Priorities for Moving to a High Quality, High Value Maternity Care System from the Perspective of Measurement and Quality Research Experts

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Transforming Maternity Care Measurement and Quality Research Experts Stakeholder Workgroup

Chair: Barbara Rudolph, PhD, MSSW

Co-chair: Denise Remus, PhD, RN

Debra Bingham, DrPH, RN

Kevin Fiscella, MD, MPH

Carol Keohane, RN

Denise Love

Doris Peter, PhD

Joann Petrini, MPH, PhD

Ciaran Phibbs, PhD

Joani Slager, CNM, MSN, CPC

Barry D. Smith, MD

Reva Winkler, MD, MPH

Susan Wood, PhD

John M. Young, MS, MA

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Introduction

The measurement and quality domain includes professionals trained in a wide variety of disciplines whose focus is health care measurement, whether for quality improvement, accountability, public reporting or reimbursement purposes. These experts come from such far-ranging fields as medicine, nursing, social sciences, allied health sciences, economics, engineering, as well as epidemiology, public health, and aviation sciences. In addition, these professionals work in a variety of settings, including government (state and federal agencies), health plans, health care delivery sites or networks, hospitals, advocacy groups, purchasers of care, think tanks, foundations, consulting firms, etc.

In approaching the topic of maternity care measurement, there are also potential differences across the disciplines about the type of care that is measured. The variation in training, philosophy, and setting have significant impact on what is measured, how it is measured, and whether the focus is measurement for quality/safety improvement, accountability, public reporting, or payment. These variations often result in conflicting perspectives on the validity of measures, methods of data collection, analysis, and reporting. The differences in philosophy of care, professional preparation, and employment location can lead to either greater conflict or greater creativity in addressing issues related to maternity care measurement. While efforts to achieve consensus on methods or approaches to measurement continue, there is strong agreement that these efforts should be led by those who accept the values and principles of maternal care that is woman-centered, safe, effective, timely, efficient and equitable.[1]

Members of the Stakeholder Workgroup for Measurement and Quality Research Experts represented a diverse group of professionals committed to improving the quality and safety of maternity care. Expertise included maternal and neonatal care clinicians, educators and researchers; quality and measurement experts; economists; and consumer, purchaser and payer representatives.

Significant challenges in achieving a high quality, high value maternity care system include the large gap between care delivered, the evidence base and performance benchmarks; lack of a comprehensive, nationally recognized set of maternity care performance measures; lack of data and information to inform health care decisions; misaligned, conflicting and often perverse financial and social incentives; and systems of care that are often uncoordinated, inequitable, and lack patient centeredness.[1]

In addition to the four core topics of performance measurement and leveraging of results, payment reform to align incentives with quality, improved functioning of the liability system, and maternity care disparities, the workgroup added two additional topics: workforce composition and distribution, and health information technology. This paper contains sections devoted to each of the six topics with subsections that describe the current problem(s), three to five priority strategies and key action steps.

Regardless of topic, we identified several themes that highlight strengths and weaknesses of our current performance measurement and payment systems. The current state of these systems suggests that the time is right to pursue significant improvements. There is increased awareness of the need for culturally competent care,

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[1] Sakala, C., Corry, M.P. (2008). *Evidence-Based Maternity Care: What It Is and What It Can Achieve*. New York, NY: Milbank Memorial Fund.

standards for such care have been established,[2] and resources are increasingly available[3]. There is more and more transparency on provider performance through quality and safety measures. And, we can apply to maternity care the lessons learned from public reporting of other clinical population data by federal and state agencies, private sectors, providers and other stakeholders.

