High-Value Maternity Care System," also published in this issue.

Five stakeholder workgroups collaborated over several months to develop actionable recommendations for improvement within and across domains. These workgroups represented consumers and their advocates; health plans, public and private purchasers, and liability insurers; hospitals, health systems, and other care delivery systems maternity care clinicians and health professions educators; and measurement and quality research experts.

Their reports detail sector-specific strategies for making significant progress over the next 5 years toward the realization of the long-term 2020 Vision for high-quality, high-value maternity care, in 11 critical focus areas:

- Performance measurement and leveraging of results
- Payment reform to align incentives with quality
- Disparities in access and outcomes of maternity care
- Improved functioning of the liability system
- Scope of covered services for maternity care
- Coordination of maternity care, across time, settings, and disciplines
- Clinical controversies (home birth, VBAC, vaginal breech and twin birth, elective induction, and maternal demand cesarean section)
- Decision making and consumer choice
- Scope, content, and availability of health professions education
- Workforce composition and distribution
- Development and use of health IT

The workgroups were asked to develop priority recommendations that could be undertaken within their sector in the next five years to move toward the 2020

Blueprint for Action
Major Recommendations at a Glance

Performance Measurement and Leveraging of Results

1. Fill gaps to attain a comprehensive set of high-quality national consensus measures to assess processes, outcomes, and value of maternity care; care coordination; and experiences of women and families.
2. Improve availability and ease of collection of standardized maternity care data, both to encourage high-quality clinical care and to allow performance measurement and comparison.
3. Create and implement a national system for public reporting of maternity care data to all relevant stakeholders so that it can be leveraged to improve maternity care.
4. Use reported maternity care performance data to develop initiatives that foster improvement in the quality and value of maternity care at each level and throughout the system.

Payment Reform to Align Incentives with Quality

1. Advance efforts toward comprehensive payment reform through a restructured payment model that bundles payment for the full episode of maternity care for women and newborns.
2. Pilot the model payment reform strategy through regional demonstration projects funded through competitive Request for Funding Proposals.
3. While working toward comprehensive payment reform, implement selected policies immediately to address some severe misalignments in the current payment system.
4. Develop critical enabling factors and conditions for payment reform in concert with payment reform efforts.

Disparities in Access and Outcomes of Maternity Care

1. Expand access to services that have been shown to improve the quality and outcomes of maternity care for vulnerable populations.
2. Conduct research into the determinants and the distribution of disparities in maternity care risks and outcomes of care, and improve the capacity of the performance measurement infrastructure to measure such disparities.
3. Compare effectiveness of interventions to reduce disparities in maternity services and outcomes, and implement and assess effective interventions.
4. Improve maternity care and outcomes in populations experiencing disparities by increasing the number of under-represented minority caregivers and improving the cultural and linguistic competence of health professionals generally.

Improved Functioning of the Liability System

1. Improve the collection, analysis and dissemination of aggregated occurrence data for quality improvement and actuarial setting of premium rates.
2. Implement continuous quality improvement and clinical risk management programs to identify, prevent and mitigate adverse events in maternity care.
3. Improve the liability system by exploring alternative systems that separate negligence and compensation, compensate patients quickly and fairly, and remove waste from the system.
4. Align legal standards with objectives for a high quality, high performance maternity care system.

Scope of Covered Services for Maternity Care

1. Identify an essential package of evidence-based maternity care services for healthy childbearing women and newborns, and additional essential services of benefit to women and newborns with special needs.
2. Carry out research to evaluate the comparative effectiveness and safety of priority maternity services that require further evidence before they can be considered for inclusion in the essential services list.
3. Use determinations about comparative effectiveness of maternity services to make coverage decisions and improve the quality of maternity care.

Coordination of Maternity Care Across Time, Settings and Disciplines

1. Extend the health care home model to the full episode of maternity care to ensure that every childbearing woman has access to a Woman- and Family-Centered Maternity Care Home that fosters care coordination.
2. Develop local and regional collaborative quality improvement initiatives to improve clinical coordination at the community level.
3. Develop consensus standards for appropriate care level and risk criteria.

Clinical Controversies (Home Birth, Vaginal Birth After Cesarean, Vaginal Breech and Twin Birth, Elective Induction, Maternal Demand Cesarean)

1. Align practice patterns and views of both maternity caregivers and consumers with best current evidence about controversial clinical scenarios and evidence-based maternity care generally.
2. At the clinical microsystem and health care organization levels, implement policies and practices that foster safe physiologic childbirth and decrease excessive use of elective procedures and interventions.
3. At the macro environmental level, institute legislative and policy initiatives, payment incentives, and liability protections to foster access to a full range of care options for labor and birth supported by evidence.

Decision Making and Consumer Choice

1. Expand the opportunities and capacity for shared decision-making processes, and tools and resources to facilitate informed choices in maternity care.
2. Design system incentives that reward provider and consumer behaviors that lead to healthy pregnancies and high quality outcomes.
3. Revive and broaden the reach of childbirth education through expanded models and innovative teaching modalities.
4. Promote a cultural shift in attitudes toward childbearing.

(Continued)

Blueprint for Action
Major Recommendations at a Glance

Scope, Content and Availability of Health Professions Education

1. Align funding for health professions education with national goals for high quality, high value maternity care and workforce development.
2. Develop a common core curriculum for all maternity care provider disciplines that emphasizes health promotion and disease prevention.
3. Ensure that students in each discipline have opportunities to learn from an interdisciplinary teaching team.
4. Improve the quality and effectiveness of continuing education in all maternity care professions, and align maintenance of certification with performance measures.

Workforce Composition and Distribution

1. Define national goals for redesign of the U.S. maternity care workforce based on a primary care model with access to collaborative specialty care, consistent with the health care reform priority of primary preventive services and care coordination.
2. Carry out an independent capacity assessment to determine projected workforce needs, and identify strategies for achieving the optimal maternity care workforce.
3. Support the appropriate volume, geographic distribution and density of providers in each discipline through health care policy and reimbursement realignment.
4. Develop, test and implement interventions to improve collaborative practice among primary maternity caregivers and other members of the maternity team.

Development and Use of Health Information Technology

1. Increase interoperability across all phases and settings of maternity care by creating a core set of standardized data elements for electronic maternity care records.
2. Increase interoperability among health IT systems by implementing a persistent patient and provider identification system with adequate security features to protect individual health information.
3. Explore ways to use health IT to improve clinical care quality, efficiency and coordination and to enable performance evaluation in these areas, and implement incentives to drive widespread adoption of health IT for these uses.
4. Increase and improve consumer-based uses and platforms for health IT.

Vision. All five workgroups developed recommendations with respect to the first four of these topics. Each group was also asked to identify two or three additional topics of special relevance to their stakeholder sector and to develop priority recommendations in those additional areas. The five full workgroup reports, along with a full list of secondary resource documents used in addition to the Milbank Report by workgroup participants in their development, are available online at www.childbirthconnection.org/workgroups.

Workgroup chairs presented their reports at the symposium, and invited discussants and members of the audience commented on the recommendations. After the symposium, the workgroup reports and recommendations were synthesized into this Blueprint for Action, issued by the Symposium Steering Committee, that answers the fundamental question,

> Who needs to do what, to, for, and with whom to improve the quality of maternity care over the next 5 years?

For each critical focus area, the Blueprint for Action presents a brief problem statement, a set of system goals for improvement in that area, and major recommendations with proposed action steps to achieve them. Readers are encouraged to consult the individual workgroup reports for the full array of sector-specific recommendations and implementation details that each stakeholder group developed, as well as reference lists for background resources, presented in much greater detail than could be included in the Blueprint.

Performance Measurement and Leveraging of Results

Problems

Lack of nationally endorsed maternity care performance measures

The National Quality Forum (NQF) is a consensus-based entity that fosters performance measurement. Although the NQF has endorsed 24 measures that apply to maternity care, significant gaps remain for numerous crucial maternity topics. The generic Consumer Assessment of Healthcare Providers and Systems (CAHPS) facility, provider, and health plan surveys do not adequately address important dimensions of maternity care quality.

A comprehensive set of nationally endorsed maternity care performance measures is needed to assess patient experience, outcomes, and other dimensions of quality across the full episode of maternity care and in the various settings where care is received.

Problems with availability of performance measurement data

Many measures of interest for improving maternity care quality cannot be implemented currently because the data needed for measurement are not routinely and systematically collected, and collection would impose an undue burden. The current coding system was

designed for billing and has shortcomings when used for performance measurement.

Problems with performance data reporting and use

Public reporting of currently endorsed performance measures is inadequate. Large-scale reporting of maternity care performance has been very limited. Reporting interfaces are not user friendly and comparison at the health professional level is virtually unavailable. The Centers for Medicare and Medicaid Services (CMS) has one of the best-developed public reporting programs through its Hospital Compare websites, but these are Medicare focused, limited to data on hospitals, and do not include maternity care. There is wide variation in performance reporting among states.

Currently endorsed maternity measures focus especially on facilities. This makes it hard to encourage clinician accountability and to help women choose caregivers wisely. Clinicians and facilities generally lack reliable and trusted feedback about their own performance, or the performance of other clinicians and facilities, which can foster quality improvement.

Current maternity measures are not stratified by race/ethnicity, insurance status, socioeconomic status, and language to aid in measuring and reducing disparities, and none directly assess disparities. Many are not risk adjusted, making interpretation of comparisons difficult.

For key measures such as cesarean section and VBAC rates, there is controversy about appropriate threshold rates. *Healthy People 2010* has established target cesarean and VBAC rates, and the United Nations recommends a cesarean rate range of 5% to 15%. However, the national cesarean rate reached 31.8% in 2007, and maternity professionals frequently reject targets or ranges. Some reporting systems exclude cesarean rates entirely on the grounds that an optimal rate is not known. Despite the need to move toward an optimal range and reduce harm and expense associated with current trends, existing reporting systems do not give childbearing women and other stakeholders needed guidance.

Childbearing women have not been actively engaged in defining maternity measures that are of greatest interest to them or in testing existing performance reporting systems, which greatly reduces the likelihood that they will see, understand, and use reporting systems.

System Goals

- A robust, comprehensive system for performance measurement and reporting with mechanisms for ongoing monitoring and refinement improves the quality and outcomes of maternity care.
- Performance measurement and reporting are grounded in best evidence.
- Measures are widely applicable and balanced across key criteria.
- Measures employ appropriate design and analytic methods to ensure fair comparisons of performance and illuminate disparities in risk, outcomes, and health care delivery across populations.
- There is broad stakeholder participation in the development, implementation, and reporting of maternity care performance measures.

Major Recommendations and Action Steps

1. **Fill gaps to attain a comprehensive set of high-quality national consensus measures to assess processes, outcomes, and value of maternity care; care coordination; and experiences of women and families.**
   - Support development, testing, and refinement of priority measures to submit to the NQF.
   - Address crucial topical gaps, which include informed decision making, VBAC, comfort measures and pain relief, serious perineal tears, postpartum hospital practices that impact attachment and breastfeeding, and persistent physical and emotional problems that arise in the postpartum period. Include measures of undisturbed, physiologic childbirth, including adaptation of the U.K. "Normal Birth" measure to the United States, to foster appropriate care for low-risk women.
   - Extend quality improvement provisions of the Child Health Insurance Program Reauthorization Act (CHIPRA) of 2009 to childbearing women and newborns covered by Medicaid and CHIP. This model includes processes for identifying priority maternity care performance measures, building the performance reporting infrastructure, improving and expanding the original measures, assessing and reporting progress, and developing a model electronic health record (EHR) format.
   - Develop and implement CAHPS Maternity adaptations of the generic CAHPS Provider, Health Facility and Health Plan surveys to facilitate measurement and reporting on the range of maternity care providers, settings, and care experiences, including pain/comfort and medication use.
   - Stratify measures that have been endorsed by the NQF by race/ethnicity, socioeconomic status, insurance, and language, consistent with guidance in NQF's *National Voluntary Consensus Standards for Ambulatory Care: Part 2* report (NFQ, 2009), which describes methods to address health care disparities that could be adopted for perinatal measures.
   - Create an ongoing structure and process for identifying consumer advocates with leadership potential and provide them with training and ongoing support to maximize their effectiveness

as participants in the performance measurement process, following the model of the National Breast Cancer Coalition's Project LEAD.

2. **Improve availability and ease of collection of standardized maternity care data, both to encourage high-quality clinical care and to allow performance measurement and comparison.**

- Establish a uniform dataset of maternity care variables and a standard data dictionary. Include items needed for provision of high-quality clinical care and its coordination across sites and professionals, as well as data needed to fill in priority gaps in existing maternity care performance measures. Work in concert with those identifying and developing priority measures. Obtain input from the American Association of Birth Centers and Midwives Alliance of North America, who have made extensive progress on developing uniform maternity datasets.
- Ensure harmonization of the uniform maternity care dataset with federal mandates regarding development of EHRs and interoperable health IT systems to limit collection burden.
- Bring National Center for Health Statistics and state representatives together to review the contents of the U.S. Standard Certificate of Live Birth. Evaluate its potential contribution to maternity care performance measurement and priority modifications for that purpose, and its relationship to evolving health IT. Carry out state pilot studies to test ways to optimize integration of birth certificate data, other available data, and health IT for performance measurement and other aims.
- In the short term, improve the availability and collection of administrative billing data to measure quality of care and reward performance in critical areas of clinical care. Engage the American Medical Association to convene a multi-stakeholder group to review Current Procedure Terminology (CPT) codes for maternity care. Ensure coding modifications to facilitate claims-based identification of individual prenatal visits, induced labor, scheduled cesarean sections, mothers' parity, and gestational age of the newborn.
- Eliminate confusion caused by current fragmented data collection and nonstandardized reporting by various payors. Establish uniform requirements for maternity care data collection by providers and facilities. Create a national data registry that is administered and housed by a government or private national quality improvement entity.

3. **Create and implement a national system for public reporting of maternity care data to all relevant stakeholders so that it can be leveraged to improve maternity care.**

- Identify a core subset of national consensus measures for rapid reporting. Include intrapartum hospital care in this initial set, because measures addressing this phase of care are already endorsed and it is about five times as costly as the prenatal and postpartum segments and poses many opportunities for quality improvement.
- Determine the most efficient, effective performance reporting interfaces, and mechanisms, for all stakeholders. Performance reporting is needed for health professionals and facilities (to learn and compare own performance with peers), for consumers (to make informed choices), for public and private purchasers (for value-based purchasing), for policy makers (for oversight and need for policy action), and for researchers (diverse aims).
- Begin implementation with pilots to identify barriers to wholesale implementation that may result due to administrative variation across and within systems, and scale up to a standard, systemic reporting program.
- Extend CHIPRA quality improvement provisions related to health IT development and dissemination to childbearing women and newborns to support public reporting and assessment. Involve the target user groups in developing and testing the relevant interface(s), especially Medicaid programs in which systematic data analysis across all 50 states is particularly challenging.
- Explore ways for health systems to report performance data compiled from de-identified vital statistics and hospital discharge data to clinicians and hospitals, to provide feedback on their performance so that they can improve their systems of care.
- Ensure collection and reporting of standardized performance data for providers of out-of-hospital childbirth care, even if not fully electronic, to assess quality and serve as a benchmark for appropriate, physiologic care for low-risk childbearing women.
- Learn about best reporting practices from successful programs such as the Northern New England Perinatal Quality Improvement Network (NNEPQIN) or the European Union's PERISTAT project.
- As an interim step until a national registry can be developed and implemented, call upon payors to report performance measurement data to providers in a uniform format so that feedback from payors as well as from facility discharge data enables action to improve outcomes of care.

4. **Use reported maternity care performance data to develop initiatives that foster improvement in the quality and value of maternity care at each level and throughout the system.**

- Encourage the development of state or regional quality collaboratives that bring hospitals, clinicians, consumers, and payors together to share ideas, pilot projects, and develop and carry out quality improvement initiatives. Engage existing quality collaboratives to provide consultation and guidance to start-up groups.
- Create demonstration projects sponsored by health plans and state and local health departments to test the impact of performance measures on pay for performance (P4P), audit and feedback, public reporting, and other quality improvement strategies.
- Encourage all entities responsible for certification and recertification of maternity care professionals to adopt quality measures for maintenance of certification similar to the exemplary Performance Improvement Modules of the American Board of Internal Medicine. Call on the National Committee for Quality Assurance and The Joint Commission to use maternity performance measurement in accreditation and certification programs.
- Create mechanisms for sharing and benchmarking clinician-level best practice data. Learn from current models such as the well-established NNEPQIN and their OBNET birth registry to identify strategies for benchmarking to support quality improvement.
- Engage a quality improvement organization, academic institution, or other suitable entity to develop and publicize an inventory of maternity care quality improvement reports and of systematic reviews that assess the effectiveness of quality improvement strategies. Make a comparative analysis of existing programs using audit and feedback and other quality improvement strategies.
- Use performance data to generate a quality improvement and comparative effectiveness research agenda for maternity care.

Lead Responsibilities

Maternity care measures should be developed collaboratively with input as relevant from public and private purchasers, all clinical specialties, all types of maternity care delivery settings, consumers and advocates, quality collaboratives, researchers, and measurement experts.

Institutional, technical, and financial support for the measure development, implementation, and reporting processes should be provided by health care delivery systems, payor-purchaser groups, clinicians and health professional organizations, quality collaboratives and organizations, health IT organizations, researchers, government agencies, private foundations, and consumers and advocates.

Payment Reform to Align Incentives with Quality

Problems

Poor return on investment

The United States spends far more than all other countries on health care, yet lags behind many on currently available global maternal and newborn indicators. Maternal and newborn hospital charges ($86 billion in 2006) far exceed those of any other hospital condition. When applied to 4.3 million births annually, care that is of poor value especially impacts employers and private insurers, who paid for 50% of births in 2006, and taxpayers and Medicaid programs, who paid for 42%.

Negative and perverse incentives

The current global fee maternity care payment system creates incentives that are poorly aligned with overall quality and value. Perverse financial incentives discourage coordination of services and encourage clinicians and hospitals to overuse some interventions. For example, rather than focusing on the goal of an overall optimal outcome of maternity care across the full episode, the current reimbursement system incents each individual provider caring for a woman to seek opportunities to get paid for discrete, specific services that can be charged outside of global fees. Simultaneously, the system has inadequate incentives for important aspects of maternity care that do not generate significant reimbursement. These include many safe and effective lower cost interventions that address widespread concerns but are reimbursed at lower rates or are not covered at all, such as smoking cessation help for pregnant women and breastfeeding support. Reforming payment systems has the potential to improve practice, reduce morbidity, and save lives of mothers and babies, while simultaneously improving value.

Misalignment of payment system with maternity care goals

Volume-driven reimbursement increases cost without improving health outcomes. Providing more services than are needed does not improve health and increases the risk of harm, while driving up spending. Supportive, preventive care to avoid problems along with early detection and appropriate intervention when they occur promotes wellness and carries least risk of harm. However, there is no alignment between caregivers and institutions to coordinate care and share expenses and revenue for desired outcomes; in fact, legislative hurdles prevent cost sharing among facilities and providers.

These problems also adversely impact health professions education. In current educational settings, new professionals learn to value and provide acute, hospital-based care to a primarily healthy population. Faculty practice plans with productivity formulas incentivize service volume and discourage teaching time.

Many women assume that widely used interventions are in their best interest. Women are generally not aware that they may be exposed to avoidable and potentially harmful interventions at present because of a lack of transparent comparative performance data to guide decisions and limited access to some effective high-value alternatives. Thus, those most affected by systemic misaligned incentives are not well-positioned to advocate for system change.

System Goals

- All women have comprehensive coverage over the full episode of maternity care.
- Payment systems are designed to support and not undermine the goals of care.
- Payment redesign is accompanied by redesign of maternity care delivery systems and standard content of care.
- Payment reform starts with regional pilots and demonstration projects with national support that are carefully evaluated and refined to ensure they meet intended objectives.

