

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 Health 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.
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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 communities 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 mid-course *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 communities 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 neuro-

logically 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 non-physician 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 ma-

ternity 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 panel 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; Kostaska 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 experi-

ence 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 non-physician 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 health 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 disciplines 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 micro-systems 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 care-

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