In the past ten years, there has been a dramatic increase in collaboration on development, review and consensus of performance measures. Accreditation and regulatory agencies such as The Joint Commission and the Centers for Medicare and Medicaid Services have aligned measure specifications. Several national health care quality agencies exercise important roles. The Agency for Healthcare Research and Quality states that its mission is "To improve the quality, safety, efficiency, and effectiveness of health care for all Americans."[4] The National Quality Forum, a private, nonprofit voluntary consensus standard-setting organization established in 1999, focuses directly on these efforts. Its mission is to improve the quality of American health care by setting national priorities and goals for performance improvement, endorsing national consensus standards for measuring and publicly reporting on performance, and promoting the attainment of national goals through education and outreach programs. Work by the The Leapfrog Group, the National Committee on Quality Assurance, the National Business Coalition on Health and other purchaser and employer groups has increased performance assessment and reporting. Both the public and private sectors have made efforts to link payment with quality, launching both pay-for-performance and value-based purchasing initiatives. All major stakeholders agree on the value of and need for health information technology to support quality and safety in the delivery of care.[5]

The Workgroup's discussions centered on the weaknesses of the current performance measurement and payment systems. These include a lack of access to relevant and timely data; limited quality and safety metrics, especially of outcome and structure; payment systems that promote utilization of high-cost services, which may not be evidence-based or produce better outcomes; and reimbursement for isolated events rather than coordinated care. To overcome these weaknesses, we will need to: provide incentives to implement health information technology with focused attention to the needs of safety-net, rural and primary care providers; increase the use of open-source technology; achieve consensus on a national set of performance measures including structure, process, outcome and patient experience measures; standardize data elements and increase collection of race, ethnicity, language and socioeconomic variables; develop effective methods for linking individual patient data across providers and time; and provide better access to clinical data and leverage existing data sources. Performance measurement is a foundation on which many other quality improvement strategies are built. Ideally, however, these changes should be implemented in a coordinated way, as components of an overarching strategy with interdependent and

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[2] The Joint Commission. Standards in Support of Language and Culture. http://www.jointcommission.org/PatientSafety/HLC/HLC_Joint_Commission_Standards.htm. Accessed January 2009.
[3] Agency for Healthcare Research and Quality. Health Literacy and Cultural Competency: HHS Resource Links. http://www.ahrq.gov/browse/hlitres.htm. Accessed January 2009.
[4] Agency for Healthcare Research and Quality. Mission and Budget. http://www.ahrq.gov/about/budgtix.htm#background. Accessed January 2009.
[5] United States Department of Health and Human Services. Health Information Technology. http://www.hhs.gov/healthit/. Accessed January 2009.

complementary aims; thus, while it may not be feasible in the short term to implement every recommendation, the goal should be to make significant progress in every category.

Performance Measurement and Leveraging of Results

Problems

While the National Quality Forum (NQF) has endorsed a set of 24 measures for maternity care (Appendix A), profound gaps remain. Table 1 presents a framework for identifying these performance measurement gaps. The first column lists possible components of a comprehensive episode of maternity care, and headings for the other columns identify types of measures. Currently endorsed measures reflect just a few care phases and are limited to process and outcome measures. Most address care around the time of birth, but there is a dearth of clinician- and clinician group-level measures for this time. There are no measures of structure, access, efficiency, disparities, or women's experiences, and none for care coordination, postpartum care, and many aspects of pregnancy care. Pro-active identification and development of performance measures with the aim of realizing a vision for high quality, high value maternity care would be optimal. Instead, however, maternity care performance measurement is constrained by severe limitations in available data, including the inability to measure many desired outcomes without undue burden of new data collection. Priorities of measure developers and funders of endorsement processes have also shaped the composition of the current set of national standardized maternity care performance measures.

Public reporting of performance measurement is largely carried out by state and federal governments, purchasers, and the Joint Commission and National Committee for Quality Assurance (NCQA) accrediting bodies. National reporting of maternity care performance has been limited to a few core Joint Commission measures reported at the hospital level (this core measure set is currently being updated) and a few health plan utilization measures from NCQA. The Joint Commission performance reporting website (www.qualitycheck.org) does not report on maternity performance measures for many hospitals that provide maternity services and is not consumer oriented. The Centers for Medicare and Medicaid Services (CMS) has one of the best-developed public reporting programs through the Compare websites, but these focus on metrics applicable to the Medicare patient population. There is wide variation in reporting of performance measurement among states.