Major Recommendations and Action Steps

1. **Advance efforts toward comprehensive payment reform through a restructured payment model that bundles payment for the full episode of maternity care for women and newborns.**

- Design a model maternity care payment system, adapting the generic bundled payment system described in From Volume to Value: Transforming Health Care Payment and Delivery Systems to Improve Quality and Reduce Costs to Maternity Care (Miller, 2008).
- Ensure the following features for piloting and assessment:
  - Capitated payments to entities encompassing providers and facilities for the full episode of combined maternal and newborn care.
  - Maternity care teams that foster high-quality, high-value care and desired outcomes.
  - Risk adjustment of payments (e.g., for age, marital status, race, ethnicity, socioeconomic status, and language).
  - Basic payment for the vast majority of episodes, as 95% of births, including those with minor complications, have largely homogenous costs aside from mode of birth (Schmitt, Sneed, & Phibbs, 2006).
  - Exclusion of outliers with extreme variance or very high costs (e.g., extreme prematurity or congenital anomalies that require major surgery) to minimize need for caps and/or secondary insurance and enable participation of small hospitals, clinician groups, and birth centers.
  - Bonuses for attaining or progressing toward maternal and newborn outcome targets.
  - Bonuses for priority components of postpartum care that may not be incentivized, such as lactation support, or screening and treatment of maternal depression.
  - Mechanism for cost and revenue sharing among caregivers and facilities.
  - Shifting of some of any savings realized to beneficial care that has not been uniformly covered.
- To provide the clinical content for the reformed payment structure, develop an essential package of evidence-based maternity services focused on prevention and wellness, plus indications for additional services as needed. (See the Blueprint section on Scope of Covered Services for Maternity Care.)
- Coordinate care and services through implementation of a Woman- and Family-Centered Maternity Care Home model that fosters continuity of care, gives priority to prevention and health promotion, promotes accountability for outcomes, and offers high value for purchasers. (See the Blueprint section on Coordination of Maternity Care Across Time, Settings, and Disciplines.)

2. **Pilot the model payment reform strategy through regional demonstration projects funded through competitive Request for Funding Proposals, and disseminate successful strategies for replication and widespread uptake.**

- Create regional payment pilot projects involving health systems and all payors in a region to pilot payment systems that align quality and value.
- Encourage state Medicaid payors to coordinate implementation of the bundling payment strategy, given that they are the primary payor of maternity care for a large segment of the childbearing population and have policy levers that can be mobilized in public programs.
- Form regional quality collaboratives including state or regional Medicaid agencies and private insurers along with providers and managed care organizations to decide on indicators and targets. Design appropriate incentives (e.g., sharing of cost savings with providers) and/or disincentives to help providers meet them, and test the outcomes of alternative payment models based on these determinants.
- Encourage hospitals and health systems leaders to propose value-based reimbursement initiatives based on their clinical experience that can be implemented promptly and that will enhance safety and quality, decrease waste, and promote cost containment.

- Identify effective maternity services that are not being reliably delivered and incentivize provision of these services through Medicaid and private insurance programs. Implement value-based purchasing initiatives within managed care programs to improve access to preventive prenatal services with proven effectiveness such as first trimester care, smoking cessation and other behavioral interventions, and dental care.
- Within hospitals and health systems, use personnel policies to remove incentives for overuse of unnecessary interventions and encourage appropriate care, e.g., hiring salaried maternity care providers or redistributing savings from quality/value initiatives to providers through bonuses for meeting benchmarks or revenue sharing.
- Inform childbearing families about higher and lower value options for maternity care, and implement cost-sharing policies when they select higher value care.

3. **While working toward comprehensive payment reform, implement selected policies immediately to address some severe misalignments in the current payment system.**

- Medicaid and private insurers should develop an approach for maternity services similar to the Medicare "Do Not Pay List" strategy enacted by CMS. Payment systems should not reimburse for errors or avoidable adverse events, or pay for overuse of procedures with higher costs and poorer maternal and newborn outcomes than alternatives (Miller, 2007).
- Adjust the differential in payment between cesarean section and vaginal birth to providers and hospitals to remove potential economic incentive for cesarean deliveries.
- Redesign reimbursement strategies to promote and support hospitals and providers who safely offer VBAC. Engage measure developers to define indicators for VBAC attempt and enhanced VBAC surveillance, and then pay all payors a 10% to 15% increment for enhanced surveillance when a woman with a previous cesarean labors. Track the proportion of women with a vaginal birth among women planning VBAC, and report provider and hospital performance to Medicaid and private insurers, caregivers, and the public.
- Eliminate financial rewards for inappropriate newborn care, e.g., term infants requiring nonintensive care phototherapy services, or infants born at less than 32 weeks or weighing less than 1,500 grams who are born in hospitals without adequate nursery level or without adequate delivery volume, when they are located in densely populated areas.
- Modify maternity-related billing codes to enable collection of more meaningful quality information through claims data, to be used in value-based purchasing and P4P: 1) unbundle CPT codes for prenatal visits or create an option to bill for a single visit so that payors can use this information for quality assurance of the timing, number, and content of prenatal visits; 2) separate codes for scheduled cesarean sections, emergency cesarean sections, and cesarean sections after inductions; 3) separate codes for spontaneous and induced vaginal births; 4) identify codes for indicating trimester of pregnancy in which prenatal visits occur, and gestational age of the newborn at delivery for intrapartum and/or newborn care.
- Develop mechanisms to encourage early initiation of prenatal care, such as paying more for first trimester prenatal visits. Remove or reduce financial barriers to prenatal and postpartum care (e.g., co-pays, coinsurance, deductibles). As high-quality evidence emerges, develop evidence-based guidelines and billing codes for effective preconception care practices.

4. **Develop critical enabling factors and conditions for payment reform in concert with payment reform efforts.**

- Engage nationally recognized organizations to launch an effective public awareness campaign using conventional and new media to raise public awareness of the problems of overuse and underuse in maternity care and the need to eliminate perverse incentives that favor lower quality, more costly options in the current system.
- Reach out to members of Congress and administration leaders involved with health care reform, key federal agencies, and leading national organizations about the need to rectify perverse financial incentives in maternity care payment.
- Ensure that major national health care reform legislation removes current barriers to access to comprehensive maternity services through the private health insurance market. These include lack of maternity coverage owing to preexisting conditions or to obtaining benefits through small business employers, inadequate level of coverage, and surcharges.
- Promote the use of health IT systems that connect outpatient and inpatient care settings to foster care coordination, value-based reimbursement decision making, and data-driven quality improvement. Pay particular attention to ensure equitable distribution of health IT to safety net providers who care for low-income women and their newborns. *(For details on this crucial tool for payment reform and efficient provision of quality*

care, see the Blueprint section on Development and Use of Health Information Technology.)

- Align the payment system for health professions education to national goals for high-quality, high-value care and workforce development based on outcomes and performance data. Unlink health professions education funding from Medicare and from case payments and expand it to include all cadres of qualified maternity care providers. *See the Blueprint section on Scope, Availability and Content of Health Professions Education.)*

Lead Responsibilities

Payment reform should be based on collaborative multi-stakeholder efforts and support. Leadership for payment reform should come from diverse stakeholders, including Congress, CMS, the Agency for Healthcare Research and Quality (AHRQ), private insurers, private foundations, and health care quality organizations and collaboratives. The analytic and advisory role of the Medicaid and CHIP Payment and Access Commission (MACPAC) should encompass maternity care owing to Medicaid's considerable responsibility for this care. To address resistance to change, entities that authorize and pilot payment reform should engage a broad coalition of supporters of such reform, including consumers and their advocates, maternity professional organizations, and quality organizations, highlighting potential gains and the consequences of failure to improve care.

Disparities in Access and Outcomes of Maternity Care

Problems

Disparities in maternal and newborn outcomes

In the United States, women from racial and ethnic minority communit and low-income women and their newborns are more likely to report worse overall health and poorer performance on standard indicators of maternal and newborn health. For example, the midcourse *Healthy People 2010* review found that disparities for black non-Hispanic women were increasing for numerous indicators, including neonatal deaths, very low birthweight infants, mental retardation, and cerebral palsy.

Disparities in health system access and provider-level barriers

Non-Hispanic black, Hispanic, and American Indian-Alaskan Natives were more than twice as likely as non-Hispanic white women to receive late or no prenatal care in 2006; as of 2008, nearly 40% of low-income women ages 18 to 44 were uninsured. Access to high-quality maternity care is impacted by insurance transitions in pregnancy, daunting documentation processes, language and cultural barriers, limited health literacy, out-of-pocket costs, and financial disincentives for providers to accept underserved women and provide high-quality, comprehensive services. Women in remote rural areas face particular challenges, and immigrants and refugees also face disparities. Even in urban areas, provider maldistribution and transportation barriers may impact access to timely maternity care. Care available to underserved women is often more fragmented.

Unequal treatment, including provider prejudice and stereotyping, and a limited ability to understand perspectives of patients with diverse backgrounds, contributes to health disparities. Communication that fails to convey respect, collaboration, and transparency reinforces mistrust.

Limitations of current "safety net" government care programs

Caregivers who participate in Medicaid and other public insurance programs may not be fairly compensated for care of vulnerable populations with complex health challenges and may not have access to participating specialists for needed referral. Women with public insurance may have difficulty finding participating providers. For many women, Medicaid eligibility begins only when the pregnancy is medically determined and ends 60 days postpartum, resulting in problems accessing family planning, preconception care, and long-term postpartum services. Although Medicaid is the primary payor for about 42% of births in the country, a large proportion of which are to women of color, at the federal level CMS has not provided national leadership in developing strategies to address maternity disparities through the program.

Poor understanding of disparities and inadequate ability to measure and address them

Although this is a growing field of study, more research is needed to clarify the complex factors leading to disparities in the outcomes of care for childbearing women and newborns. While the NQF identified disparities-sensitive criteria and recommended that they be used when submitting and reviewing all candidate measures, this has been done for just 5 of the NQF-endorsed maternity care measures (all relating to prenatal care). No NQF-endorsed maternity care measures have been stratified by priority considerations of race/ethnicity, socioeconomic status, primary language, and health insurance status. Without measuring disparities, safety net providers may be penalized, and little attention may be paid to closing gaps.

The maternity care system is ill-equipped to address many perinatal disparities that arise from social factors (e.g., intergenerational poverty, social isolation, low education, and racism); these contribute through nutritional, inflammatory, infectious, and vascular

pathways to preterm birth, fetal growth restriction, and other pregnancy-related morbidity, and take a toll on women, newborns, and society.

Reimbursement and funding misalignment contributes to disparities in maternity care outcomes

Payment is misaligned with goals of care. Payors often fail to reimburse for preventive services that might especially benefit low-income and minority women and ameliorate disparities, but pay readily for various overused maternity services. There is no financial reward for good outcomes, and separate, lucrative NICU payment further lessens incentives for optimal outcomes.

P4P without case-mix adjustment to account for disparities in baseline population risks has the potential for unintended consequences, including diverting resources from safety net providers if the lack of adjustment makes it appear that their performance is poor compared to care of lower-risk populations. Furthermore, these settings may be less prepared for P4P because, for example, they have fewer resources to invest in health IT.

Health IT infrastructure, including electronic medical records, is inadequate, particularly among safety net providers

Inadequate health IT is a major obstacle to data collection for measuring and understanding disparities in care processes and outcomes in the settings where vulnerable populations receive care. Safety net providers may also have fewer available resources for transitioning to health IT for solutions to care coordination and decision support that can improve quality and reduce disparities. This poses a particular problem for small practices and community clinics, especially those located in medically underserved areas, and those who serve a disproportionate share of the uninsured.

System Goals

- All women and newborns have access to and receive comprehensive high-quality, high-value reproductive health and maternity care.
- Comprehensive health care reform strategies address maternity care disparities.
- As a recognized national priority, fundamental responsibility for eliminating maternity care disparities is shared by federal agencies with broad engagement from multiple stakeholders.

Major Recommendations and Action Steps

1. **Expand access to services that have been shown to improve the quality and outcomes of maternity care for vulnerable populations.**
   - Through national health care reform legislation and its implementation, ensure that access to comprehensive, high-quality reproductive health and maternity care services are essential benefits for all women, without qualification, with careful attention to the adequacy of safety net programs, providers, and institutions.
   - In the short term, encourage states to exercise Medicaid's presumptive eligibility option for pregnant women and children under Medicaid and CHIP to help ensure immediate access to maternity and pediatric care.
   - Expand public support for maternity care programs, providers, and institutions serving vulnerable populations, including undocumented women and underserved areas. Provide quality improvement funding to Federally Qualified Community Health Centers and other safety net providers, including support for health IT, training in quality improvement, and team-based care. Increase federal Title V-Maternal and Child Health block grant funding for areas where many disadvantaged women seek care.
   - Develop a standard, comprehensive set of evidence-based services for maternity care focused on health promotion and prevention of complications that addresses the entire maternity spectrum, from preconception through prenatal care, labor and birth, postpartum care and the period between pregnancies (Chatterjee, Kotelchuck, & Sambamoorthi, 2008; Wise, 2008). Include effective, high-value services that have not traditionally been maternity benefits, which can be paid for through value-based purchasing and elimination of waste.*See the Blueprint section on Scope of Covered Services for Maternity Care.*
   - Restructure payment with risk-adjusted bundling of the full episode of maternal and newborn care. Incentives for providing appropriate care through high-value clinicians and settings and achieving optimal outcomes could especially benefit minority and low-income women at increased risk for adverse outcomes and newborn intensive care unit admissions. *(See the Blueprint section on Payment Reform to Align Incentives with Quality.)*
   - Encourage state Medicaid programs to implement payment reform pilots. These demonstrations should target participating facilities, providers, and health centers, with guidance from CMS and MACPAC. Such payment reform pilot projects should have improvement in care processes and outcomes and reductions in disparities as primary goals. *(See the Blueprint section on Payment Reform to Align Incentives with Quality.)*
2. **Conduct research into the determinants and the distribution of disparities in maternity**

care risks and outcomes of care, and improve the capacity of the performance measurement infrastructure to measure such disparities.

- Rectify current underfunding of research addressing maternal and child health disparities, and make this a national research priority with targeted funding from the National Institutes of Health (NIH) and other federal agencies. Carry out research to determine the causes of health disparities and how to eliminate disparities created by health system processes.
- Support the development of innovative methods for measuring the social constructs of race and ethnicity and the social determinants of disease. Encourage research collaboration with investigators in biomedicine, the social sciences, psychoneuro-immunology, ethnography, and medical anthropology.
- Utilize the database of race, ethnicity, primary language, and gender that will be developed in response to the recommendation of the Health IT Policy Committee as directed in the recently approved federal stimulus package to track and monitor maternity care delivered and outcomes of care for all women and for relevant subgroups of women. These data need to be collected in state and national public databases.
- Integrate electronic birth certificate data with electronic medical record information to better identify risk factors and risk demographics for adverse maternal and infant outcomes. *(See the Blueprint section on Performance Measurement and Leveraging of Results.)*
- Develop, field test, and submit specific disparities-sensitive performance measures for NQF endorsement.
- Applying disparities-sensitive criteria from *National Voluntary Consensus Standards for Ambulatory Care: Part 2* (NQF, 2009), identify a starter subset of NQF-endorsed maternity care measures for stratification by race/ethnicity, socioeconomic status, primary language, and insurance status, and specify the number of cases needed for reporting stratified results. Begin with the measures that are especially relevant to populations experiencing disparities because of high prevalence of the targeted condition or evidence of disparities in delivery of the care. Over time, add and stratify new maternity care quality measures, particularly those relevant to disparities. *(For a list of suggested priority measures for risk stratification and reporting, see the full report from the Stakeholder Workgroup of Measurement and Quality Research Experts at: www.childbirthconnection.org/workgroups.)*
- Report NQF-endorsed maternity care measures stratified by key populations experiencing disparities. Call on organizations and programs that report measures to correlate measurement outcomes with maternal variables associated with disparity, such as race, ethnicity, and socioeconomic status.
- Use NQF-endorsed measures to pilot risk-adjusted P4P through Medicaid demonstration projects supported by Medicaid programs, National Association of Public Hospitals and Health Systems, and National Association of Community Health Centers, focusing initially on process measures that are less affected by case mix. Use outcome data from pilots to refine case-mix adjustment.
- Use risk-adjusted data to mitigate unintended P4P consequences and worsening disparities. Without use of measures that consider differences in case-mix, for example, complexity of patient problems and needs, P4P could worsen disparities by siphoning funding away from resource-constrained providers.

3. **Compare effectiveness of interventions to reduce disparities in maternity services and outcomes, and implement and assess effective interventions.**

- Ensure that the national comparative effectiveness research program, including the NIH and other sources of research funding, allocate resources to compare the effectiveness of interventions to reduce disparities in the quality and outcomes of maternity care before conception, during pregnancy, around the time of birth, and in the postpartum period.
- Identify comparative effectiveness research priorities, including 1) assessing effectiveness in populations experiencing disparities of interventions that have been found to be beneficial in randomized controlled trials, such as progesterone for prevention of preterm birth in high-risk pregnancies, 2) further assessment of interventions that have been found to be effective in populations experiencing disparities, such as infection treatment for prevention of preterm birth in African American women, 3) further research on promising perinatal programs that focus on health literacy and education to improve perinatal outcomes, such as CenteringPregnancy and Baby Basics, and 4) a rigorous overview of best practices for reducing disparities in maternity care and outcomes.
- Form quality collaboratives and community-based partnerships to evaluate and implement programs to close disparities in maternity care and outcomes. Scale up and fund interventions of demonstrated effectiveness, focusing especially on implementation within safety net

infrastructure. Assess and report ongoing effectiveness.

- Evaluate in populations experiencing disparities the impact on outcomes and costs of effective preventive interventions that have not reliably been covered by insurance, including:
  - *Language translation.* With limited exception (i.e., large, urban teaching institutions), language translation is virtually nonexistent, because payors do not reimburse for it despite much research indicating that communication is fundamental to the delivery of quality care.
  - *Care coordination.* High-risk women especially may be expected to benefit from care coordination.
  - *Nurse home visitation.* High-quality evidence has found that nurse home visitation, beginning during pregnancy, improves long-term maternal and child outcomes.
  - *Comprehensive breastfeeding promotion.* There is consistent, growing evidence that breastfeeding improves child and maternal health, and that various interventions enhance breastfeeding from pregnancy through the postpartum period.
  - *Doulas.* Continuous, supportive care during labor has been shown to increase satisfaction and reduce risk for operative birth.
- Evaluate the impact on disparities in maternity care outcomes and the cost effectiveness of flexible care options, including expanded hours such as evening and weekend clinic schedules, and flexible care delivery settings such as schools (for adolescents), mobile vans, churches, and in-home care visits.
- Evaluate the impact on disparities in maternity care outcomes and the cost effectiveness of care coordinators and community health workers.
- Expand access to midwives with nationally recognized credentials and accredited birth centers across the country. Encourage health plans to foster access to these forms of care.

4. **Improve maternity care and outcomes in populations experiencing disparities by increasing the number of underrepresented minority caregivers and improving the cultural and linguistic competence of health professionals generally.**

To recruit and retain maternity providers from populations experiencing disparities:

- Create a "tipping point" for cultural competency by increasing recruitment of underrepresented minorities into the maternity professions. Strengthen recruitment, education, retention, mentoring, and other types of support to increase the racial/ethnic, geographic, linguistic, and socioeconomic diversity of the maternity care workforce and its capacity to provide high-quality care to underserved populations. *(See the Blueprint section on Action on Workforce Composition and Distribution.)*
- Maternity care professionals should engage in early outreach to students in elementary and secondary schools in disparity communities about maternity care careers. Professional groups can help to develop informative and inspirational educational modules, and work with colleges and universities to develop or refine distance and other innovative educational programs that foster recruitment and retention of members of communitied experiencing disparities.
- Create assistance programs in community colleges and other institutions of higher learning to support low-income students and students of color who wish to become maternity caregivers (midwives, nurses, nurse-practitioners, and physicians). Financial and social benefits that may foster access to health professions training include grants and scholarships, housing stipends, health insurance for students and their families, and child care services for student–parents.
- Expand the scope and eligibility for the National Health Service Corps program, to increase the capacity of maternity care providers who can provide culturally competent care, communicate in diverse languages, and practice in underserved communities.
- Establish community-based doula, childbirth educator, and peer breastfeeding counselor training programs for women in underserved communities.

To build the cultural competence of the maternity care workforce:

- Incorporate development of respectful, collaborative communication and interviewing skills and examination of biases and stereotypes into maternity professions curricula.
- Incorporate questions about cultural competency into all maternity health professional credentialing and licensure examinations. Health professional credentialing bodies should include cultural competence in Core Competencies. Include culturally competent content in national maternity professional educational meetings and publications.
- To increase awareness of biases and cultural beliefs among maternity caregivers, provide routine cultural competency training in facility-based maternity care quality improvement programs and obtain feedback through client satisfaction surveys and report cards that identify race/ethnicity and language (Betancourt et al., 2009).
- Institute ready access to interpretation services and culturally appropriate maternity educational materials within health care delivery systems to

foster communication and engage women and their families in maternity care. Enact legislation to provide access to these services to childbearing women with limited English skills, beginning with those targeting the most common minority populations.
- Encourage The Joint Commission to make all elements of Culturally and Linguistically Appropriate Services standards mandatory.
- Develop joint workgroups comprised of public and private payors at national, state and regional levels to share communication strategies and co-develop materials on what constitutes quality maternity care for diverse groups of women and other key audiences.
- Present data to policy makers—including evaluations, systematic reviews, and testimony—that document reduced disparities in health behaviors and outcomes through improved health literacy and education.

Lead Responsibilities

Leadership for a national effort to end disparities in maternity care access and outcomes should be provided by CMS, its MACPAC, and state Medicaid programs; AHRQ; Health Resources and Services Administration and its Maternal and Child Health Bureau; Congress; state Maternal and Child Health (Title V) agencies; major health foundations; safety net providers, organizations, and institutions; quality collaboratives; national quality organizations; health professional organizations; and consumers and advocates.

Improved Functioning of the Liability System

Problems

The current professional liability system for maternity care poorly fulfills its intended objectives and causes numerous unintended negative consequences.

Inefficient and ineffective for addressing negligent care
Claims are filed on behalf of just a small fraction of patients who sustain negligent injury. On the other hand, in many cases claims are filed because of a bad outcome even though there was no negligence. Of filed claims, only a small proportion result in awards, usually after significant delays. Awards generally fall far short of compensating injured parties adequately for damages. At great cost, the legal system thus fails to assist most women and newborns who sustain negligent injury.

Serves as a proxy for an absent social program for neurologically impaired infants
Just a small proportion of cases of cerebral palsy can be attributed to intrapartum events. Nonetheless, a neurologically impaired infant is the most common primary allegation of obstetric legal claims. Nearly all states lack a system for assisting families with costs of caring for neurologically impaired infants without resorting to the tort system. The legal system is an inappropriate solution to families' need for help with expenses in the absence of negligent injury and a wasteful solution in the face of negligent injury.

Lack of transparency results in dearth of data on adverse events and near misses
The current tort system discourages providers from reporting adverse events and "near misses" owing to fear of litigation, making it difficult to learn from these events. The focus on individual blame discourages a more constructive systems perspective with appropriate assignment of accountability, which often partially or fully rests with systems. Although the largest hospital system in the country concluded that "most money currently paid in conjunction with obstetric malpractice cases is the result of actual substandard care resulting in preventable injury" (Clark et al., 2008), many obstetric providers have been unwilling to embrace the need for quality improvement.

The lack of reporting of adverse events leads to a dearth of solid data on their type, frequency, and severity for actuarial analysis of perinatal risk. Insurers have thus been unable to set premiums on the basis of actual risk, contributing to unpredictable fluctuation in premium levels.

Fear of litigation negatively impacts maternity care quality and costs
As a small fraction of cases of negligence are brought before the legal system, and even fewer receive payments, feared impact seems to exceed actual impact, but is nonetheless deeply unsettling. Defensive medicine increases health care costs and may perversely increase the risk of harm, for example, through increased use of cesarean section and decreased VBAC. Liability pressure may affect the maternity workforce, by influencing providers' decisions about practice locations and populations.

Scientific and legal system standards of evidence not aligned
Although current practice is extremely variable and may not reflect best available evidence, the legal system upholds as a standard for practice what a reasonable clinician would do in a specific situation. When the weight of the best available evidence clarifies that a change in practice standards is needed, the legal system impedes quality improvement by providing incentives to adhere to obsolete patterns of care. Further, this system relies extensively on opinions of expert witnesses, although expert opinion is considered to be the lowest level of evidence because of its high potential for bias.

System Goals

- Liability-related goals include minimizing avoidable harm through increased safety and maternity care quality, appropriately supporting women and newborns who sustain negligent injury, obtaining good value from resources directed to safety and liability, and decreasing maternity professional fear and discontent.
- There is alignment between liability system goals and system results.
- All providers of maternity and newborn care have access to affordable professional liability insurance coverage.

Major Recommendations and Action Steps

1. **Improve the collection, analysis, and dissemination of aggregated occurrence data for quality improvement and actuarial setting of premium rates.**

- Adopt widely and continue to improve the newly developed uniform Perinatal Safety Event Reporting Form (PSERF) administered by the AHRQ, to routinely collect and report uniform data on rates of adverse events in maternity care, and to enable more precise actuarial analysis.
  - Encourage maternity care facilities to join AHRQ Patient Safety Organizations (PSOs), through which they can collect and report their de-identified data using the AHRQ common format PSERF.
  - Expand the AHRQ common format PSERF to include reporting of perinatal safety event data stratified by setting and provider type, to provide data on the outcomes of out-of-hospital maternity care and maternity care by nonphysician providers for actuarial analysis and to foster the fuller integration of these forms of care into the maternity care system.
  - Expand the AHRQ common format PSERF to include data on outcomes of practices such as assisted vaginal birth, VBAC, and vaginal breech and twin births to provide data on outcomes of these practices for actuarial analysis and encourage expanded access to these services.
  - Convene relevant stakeholders to work with AHRQ and its PSOs to develop additional needed data points for inclusion in the PSERF.
  - Engage leaders from the Insurance Services Office, a third-party insurance industry service organization that publishes industry-wide forms and disseminates data to the insurance community, to adopt the PSERF and analyze and report data collected with it.
  - Engage leaders from the National Practitioner Data Bank, and the Healthcare Integrity and Protection Data Bank, a national collection program, to adopt the common format PSERF. The National Practitioner Data Bank and the Physicians Insurance Association of America should collaborate to harmonize their data with the PSERF project, to ensure that relevant clinical data are included with data on volume, type, and award amount for perinatal claims, and to make data freely available for quality improvement activities and actuarial analysis by insurers.
- Create a national, standardized database of maternity care outcomes and adverse events that is risk adjusted, as well as stratified by facility and provider type. Make these valid, transparent data available to the insurance market to set adequate premiums for maternity care coverage at different system levels, and to inform facility-based risk reduction and risk management programs. Frame this strategy within interoperable health IT to foster ease of collection, reporting, analysis, and feedback, and to provide denominators to measure incidence.
- Encourage malpractice insurance carriers with maternity claims data to collaborate in a comprehensive analysis of their pooled closed and open claims, even if they no longer offer this coverage, and contribute the results to a publicly available national dataset, that is risk adjusted as well as stratified by facility and provider type.

2. **Implement continuous quality improvement and clinical risk management programs to identify, prevent, and mitigate adverse events in maternity care.**

- Insurance leaders and risk management experts should partner with maternity care facilities to develop, implement, and share results—including impact on health outcomes and liability-associated expense—of risk retention programs. Encourage joint underwriting carriers to fund and develop programs based on aggregated uniform outcomes data.
- Encourage clinical and insurance leaders and third-party payors to support and encourage development of premium reduction incentive programs in exchange for completion of meaningful perinatal safety and quality improvement activities. State insurance regulators should require the participation of insurers in such programs.
- Legislate a "safe haven" for providers who follow established standards so that they are protected from legal action when up-to-date guidelines supported by high-quality evidence are followed.
- Maternity care facilities, self-insured health care systems, and hospitals that share/pool risk should widely adopt system-oriented patient

safety and quality improvement programs, and measure and report their experiences with malpractice claims and payments.
- The quality improvement and patient safety bodies of maternity professional organizations should collaborate to create and make available a central database of maternity care quality improvement programs in the United States that are implementing, evaluating, reporting, and publicizing their results.
- AHRQ and foundations should support priority comparative effectiveness research to evaluate strategies to improve the quality of maternity care and reduce liability:
  - Evaluate the impact of laborist models on access to skilled labor support, perinatal outcomes (e.g., VBAC, vaginal breech and twin birth, external version), reduction of adverse events and liability experiences, mother/family and clinician satisfaction, and maternity costs.
  - Compare the impact of different provider models of care, including physician–midwife teams and specialist teams on costs, quality, and outcomes of care, including liability experiences and longer term postdischarge outcomes.
  - Carry out adequately funded and powered studies of home birth with appropriate comparison groups, attention to planning status, and analysis of referral and transport cases.
  - Compare different models of regional coordination, including evaluation of relationships between community hospitals and academic medical centers, on processes, costs, and outcomes of care, including liability experiences.
- Incorporate error reduction, patient safety, evidence-based practice, and quality improvement in maternity professional education curricula. Implement integrated coeducation of medical, midwifery, nursing, pharmacy, and other health care students to increase understanding of differing scopes of practice, improve communication skills, and provide team experience in maternity care.
- Make obstetric emergency drills in all delivery settings a regular component of continuing education to improve team performance during maternal and newborn emergencies. Require demonstrated participation in emergency team training drills for hospital credentialing and maintenance of certification.
- Implement evidence-based checklists and other tools within health care organizations to enhance clinical decision making in maternity care.
- Evaluate the impact of policies within hospitals and health systems that provide better rest for maternity providers on rates of perinatal harm and near misses, such as limited residency hours and use of birth hospitalists (laborists), including use of midwives as hospitalists for lower risk births.

3. Explore alternative approaches that separate negligence and compensation, compensate patients quickly and fairly, and remove waste from the liability system.
- Support legislation that promotes specialized health courts with judges and panels skilled in negligence reviews as an alternative to the current tort system.
- Pilot, evaluate, and share results of "enterprise liability" programs that relocate responsibility from individuals to systems.
- Pilot, evaluate, and share results of model no-fault programs that provide rapid payments to families for health care and special medical needs, similar to systems in Sweden and New Zealand. Build on lessons learned in Virginia and Florida programs for neurologically impaired newborns.
- Pilot, evaluate, and share results of methods of alternative dispute resolution including mandatory binding arbitration/mediation, and early resolution programs.
- Enact "apology laws," which allow providers to discuss an adverse outcome and express regret to a patient while excluding the apology as admissible evidence of negligence.
- Ensure that all maternity care professional organizations jointly define and publish standards for expert witnesses.
- Engage two crucial stakeholder groups to leverage their power in taking a more active approach to tort alternative reforms: state regulators to work on behalf of those who receive and provide care, and public and private purchasers, who indirectly absorb costs of the liability system through their payments to health professionals and facilities.

4. Align legal standards with objectives for a high-quality, high-performance maternity care system.
- Lobby the legal community to develop, test, and move toward evidentiary approaches based on best available scientific evidence rather than the traditional custom-based standard of care that courts use to decide liability in medical malpractice law.
- Fully transition the health care and legal systems to "patient" legal informed consent standards that disclose what a reasonable patient wants to know, in contrast to the increasingly obsolete clinician standard relying on clinicians' judgments about what patients need to know, as childbearing

women generally desire and often do not have a high level of knowledge about benefits and harms of their care options.
- Create state sovereign immunity or liability coverage programs for health care provider education.

Lead Responsibilities

There should be multi-stakeholder collaboration to improve the functioning of the liability system. The relevant stakeholders for improving the liability environment and the quality of maternity care should include patient safety and health care quality organizations; maternity health professional organizations; hospitals and health systems; AHRQ; state insurance regulators; policy makers; key legal, liability, and insurer organizations; and consumers and advocates.

Scope of Covered Services for Maternity Care

Problems

Women face barriers to accessing maternity care benefits in both group and individual private health insurance markets and in Medicaid programs

Widespread discriminatory practices create barriers for women of childbearing age to obtain coverage for maternity care services in private insurance markets. Exclusion of maternity benefits, considering past obstetric history a preexisting condition, and gender-rating similar plans at a higher price for women than for men are among the most pervasive problems. Many low-income, pregnant women are currently eligible for Medicaid coverage only during their pregnancy, leading to delays in care and lack of coverage for critical early primary and secondary prevention and for adequate follow-up in the postpartum period.

Lack of a standardized set of covered evidence-based maternity services

The lack of consensus on a comprehensive package of essential maternity services that have been shown to improve health outcomes, and should be covered by public and private insurance, leads to unwarranted variation in maternity care. This involves both the missed opportunity to deliver effective, high-value services and the wastefulness of delivering services that are ineffective, compare unfavorably with other options, or are provided outside of supported indications.

Typical maternity coverage leaves major gaps in critical aspects of care

The current system for reimbursement of maternity services favors volume of acute interventions and diagnostic procedures concentrated around the time of birth, and leaves important gaps in preventive care and wellness services. These include counseling and behavioral services, preconception and interconception care, postpartum care that includes mental health and family support services, and care that is tailored to meet the needs of women and families related to such factors as language, access, and socioeconomic status.

Gaps in knowledge about the effectiveness of many maternity services

Despite extensive research to clarify the effectiveness of interventions for childbearing women and newborns and to compare alternative approaches, significant gaps in knowledge remain. However, maternity care research and development are systematically underfunded (Fisk & Atun, 2008, 2009), leading to uncertainty about optimal coverage and provision of services. Comparative effectiveness research is needed to answer many such questions.

System Goals

- Maternity care is a part of a continuum of women's health care through the life span.
- All childbearing women and newborns have access to evidence-based maternity services that foster healthy development and address special needs.
- Benefits coverage and service delivery are outcome driven.

Major Recommendations and Action Steps

1. **Identify an essential package of evidence-based maternity care services for healthy childbearing women and newborns, and additional essential services of benefit to women and newborns with special needs.**
- Designate a federal agency or the Institute of Medicine to convene an independent multi-stakeholder pael to specify an essential package of evidence-based maternity services for healthy women and newborns and for those with special conditions or risks. Ensure the package includes mental health services and support services such as language translation and care coordination for all women who need them.
  - Ensure that the essential package includes recommendations on indications for services, frequency, suitable providers, and the evidence base relating to both benefits and harms.
  - Require included services to meet a high standard of evidence, ideally one or more up-to-date, well-conducted systematic reviews indicating meaningful contribution to health outcomes. Although public and private insurers could cover services that warrant further research, those services should be identified as

such. These distinctions could help to guide resource allocation, encourage recognition of areas of uncertainty in decision making, and identify research gaps with potential to improve maternity care quality and value. Interventions that are proven to be of no benefit should go on a "Do Not Pay" list.
- Ensure that relevant stakeholders have an opportunity for public feedback on the inventory of well-supported services and those that are excluded.
- Widely disseminate the panel's report and ensure that it is accessible to a broad range of stakeholders.

2. Carry out research to evaluate the comparative effectiveness and safety of priority maternity services that require further evidence before they can be considered for inclusion in the essential services list.

- Within the national comparative effectiveness research program, apply established criteria to identify research priorities among the forms of maternity care that lack the evidence base to clarify whether they can be placed on the list of essential services, and carry out research to assess the safety and effectiveness of identified priority maternity services (National Business Coalition on Health, 2009).
- Establish a process for updating the status of maternity services and informing the stakeholders as the evidence base evolves.

3. Use determinations about comparative effectiveness of maternity services to make coverage decisions and improve the quality of maternity care.

- Ensure that essential maternity services are covered services in all benefits packages for all women. By contrast, to avoid waste and possible harm, ensure that public and private insurers do not cover maternity services proven to be of no benefit. Coverage options for maternity services of unknown effectiveness include: exclusion from scope of covered services, or tiered insurance plans that require purchasers or consumers who choose plans with coverage of services that lack strong evidence of benefit to pay more for them.
- Use the results of comparative effectiveness work to identify essential, uncertain, and disproven maternity services to inform a broad range of quality improvement activities. These should include health professions education, quality improvement programs, and the development of clinical practice guidelines, performance measures, and decision tools for health professionals and childbearing women.
- Ensure that health systems provide women and families and providers with decision tools to help them understand benefits, harms, and trade-offs and make informed decisions. Give special attention to informing women about comparative benefits and harms of alternatives, such as no test versus test A versus test B.

Lead Responsibilities

Multi-stakeholder collaboration is necessary to identify and implement essential maternity services. Key stakeholders include all types of maternity caregivers; experts in nutrition, mental health, and oral health of childbearing women and newborns; pediatricians and other newborn care providers; epidemiologists and other researchers; public and private insurers; health business groups and coalitions; and consumers and advocates.

Coordination of Maternity Care Across Time, Settings, and Disciplines

Problems

Many points of transition present opportunities for communication failure and adverse events

Transitions routinely occur across phases of the maternity cycle, among individual providers and disciplines, between settings with different levels of care, and between maternity care and other types of health care. Lapses in communication and discontinuity of care frequently cause adverse events and decreased quality, and maternity care is characterized by numerous care transitions and weak care coordination processes.

The current model of maternity care does not engage consumers as partners and empower them to take an active role in coordinating their own care

The vision of engaged and empowered childbearing women and families at the "center" of well-coordinated maternity care is largely unrealized at present. The current focus is often facility and provider oriented, with institutional policies that serve the needs of the system taking precedence over woman- and family-centered care, respect for self-determination, and access to care options along with support for informed choice.

Lack of cooperation between maternity care providers and facilities

Competition for maternity clients among facilities and providers within a community is common and may be a key barrier to communication and care coordination. Lack of trust presents a particular barrier to effective coordination of maternity care during intrapartum

care transfers from out-of-hospital to hospital settings; this problem negatively impacts safety and continuity of care, and improved processes are needed.

Negative or perverse incentives discourage optimal care coordination

The current reimbursement system does not incentivize care coordination activities that foster appropriate use of services, does not reliably cover many beneficial preventive and other services for women and families, and encourages overuse of procedures and duplication of services. There is no mechanism for sharing the overhead and revenue of maternity care across the full episode of care among facilities and providers. Liability pressures may discourage collaboration between midwives and physicians who fear exposure to vicarious liability.

Health IT and other resources and tools for care coordination are poorly developed at present

Health professionals and systems lack tools to foster good coordination, such as interoperable health IT with personal health records, decision tools, and systems for measuring performance and improving the quality of care.

System Goals

- The full episode of maternity care is coordinated through a Woman- and Family-Centered Maternity Care Home.
- When moving within the maternity care system, women and families experience seamless transitions throughout the full episode of maternity care.
- Care is coordinated around the needs and preferences of childbearing women and families.

Major Recommendations and Action Steps

1. **Extend the health care home model to the full episode of maternity care to ensure that every childbearing woman has access to a Woman and Family-Centered Maternity Care Home that fosters care coordination.**

- Encourage the National Committee for Quality Assurance to develop standards for Woman- and Family-Centered Maternity Care Home, recognizing that family physicians and obstetricians, midwives with national credentials (CNM, CM, CPM) and nurse-practitioners all have the potential to provide exemplary maternity care coordination.
- Call for Medicaid demonstrations to develop, evaluate, and refine the concept of Woman- and Family-Centered Maternity Care Home, including ways of restructuring health system relationships, risk-adjusting payments, providing payments for outliers, and providing consumer incentives to choose higher value caregivers and services.
- Work with Center for Healthcare Quality and Payment Reform to adapt the care coordination, health care home and payment model outlined in *From Volume to Value: Transforming Health Care Payment and Delivery Systems to Improve Quality and Reduce Costs* (Miller, 2008) to the full episode of maternity care, with a focus on aligning incentives with high-quality care and delivering appropriate care, including primary maternity care for healthy low-risk women. (*See the Blueprint section on Payment Reform to Align Incentives with Quality.*)
- Present the MACPAC with data about women's experience of care, quality concerns with maternity care, and implications for Medicaid programs and beneficiaries, and seek its support for demonstrations of the Woman- and Family-Centered Maternity Care Home model.
- Engage the support of the National Priorities Partners as this model advances five of their six priority areas, including Care Coordination.

2. **Develop local and regional collaborative quality improvement initiatives to improve clinical coordination at the community level.**

- Health systems, with support from national quality organizations, should sponsor and fund projects for the development of models for effective community coordination of maternity care.
- Health care delivery systems should establish and maintain mechanisms for open access to maternal–fetal medicine specialists by community maternity care providers for consultation, co-management, or referral of clients, as warranted, on a 24-hour basis.
- Conduct multidisciplinary periodic review of all transfers and complications from community facilities to higher levels of care to engage team members at all levels of care in working together to jointly improve care coordination and quality.
- A national health policy organization should seek nominations for exemplary model systems where maternity care coordination has been established and has demonstrated success (such as birth centers with tertiary referral, community hospitals with midwifery model of care and referral, and home birth services with consultation and referral to medical care) and develop and disseminate a white paper to characterize essential components of successful maternity care coordination across time, settings, and disciplines.

3. **Develop consensus standards for appropriate care level and risk criteria.**

- Health systems and community providers should work together to develop consensus standards for appropriate care level and risk criteria for each setting and provider type that can be shared and reviewed periodically. Such standards should include a mechanism for exceptions and approval of clients who fall outside specific risk criteria for each setting.
- Replicate the model and process used by Intermountain Healthcare to develop community consensus standards by convening an interdisciplinary team of family practice, midwifery, obstetric, and maternal–fetal medicine providers and using patient safety data on near misses and reportable adverse events to develop criteria appropriate to each level of care (including appropriate providers and settings).

4. **Support development and use of EHRs and health information exchange systems that promote active communication among caregivers and facilities, include adequate protections for privacy and security, and put the woman and her family at the "center."** ***(See the Blueprint section on Development and Use of Health Information Technology.)***

Lead Responsibilities

Key stakeholders include consumers and advocates, payors and purchasers, clinicians and health professional organizations, state and federal agencies, health systems, researchers, the National Committee for Quality Assurance, and the National Priorities Partnership.