Clinicians and facilities generally lack reliable and trusted feedback information about their own performance, and the performance of other clinicians and facilities, which can foster quality improvement. Clinical leaders frequently lack skills and experience in use of performance reporting to improve professional practice; training and technical assistance to successfully implement quality improvement initiatives is needed.

Furthermore, despite a growing number of public domain survey tools to assess patient experience with care, none are specific to maternity care. The generic Consumer Assessment of Healthcare Providers and Systems (CAHPS) health plan, clinician and hospital surveys do not adequately take into account several aspects of maternity care, including 1) the range of settings, 2) the range of health professionals who serve as lead caregivers, 3) the range of types of pain and women's preferences for coping, comfort and pain relief, and 4) the common intrapartum routes of medication administration.

Table 1. Types of Currently Available NQF-Endorsed Performance Measures for Different Components of Maternity Care

Measure	Structure	Process	Outcome	Access	Efficiency	Disparities	Patient Experience
Preconception counseling							
Diagnosis of pregnancy and access to prenatal care							
Early pregnancy complications		X					
Routine prenatal care including health screenings		X					
Genetic counseling and appropriate testing							
Monitor fetal growth and well-being - use of ultrasound, prenatal surveillance							
Maternal education and preparations for newborn care							
Later pregnancy complications – e.g., preterm labor, premature rupture of membranes, pre-eclampsia							
Labor and delivery		X	X				
Postpartum care							
Newborn care		X	X				
Care coordination							

X = one or more current measures exist

NOTES: 1) There is a strong movement toward routine stratification of existing measures by such factors as race/ethnicity, language, insurance status, and socioeconomic status to measure, report and reduce disparities. This may be preferable to separate disparity-focused measures. NQF-endorsed maternity care measures have not been stratified in this way.
2) Results of the generic CAHPS surveys may be reported for maternity services, but as discussed have important limitations when applied to this population.

Recommendations

(Note: Recommendation 1 will be discussed at symposium in context of Health Information Technology, and recommendations 2-4 will be discussed in context of performance measurement; recommendations 5-6 will be brought forward to Steering Committee for consideration in developing the core symposium product, a Blueprint for Action to improve the quality of maternity care)

1. Establish a uniform data set for maternity care that can be incorporated routinely into health information technology (HIT)

Please see details for this recommendation under Recommendation 1 within the HIT section of this report. Development of a uniform data set should consider 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. A transparent multi-stakeholder process is essential for identifying performance measurement priorities. This can be a separate step (*Recommendation 2*), but must be combined with items for clinical care. Special attention should be given to enabling the development of outcome measures using data collected during the postpartum period within an episode of care framework. Because HIT will be implemented rapidly, time is of the essence, and this work should build upon existing initiatives to develop uniform data sets for maternity care.

2. Proactively identify priority maternity care performance measure topics and develop, assess and endorse suitable measures, with an emphasis on outcome measures.

a. Strategies:

- To identify priority topics, use a multi-stakeholder process with representation of public and private purchasers, all of the relevant clinical specialties, all types of care delivery settings, consumers and advocates, quality collaboratives, researchers and measure developers.
- Ensure that each recommended measure is supported by a strong evidence base, ideally one or more up-to-date and well-conducted systematic reviews.
- Consider as criteria for priority measures: balance across stages of maternity care, care coordination, outcomes of full episode of maternity care, consumer and family engagement and experience, relevance to minority and low-income disparity populations, balance across measures impacting mothers and newborns, balance across measures impacting low-risk and high-risk populations (with low-risk emphasis on probability of favorable impact on large proportion of the childbearing population and high-risk emphasis on probability of averting serious morbidity or death), and balance across measures for facilities, clinicians and groups, health plans, integrated systems and communities.

- Include as essential component monitoring of endorsed measures for performance and uptake, and continuous assessment with possible revision or replacement.

b. Lead responsibilities:

- National Quality Forum convenes multi-stakeholder prioritization process; measure developers bid to funder for development support; NQF convenes multi-stakeholder process for evaluating potential measures for NQF endorsement.
- Local and regional quality collaboratives are a promising vehicle to develop and test quality measures, as they can help ensure adequate sample sizes for collection of performance data, and support reporting in their areas.

c. Challenges and solutions:

- The primary barrier is funding; potential gains are vast, but are distributed widely; given the extent to which Medicaid covers maternity care, it would be appropriate to seek Congressional funding for this process, similar to provisions of Child Health Insurance Program Reauthorization Act (CHIPRA) of 2009 for child health measures.
- Measures cannot be widely implemented until needed data are routinely collected; and a uniform maternity data set within health information technology (Recommendation 1) will enable use of optimal performance measures.

d. Mechanisms for collaboration:

- Obtain Congressional funding for prioritization through endorsement phases; involve measure developers/stewards.

e. Timetable for achievement:

- Once funding is obtained, three to four years would be needed to go from initiation of prioritization process through release of NQF-endorsed measures (provisional endorsement with post-release evaluation would expedite at the risk of releasing poor-performing measures); just-in-time endorsement and roll-out of measures as they are available are optimal.

3. All hospitals that provide maternity care and all birth centers should collect, evaluate, and make publicly available facility-level maternity care performance data, and collection and reporting should extend to individual and group maternity caregivers as measures for health professionals become available.

a. Strategies:

- Apply lessons learned from CMS Hospital Compare to collection and reporting of hospital, birth center and maternity caregiver performance measurement and reporting.

- To facilitate consumer access, comprehension and use of maternity care performance measures, adhere scrupulously to the evolving evidence base on these topics.
- Identify a core subset of measures for rapid universal reporting giving priority to several criteria: potential for impact on a large proportion of the childbearing population, potential to avert serious morbidity or death, and balance across measure impacting mothers and newborns and low-risk and high-risk populations.
- Evaluate and refine reporting for core measures and adequacy of risk adjustment, and extend to other measures.

b. Lead responsibilities:

- As Medicaid pays for 42% of births nationally and the Centers for Medicare and Medicaid Services has pioneered national hospital performance reporting, CMS and its state Medicaid program partners are in a position to facilitate maternity care performance measurement and reporting of U.S. hospitals and maternity caregivers.

c. Challenges and solutions:

- Start-up and maintenance require new resource allocation; however, hospital charges for maternal and newborn care exceed charges for all other conditions, overall and for Medicaid, and the potential for improved quality and return on investment is great; the Children's Health Insurance Program Reauthorization Act (CHIPRA) of 2009 provides a precedent and model in its funding for child health performance measurement reporting format, guidance and technical assistance and annual state child health care quality reporting.
- Differences in baseline risk of women might adversely impact safety net providers, so give careful attention to appropriate and fair risk adjustment.
- Administrative variation across and within state Medicaid programs could pose barriers to rapid and smooth implementation, and it may be advisable to begin with pilots.
- An initial focus on hospitals and birth centers leaves prenatal and postpartum care aside for the present, but there are fewer available measures for those segments of care and expenditure for intrapartum care currently is about five times the expenditure for prenatal care.

d. Mechanisms for collaboration:

- Work with Congress to authorize and fund reporting and resources, extending precedent of CHIPRA to maternity care.
- Collaborate with the Midwives Alliance of North America (MANA), the American Association of Birth Centers (AABC) and other groups that systematically collect data on out-of-hospital births to ensure the collection and reporting of comparable maternity care performance data across all settings.

e. Timeframe for achievement:

- Implement within Medicaid as soon as resources are available

4. Develop, implement and publicly report CAHPS Maternity versions of generic CAHPS Provider, Health Facility and Health Plan surveys.

a. Strategies:

- Adapt health plan, clinician, and hospital surveys to facilitate measurement and reporting of the range of maternity care providers, the range of maternity settings, the diverse sources of associated pain and women's preferences for comfort measures and pain relief, and distinctive intrapartum medication processes.
- Evaluate, refine and finalize content of CAHPS Maternity surveys, including information on race, ethnicity and socioeconomic status and releasing English and Spanish versions.
- Design and post on CAHPS website protocol for sampling, survey administration, data collection, data analysis and data reporting of CAHPS Maternity surveys.
- Publicly report CAHPS Maternity survey results with support resources and services, consistent with best evidence about performance measurement reporting, to enable multiple sectors to use the information.