Clinical Controversies: Home Birth, VBAC, Vaginal Breech and Twin Birth, Elective Induction, and Cesarean Section without Indication

Problems

Overreliance on maternity interventions and limited access to primary maternity care providers and settings provide the context for clinical controversies

Controversial clinical scenarios in maternity care include VBAC, vaginal breech and vaginal twin birth, cesarean section without indication, elective induction of labor, and home birth. Conflict about these forms of care occurs in the context of the current maternity care delivery system, which generally provides an intervention-intensive, specialty-oriented style of care. The system fosters liberal use of elective procedures and perverse financial incentives that favor overuse of services, including an overreliance on cesarean section versus skill-based and time-intensive approaches to facilitating labor and birth. Care is poorly coordinated and does not reliably ensure appropriate practice based on an individual woman's clinical circumstances and personal preferences.

Primary maternity care with a focus on support and prevention is optimal for the majority of women and newborns who are essentially healthy and at low risk for complications. Yet, most U.S. births are attended by specialists trained in high-risk pregnancy and disease management, a large number of whom have little training or experience in protecting, promoting and supporting physiologic childbirth—the most appropriate form of care for most of the population. Other providers, specifically midwives and family physicians, often have a different focus and emphasis in their training and experience in maternity care, such that their skills may be better suited for providing this style of care. However, these caregivers attend relatively few births in the United States. Similarly, the freestanding birth center more consistently provides such care to healthy, low-risk women than acute care hospitals, yet just a fraction of women have access to that care setting.

Inconsistent adherence to evidence, lack of consensus, and wide variability in the care of women with controversial clinical scenarios

Childbearing women with controversial clinical situations face mixed professional messages and disagreement about appropriate care and care options. Gaps between evidence and practice, uncertainty about effects of inadequately assessed practices, and diminished access to many forms of care pit many women and their preferences against the maternity care available in their communities. This conflict is magnified during health care transitions, when women's care may be managed very differently, often with inadequate coordination of care, by their various providers and settings.

Reduced access to essential practices and loss of provider skills that foster safe, physiologic childbirth

Women increasingly lack access to essential practices that foster vaginal birth and reduce the likelihood of cesarean section. Best current evidence supports providing carefully screened women access to practices such as planned VBAC, vaginal breech birth (Goffinet et al., 2006; Hannah et al., 2004; Hogle et al., 2003; Kotaska et al., 2009; Whyte et al., 2004), and vaginal twin birth; external version to turn fetuses to a head-first position; nonpharmacologic methods of labor pain relief and management; intermittent auscultation for fetal monitoring; and skillful judicious use of vacuum extraction and forceps. However, decreased use of these practices is leading to loss of skills and unsupportive environments.

Liability concerns
Liability concerns impact the care of women with controversial clinical scenarios. Perceived pressure pushes some clinicians and systems of care to make decisions with the primary aim of avoiding liability rather than supporting a healthy physiologic childbirth and honoring women's informed choices.

System Goals

- Primary maternity care is the standard of care for the majority of women and newborns who are at low risk for complications.
- Focused attention is given to resolving clinical controversies, which adversely affect childbearing women, caregivers, and the maternity care system.
- Care for childbearing women and newborns is provided within an integrated system that ensures respect and support for women's informed choices while responding appropriately to unexpected needs.

Major Recommendations and Action Steps

1. **Align practice patterns and views of both maternity caregivers and consumers with best current evidence about controversial clinical scenarios and evidence-based maternity care generally.**

- Review evidence and develop national clinical guidelines for VBAC, labor induction, vaginal breech and twin birth, elective primary cesarean, and out-of-hospital birth using transparent multidisciplinary and multi-stakeholder processes with opportunities for public comment. Adopt resulting guidelines as the national standard of care. Develop parallel education and decision support resources for consumers and health professionals. Look to the U.K. National Institute for Health and Clinical Excellence as a model for this process.
- Revise educational requirements for maternity caregivers, adding curricula related to critical appraisal of scientific literature. Integrate the teaching of evidence uptake and evidence-based practice into the clinical training setting.
- Fund, conduct, and publish results of prospective comparative effectiveness research on the relative safety of birth across all settings through multidisciplinary collaboration and careful selection of comparison groups. Measure physical and psychosocial outcomes in the weeks and months after birth, implications for populations experiencing disparities, and experience of care.
- Convene a multidisciplinary consensus conference on vaginal breech birth with support from AHRQ and NIH, including international experience with vaginal breech birth. Convene a home birth consensus conference, which is already in the planning stage.
- Identify the critical gaps in the evidence needed for decision making on planned VBAC versus repeat cesarean, then fund and conduct targeted research with time frames that can compare short-term and longer-term outcomes and costs.
- Ensure ongoing collection of national data on the incidence of maternal demand cesarean through Pregnancy Risk Assessment Monitoring System, National Survey of Family Growth, and other surveys in light of conflicting views of this phenomenon.

2. **At the clinical microsystem and health care organization levels, implement policies and practices that foster safe physiologic childbirth and decrease excessive use of elective procedures and interventions.**

- Implement regular, multidisciplinary, peer clinical practice review of selected procedures and interventions on a case-by-case basis, such as indications for repeat cesarean and elective induction and nonmedical primary cesarean, to promote accountability and align evidence and practice by evaluating decision making.
- Implement multidisciplinary team training programs that include drills, simulation, interdisciplinary problem solving, and communication training to safely offer controversial practices that are supported by high-quality evidence, including planned VBAC, vaginal breech, and vaginal twin birth; vacuum extraction and forceps; and intermittent auscultation. Include physician and nonphysician maternity caregivers, and anesthesia, pediatrics, and risk management professionals.
- Institute benchmarking programs to identify and move toward safe, achievable target rates of VBAC, vaginal twin and vaginal breech births, labor induction, and cesarean in low-risk, first-time mothers. Educate health professionals and childbearing women, identify best practices for achieving these goals, and publicize innovation and success. Learn from successful programs, such as the NNEPQIN.
- Develop and implement training programs for maternity nurses and primary maternity caregivers to learn skills to provide comfort and promote labor progress through effective low-technology and nonpharmacologic measures.
- Assess the impact of "laborists" (health professionals who provide hospital-based maternity care only) on access to VBAC, vaginal breech and vaginal twin birth; rates of elective induction and nonmedical cesarean section; and experience of childbearing women and caregivers.

- Improve the capacity of hospitals and health systems to meet the needs of women in their communities who face controversial clinical scenarios by learning their concerns through focus groups or meetings with representatives. Engage communication specialists to help develop shared language, decision tools, and processes to improve communication around care transitions.
- Improve the capacity of community health systems to meet the needs of women who make an informed choice of planned home birth. Carry out community focus groups that include providers, women and their families, and facility staff to discuss ways to improve the safety of the home birth care continuum.
- Improve cooperation between hospital systems and home birth providers. Pilot the formation of cooperative maternity care teams to ensure effective coordination across settings and providers and collaborative management of out-of-hospital birth when indicated for optimum care and safety. Include emergency transport providers in the planning process to facilitate transitions and assure patient information transfer and support.

3. **At the macro environmental level, institute legislative and policy initiatives, payment incentives, and liability protections to foster access to a full range of care options for labor and birth supported by evidence.**

- Develop the capacity of consumers and advocates to engage in policy forums and support reforms that foster provision of appropriate care. Model initiatives on the National Breast Cancer Coalition's Project LEAD advocacy training programs.
- Develop and implement national standardized performance measures for controversial practices. Use these measures to encourage clinicians and facilities to retain skills and provide access to forms of care that are supported by evidence but are underused and inconsistently supported by health professionals and facilities.
- Support guaranteed adequate payment for primary maternity care at a rate of not less than 100% of fees for specialists reimbursed for providing similar services.
- Support guaranteed adequate payment for birth centers at a rate of not less than 100% of reimbursement levels for equivalent codes in hospitals.
- Amend the Social Security Act/Medicaid and Federal Employees Health Benefit Plan to include reimbursement of birth centers and midwives with nationally recognized credentials. Include birth centers in the federally-qualified community health center law.
- Provide state policy makers with the best available evidence about nationally credentialed midwives and freestanding birth centers to support regulation and appropriate reimbursement of these forms of care.
- Increase salaried positions for maternity caregivers to remove some incentives for overuse of procedures that are not medically indicated.
- Develop ethical payment incentives for consumers (e.g., reduced co-pay or co-insurance) that discourage or prevent elective induction of labor and cesarean on demand.
- Develop CPT codes to allow billing for supportive, low-technological management strategies for labor and birth, such as hydrotherapy and doula care, to reduce financial incentives for intervention in physiologic childbirth.
- Assess the impact of liability reforms on access to services for controversial clinical scenarios, including:
  - Premium discounts in exchange for implementing safety training to improve outcomes of controversial services.
  - Equal access to liability insurance for all midwives with nationally recognized credentials.
  - Regulatory and other options for prohibiting or discouraging insurers from limiting practice supported by best evidence.
  - Enterprise liability programs that relocate responsibility from individuals to systems.
  - Professional liability self-insurance programs.
  - Allowing adherence to evidence based practices as affirmative defense in the event of an adverse outcome.

Lead Responsibilities

Transparent multi-stakeholder processes are needed to address clinical controversies. Relevant stakeholders include the full range of clinicians who provide maternity care and their professional organizations, epidemiologists and researchers, hospitals and health systems, administrators, consumers and advocates, and federal and state agencies.

Decision Making and Consumer Choice

Problems

Lack of access to comprehensible information from trustworthy sources

Consumers often receive conflicting information from diverse sources. They may not be confident in their ability to make decisions or may use unreliable information. The childbirth education system is not meeting the needs of contemporary women. Childbirth education affiliated with hospitals can compromise the

independence of childbirth educators and interfere with women's access to unbiased information.

Few national standardized performance measures exist for maternity care, and none address the adequacy of processes for informed decision making. Existing measures are neither widely collected and reported, nor easily understood by consumers.

Women do not currently have access to comprehensible performance reporting about maternity care providers and facilities to help them choose a caregiver and place of birth. They lack ready access to full, balanced information on risks, benefits, and alternatives associated with various options for childbirth.

Poor processes and insufficient opportunities for shared decision making

All too often, women are not full partners with caregivers in decision making, but rather experience care paths based on the decisions of others. Established institutional routines create barriers to informed and shared decision making. Health professionals may ask women to consent to procedures without providing them with adequate help to understand benefits and harms of recommendations and alternatives. To complicate the process further, many choices are complex, with multiple, sometimes incommensurable trade-offs, and decision making during labor is subject to many pressures.

Cultural mistrust of birth and pervasive climate of doubt

The current cultural emphasis on the pain, fear, and risks associated with childbirth, coupled with a strong emphasis on medical technology and interventions for childbirth seriously limit awareness of other ways of understanding birth and giving birth. The prevailing culture of maternity care and popular media representations of childbirth make it difficult for women to approach childbirth in a "climate of confidence" (Boston Women's Health Collective, 2008).

Limited care options and lack of choice

Women do not currently have access to a wide range of choices about where to give birth, how to give birth, and with whom to give birth. Factors that constrain their choices include institutional policies (e.g., disallowance of VBAC), provider preferences (e.g., routine cesarean delivery of twins), loss of clinical skills (e.g., vaginal breech birth), and reimbursement policies (e.g., no reimbursement for home birth).

System Goals

- Activated and informed consumers foster maternity care quality improvement and system performance.
- Valid, unbiased, easily understood information about risks, benefits, and alternatives is accessible to support women's informed decision making.
- Women have access to a wide range of safe and effective maternity care options that enable them to realize their carefully considered choices.

Major Recommendations and Action Steps.

1. **Expand the opportunities and capacity for shared decision making processes, and tools and resources to facilitate informed choices in maternity care.**

- Summarize research evidence, fill priority research gaps in how best to support maternity care decision making, and incorporate results into resources and tools for shared decision making and informed choice.
- Create a national coalition of public and private entities that provide educational materials for childbearing women and families to identify, develop, refine, and foster access to the shared decision-making tools.
- Identify nationally recognized producers of independent, consumer-friendly information on quality and evidence in maternity care, provide support for their work, and foster broad access to these credible sources of information.
- Fund the development of a set of electronic decision- support tools that present probability data on expected shorter term and downstream benefits and harms of common maternity interventions. Pilot the tools with diverse audiences to evaluate and refine them. Publish results, make the tools freely available, and foster their integration into the health system and use by childbearing women. Include individualized decision aids that solicit a woman's preferences and values and feedback options most compatible with what that woman deems important, a promising decision support strategy in preliminary studies.
- With support from consumer and advocacy groups, develop templates for "maternity care plans" that encompass the full episode of pregnancy, birth, and the postpartum period to encourage women to clarify their values and preferences before actual decision points. Advance directives, living wills, and other forms of end-of-life planning are models for this work.
- Develop electronic maternity care records that systematically incorporate and make readily accessible information about a woman's maternity care preferences to help ensure that caregivers honor her choices across settings and throughout her full episode of maternity care.
- Support the development of performance measures of consumer involvement in maternity care, including informed decision making, and

adapt for maternity care the generic CAHPS Provider, Facility and Health Plan surveys to measure experiences of childbearing women.
- Encourage health plans and Medicaid programs to provide beneficiaries ready access to meaningful information about all potential maternity caregivers:
  - Identify as maternity caregivers and include name, clinical discipline, languages spoken, photograph, and contact information for all obstetricians, family physicians and midwives whose maternity services the plan would cover.
  - Develop standardized national guidelines for presentation of information about heath plan maternity caregiver panel members to beneficiaries.

2. Design system incentives that reward provider and consumer behaviors that lead to healthy pregnancies and high-quality outcomes.
- Create financial incentives for caregivers to engage in patient education and shared decision making and to support appropriate low-intervention choices of childbearing women such as practices that support physiologic labor and spontaneous full-term birth. (*See the Blueprint section on Payment Reform to Align Incentives with Quality.*)
- Offer incentives that motivate women to select providers who have demonstrated consistent adherence to evidence-based practice and/or exceptional achievement of outcomes. These could include co-insurance reductions, health savings account contributions, and co-pay waivers.

3. Revive and broaden the reach of childbirth education through expanded models and innovative teaching modalities.
- Investigate the current role of formal childbirth education in women's decision making and the ways they obtain and use information about pregnancy and childbirth.
- Implement and evaluate several models of education for childbearing women:
  - Independent, community-based education that fosters taking responsibility for informed maternity care decision making
  - Peer education with "good birth ambassadors" serving as change agents in local communities
  - Alternate media for childbirth education, such as web-based formats and podcasts.
- Seek reimbursement for childbirth education models of demonstrated effectiveness.
- Engage National Priorities Partnership (NPP) members in piloting the various educational strategies and implementing effective ones in fulfillment of their focus on better engaging patients and families in managing their health and making decisions about their care.

4. Promote a cultural shift in attitudes toward childbearing.
- Explore the model of cultural transformation around end-of-life care that the death-and-dying movement has pursued and apply similar strategies to change the culture of childbirth. Promote awareness that childbirth is a meaningful process that can be profoundly transformative for women and families, and is not just a clinical event.
- Partner producers of mass media with advocacy and professional groups to develop and carry out ways to improve the image of childbirth in the media.
- Conduct national and local "childbirth literacy campaigns" to inform women of maternity care options and convey positive messages about childbearing processes. Collaborate with state and local public health agencies and staff of the Title V programs. Target women's magazines and other popular media and outreach on college campuses.
- Conduct regular national surveys of women's childbearing experiences, like the *Listening to Mothers* surveys (available: www.childbirthconnection.org/listeningtomothers), to ensure that women's voices are included in the discourse.

Lead Responsibilities

A broad range of stakeholders share fundamental responsibilities for improving decision making and consumer choice. Key stakeholders include consumers and their advocates, researchers and epidemiologists, health professionals, administrative leaders, public and private payors and purchasers, federal and state agencies, and the NPP.

Scope, Content, and Availability of Health Professions Education

Problems

Disease focus of maternity care education and clinical training

The primary focus of training for most maternity caregivers is on diagnosis and interventions to address complications of pregnancy and childbirth. There is insufficient emphasis on knowledge and skills to prevent complications, promote health, and support physiologic pregnancy, birth, and early parenting. Additionally, most health professional education curricula lack sufficient content in psychosocial aspects of pregnancy and birth, woman- and family-centered care,

cultural competence, collaborative practice, system thinking, and shared decision making.

Wide variation in the content and process of education across disciplines, with education and training for each occurring in isolation

Although health professionals work in teams, they are educated separately and their education does not help them learn how to work effectively together. Education programs differ across disciplines with respect to content, depth, and focus of material taught, views of relationships between caregivers and women, philosophy about use of technology and resources, and what constitutes best practice.

Inadequate emphasis on appraisal and use of the best available evidence

Skills for critically appraising research reports are not systematically incorporated into maternity health professional education. Although comprehensive compendia of systematic reviews of best evidence for pregnancy and childbirth care have been available, updated, and augmented for two decades, the evidence is not reliably translated into practice, suggesting the need to explore educational content and modalities that are effective at improving evidence uptake.

Ineffective continuing education

Current continuing education requirements are poorly aligned across disciplines, may not be effective in bringing about practice improvement, and in some domains, such as anesthesia, do not reflect content specific to the provision of maternity care even if that is the primary practice setting. Most continuing education programs rely on didactic rather than skill-based modalities, and have not been associated with improved practice patterns and/or patient outcomes. Potential conflicts of interest are introduced when continuing education is sponsored by the medical industry.

System Goals

- An orientation toward prevention and wellness forms the foundation of maternity care education and clinical training across disciplines.
- Education and clinical training across all disciplines adheres to the tenets of the "Sicily Statement on Evidence-Based Practice" (Dawes et al., 2005).
- Funding for maternity care education is aligned with national goals for maternity care workforce development and performance.
- To promote successful collaborative practice, interdisciplinary maternity care education is the norm.

Major recommendations and action steps

1. Align funding for health professions education with national goals for high-quality, high-value maternity care and workforce development.

- Carry out an independent assessment of the maternity care provider workforce capacity for the coming decade and beyond. Consider demographic trends of childbearing families and workforce needs for primary maternity care to estimate optimal workforce needs. Make policy recommendations to align trends with projected needs. *(See the Blueprint section on Workforce Composition and Distribution.)*
- Develop national goals, a funding plan, and payment structures for health professions education based on performance data and desired outcomes and the results of the independent workforce capacity assessment, rather than volume of services.
- Ensure that health professions education funding is expanded beyond Medicare subsidies for graduate medical education and case payments, to include all cadres of qualified maternity care providers.
- Seek support from the Health Resources and Services Administration to convene a coalition of representatives of all relevant professional organizations to design and pilot demonstrations of interdisciplinary educational models with equitable systems for funding.

2. Develop a common core curriculum for all maternity care provider disciplines that emphasizes health promotion and disease prevention.

- Convene a summit of educators, curriculum developers, certification leaders, and accreditation leaders from the various professions that provide maternity care to plan a shared core maternity care curriculum and ways to integrate and coordinate education across disciplines. Learn from Duke University's process of building a model universal women's health curriculum across six disciplines (Taleff, Salstrom, & Newton, 2009).
- Ensure that the common core curriculum includes a foundation in health promotion and disease prevention, cultural sensitivity, skills, and knowledge to foster patient- and family-centered care and support physiologic childbearing, skills for appraisal and uptake of evidence, and a public health focus.
- Seek congressional funding for curriculum and practicum reform, and innovative maternity professions education demonstrations that focus on physiologic childbearing, providing effective care with least risk of harm.

- Create crosswalks between national standardized maternity care performance measures and the competencies for all maternity care trainees to improve and harmonize the quality of training across disciplines and to facilitate evaluation of competency in training programs. Coordinate with the accrediting bodies and certification boards for each profession.

3. Ensure that students in each discipline have opportunities to learn from an interdisciplinary teaching team.

- Develop collaborative programs in all maternity care teaching program settings to allow students of all relevant disciples to observe different practice styles, collaborate, and learn together from faculty that include the full range of maternity caregivers.
- Replicate and expand innovative interprofessional educational programs for maternity care students from different disciplines, such as those developed by The Collaboration for Maternal and Newborn Health at the University of British Columbia (Saxell, Harris, & Elarar, 2009).
- Provide financial and other incentives for innovative education programs that demonstrate integrative training and clinical education outside of the acute hospital setting in facilities such as community health centers, public health department clinics, and freestanding birth centers.
- Require National Health Service Corps Scholarship (NHSC) programs to provide clinical preceptorship rotations to trainees from all maternity care disciplines at their sites.
- Advocate for state policy makers to require and fund public colleges and universities to develop model evidence-based interdisciplinary maternity care curricula and practicum experiences.
- Make federal funds available for competitive awards for innovative graduate and residency education in public and private settings.

4. Improve the quality and effectiveness of continuing education in all maternity care professions, and align maintenance of certification with performance measures.