b. Lead responsibilities:

- Agency for Healthcare Research and Quality for development; states, health plans and other entities for reporting; consumers, purchasers, clinicians and policy makers for use

c. Challenges and solutions:

- There is inadequate awareness about limitations of generic CAHPS surveys for maternity care and about the size of the population involved, the intensity of services, and the level of costs to private and public purchasers.
- Resources need to be identified for adapting, evaluating and implementing CAHPS surveys for the childbearing population; recognition that 23% of those discharged from hospitals are childbearing women and newborns, that hospital charges for their care exceed charges for all other hospital conditions, and that Medicaid paid for 43% of births in 2006 clarifies the potential of CAHPS Maternity surveys for quality improvement and perhaps return on investment.

d. Mechanisms for collaboration:

- Consumers and advocates, maternity caregivers, administrators and accrediting bodies are involved in survey development and testing.
- Researchers, consumers and advocates, service providers and policy makers are involved with ensuring accessible, meaningful reporting.

e. Timeline for achievement:

- As quickly as possible. After funding is secured, adaptation and implementation could require two to three years.

5. Quality and measurement experts should undertake research activities to support health care organizations that provide maternity care in collecting, evaluating and publicly reporting maternity care performance data.

a. Strategy:

- Identify several health care organizations that effectively use performance measurement within audit and feedback and other quality improvement strategies and develop models or case studies for others; disseminate through professional societies, quality improvement organizations and others.
- Develop and make public an inventory of maternity care quality improvement reports and of systematic reviews that assess the effectiveness of quality improvement strategies.

b. Lead responsibility:

- For new case studies with a special focus on use of performance measurement: American Academy of Family Physicians Commission on Quality and Practice, American College of Nurse-Midwives Division of Research, American College of Obstetricians and Gynecologists Committee on Patient Safety and Quality Improvement, Association of Women's Health, Obstetric, Gynecologic and Neonatal Nurses (panel appointed by board of directors).
- For inventory: Childbirth Connection maintains an Evidence-Based Maternity Care Resource Directory, including reports of maternity care quality improvement programs and systematic reviews of effectiveness of quality improvement strategies at http://www.childbirthconnection.org/article.asp?ClickedLink=184&ck=10263&area=2

c. Challenges and solutions:

- Funding is needed for new case studies and would also help Childbirth Connection stay abreast of the burgeoning resources for inclusion in its Resource Directory; March of Dimes is possible source.
- Clinicians, group practices, hospitals and health plans rarely have access to data about their own performance; with standardized data elements and interoperability, health information technology should efficiently enable access to performance data.
- Providers of maternity services have many responsibilities and are not compensated for quality improvement activities; however, hospitals are required to undertake these activities for accreditation.

d. Mechanisms for collaboration:

- Organizations that might share their audit and feedback and other quality improvement strategies include: California Maternal Quality Care Collaborative; Institute for Healthcare Improvement, Intermountain Healthcare; Northern New England Perinatal Quality Improvement Network.
- American Hospital Association Section for Maternal and Child Health is an important vehicle for dissemination.

e. Timeline for achievement:

- Up to two years from following securing of funding to identify sites, collect, write up case studies and evaluate their experiences
- Resource Directory: ongoing

6. Link recertification of all lead maternity caregivers to quality and patient safety performance measurement and improvement

a. Strategies:

- Encourage all entities responsible for certification and recertification of maternity care professionals with national credentials to adopt quality measures for maintenance of certification similar to the Performance Improvement Modules of American Board of Internal Medicine.

b. Lead responsibilities:

- American Board of Family Medicine, American Board of Obstetrics and Gynecology, American Midwifery Certification Board, North American Registry of Midwives

c. Challenges and solutions:

- Relatively few NQF-endorsed performance measures apply to individual maternity clinicians; additional clinician-level measures can be used for recertification as they become available.
- Clinicians undergoing recertification may not have ready access to summaries of their performance on NQF-endorsed clinician-level performance measures; until systematically collected via health information technology, the American Board of Family Medicine approach of analysis of a small number of patients can be used.

d. Mechanisms for collaboration:

- Including parallel content in the corresponding national certification exams and publicizing in professional publications the measures, evidence supporting them and impact of implementing them would further reinforce the desired practices.

e. Timeline for achievement:

- As recertifying bodies assess and improve their processes, use of NQF-endorsed performance measures should be incorporated as an ongoing component.

Appendix A.

Table 1. NQF-Endorsed Performance Measures that Apply to Maternity Care

Measure Title	Measure Description	Level of Analysis	IP Owner[6]
Pregnancy Test for Female Abdominal Pain Patients	Percent of women, ages 14 – 50 years old, who present to the emergency department with a chief complaint of abdominal pain who have a pregnancy test (urine or serum) ordered in emergency department	Facility or clinician	American College of Emergency Physicians
Screening for Human Immunodeficiency Virus (HIV)	Percentage of patients who gave birth during a 12-month period who were screened for HIV infection during the first or second prenatal care visit. AMA PCPI	Clinician or group	AMA PCPI
Anti-D Immune Globulin	Percentage of D-negative, unsensitized patients who gave birth during a 12-month period who received anti-D immune globulin at 26-30 weeks gestation.	Clinician or group	AMA PCPI
Blood Groups (ABO), D (Rh) Type	Percentage of patients who gave birth during a 12-month period who had a determination of blood group (ABO) and D (Rh) type by the second prenatal care visit.	Clinician or group	AMA PCPI
D (Rh) Antibody Testing	Percentage of patients who gave birth during a 12-month period who were screened for D antibody during the first or second prenatal care visit	Clinician or group	AMA PCPI
Cervical Cancer Screening	The percentage of women 18-64 years of age, who received one or more Pap tests during the measurement year or the two years prior to the measurement year[5]	Clinician or group	NCQA[7,9]
Chlamydia screening in women	Percentage of eligible women who were identified as sexually active who had at least one test for chlamydia during the measurement year[5]	Clinician or group	NCQA[7,9]
Elective Delivery Prior to 39 Completed Weeks Gestation	All singletons delivered at $\geq$ 37 completed weeks gestation that are electively delivered prior to 39 completed weeks gestation	Facility	HCA – St. Marks Perinatal Center
Incidence of Episiotomy	Number of vaginal deliveries with episiotomy procedures performed	Facility or clinician	Christiana Care Health Services/NPIC
Cesarean Rate for Low-Risk First Birth Women	Proportion of livebirths born at or beyond 37.0 weeks gestation to women having their first delivery, that are singleton (no twins or beyond) and vertex presentation (no breech or transverse positions) that had a cesarean birth	Facility, group, integrated system, or community	California Maternal Quality Care Collaborative
Prophylactic Antibiotic in C-Section	All women undergoing cesarean delivery without evidence of prior infection or already receiving prophylactic antibiotics for other reasons who received prophylactic antibiotics within one hour prior	Facility	Massachusetts General Hospital

[6] Intellectual property owner and copyright holder. ALL RIGHTS RESERVED. For the most current specifications and supporting information, please refer to the IP owner:

- AHRQ – Agency for Healthcare and Research Quality (www.ahrq.gov)
- Asian Liver Center at Stanford (http://liver.stanford.edu)
- California Maternal Quality Care Collaborative (www.cmqcc.org)
- CDC – Centers for Disease Control and Prevention (www.cdc.gov)
- Child Health Corporation of America (www.chca.com)
- Christiana Care Health Services (www.christianacare.org)
- CWISH – Council of Women and Infants Specialty Hospitals (www.cwish.org)
- HCA – Hospital Corporation of America, Inc. (www.hcahealthcare.com)
- Massachusetts General Hospital (www.massgeneral.org)
- NPIC – National Perinatal Information Center (www.npic.org)
- Providence St. Vincent Medical Center (www.providence.org)
- Vermont Oxford Network (www.vtoxford.org)