- Require anesthesia practitioners who provide maternity care to participate in continuing education with content specific to the practice of maternity care.
- Require a mix of modalities for continuing education, including cognitive and hands-on modalities, such as simulation training, consistent with evolving evidence about effective quality improvement.
- Require submission of practice data (e.g., through chart review) for continuing education credit.
- Devise mechanisms for financing continuing education programs to eliminate the risk of conflicts of interest introduced by corporate sponsorship.
- Begin to develop crosswalks between maintenance of certification, licensure and credentialing, and national standardized maternity care performance measures to facilitate evaluation of competency.
- Ensure that state licensure and health system credentialing are linked to adequate achievement of practice performance goals through collaboration with state licensure boards, facility-based staff credentialing departments, and organizations such as the National Association Medical Staff Services.

Lead Responsibilities

Improvement of health professions education is collaborative and based on multi-stakeholder efforts and support. Leaders of the bodies that develop curricula, and oversee accreditation and certification for each of the relevant professions each have an important role in carrying out recommendations for improvement.

Workforce Composition and Distribution

Problems

Overall, workforce composition is misaligned with needs of childbearing women and newborns

The education and practice style of the current maternity workforce in the United States is poorly aligned with the needs of most childbearing women and newborns. Although most childbearing women and newborns are essentially healthy, care for the majority is managed by specialist physician caregivers whose training focuses primarily on high-risk pregnancy and disease management with minimal emphasis on the skills and knowledge to protect, promote, and support physiologic childbirth, the most appropriate form of care for these mothers. Primary maternity care providers—most consistently midwives and family physicians who through the focus of their training and experience in maternity care attain skills that are often better suited for supporting physiologic childbirth in women with low-risk pregnancies—are the least likely to attend births in this country and often face barriers to providing such care, even where they are available. Thus, there is a shortage of these primary maternity care providers.

Geographic maldistribution of maternity care providers

Regional inequities of workforce distribution manifest in oversupply of services in some urban areas, and lack of services in many rural settings. At the same time, supplier-induced demand contributes to

overutilization of health care services in areas with high provider density.

Ineffective workforce collaboration and inefficient coordination of care and resources

The dominant model for provider care utilization in the U.S. maternity care system features silo-based microsystems with individuals delivering care in parallel. Such systems are vulnerable to duplication of effort, gaps in care, competitive environments, and waste of finite resources.

Without coordination among caregivers, the maternity system is unreliable and inefficient. It may not deliver an appropriate level of care, services of value from other domains, and care that meets women's preferences. Lack of interdisciplinary cooperation can also lead to unsafe conditions when primary maternity care providers cannot access reliable resources for consultation, collaboration, and referral.

Workforce attrition and inadequate recruitment across all maternity care professions

Multiple trends negatively impact the capacity of the maternity professional workforce. These include retirement of an aging provider population; barriers within educational pipelines, such as school closures, insufficient financial support, and lack of faculty; lack of interest in providing maternity services; and attrition owing to provider dissatisfaction with the quality of professional life.

System Goals

- There is a national plan for achieving a workforce composition that advances and supports the goals of maternity care.
- Primary maternity care is the standard for all childbearing women and newborns without a demonstrated need for a higher level of care.
- There is adequate diversity within the maternity care workforce to serve the diverse American childbearing population.
- Optimal use of the maternity care workforce and improved quality and safety are assured through effective interprofessional collaboration and care.

Major Recommendations and Action Steps

1. **Define national goals for redesign of the U.S. maternity care workforce based on a primary care model with access to collaborative specialty care, consistent with the health care reform priority of primary preventive services and care coordination.**

- Seek broad, multi-stakeholder support for a primary maternity care system that positions caregivers with expertise in physiologic childbearing as the standard for the majority of healthy women and their babies and gives all providers training in the skills and knowledge to support physiologic childbirth.
  - Align financial incentives with goals for a primary maternity care system and workforce diversity. *(See the Blueprint Section on Payment Reform to Align Incentives with Quality.)*
  - Communicate available comparative effectiveness data to the key stakeholders at the federal level to support expanding the primary maternity care workforce and access to freestanding birth centers.
  - Foster enabling legislation to strengthen the primary maternity care workforce at the state level by soliciting support of medical leaders, communicating support to state legislators, and writing letters to editors (including use of comparative effectiveness data).
  - Support universal educational and training standards in physiologic childbearing for physicians, midwives, and nurses and tie these to certification and licensure. *(See the Blueprint Section on Scope, Content, and Availability of Health Professions Education.)*

2. **Carry out an independent capacity assessment to determine projected workforce needs, and identify strategies for achieving the optimal maternity care workforce.**

- Engage an independent entity (such as the Center for Health Professions, University of California at San Francisco, or a leading health-related foundation) to oversee an in-depth maternity provider workforce analysis.
  - Project the maternity care provider workforce capacity for the coming decade and beyond and the optimal workforce needs of childbearing women and newborns, with respect to size, composition, and geographic distribution. Identify policy strategies for creating an optimal workforce.
  - Cover in the analysis: family physicians who provide maternity services, general obstetricians, maternal–fetal medicine specialists, neonatologists, midwives with nationally recognized credentials (CNM, CM, CPM), maternity nurses, and mental health professionals who can provide appropriate care for childbearing women and families.
  - Address the mismatch between the demographic composition of the current maternity care workforce and the rapidly changing racial/ethnic, linguistic, geographic, and socioeconomic composition of the childbearing population.

- Develop and disseminate a credible, comprehensive report of the workforce analysis.
- Identify an objective oversight group with suitable power and authority to provide leadership and guidance to make the needed transition.

3. Support the appropriate volume, geographic distribution, and density of providers in each discipline through health care policy and reimbursement realignment.

- Ensure payment for primary maternity care services at a rate of not less than 100% of fees for specialists reimbursed for providing similar services.
- Ensure payment for birth centers at a rate of not less than 100% of reimbursement levels for equivalent codes in hospitals.
- Support legislative initiatives to increase access to regulated and licensed Certified Professional Midwives.
- Develop and implement strategies specific to each of the maternity professions to increase recruitment of students.
  - Explore and replicate innovative midwifery education models to increase student enrollment in programs for nationally credentialed midwives.
  - Reduce entry barriers for prospective maternity nursing students, and create efficient education options such as accelerated second degree programs (e.g., BA to BSN, AD to BS) and undergraduate to graduate programs.
  - Improve obstetrician retention and new provider numbers by developing and implementing innovative career tracking options within maternity care (such as hospitalist, outpatient only, and gynecology only).
  - Ensure that family medicine residents have adequate opportunities to experience maternity care rotations in effective learning environments.
- Increase the diversity of the maternity care workforce. Develop career ladders (e.g., for nursing aides, nurses, doulas, midwives), through training and mentoring subsidies in safety net settings. Implement outreach programs to educate primary and especially secondary students about these career opportunities and to mentor them. Link level of federal funding for graduate health professions education and clinical training to improved outreach and diversity.
- Within health plans and Medicaid programs, foster transparency and access to a choice of caregivers with diverse disciplinary and racial, ethnic, and linguistic backgrounds, to allow consumer demand to influence optimal workforce composition and distribution.
- Improve maternity care workforce distribution in geographically and socioeconomically underserved areas. Expand the number of NHSC sites, and extend eligibility for NHSC scholarships to all nationally credentialed maternity care providers. Increase funding for health care provider education and debt forgiveness for practice in underserved areas. Employ new technologies to increase access to education and continuing competency (e.g., distance learning programs, webinars) and to specialty consultation by primary maternity caregivers in remote underserved areas (e.g., telemedicine, locum tenens).
- Continue to develop interstate models of licensure for maternity caregivers.
- Establish regional, interdisciplinary maternity care hubs to improve maternity care workforce distribution in geographically and socioeconomically underserved areas.

4. Develop, test, and implement interventions to improve collaborative practice among primary maternity caregivers and other members of the maternity team.

- Implement institutional support and incentives for collaborative practice models at the health care system level. Evaluate impact of policies and procedures, work schedules, job descriptions, performance evaluations, and client and staff satisfaction measures. Reduce health care system barriers to midwifery practice through collaboration and privileging.
- Identify exemplary U.S.- and non–U.S.-based models of collaborative practice and investigate strategies for shared financial and practice resources and replication.
- Engage expert consultation from other industries to adapt and apply to maternity care systems-level solutions for improving multidisciplinary collaboration.
- Carry out studies to assess the impact on the workforce of "laborists" (health professionals who provide hospital-based maternity care only) in comparison with usual care.
- Within health care reform, identify opportunities to foster multidisciplinary collaboration among maternity professionals through payment reform and care coordination.

Lead Responsibilities

Key stakeholders include clinicians and their professional organizations, consumers and advocates, payors and purchasers, and federal and state agencies.

Development and Use of Health Information Technology

Problems

Interoperability between health IT systems is limited
Current health IT is built on disparate, fragmented, and outdated existing information systems. Health IT vendors have developed idiosyncratic systems using proprietary formats, language, and code, rather than common standards or open-source models. Health care delivery systems have developed their IT systems to meet proprietary and local needs, not the larger values or goals of a woman- and family-centered maternity care system.

Data and health IT systems cannot be linked across time, settings, and providers
Even where health systems now have EHRs, those for maternity care lag behind other areas of health and are not designed to improve care coordination across locations and caregivers.

Recent efforts have been made to improve in-hospital coordination through EHRs in the intrapartum period, but they are not interoperable with external providers or integrated with other hospital clinical systems. Thus, documentation remains fragmented.

Most health care systems have also developed idiosyncratic identifiers for individual patients. The failure to widely disseminate and implement effective (and yet privacy protective) patient matching techniques is a significant barrier to interoperability and linkage across health IT systems, making it difficult to link patient information across provider entities and to develop population-based databases from multiple data sources. The failure to deploy effective patient matching techniques results in duplicative data collection across disease registries, and limits the capacity to understand and treat various conditions.

Content needed by various users is not yet available through health IT systems
Even as health IT systems become more widespread, they still may not provide information that key stakeholders need. Health care purchasers need performance and cost information about clinicians, facilities, and other health system components to be prudent purchasers of care for their employees or beneficiaries. Consumers need decision support tools and information on performance and value to select a clinician or care facility evidence that health IT improves the quality of care they receive, and assurances that their privacy is protected.

Many priority performance measures, including those assessing crucial outcomes of care, cannot be systematically evaluated at present, owing to a lack of standardized data collection tools. Data elements that are critical to assess the performance of the health care system for populations at risk (including race, ethnicity, primary language, and socioeconomic indicators such as education and income, and environmental exposures) are also not routinely collected according to consistent standards in EHRs.

Implementing health IT is costly
Investments in IT systems to improve patient care over the long run may not be a financial priority for care systems or providers. Short-term business imperatives can derail multiyear projects, making it difficult to develop a large, sophisticated, and interconnected IT system. Even with current federal subsidies to promote health IT adoption, it can be hard to make costly investments in an economic recession when benefits accrue over time and cannot be precisely estimated.

System Goals

- Better systems for the management and exchange of health information are developed to improve the quality and value of maternity care.
- Successful adoption and use of health IT increases as women and families better understand its role in improving the quality and value of maternity care and trust that their personal information is private and secure.
- The development of health IT systems is coordinated with development of priority performance measures, and payment reform to align payment with the provision of quality maternity care.
- Health care delivery systems play a central role in developing and using health IT.
- To realize their full potential as tools for high-quality, high-value maternity care EHRs and other components of health IT achieve interoperability.

Major Recommendations and Action Steps

1. **Increase interoperability across all phases and settings of maternity care by creating a core set of standardized data elements for electronic maternity care records.**

- Create a set of standardized data elements for an EHR for the full episode of maternity care through a transparent multi-stakeholder process.
  - Identify core data elements needed for high-quality clinical care and high-quality performance measurement. This work should take place in coordination with proactive specification and development of a core maternity care performance measure set that can be implemented in EHRs or by enhancement of

current administrative and other clinical data sources to assure that measurement of outcomes and other priority metrics can take place.
  - Consider building on progress to date of uniform maternity care dataset projects, including work of American Association of Birth Centers and Midwives Alliance of North America.
  - Guided by the Institute of Medicine report on *Race, Ethnicity, and Language Data: Standardization for Health Care Quality Improvement* (Ulmer, McFadden, & Nerenz, 2009), the Department of Health and Human Services and the Office of the National Coordinator for Health Information Technology should adopt national standards for inclusion of data items on race, Hispanic ethnicity, granular ethnicity, and language in EHRs.
  - Create a data dictionary for internal use by facilities to ensure standardization of the core data elements for optimal clinical care, performance measurement, quality improvement, and research. Create a geographic data dictionary for external use needed for segmental (e.g., hospital, geographic, demographic) reporting/benchmarking/resourcing.
  - Accomplish this work through legislation that extends to childbearing women and newborns child health care quality improvement provisions of the CHIPRA, specifically to develop a core performance measure set and a model EHR for beneficiaries of Medicaid and CHIP.
  - Pilot, evaluate, and refine the electronic maternity care record, and then disseminate it widely.
- Call on employer purchasers and payors to take the lead in advocating for accountability in the expansion of health IT to assure that policy makers regulate interoperability and enforce accountability in the dispersion of funding for health IT.

2. Increase interoperability and security among health IT systems through identification and authentication tools, as well as patient matching functionalities and other measures.

- Develop and implement methodologies to allow external public health entities to extract data for surveillance and tracking of population health data from EHRs. Develop and implement methodologies to permit accurate matching of data while still protecting patient privacy to enable comparative assessment and quality improvement and to foster accountability.
  - Bring together the various stakeholders to identify strategies that meet needs of patients, the public health, and purchasers.
  - Bring together state health data organizations to share their progress based on algorithms within states, with the goal of voluntarily agreeing on a standard approach for hospital, ambulatory, emergency department, and health plan data.
  - Explore a model based on work done by the Markle Foundation, which creates linked patient, provider, and care site data that could be accessed through a secure exchange entity if authorized by the patient.
  - Advocate for federal laws that protect the security of personal health information yet allow for appropriate exchange of data, such as those in the banking industry.

3. Explore ways to use health IT to improve clinical care quality, efficiency, and coordination and to enable performance evaluation in these areas, and implement incentives to drive widespread adoption of health IT for these uses.

- Identify and carry out research and quality improvement initiatives using standardized, routinely collected data in electronic maternity care records.
- Develop performance measures relating to accuracy, completeness, and other dimensions of the electronic maternity care record.
- Include maternal, newborn, and health IT measures in P4P programs, public reporting, and feedback to clinicians and facilities.
- Extend provider incentives for use of health IT within state Medicaid programs and safety net providers to maximize care coordination, and improve maternity care quality for populations experiencing disparities.
- Continue to develop, test, and expand health IT resources for simulation and computer-based training for high-risk maternity events (e.g., emergent cesarean section, shoulder dystocia, hemorrhage).
- Develop a health IT clinical decision tool to determine the optimal birth setting for predetermined high risk deliveries, considering geography, payor, and health status. Use standardized risk definitions and designations for level of care, regional data on availability and capacity of maternity care facilities, and probability data on outcomes of care at each level.

4. Increase and improve consumer-based uses and platforms for health IT.

- Use health IT platforms to develop accessible educational resources and decision tools, methods of communication with caregivers, and access to the personal health record for consumers.

- Develop, offer and promote RSS or email subscriptions to "maternity information newsletters" to provide consumers with maternity care educational resources in convenient formats.
- Gather and regularly update evidence-based information on maternity care best practices and outcomes into a central site (e.g., "mypregnancy") that can be downloaded onto a computer or personal device, sent by internet or podcast, to consumers seeking trustworthy resources for care decisions.
- Use technology similar to Google ad words to add tailored educational content and decision resources into consumer controlled personal health records.
- Use health IT platforms to publicly report results of performance measurement in accessible, user-friendly formats that enable consumers to compare providers, hospitals, health plans, and so on.

Lead Responsibilities

Health IT development should be collaborative, based on multi-stakeholder efforts and support. Key stakeholders include maternity caregivers, health systems, purchasers and payors, consumers and advocates, national health IT agencies and organizations, federal agencies, health data organizations, quality organizations, performance measure developers, information specialists, and the NPP.

Conclusion

The *Transforming Maternity Care* symposium project was based on a discursive, iterative, consensus process with multi-stakeholder representation from each of the major stakeholder sectors within the maternity care system. This process resulted in a "Blueprint for Action" that if enacted could improve the structure, process, experiences of care, and outcomes of the maternity care system in ways that when anchored in the culture can indeed transform maternity care.

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Implementation Projects Emanating from TMC Project Blueprint Recommendations

A further expected outcome of the TMC Project is the initiation of partnerships within and across stakeholder domains to carry out projects designed to test and implement the recommendations contained in the Blueprint for Action. In keeping with the evidence-based framework underlying the TMC initiative, such projects would optimally adhere to the basic principles of the scientific method embodied in the Plan-Do-Study/Check-Act cycle. This process mirrors the experimental design of hypothesis-testing to approach a change project. The steps in the cycle are planning a change, trying it out, analyzing the effect, and, finally, using that learning to modify, incorporate or reject the change (Plsek, 1993). An example of how this framework could be applied by stakeholders interested in implementing specific recommendations emanating from the TMC Project is included in the illustrative examples that appear in this thesis, in the form of hypothetical process models and outcome metrics developed by the Candidate for three of the Blueprint recommendations in the area of Performance Measurement and Leveraging Results.

As Plsek points out, "quality improvement teams function best when all team members agree to a unifying model to guide their effort" (p. 69). This thesis provides strong argument to support the contention that a unifying vision, such as the "2020 Vision for a High Quality, High Value Maternity Care System," and a well-defined roadmap such as the "Blueprint for Action," which were developed through an open, dialogic model of multi-stakeholder collaboration can and should serve as a springboard for numerous potential change projects that can be undertaken at various levels of the maternity care system. These levels, reflected in the Vision Paper framework and

borrowed from Berwick's "User's Manual to the IOM 'Quality Chasm' Report" (Berwick, 2002) include maternity care consumers and their advocates; microsystems that directly provide maternity care; health organizations and care delivery systems; and policy makers, payers, purchasers, educators and researchers, legislators, and the media, all of whom exert influence at the macro level on the maternity care system.

Legislative and Policy Agenda

The TMC symposium and the planning phase leading to it were designed to garner and communicate political will to move maternity care forward in the United States. It was expected that the symposium would impact political strategy by creating a pivotal organizing moment and generating the basis for a maternity care-specific legislative and policy agenda. The direction-setting papers and concrete recommendations emanating from the TMC Project provide a basis and a roadmap for needed changes in policy and legislation to improve the quality and value of maternity care, which occupies a major position within the overall health care system. TMC Project recommendations target payment reform, insurance industry practices that are discriminatory to childbearing women, weak systems for care coordination, and legislative barriers to achieving a maternity care workforce of the optimal composition and distribution to best serve the U.S. childbearing population. At the time of this writing the following bills specific to maternity care quality improvement have been introduced in Congress, all of which directly reflect recommendations put forward in the "Blueprint for Action: Steps Toward a High Quality, High-Value Maternity Care System". These are H.R.5807 – Maximizing Optimal Maternity Services for the 21st Century Act,

introduced in the House 28 July, 2010; H.R. 6318 –The Maternity Care Improvement Act of 2010, introduced in the House on 29 September, 2010; H.R. 6437 –Partnering to Improve Maternity Care Quality Act of 2010, introduced in the House on 18 November, 2010; H.R. 1054 –Access to Certified Professional Midwives Act of 2011, introduced in the House on 11 March, 2011.

The Medicare program with its central database of patient data for Medicare beneficiaries has largely been the seat and focus of federal-level health care quality improvement efforts to date, such as the Physicians Quality Reporting System, the federally-contracted Quality Improvement Organizations (QIOs), and the Medicare Hospital Compare program (CMS, 2011a, 2011b, 2011c). The TMC Project recommendations lay out a role for leadership in quality improvement for the Medicaid program at both federal and state levels. Such recommendations, if taken up, could help CMS address the challenges of improving the quality and providing oversight to the decentralized, state-administered Medicaid program and so safeguard the interests of the large population of childbearing women and newborns the program serves. The recommendations emanating from the TMC Project are well-timed to correspond with national health care reform implementation efforts, as well as major initiatives to forward performance measurement and comparative effectiveness research at the national level.

Specific Aims for Theoretical Model Construction

The aim of this portion of the doctoral thesis project is to describe the development of a theoretical framework to explain the TMC project. The goal of constructing this framework is to provide a scholarly foundation for future study based in

organizational change theory and systems theory. The structure, process, and outcomes of the TMC Project, the planning and strategy development leading up to the symposium, the event itself, and the outcomes of the project are included. The exposition of this theoretical framework includes a review of the relevant literature. No single construct was wholly explanatory but several theoretical constructs contributed important elements to an explanatory framework for understanding the mechanics and dynamics of what happened during the TMC group process and what ultimately led to its success in bridging from an idealized vision to a workable roadmap for change. An original constructivist model was generated from a qualitative examination of the TMC process within the context of the various relevant conceptual frameworks with contributory value. Theoretical models contribute to an understanding of the studied experience situated within a scholarly conceptual framework; the constructivist model that was developed based on the TMC experience allows an abstract theoretical understanding of the experience to inform future projects, and fulfills the following criteria of a Glaserian grounded theory: fit, relevance, workability, and modifiability (Charmaz, 2006).

Methods for Theoretical Model Construction

Grounded theory is a qualitative research methodology that can be used to generate theory in the realm of the social sciences, including health care. Grounded theory methodology includes a variety of data collection methods, among them conducting interviews. Data are then coded and categorized using theoretical sampling, saturation, and sorting. This is an iterative process that results in the emergence of an explanatory theory. The development of a full-scale grounded theory based on the TMC

project was beyond the scope of this dissertation. The fundamental precepts of this technique are applied to develop a constructivist theoretical model that provides an explanatory lens for the TMC process grounded in empiricism. Grounded theory methodology was developed in the 1960's by two collaborating social scientists, Glaser and Strauss. They proposed a system and flexible set of strategies for generating theoretical explanations of social processes. The resulting theories are termed "grounded" because they arise from a process of inquiry whose goal is to make sense and assign meaning to existing data or phenomena, such that the theory emerges directly from the experiences of participants including the researcher (Dunn & Swierczek, 1977). This approach is in contrast with the traditional positivist conception of research in which data are collected to test an existing theory or hypothesis, assuming an objective reality from which generalizable knowledge can be deduced by a passive, unbiased observer (Charmaz, 2006).

There are two forms of grounded theory according to Charmaz (2006), constructivist and objectivist. An objectivist approach has its roots in positivist tradition and minimizes the effects of social context, the researcher, and the influence of interactions among the participants and the grounded theorist. This approach was not appropriate for this project. However, the constructivist approach did address the intent of the research and was therefore used.

Mills, Bonner, and Francis (2006) clarify that the constructivist approach to grounded theory emphasizes the interactive relationship between the researcher and participants, which includes reciprocity and a balance of power, and acknowledges the

participatory role of the author in "rendering" the shared experience and mutually constructed meaning that emerges in the grounded theory.

Charmaz, a noted constructivist grounded theorist, includes the following essential components as definitive of grounded theory practice: data are both generated and analyzed simultaneously; analytic categories and codes are constructed directly from the data rather than from a priori hypotheses; there is a continual process of checking and comparing observed phenomena against the developing theory; the literature review is not conducted to form a testable hypothesis in advance but rather takes place afterwards to avoid "seeing the world through the lens of extant ideas" (Charmaz, 2006, p. 6).

To create the following "Constructivist Theoretical Model for Bridging Vision and Action through Multi-Stakeholder Collaboration in a Maternity Care System Change Project", Glaser's concept-indicator model was used as a template (Glaser, 1978, p. 62). According to Charmaz, a concept-indicator model is " a method of theory construction in which the researcher constructs concepts that account for relationships defined in the empirical data and each concept rests on empirical indications" (Charmaz, 2006, p. 187).

Results: A Constructivist Theoretical Model for Bridging Vision and Action through Multi-Stakeholder Collaboration in a Maternity Care System Change Project

The following original model depicts the theoretical basis for bridging from vision to action through a discursive consensus multi-stakeholder process in the TMC Project. The model depicts the theoretical constructs underlying each step of the pathway from vision to action in a way that reflects utility, credibility, resonance and originality, exemplifying the basic criteria for grounded theory studies according to Charmaz, and

displaying each of the four criteria of Glaserian grounded theory noted above (Charmaz, 2006, pp. 182-183). The theory accurately reveals and describes the TMC change process. Each concept included in the theoretical model rests on an empirical indication drawn directly from the TMC Project experience shared by the researcher and the participants, or accounts for a relationship between the TMC process and the supporting theoretical framework extrapolated from the relevant literature (Figure 2).

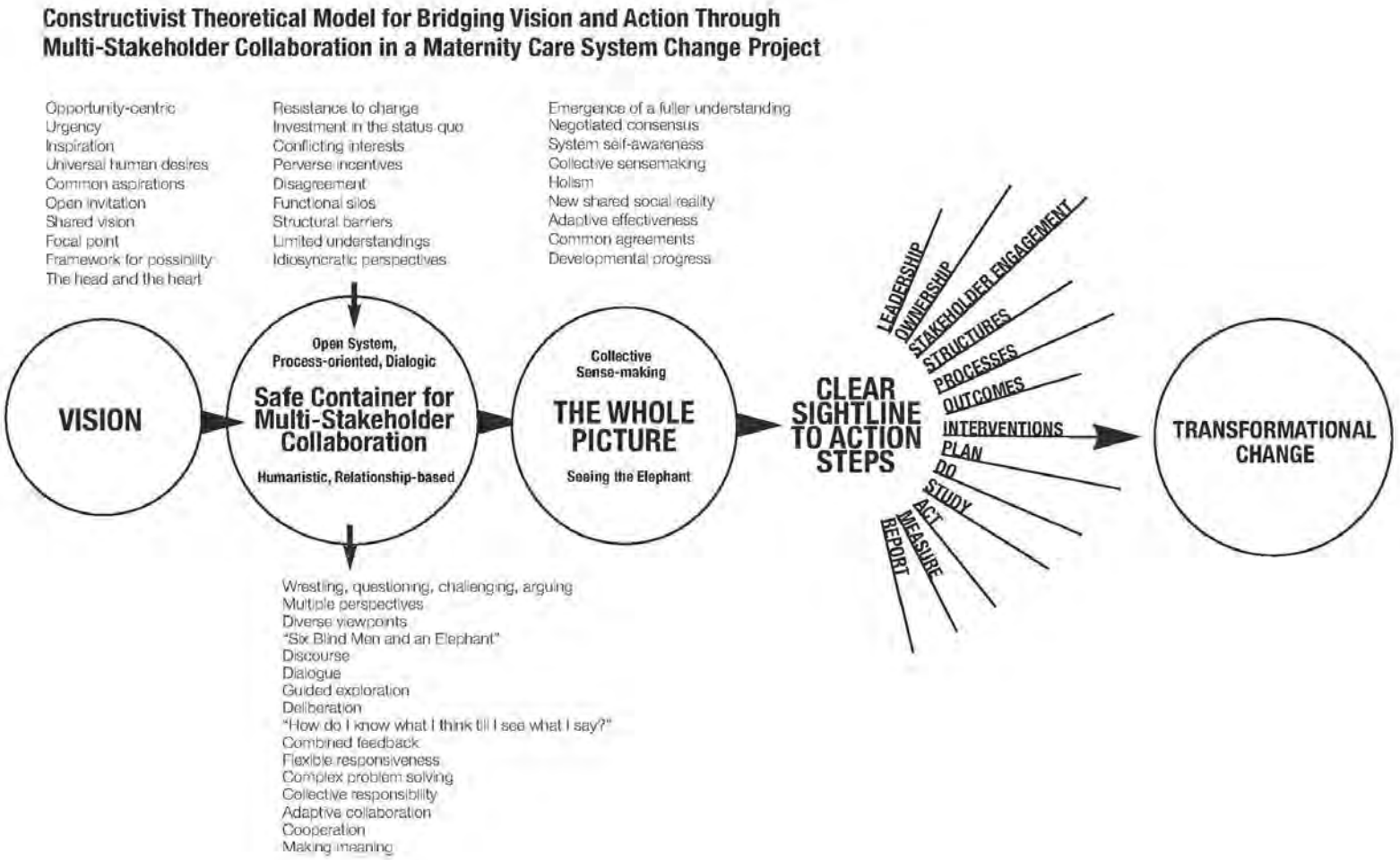
Constructivist Theoretical Model for Bridging Vision and Action Through Multi-Stakeholder Collaboration in a Maternity Care System Change Project
Opportunity-centric
Urgency
Inspiration
Universal human desires
Common aspirations
Open invitation
Shared vision
Focal point
Framework for possibility
The head and the heart
Resistance to change
Investment in the status quo
Conflicting interests
Perverse incentives
Disagreement
Functional silos
Structural barriers
Limited understandings
Idiosyncratic perspectives
Emergence of a fuller understanding
Negotiated consensus
System self-awareness
Collective sensemaking
Holism
New shared social reality
Adaptive effectiveness
Common agreements
Developmental progress
VISION
Open System,
Process-oriented, Dialogic
Safe Container for Multi-Stakeholder Collaboration
Humanistic, Relationship-based
Collective
Sense-making
THE WHOLE PICTURE
Seeing the Elephant
CLEAR SIGHTLINE TO ACTION STEPS
LEADERSHIP
OWNERSHIP
STAKEHOLDER ENGAGEMENT
STRUCTURES
PROCESSES
OUTCOMES
INTERVENTIONS
PLAN
DO
STUDY
ACT
MEASURE
REPORT
TRANSFORMATIONAL CHANGE
Wrestling, questioning, challenging, arguing
Multiple perspectives
Diverse viewpoints
"Six Blind Men and an Elephant"
Discourse
Dialogue
Guided exploration
Deliberation
"How do I know what I think till I see what I say?"
Combined feedback
Flexible responsiveness
Complex problem solving
Collective responsibility
Adaptive collaboration
Cooperation
Making meaning

Figure 2

CONCLUSION

Strengths, limitations, and implications for the TMC Project

The greatest strength of TMC Project is the broad-based, diverse interdisciplinary and multi-stakeholder support and participation from which the initiative benefited. A remarkable wealth of individual expertise and collective wisdom was brought to bear to develop the resulting vision and roadmap for system change. The egalitarian, open-structured, transparent model based on collaborative dialogue and collective sensemaking to come to negotiated agreements led to a remarkable level of consensus among the contributing stakeholders, giving this prodigious body of work a very strong foundation upon which to rest.

A potential limitation to the realization of effective change efforts through uptake and enactment of the TMC Vision and Blueprint recommendations may also be found in the theoretical framework that led to the short-term success of the project itself. Unlike those involved in the development of these direction-setting papers, the readership of the published results will not have had the benefit of the collaborative multi-stakeholder process of "collective sensemaking." Without an organized forum, a safe container for wrestling, questioning, challenging, arguing, and without a platform for multi-disciplinary, multi-stakeholder discourse and deliberation to achieve the kind of negotiated consensus that can lead to adaptive effectiveness, it is possible that the stakeholders in the maternity care system at large who are called upon to enact maternity care system change may not find the motivation and shared will to carry forward the

recommended change. The kinds of barriers to change identified at the onset of the Transforming Maternity Care project, for example, in the Milbank Report, by the key informants to the Transforming Maternity Care project, and described by Kotter and other organizational change theorists cited in this thesis (e.g., resistance to change, investment in the status quo, conflicting interests, perverse incentives, disagreement, functional silos and idiosyncratic perspectives) are all factors that may become barriers to action for those who simply read the published reports and derail the change process at the implementation phase. It is hoped that the representation of an effective guiding coalition, possessing those characteristics defined by Kotter (1996) -- power, expertise, credibility, and leadership --that are embodied by the TMC leadership, i.e., the key informants, TMC Vision Team and TMC Steering Committee members, chairs and members of the Stakeholder Workgroups and invited panelists, as well as the staff of Childbirth Connection, will help to overcome this risk and propel effective system change forward among the constituencies of these leaders.

Even with the will to pursue maternity care system improvements, a collective vision of the way forward, and a concrete roadmap to move forward toward that articulated vision, considerable resources will be needed to achieve the goals set out in the TMC Project. Effective financial and infrastructural support, for example through the Patient Protection and Affordable Care Act and ensuing implementation legislation, will be necessary to mobilize resources and enable the creation of structures and political mandates to carry many recommendations forward. This could take the form of calls and funding for payment reform demonstration projects and pilot programs to address mechanisms for improved care coordination. PPACA was signed into law about eight

weeks after the Blueprint was published and its provisions provide many opportunities for Blueprint implementation and also pose certain constraints. The Blueprint is harmonious with many strategies and in the Affordable Care Act but of course could not predict or specifically plan for its specific provisions. PPACA provisions of relevance to the TMC Project and its recommendations are unfolding at a steady pace, along with legislated provisions of the Children's Health Insurance Program Reauthorization Act (CHIPRA) and the American Recovery and Reinvestment Act (ARRA), and ambitious work of the National Quality Forum to develop further maternity care performance measures. Those interested in implementation of Blueprint recommendations must seek opportunities that have emerged in the evolving political environment and attempt to minimize the effect of policy barriers.

The major implication of the TMC Project is that significant maternity care system improvement is possible and within reach, but no one can achieve it alone. For transformational change with a lasting, system-wide impact to occur, entities from each of the broad levels of the maternity care system and from all of the stakeholder sectors evoked in the project will have to take up those parts of the banner that are within their reach and carry them forward.

Strengths, limitations and implications for the Theoretical Model

Each of the constructs included in the theoretical model developed to explain the TMC project rests upon relationships in which the Candidate took part, along with the other TMC project participants. This partnership in the process and the interactive relationship of the Candidate as researcher to the TMC project, the data source, is a

design component that is essential to the development of a constructivist grounded theory, which if successful helps "render the collective story of the researcher and the participants into a useful account that has meaning for those in the field" (Mills, et al., 2006, p. 12). The situation of the researcher within rather than at an objective distance from the data is considered a strength in the grounded theory framework, because the theory emerges literally as the result of a transactional process between the researcher and the data. Strauss and Corbin (1990, p. 22) claim that because such a theoretical framework renders a constructed representation of a context-specific reality developed from data-derived conditions, the resulting theory "provides a framework for action." When applied to the theoretical model developed by the Candidate to describe the TMC project, this thinking is particularly supportive of its strength, since this model is itself a model depicting a framework for action.

A further strength of the model is that it rests upon a broad-based platform of relevant literature in the domains of organizational development and systems theory, in addition to elegantly fitting within the constructs of grounded theory and resulting in an original model that is resonant and credible and should prove useful to others undertaking similar projects. Still, precisely because this model is so firmly embedded within the context and conditions of the project from which it was derived, it is potentially limited and cannot be regarded as a full or final grounded theory but is better seen as a grounded hypothesis, a model to be tested in other projects with similar goals. Classic Glaserian grounded theory assumes that grounded theory studies in the first instance generate grounded hypotheses, which although constructed from and tested

against data, require further testing and verification through replication in order to arrive at a full-fledged grounded theory (Annells, 1997; Glaser, 1992).

Thus, this model not only has utility for understanding the TMC project process and outcomes, but also implications for further qualitative research to test its applicability in other organizational change projects attempting to bridge between a mutually-constructed vision and a feasible action plan for health system change.

Summary

The TMC Project used the organizing format of a national public health policy initiative to develop five stakeholder workgroup reports and two direction-setting papers through an open, transparent, discursive process of multi-stakeholder collaboration aimed at bringing concrete, actionable, system-based solutions to identified problems with the quality and value of maternity care in the United States.

The "2020 Vision for a High Quality, High Value Maternity Care System" articulates fundamental values and principles that apply across the continuum of maternity care, and broad goals for care in each phase of the childbearing cycle and at each level of the maternity care system, and provides a focal point for the development of specific action steps for broad-based maternity care system improvement. Five multi-disciplinary stakeholder workgroups (consumers and their advocates; maternity care clinicians and health professions educators; measurement and quality research experts; health plan, private and public purchasers and liability insurers; and hospitals, health systems and other care delivery systems) developed sector specific reports and recommendations for actions that should be taken within their domains to move

expeditiously toward the articulated vision in the next five years. The "Blueprint for Action: Steps Toward a High Quality, High Value Maternity Care System" answers the question: "Who needs to do what, to, for, and with whom to improve maternity care quality within the next 5 years?" by focusing on the following eleven critical focus areas for change:

- Performance measurement and leveraging of results
- Payment reform to align incentives with quality
- Improved functioning of the liability system
- Disparities in access and outcomes of maternity care
- Scope of covered services for maternity care
- Clinical controversies, such as home birth, VBAC, vaginal breech and twin birth, elective induction of labor, and maternal demand cesarean section
- Decision making, patient choice, informed consent and refusal
- Scope, content and availability of health professions education
- Workforce composition and distribution
- Development and use of health information technology
- Coordination of maternity care, across time, settings and disciplines

The TMC Project was grounded in the theoretical knowledge bases of change theory, systems theory and organization development. Specifically, it drew upon an open systems model of organizational development based on a discursive, iterative, consensus process with multi-stakeholder representation from each of the major stakeholder sectors within the maternity care system. This process was used to develop a unified vision for a

high quality, high value maternity care system; to catalyze emergence of a fuller understanding by pivotal stakeholders of the issues at stake; to promote greater system self-awareness; and to develop common agreements about the best ways to move forward to achieve broad-based improvement across the maternity care system to meet those articulated goals. This process created a clear sightline to action and a Blueprint that if enacted can improve the structure, process, experiences of care, and outcomes of the maternity care system in ways that when anchored in the culture can result in Transforming Maternity Care. Qualitative examination of the process and outcomes of this project through the lens of grounded theory study techniques enabled the emergence of an original constructivist grounded theoretical model that allows an abstract theoretical understanding of the studied experience situated within a scholarly conceptual framework. This model also provides a template that other practitioners in the field of health care quality improvement and system change can replicate, and which qualitative researchers can verify by testing it against their own data.

APPENDICES

Appendix A.: Proposal describing the intended TMC Project

Childbirth Connection

Creating a Vision for Change: Maternity Care within a High Performance Health System

The quality of maternity care in the United States is a serious concern. Gaps between where we are and where we should and could be based on the best available evidence and exemplary performance benchmarks are substantial. Most childbearing women in the United States are healthy and have good reason to expect uncomplicated childbirth, yet each year millions of healthy mothers and babies have experiences that more closely resemble intensive care than appropriate support for a normal physiologic process.

About one woman in three now gives birth by cesarean section. The cesarean rate has steadily increased over the past decade and is at a record level. Practices that are appropriate for mothers and babies in limited circumstances are in wide use: many women experience numerous interventions that offer marginal or no demonstrated benefit but impose risk for much short- and longer-term harm to mothers and babies. Conversely, many practices of established benefit are underused. Use of specific maternity practices varies broadly across facilities, providers and geographic areas, largely due to differences in practice style and other extrinsic factors rather than differences in the needs of mothers and newborns.

Although system-wide health care quality improvements are essential and will favorably affect maternity services, the unique features of maternity care also call for focused response. These distinctive attributes include:

- the challenge of providing appropriate care for a primarily healthy population and for the physiologic process of labor within acute care facilities oriented toward treatment of pathology and the standard use of technological interventions
- the challenge for women of making informed decisions about many crucial matters while experiencing labor and the constraints on consumer choice at that time, along with the potential to prepare for these many months ahead of time
- misaligned payment incentives, including the impact of service bundling and global payment
- concerns about the impact of the malpractice environment.

The rising rate of first-time cesareans and the trend for repeat cesareans, as well as increasing rates of other interventions, have troubling downstream health and cost implications that will play out over a long period of time. Hospitals are making costly capital investments to pay for facility conversions to accommodate high rates of labor induction and cesarean section and the attendant longer surgical lengths of stay, an expensive style of care that is appropriate for just a fraction of mothers and babies. Supplier-induced demand for this style of care will be difficult to counter.

Practice variation research at Dartmouth Medical School consistently suggests that by addressing overuse problems, we can improve quality, reduce harm, get better value from resource investments, reduce waste, and free resources to cover valuable underused practices and expand access. Correcting underuse through more consistent application of safe and effective maternity practices can also improve quality and outcomes.

These matters require immediate attention and firm resolve to identify and carry out carefully chosen reforms for policy, practice, education and research to ensure that the large population of childbearing mothers and their babies receives safe and effective care during this crucial period for individual and family development.

Many groups share responsibility and have a role in ensuring that mothers and babies receive high-quality care. These include policy makers, public and private purchasers, administrators, clinicians, educators, researchers, journalists and women themselves.

Framework for a High Performance Maternity Care System

The mission of a high performance maternity care system is safe, effective, women- and family-centered maternity care grounded in the best available evidence, provided in ways that are timely, efficient, and equitable for all women and their families, in accordance with the definition of quality health care from the Institute of Medicine's landmark 2001 *Crossing the Quality Chasm* report.

Within the context of maternity care in the United States:

- Safe means that care is provided through reliable, evidence-based practices that support the physiology of childbirth in women and minimize the risk of harm and error. Priority is given to those care processes that support optimal outcomes within the context of the woman's health status, and are based on sound evidence that they are most likely to achieve benefits while minimizing harm to women and babies. Maternity care processes impact outcomes for both mothers and babies; safe care considers and balances the risks and benefits to both recipients.

- Effective means that the care delivered is appropriate to the needs of the pregnant woman and her baby based on sound evidence; overuse, underuse, and misuse of care practices and services are minimized, and coordination of care to prevent duplication, omission, and fragmentation is emphasized. Thus, effective care entails conservative, preventive practices and support for most women and babies, who are more likely to incur more harm than benefit from unnecessary intervention, while reserving higher level care only for those with a demonstrated need for it.

- Women- and family-centered means that care is based on the values, culture, and preferences of the woman and her family within the context of promoting optimal health outcomes. Satisfaction with the childbirth process is promoted through the development of high quality relationships with caregivers, provision of adequate support, involvement in decision making, and the fulfillment of high expectations for a positive experience within the maternity care system. To realize these aims, care is delivered in a manner that is compassionate, collaborative, and well-coordinated, based on effective communication and seamless teamwork across settings and disciplines.

- Timely means that care delivery is structured so that unnecessary wait times, i.e., those that compromise safety, system efficiency and cost-effectiveness, and satisfaction with

maternity care, are avoided. In maternity care, timely also means that the timing of labor and birth is determined by the physiology of normal birth rather than by time pressures exerted externally by the care provider or institution through practices such as labor induction or augmentation and directed pushing in the second stage, when these are undertaken without clear medical indication. In the context of informed consent/refusal in maternity care, timely means that discussions and information provided to support women's decision making are made available well in advance of the onset of labor, when informed choice and well-considered decision making are challenging.

- Efficient means that the maternity care system is structured to deliver the best possible health outcomes and benefits with the most appropriate, conservative use of resources and technology. Since most recipients of maternity care services are healthy, overuse of treatments and medical interventions wastes finite resources and results in preventable iatrogenic complications. Similarly, efficient maternity care captures the unrealized benefits from effective underutilized measures, e.g., continuous labor support, hydrotherapy.

- Equitable means that all women and families are assured access to the same high quality, high value care, and that any variation in maternity care practice is based solely on the health needs and values of the woman and her fetus/newborn, and not on other extrinsic non-medical factors such as provider supply, insurance coverage or malpractice pressure.

Childbirth Connection 90th Anniversary Symposium:
Maternity Care within a High Performance Health System

Childbirth Connection will host a symposium in 2008 to present and discuss a series of commissioned papers by leading experts that will:

- characterize the performance of maternity care in the United States at the present time
- describe attributes of maternity care within a high performance health system
- investigate opportunities and challenges of applying selected policies and practices to improve maternity care quality, cost and access

Policies and practices worthy of exploration include: public awareness and education; payment reform; transparency and disclosure initiatives; health professions education innovation; malpractice reform; improved informed consent processes; system integration using health information technology; employer programs, policies and benefits; and translation research.

We expect that symposium attendees will include experts in relevant fields such as health policy, health economics, medical malpractice reform, health care quality improvement, patient safety, and health education, along with private and public purchasers and consumer and media representatives.

We anticipate publishing commissioned papers and symposium proceedings to make them widely available to the key stakeholder groups.

To help plan, carry out and report the symposium, we will convene a multi-disciplinary steering committee of experienced leaders. We anticipate that the symposium will lay the groundwork for ongoing efforts to improve maternity care quality, cost and access.

Symposium Goal and Objectives

The overarching goal of the symposium on Maternity Care within a High Performance Health System is to present a blueprint for maternity care system change designed to achieve a sustainable, high performance maternity care system that consistently delivers safe, effective, and satisfying maternity care to all women and babies. Toward this end, its objectives are to identify actions that could be taken now, based on the best available evidence, to:

- Increase understanding among all maternity care stakeholders of the opportunities for improvement within the current maternity care system and the attributes of a high performance maternity care system, through presentation and discussion of commissioned papers by topic area experts that span key aspects of health system performance.

- Recommend effective quality improvement strategies in the context of maternity care that address the six aims for improvement of quality outlined by the Institute of Medicine: safety, effectiveness, woman and family centeredness, timeliness, efficiency, equity

- Identify current best practice models and promising efforts to improve maternity care quality

- Improve the cost-effectiveness of the maternity care system through solutions designed to address perverse incentives built into the current payment system, and widespread waste and misallocation of finite resources that occur because of systematic overuse, underuse and misuse of selected care processes.

- Determine the scope of the impact that the current malpractice climate has on the processes and outcomes of maternity care in the United States and propose achievable solutions to address the problem

- Increase access to evidence-based maternity care through improved information, health professions education and integrated system improvements

Appendix B.

Childbirth Connection
Key Informant Interview Questions
June 2007

1) Do you believe there is a need to call attention to quality and system performance issues in maternity care now?

Drawing from your own experience and expertise, what are the key priorities for improving maternity care?

What from your perspective are the greatest challenges to maternity care quality improvement, and how should these obstacles be addressed?

2) Do you feel that the proposed symposium on *Maternity Care within a High Performance Health System* is the

- Right format?
- Right framework (IOM 6 Aims)?
- Right timing?

3) Is a symposium for exploring possible maternity care quality improvement strategies an effective way to foster improvement by impacting the following key stakeholder groups:

- Consumers
- Purchasers
- Health Professionals
- Provider Organizations
- Health Plans
- Public/Community Health Agencies

Can you make recommendations for engaging and impacting these groups through this process?

4) Please comment on whether it is a priority to explore the following specific strategies for quality improvement and system change:

- Payment reform to address perverse incentives and system inefficiencies? Yes/no
- Professional liability reform to combat the practice of defensive medicine? Yes/no

- Health professions education to address overuse, under use and misuse of certain practices?

Yes/no

- Workforce issues to address inadequate distribution and mix of providers?

Yes/no

- Performance measurement and leverage of results?

Yes/no

- Health information technology?

Yes/no

Are there other critical strategies that we have missed?

5) Who are the specific people whose expertise and involvement will be critical from your perspective? Can you suggest people from the following fields whose participation we should seek?

- Healthcare quality Improvement professionals?_____
- Health policy makers?_____
- Health information technology experts?_____
- Women's health care providers and institutions?_____
- Media representatives?_____
- Professionals in other fields?_____

[For each person suggested:] Where do you think [person named] would best fit

- As the author of a commissioned paper?
- As a symposium discussant?
- As a symposium participant?

6) Do you see opportunities for collaborating/partnering with other organizations/institutions on the symposium?

7) What would be the markers of a successful outcome for this symposium?

- Which are the most readily achievable in the current environment?
- What recommendations would you make to increase the likelihood of achieving such success?

8) Beyond the symposium, what strategies would you recommend for improving maternity care quality, cost and access?

Appendix C.

Childbirth Connection
Transforming Maternity Care
Symposium Leadership List

Symposium Steering Committee

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Session Moderators and Discussants by Stakeholder Workgroups

Measurement and Quality Research

Moderator:
Janet M. Corrigan, PhD, MBA
President and CEO, National Quality Forum

Discussants:
Harold D. Miller
President and CEO, Network for Regional HealthCare Improvement
Executive Director, Center for Healthcare Quality and Payment Reform

Bernard M. Rosof, MD, MACP
Chairman, Physician Consortium for Performance Improvement
Clinical Professor of Medicine, New York University School of Medicine

Hospitals, Health Systems and Other Care Delivery Models

Moderator:
Paul A. Gluck, MD
Immediate Past Chair of the Board, National Patient Safety Foundation
Associate Clinical Professor, Department of Obstetrics and Gynecology, University of Miami Miller School of Medicine

Discussants:
Ruth Nolan, PhDc, RNC
Vice President for Operations, Women's Health Services Line, Geisinger Health System

Kyu Rhee, MD, MPP, FAAP, FACP
Chief Public Health Officer, Health Resources and Services Administration

Stephen C. Schoenbaum, MD, MPH
Executive Vice President for Programs, The Commonwealth Fund
Executive Director, The Commonwealth Fund Commission on a High Performance Health System

Maternity Care Clinicians and Health Professions Educators

Moderator:
Douglas W. Laube, MD
Professor, Department of Obstetrics and Gynecology, University of Wisconsin School of Medicine and Public Health
Past President, American College of Obstetricians and Gynecologists

Discussants:
William A. Grobman, MD, MBA
Associate Professor, Departments of Obstetrics and Gynecology and Preventive Medicine, and Institute for Health Care Studies, Northwestern University Medical School

Holly Powell Kennedy, PhD, CNM, FACNM, FAAN
Helen Varney Professor of Midwifery, Yale School of Nursing

Lawrence Leeman, MD, MPH
Associate Professor, Departments of Family and Community Medicine and Obstetrics and Gynecology, University of New Mexico

Health Plans, Private and Public Purchasers and Liability Insurers

Moderator:
Daniel M. Fox, PhD
President Emeritus, Milbank Memorial Fund

Discussants:
Mary C. Goessler, MD, MPM
Medical Director, Quality and Medical Performance Management, Highmark Inc.

Mark Gibson
Deputy Director, Center for Evidence-Based Policy, Oregon Health & Science University

David Lansky, PhD
President and Chief Executive Officer, Pacific Business Group on Health

William M. Sage, MD, JD
Vice Provost for Health Affairs and James R. Dougherty Chair for Faculty Excellence in Law, School of Law, University of Texas at Austin

Consumers and Their Advocates

Moderator:
Susan Dentzer
Editor-in-Chief, *Health Affairs*
Health Policy Analyst, The NewsHour with Jim Lehrer

Discussants:
Elizabeth Imholz, JD
Special Projects Director, Consumers Union

Anat Shenker-Osorio
Communications Consultant

Appendix D.

Two Birth Stories
An Allegory

This allegory compares two women's experiences of maternity care. It illustrates one possible example of an optimal experience of maternity care, using words and concepts that reflect the seminal values and principles put forward in this vision of a maternity care system in which care is structured and prioritized to deliver the highest quality and value to its beneficiaries. It contrasts that account with another woman's experience of maternity care, describing a suboptimal experience that captures one possible outcome of deficiencies in the way maternity care is currently provided.

This allegory is designed to "bring home" concretely, through first person narrative, the very different experiences of care delivered in a way that protects, promotes and supports physiologic childbearing and prioritizes the provision of effective care with least harm, and care as it is often delivered at this time. It relates in human terms the reasons that system-wide change is of great importance to the ultimate beneficiaries of maternity care, mothers, babies and their families.

*

It was a warm spring day and my friend, Karen, and I were both ready to get out of the house and go for a walk. Karen and I grew up in the same neighborhood and our families have been friends forever. The two families went to church together and our brothers played on the same sports teams as kids. Karen went to hairdressing school with my sister. I work in a day care center where her brother and his wife send their youngest kids. When we both ended up pregnant for the first time within weeks of each other, we were really excited. But the time flew by and both of us worked up until the end of our pregnancies, so we didn't get much of a chance to hang out together. I hadn't seen her since our babies were born, and both of us were eager to get together and share our birth stories.

Neither of us had been out of the house too much in the weeks since birth, so it was a big production. After a lot of organizing and a few false starts because of a last minute diaper change and a major spit-up that required a new outfit, we finally had the babies packed into strollers and were ready to walk to the park not far from the apartment buildings where we live.

As we walked past the slides and tunnels in the playground where the children were running and tumbling and giggling, we looked at each other and laughed. Now we were both mothers! How did we get here? Wasn't it just a few short years ago that we were little girls in braids and pigtails, running through the neighborhood and scrambling up the slide backwards? We sat on a bench to watch this familiar world from a new vantage point and to talk about our experiences over the last year.

I married my high school boyfriend, and since we were in our twenties, we wanted to start a family soon. Both of us came from big families and wanted to have one, too. I love kids and as the oldest girl in my family, I have been a little mother since the time I was just a kid myself. Working in a day care center was a natural for me. So last year, when I went for my routine physical, I told my provider about our plans, and she ordered a bunch of labs and gave me a prescription for prenatal vitamins to start taking right away, just in case, since they help prevent birth defects. We talked about diet and exercise and how important it is to start out healthy when you're planning to get pregnant. I checked out fine and since I run around after toddlers all day long, I was in great shape. I brought my vitamins and my clean bill of health home like a trophy to show my husband and we celebrated that night!

Karen met her partner a couple of years ago on a vacation trip and they moved in together pretty quickly. She was pretty sure it was moving in the direction of marriage, but they were still enjoying the lifestyle they had when she found out she was pregnant. Since they're crazy about each other, after the initial shock wore off they were both really happy. Still, Karen told me she was worried in the beginning, because they had been partying quite a lot before she knew she was pregnant and she was scared it might have harmed the baby. Then she said she was so sick to her stomach during the whole first trimester that all she could keep down was flat soda and crackers for weeks. The vitamins made her nauseous so she had stopped taking them. She lost weight in the beginning, and then made up for it in spades later, because she said all she craved was fast food and sweets. Not small to begin with, she gained 65 pounds during her pregnancy and felt pretty crummy a lot of the time.

I felt bad for her, because I had been really lucky in comparison. Having wanted a baby for as long as I could remember, I was really curious about how it would feel to be pregnant. Once the first trimester passed with its seasickness and mood swings, I got into a rhythm and began to really enjoy it. I'd take the dog for a long walk every morning through the neighborhood before work. Then, when the moms dropped their kids off at the day care center, I would imagine what my own baby might look like in a few years. I'd pat my belly and talk to my little "tadpole". The little kids thought this was funny, and they'd come and pat the baby, too, and talk to "it" through my belly. I felt like we were getting to know each other, baby and me, and working together on growing him strong, with nature humming softly along as it worked its magic inside me. I enjoyed eating right, choosing fresh, healthy foods. I felt fit and strong, and beautiful. People said I had a pregnant glow—strangers came up to me on the street and asked if they could feel the baby kick. Although there were some days when I felt tired and dumpy, mostly I just felt really sexy and womanly, like the picture of health. My husband was really attentive to the ways my body was changing and told me I looked wonderful.

Since Karen's sisters and her brother's wife had all gone to the same practice at the hospital nearby, she said it was a no-brainer to sign up for care there, too. I asked her if she'd liked her providers, and she told me yes, it was fine, but she pretty much saw someone different every time, and then only for a few minutes anyway. She said it was a big, busy practice, and most of the time was spent sitting in the waiting room, reading parenting magazines and watching baby stories on TV while people's kids climbed all over the place. The providers always ran late so she could count on waiting for over an hour, which made them mad at work but there didn't seem to be any way around it. Then finally, when the medical assistant came to get her, the whole visit lasted all of 10

minutes…pee in a cup, listen quick to the baby's heart, "Any questions?", and out the door…But she said she liked the fact that she got to have three ultrasounds during the pregnancy and then they gave her lots of pictures she could take home to show everyone the baby.

It was different for me. I was the first among my siblings to get pregnant, so I had to figure things out for myself. Before getting pregnant, I hadn't realized how many different kinds of practices and choices for birth were out there. I made it my project, collecting information on all the choices in our area, interviewing providers, reading up online about the various types of prenatal and birth care, and comparing the rates of cesarean section, induction and episiotomy among providers in a brochure I got from the hospital. It was a real eye-opener to my husband and me to realize how many different care options there were, and being young and in good health with a good health insurance plan I had a lot of choices. We had some real heart-to-heart talks about what was important to us, and he accompanied me to visit several practices and meet different providers until we found one that felt like a good fit.

My first prenatal visit was really nice. It felt like we were being invited into a special club by a warm welcoming committee. Everybody we met took the time to congratulate us and sit for a few minutes to chat and get to know us. The warm, reassuring confidence of all the staff and providers during our visit made it feel almost like a baby shower. We met a lot of helpful people and came home with a whole bunch of resources…suggestions for books and web sites for pregnancy and parenting, numbers to call if we had any questions, and information about diet and exercise and common discomforts of pregnancy. One of the nurses showed us how to log on to my personal electronic health record from any computer, where we could look up our test results, add to my medical history, or email our provider with a question. It was so cool to have access to all of my own information, not to mention the links to trusted websites for information on pregnancy, childbirth and newborn care. Our caregiver listened to my worries about getting exposed to infections through the kids at daycare while pregnant, and my husband's concern about my occasional sudden storms of emotion. She listened with understanding and compassion, answered our questions and gave us reassurance and suggestions. Then we got to hear the baby's heart, and when after a few swooshing sounds that beautiful beat filled the room, my husband and I looked at each other and we were both crying. Our caregiver burst into a smile and gave us both a big hug.

She invited us to get the rest of our prenatal care in a group of women whose babies would be born in the same month as ours, where we could talk about our experiences, get information and support, and build a social network. She explained that women who chose the group care model learned to take their own blood pressure and weight, got to meet with the provider in a quiet corner for a brief individual check-in to listen to the baby's heart and follow its growth. The rest of the time was spent talking together and doing group activities to learn about a whole range of educational topics, everything from nutrition and pain management for labor, to breastfeeding and newborn care. She said the groups were really fun and lively, and she welcomed us to give it a try to see how we liked it. We left our appointment feeling well cared for and much more calm and confident, with the sense that we were going to be part of a supportive community.

I told Karen all about the prenatal group visits led by our caregiver and one of the nurses from our practice, and she was really impressed. She said she wished she could have

used all the time she spent waiting for every prenatal appointment learning things and making friends with other pregnant women instead of sitting in the stuffy waiting room while everybody's temper got shorter and shorter. I told her how being with other women and hearing that they were going through a lot of the same things as me had helped me see that my pregnancy, even though it was new and strange to me, was essentially normal. Having women in the group who were experienced mothers really reassured me and took away a lot of my first pregnancy anxiety. I also told Karen that recording my own weight and blood pressure and reviewing my own chart, I had really felt like I was in the driver's seat during my pregnancy, and I got more involved in my own health care than I had ever been before. To me, the numbers and results started to really mean something in a way they don't when you're not the one collecting them. Having plenty of time to really go into all the issues and concerns and to talk about the benefits and risks of different treatments with our provider and all the other couples in the group made us think much more carefully about the care we wanted and to make personal choices based on an understanding that was much deeper than what we could have gotten in a typical office visit.

Karen said that would have really helped her when one of her tests showed there was sugar in her urine, and they sent her across town to the lab for a glucose challenge test. She said she had been really scared and had to sit there for hours at the lab while she waited for her blood test, and there was no one there to explain to her what was going on and whether or not it was a serious problem. Luckily, in the end it turned out she didn't have gestational diabetes, but she didn't find that out for two weeks until the next visit to her OB practice. She and her partner had been really stressed out.

I told her I knew what she meant. For some issues in pregnancy, like prenatal diagnosis, there are no easy answers so I had been really glad to have plenty of time to talk them through with our caregiver and the other families in our group. I told Karen about the whole discussion we had, where everyone asked a ton of questions, weighed the choices over, and talked about the pros and cons. After that session, my husband and I decided to go with the early blood test and an ultrasound to check the baby's "nuchal translucency". We also decided we didn't want to know the baby's sex, and both wanted to be surprised. But another couple in the group decided to have an amniocentesis, and I went with her and held her hand because her partner was squeamish and afraid he would pass out at the sight of the needle.

I told Karen that these intimate discussions with a group of peers who were our friends, going through the same thing but experiencing it through their own personal values, really helped us figure out how we felt. We came through the pregnancy clear and comfortable with our choices, having heard the decisions others had made, and having thought about how each choice might play out in the real lives of people we knew and cared about. We learned that some of the women were going to have a trained doula with them during birth. They said that doulas get to know you before the birth, and then stay with you through the whole thing until afterwards. They help you understand what's going on, show your partner how to help, give you massages, and suggest ways to be more comfortable. We decided we wanted a doula, and found one whom we really liked. She was very warm and knew so much. She was really interested in what we want and need. It was great to know we could count on her for the non-medical things. Looking back over the pregnancy, I commented to Karen that it was when my husband and I both first really felt like members of a community of our own, tied in with people we knew cared about us and with whom we shared experiences, support and fellowship.

I asked Karen about how she went into labor. She rolled her eyes and exclaimed, “Well, let me tell you.... I could have used one of those doulas!” Apparently, two weeks before she was due, Karen had another ultrasound and her provider told her it looked like her baby was large and was worried that if she went too much longer it might grow too big to come out. Karen said she was exhausted and felt heavy and achy, couldn’t get comfortable, couldn’t sleep, and was ready to get it over with. So her caregiver suggested they schedule her for an induction. She said that seemed like a great idea to her at the time! She was nervous the night before her scheduled induction, and hardly slept a wink. As luck would have it, in the wee early morning hours she rolled over in bed and her bag of waters broke with a gush, soaking the sheets. She described how she and her partner jumped out of bed, ran around the house gathering clothes and baby gear into a bag and rushed straight to the hospital.

When they got there, they saw the provider on call from her practice. She had been hoping she’d get her favorite provider, but it was one they’d met once early in the pregnancy and not seen since. She examined Karen and told her she was one centimeter dilated. The nurse put her on the monitor and said she was having very irregular contractions, so they told her they would start an IV and give her some Pitocin to get her into a good labor pattern. Karen said that she hadn’t really been able to feel the contractions when they were monitoring her, even though she could see them on the printout. After they started the Pitocin, though, she thought she would go through the roof! It was change of shift at the hospital by that time, and the nurses and providers were off getting report, so Karen and her partner were left alone in their room to fend for themselves. They tried to do some of the breathing exercises that they’d been taught in the weekend childbirth class they took at the hospital, but the contractions didn’t build gradually like she’d been taught they would. Instead, they shot up and stayed really intense until the end, and Karen couldn’t focus on the breathing. Seeing Karen in such pain made her partner upset and he was afraid something was wrong, which didn’t help either. They were both on edge. Karen said she couldn’t get comfortable in the bed. The straps around her belly and the IV tubing made it hard to change positions. When she squirmed around in pain, the monitor lost the baby’s heartbeat, and then a nurse she didn’t know came in and tried to reposition it and told her she’d have to try to stay still so they could be sure the baby was OK.

Every half hour or so, her nurse came in, looked over the strip and increased the Pitocin. She’d stay for a little while, encourage Karen and change the pads under her, but then she had to go take care of other patients. She said it was a really busy day on the unit and commented that it must be a full moon. By the afternoon, Karen was at the end of her rope. She hadn’t had anything to eat since dinner the night before, and was told she couldn’t have anything but ice chips. The contractions were coming every 3 minutes and lasting more than a minute. She was exhausted and running on empty, having hardly slept the night before. She was overwhelmed with the pain and the tension of trying to cope. She asked when she could get her epidural and the nurse told her they would see if she was in active labor yet. Her provider came in and checked her cervix and told her that it had thinned out quite a bit and moved forward, and was now dilated 2 centimeters. She had made progress, but was still in early labor. Karen said she lost it, and burst into tears, sobbing, “I’ll never be able to do this! After all this, I am only two centimeters dilated?!” She broke down and begged them to let her get an epidural, and her provider called for anesthesia to come.

Karen told me that the anesthesiologist came in, and introduced himself. She wanted her husband to hold her hand but he had to leave the room because they said it was a sterile procedure. She was scared and didn't want him to leave her alone, but he was shuffled out before she could protest and she felt too helpless to do anything. She just wanted relief. They raised the bed up high and the nurse stood in front of her and told her to lean forward and arch her back like a cat stretching. She felt cold liquid as they cleaned off her back and then a shot as they gave her some local numbing medicine. Then they told that she had to hold very still as they put the needle into her back. She wailed that a contraction was coming and she couldn't keep still. The nurse grabbed onto her arms and yelled that it was very important not to move. She was trapped in excruciating pain and her whole body trembled and shook. The anesthesiologist seemed to be having trouble placing the catheter and it seemed to take a long time. She could feel pressure and manipulation in her back, and at one point they told her she might feel a quick zing down her leg and she did. It was weird, and scary. Finally, they told her it was done and that she had been a real trooper. They taped up her back and helped her to lie back down in bed. After a little while, they asked her if she could feel the contraction she was having, and she said she could feel her belly tightening, but that was all. She told me she had never been so grateful for anything in her whole life and at that point she just wanted it to be over. She drifted off to sleep.

I couldn't believe how different things for me had been when I went into labor. Like Karen, as my due date came close, I found it harder to sleep at night, more difficult to move around during the day, and I was tired. I realized what they meant by "heavy with child". It occurred to me that this was nature's clever way to help pregnant mothers adjust gradually to lack of sleep once the new baby came and to approach labor gratefully, instead of with dread. I was nervous, but ready to face labor. What a revelation! I would not have believed in the beginning of my pregnancy that the day would come when I would be saying, "Bring it on!" but I guess you never know how you're going to feel in a given situation until you get there. I tried to take this lesson with me as I approached childbirth. I wanted to do it without an epidural if possible, but if the pain crossed the line into suffering, I knew that there was a whole line of pain management options available to me, and I had an open mind. Our plan was to take it one step at a time.

Like Karen, my belly was measuring slightly large for my dates by that time, but we'd had a big discussion in my pregnancy group that week about reasons for labor induction, and I had learned that estimates of fetal weight were often not very accurate. I was short-waisted anyhow and felt down deep that the time was drawing near. I had stopped work by then and was clear that I would rather wait for labor to begin in its own time, and my provider agreed that this would be best. After a weekend of frantic household chores that I look back on now as nesting behavior, I woke one morning with low, dull, crampy back pain, and in my sleepy fog, my first thought was that I must be getting my period. When I was fully awake, I hauled out of bed and began my daily routine, wondering whether this might be the day our baby would come. Not wanting to start a false alarm, I didn't say anything to my husband at first, and kept the tingle of excitement and jittery curiosity to myself. As the morning stretched on, the general crampiness I had turned into short, dull low back pains that got my attention momentarily. But they were brief and went away almost as soon as I focused on them. The baby was especially active, rolling around in my belly as if to the beat of a low drum.

By late afternoon, there could be no mistake and I knew for sure that I was having irregular contractions, which I figured were early labor. They built slowly over the day, letting me know that they were here to stay and gradually building in rhythm. When I went to the bathroom, I lost my mucus plug. Returning from work, my husband immediately noticed the flush of my cheeks and giving me a big hug, whispered, "Is it starting?" We kissed and smiled at each other, locking eyes for a moment. Then together, we started to fix a light meal, chatting softly with each other and enjoying the tenderness of this moment, standing shoulder to shoulder at the kitchen counter. A contraction took hold of me and this time demanded all my attention, as if my labor knew that now with my love beside me for support, it could really get to work. My partner held me safe in solid arms and gently sang the words to an old song, "Come to me now and rest your head for just five minutes, everything is good. Such a cozy room, the windows are illuminated by the sunshine through them, fiery gems for you, only for you. Our house is a very, very, very fine house…" It was nice for us to be at home in early labor, comfortable in our own surroundings, where I could wear what I wanted, make as much noise as I wanted, nibble something if I was hungry and sip on drinks. It made the time go by much faster for me.

Karen said that after she had the epidural, the rest of her labor was mostly a waiting game for a long, long time. She dozed in an out of sleep, awakened by beeping of machines or the nurse who came in to check her temperature and blood pressure, check the monitor or adjust the rate of Pitocin. Her partner slept in the chair by her bed. Her mouth was dry and she crunched a few ice chips from time to time. At one point the nurse said her temperature was going up, and went to tell her provider, who ordered antibiotics to be added to her IV. They told Karen that the fever could be due to an infection and the antibiotics would protect the baby from getting it. Karen lost track of time. Eventually, she started to notice when she was having a contraction because she could feel a lot of pressure in her bottom. When the night nurse came in, she asked if the epidural could be wearing off. A new resident came in and said it was time to check her cervix again. She was used to seeing new faces by now and had given up on modesty. Her legs were heavy and numb, and she let them fall to the sides for the exam. The resident smiled brightly and said that pretty soon she could start to push. The room was suddenly full of people and activity, as bright lights were turned on and the nurse wheeled a big cart draped in green cloth into the room. The resident and the attending provider put on gowns and sterile gloves and the nurse helped them put on plastic face shields. A pediatric provider stood by the warmer, pushing buttons and unwrapping equipment.

The head of the bed was raised so that Karen was almost sitting up. Her thighs splayed awkwardly to the sides and she thought to herself how weird it was that they were not in her control. They lay there on her bed but they felt like they belonged to someone else. She said the whole thing felt a little surreal, like she was watching herself from outside her body. Everybody was wearing so much protective gear that they looked like a hazmat team ready to defuse a nuclear bomb. The nurse asked her partner to help, and demonstrated how to put one arm behind Karen's back, and use the other to pull Karen's thigh up and apart while she did the same on the other side. Then she told Karen that when the next contraction came, she should take a big breath like she was diving under water, hold it and then push with all her might. She was told to do this three times for each contraction. Then they all watched the monitor, and when the strip showed that a contraction was coming, the resident put her fingers in Karen's vagina and yelled, "OK, Deep breath! Now, PUSH!!!" Karen held her breath and pushed until she saw red dots

swimming in front of her eyes. The nurse yelled, “Not in your chest, push into your bottom!” Karen wasn’t sure exactly what that was supposed to mean, but she took another deep breath and tried to push even harder. Exhausted, she let her head fall back, but the whole team shouted for her to make the most of the contraction and push again. She gave it her best try. When the contraction was over, they put her legs back down on the bed, and her husband spooned a few ice chips into her mouth and wiped her forehead with a cool washcloth.

Karen said that when they first told her she could push, she was so happy to think that she was nearing the end of her labor. But it was hard for her to feel her muscles and they told her she wasn’t pushing effectively. After almost three hours, she was a weeping mess. Her eyes were bloodshot and her husband was hoarse from cheering her on. Everyone yelling at her to push felt like an accusation, and she whimpered, “I’m trying!” She was delirious with fatigue and just could not rally anymore. The nurse scolded her and said, “Do you want to have this baby or not?” Karen was in tears and sobbed, “I just want it to be over.” She said she had almost stopped believing that there was even a baby at the end of this and couldn’t see that far. She was desperately tired. Her partner looked totally wiped out, too. He put his arms around her neck and whispered into her ear, “C’mon, honey, you can do this. I know you’re tired. I know you’re tired.” The resident and the attending provider were conferring in the corner, and they told her they were concerned at how long it was taking, especially with her fever. They told her they were going to help the delivery along with a little vacuum suction on the baby’s head. Otherwise she would probably have to have a cesarean section. Karen said at that point, she didn’t care what happened anymore; she just wanted them to get the baby out. She didn’t even feel it when they cut the episiotomy with the next contraction. She definitely felt the provider’s hands manipulating the machine into her vagina. Then she said pandemonium broke loose as the nurse and the resident shouted for her to push as hard as she could. She screamed at the intense pressure in her rectum as the baby finally popped out, wet and purplish blue. The provider said, “Congratulations, Karen, it’s a girl!” as she whisked the baby over to the warmer where the pediatric provider and the nurse worked vigorously on her, rubbing her with a warm blanket and suctioning out her lungs. They couldn’t hear her crying and Karen was worried. She said she kept asking “Is she OK? Is she alright?” They told her the baby was OK, but needed a little oxygen and they were just keeping an eye on her. They also said they would need to give the baby some blood tests to look for any infections (since Karen had a fever) and would start her on antibiotics until the tests came back. Meanwhile, Karen’s episiotomy had extended into her bottom, and the attending provider needed to give her some more numbing medicine to make the repair. Even with the epidural, it took several more needle sticks before she was numb enough and it took her provider a half an hour to stitch her up. After two days on antibiotics in the special care unit, the test results came back and to Karen's great relief, her baby was okay!

I couldn’t believe what Karen had been through. I told Karen that my birth story was intense too, but in a totally different way. Active labor was more powerful than anything I had ever imagined. By that time, my caregiver was at my side along with my husband and our doula, and we were settled inside the room where I would give birth at my birth site, feeling as if the rest of the world had disappeared. Outside, other friends and family kept watch and held us in a safe space. For awhile, I sat straddling a big birth ball with my hands on my partner’s shoulders; we swayed and rocked through the contractions to the relaxing music on our portable CD-player, and I breathed to a slow, even count that took me up to the top and back down the other side of each labor pain. If I started to get

restless and uncomfortable, I found that moving around and changing positions really helped. Growing more intense, the contractions rolled over me with such power that I lost myself in them at times. I remembered the feeling, as a child bodysurfing in the ocean, of facing a huge breaking wave, waiting for it to arrive, then diving into it head first and trying not to lose my bearings, holding on and riding it out until it passed and the bubbles told me which way was up. Coming through a contraction, my partner and caregiver anchored me with reassuring words and praise, mopped or kissed my brow, and rubbed out my muscles, encouraging me to relax and regroup before the next wave hit. Our doula massaged my lower back and offered me sips of apple juice to keep me hydrated and to give me energy. The room was incredibly still and quiet during that time, as if we were all paying respect to the power of what was happening there. In between contractions, I rested my head against my partner's shoulder and slipped down into a deep, restful sleep, until the next contraction tugged me awake. For a while, I stood under a hot shower and gratefully let the warm jets beat on my belly and back, the noise and steam hypnotic, as the water massaged me through several contractions. My caregiver held the Doppler to my belly and the dance beat of my baby's heart filled me with new courage and a flood of tenderness. My arms around my partner's neck, I leaned against his solid frame for support and comfort and he kissed my hair and whispered to me. Then, with a big burst, my water broke and I felt an incredible pressure bring my body into a semi squat. I heard myself give a throaty roar, and felt an overwhelming urge to bear down.

I had never felt such instinctive determination before in my life. My caregiver asked me, "Do you want to push?" I couldn't speak, but the thought flashed through my mind, "It's not a question of wanting---I have to push!", as another powerful wave came over me and my body bore down with a rumbling noise coming from deep in my throat. Those waves came and came, and all I did was go with that incredible need to bear down. I couldn't have done anything else, it's so powerful. I felt so strong. Then I felt huge pressure and they could see the head. My caregiver encouraged me to reach down and feel my baby's head. I was amazed to feel a tuft of wet, thick hair at the opening to my vagina. Another contraction was coming and I gave two strong short pushes and then panted through some intense stretching as everyone -- my husband, our doula, our caregiver, and the nurse -- all showered me with praise and encouragement. One more push and I felt the baby move down in the birth canal and under my pubic bone. With the next contraction, its head was out and I heard my husband gasp in amazement and saw tears running down his cheeks. Our caregiver guided my husband's hands under the baby's head and shoulders and said, "Here's your baby, hold your baby!" and our child slipped out into his waiting hands. He held the baby and brought it up to rest on my chest, skin to skin. He said, "Honey, it's a girl, it's our baby! It's a girl! You did it!" I looked down at this strange and beautiful small creature, this perfect new little person, all pink and purple from her incredible trip, with eyes wide open, looking at me with total trust and curiosity, and I melted into the most exquisite joy and overwhelming love I have ever known.

Resting after her birth, I rocked my baby against my breast and drank her in with my eyes, whispering at her in wonder and exploring her seashell ears and tiny toes with my fingers, and I beamed at my partner who was crying softly. The baby mouthed clumsily at my nipple and then to my surprise, pulled it into her tiny pink mouth and began to suck with a seriousness that made me laugh.

Karen said it took weeks before she could sit without an inflatable doughnut under her bottom, and even now she still had pain, numbness and itching at the site. Using the bathroom has become a semi-traumatic event and she says she doesn't even want to think about sex yet, even though her partner longs for the "good old days" when they couldn't keep their hands off each other. Her baby had some jaundice from the bruises on her head and needed phototherapy to help get rid of it. Because of the jaundice, they were worried that the baby wasn't drinking enough to clear the bilirubin out, and they told her she needed to give her baby formula to supplement the feedings. Karen said she ended up with horrendously sore nipples and when they started bleeding, she'd had it and gave up on breastfeeding. She said maybe if her birth hadn't been so difficult, she would have had more energy to cope with the challenge of breastfeeding, but after everything she went through, she just wanted it to be easy. By switching to formula, her partner could help with the night feeds when she was so wiped out in those first weeks. Karen said it has taken her a long time to recover from her birth, especially emotionally. Since the baby arrived, she often feels lonely and overwhelmed. Many days she cries "for no reason". Her partner is back to work and she is home alone with the baby. She doesn't know why, but says she just can't seem to get back on top of things. She is sleep-deprived and hasn't been able to lose all the weight she gained. Karen started to cry as she told me she wonders if she might be depressed. She says she feels guilty that she isn't enjoying being a mother more.

I gave Karen a hug and handed her a tissue. I told her I thought she was doing a great job, and I knew she had been through a lot. Then I told her about the neighborhood resources we had found and what a big help they'd been to me since the baby was born. We had a hard time too, with feeding. I felt clumsy and was worried that she wasn't getting enough milk. We took our baby to her first postpartum visit at the drop-in pediatric clinic in our neighborhood community center, and our provider said she was feeding like a champ. She had already regained her birth weight at her first visit! I was so relieved! That drop-in clinic was a life-saver in those early days. I could bring the baby in any time, and a lactation consultant would watch us feed and weigh her before and after, providing reassurance and practical tips for nursing. One day when she had been crying for what seemed like hours and I was desperate, I walked over there just to make sure she was alright and get an encouraging hug from a peer counselor on staff. I told Karen I didn't know how I would have made it through those demanding, sleepless first weeks without all that support right in my own backyard, and suggested we could go there together some time soon.

It has been several months since my daughter was born, and I have recently returned to work at the daycare center. My job has a wonderful policy that lets you bring your baby to work for the first 6 months. There is a comfortable place to breastfeed and pump milk. When she is older, she can join the daycare with the other kids.

Sitting on the park bench next to Karen today, I look at our babies side by side in their strollers, kicking their feet and cooing and grabbing at their plush toys, and my mind goes back over the details of both our birth stories. After hearing Karen's story I feel so lucky when I realize how different things could have been. I still get overwhelmed whenever I think of all the power and the beauty of my birth experience. It was the hardest thing I have ever done, and also in some ways the simplest. I gave myself over to a force far greater than me, and at the same time I found a personal strength I had not known I had. In what I think of as my first act of parenting, I called on my own deepest resources for the sake of fierce maternal love. At the same time, the birth of our child

was a very tender, intimate experience for me and my partner. Our caregiver offered us encouragement and gave us her experience and expert skill and judgment to keep us strong in the midst of our greatest vulnerability, and to guide us through the birth process safely. I am filled with immense respect, love and wonder. The pride and gratitude that filled me at the birth of our daughter are still with me today. I feel that the experience changed me and made me more confident in myself and my strength. Sitting here in the park with my baby today, with my friend Karen at my side, watching all the other women with their infants and children in strollers I think to myself, "Wow! You've all done this, too; you've all given birth. What an amazing thing." And for a moment, I slip into my own silent thoughts, grateful for my own positive experience, but wishing all women could all share the way I felt about my birth.

And then, as the afternoon sunlight plays through the dappled leaves and the mothers call their children back to their sides, Karen and I pack up our gear and tuck the blankets snug around our sweet baby girls and head home from the park.

*

Appendix E.

FOR IMMEDIATE RELEASE
March 31, 2009

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CHILDBIRTH CONNECTION TO PRESENT INAUGURAL MATERNITY CARE QUALITY AWARD TO SETON FAMLY OF HOSPITALS

New York, N.Y. – Childbirth Connection announced that the Seton Family of Hospitals (Austin, Texas) won the first Maternity Quality Matters Award. The award will be presented at Childbirth Connection's 90th anniversary symposium, *Transforming Maternity Care: A High Value Proposition*, on Friday, April 3, in Washington, D.C.

Sponsored by UnitedHealthcare, the Maternity Quality Matters Award is given to an organization or agency that demonstrates significant improvement in maternity care quality through measurement of performance, incorporation of evidence-based practice, and responsiveness to the needs of childbearing women and their families, among other criteria.

One hundred twenty of the nation's foremost health policy experts and maternity care stakeholders – from health plans and purchasers to consumers and clinicians – have been working for more than 18 months on in-depth recommendations to improve the quality and value of maternity care. More than 200 such leaders will convene at the April 3 symposium, where the award will be conferred, to discuss these recommendations and produce a Blueprint for Action to be published later this year. Journalists interested in attending should contact Kat Song at katsong@childbirthconnection.org.

"The end goal of Seton's perinatal safety initiative is to achieve a zero rate of preventable birth trauma," said Dr. Frank Mazza, Chief Patient Safety Officer and Associate Chief Medical Officer, Seton Family of Hospitals. "We achieved a dramatic reduction in birth trauma by making continual enhancements to care management and using methods that support evidence-based and consensus-driven obstetrical practices."

"The Seton Family of Hospitals has demonstrated a deep commitment to improving the quality of maternity care for its patients," said Pamela Stahl, senior vice president, Women's Health, UnitedHealthcare. "Women's health initiatives are gaining positive momentum nationwide, and Seton has recognized the importance of bringing quality care and focused attention to the women and children it serves."

"Seton was chosen as the winner of the first Maternity Quality Matters Award in a competitive field of 35 applicants from across the country," said Maureen Corry, Executive Director, Childbirth Connection.

The panel of judges was comprised of experts in both health care quality and service provision. Additional information about the award can be found at http://www.childbirthconnection.org/article.asp?ck=10580.

About UnitedHealthcare
UnitedHealthcare (www.unitedhealthcare.com) provides a full spectrum of consumer-oriented health benefit plans and services to individuals, public sector employers and businesses of all sizes, including more than half of the Fortune 100 companies. The company organizes access to quality, affordable health care services on behalf of more than 26 million individual consumers, contracting directly with more than 580,000 physicians and care professionals and 4,900 hospitals to offer them broad, convenient access to services nationwide. UnitedHealthcare is one of the businesses of UnitedHealth Group (NYSE: UNH), a diversified Fortune 50 health and well-being company.

Childbirth Connection
Founded in 1918, Childbirth Connection is a not-for-profit organization working to improve the quality of maternity care through research, education, advocacy and policy. As a voice for the needs and interests of childbearing families, Childbirth Connection uses best research evidence and the results of its periodic surveys to inform policy, practice, education and research.

# # #

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