Measure Title	Measure Description	Level of Analysis	IP Owner[6]
	to surgical incision or at the time of delivery		
Appropriate DVT Prophylaxis in Women Undergoing Cesarean Delivery	Women undergoing cesarean delivery who receive either fractionated or unfractionated heparin or pneumatic compression devices prior to surgery	Facility	HCA – St. Marks Perinatal Center
Birth Trauma Rate measures (harmonized)	Number of infants with specific birth traumas	Facility	AHRQ/NPIC
Hepatitis B Vaccine Administration to All Newborns Prior to Discharge	Number of live newborns discharged from the hospital who were administered hepatitis B vaccine prior to discharge	Facility, clinician, group, or plan	CDC
Appropriate Use of Antenatal Steroids	Total number of mothers who delivered preterm infants (24-32 weeks with preterm premature rupture of membranes or 24-34 weeks with intact membranes) who received antenatal steroids at any time prior to delivery	Facility	Providence St. Vincent's Hospital/CWISH
Infants Under 1500g Delivered at Appropriate Site	The number per 1,000 live births over 24 weeks' gestation weighing less than 1500g delivered at hospitals not appropriate for that size infant	Facility, integrated system, or community	California Maternal Quality Care Collaborative
Nosocomial Blood Stream Infections in Neonates	Selected bacterial blood stream infections per 1000 qualifying neonates	Facility	AHRQ
Birth Dose of Hepatitis B Vaccine and Hepatitis Immune Globulin for Newborns of Mothers with Chronic Hepatitis B	Percentage of neonates born to hepatitis B surface antigen-positive mothers who receive a birth dose of hepatitis B vaccine and hepatitis B immune globulin within 12 hours of birth	Facility	Asian Liver Center at Stanford University
Exclusive Breastfeeding at Hospital Discharge	Livebirths not discharged from the NICU who were fed by "breast only" since birth	Facility, integrated system, or community	California Maternal Quality Care Collaborative
Paired measures: First Temperature Within One Hour of Admission to NICU	Proportion of infants with weights between 501-1500g whose first temperature was measured within one hour of admission to the NICU	Facility	Vermont Oxford Network
and First NICU Temperature < 36°C	Proportion of infants with weights between 501-1500g whose first temperature was taken within one hour of admission to NICU whose first temperature was < 36°C	Facility	Vermont Oxford Network
Retinopathy of Prematurity Screening	Number of infants born at 22 to 29 weeks gestation hospitalized at the postnatal age at which a retinal eye exam is recommended by the AAP who received a retinal exam for retinopathy of prematurity	Facility	Vermont Oxford Network
Timely Surfactant Administration to Premature Neonates	Number of infants born at 22 to 29 weeks gestation who were treated with surfactant at any time who received the surfactant within 2 hours of birth	Facility	Vermont Oxford Network
Neonatal Immunization	Neonates with a length of stay greater than 60 days who receive DTaP, Hepatitis B, IPV, Hib, and PCV vaccines according to current AAP guidelines	Facility	Child Health Corporation of America

Payment Reform

Current Problems

Re-alignment of how maternity care is reimbursed has the potential to ***save the lives of mothers and babies, reduce harm, and save money*** [1-5]. Currently, the United States is not getting a good value for its expenditures; the nation spends far more dollars on health care than all other countries, and has worse maternal and neonatal outcomes than many countries that spend less [3, 6]. Re-alignment of maternity payment systems may be the most powerful way to improve outcomes for mothers and newborns and reduce disparities.

All women deserve a maternity care system that helps ensure that they receive the right dose of maternity interventions — overuse and underuse of maternity interventions lead to worse outcomes for both mothers and newborns [5, 7, 8]. ***Overuse*** is use of maternity interventions such as cesarean section and labor induction without a sound, established medical indication, and ***underuse*** is not using an intervention for a sound, established medical indication, e.g., not performing postpartum glucose tolerance tests on women with gestational diabetes or not following up on high-risk medical conditions in the postpartum period. Overpayment for considerable overuse among the 4.3 million births that take place every year in the United States especially impacts employers and private insurers, who paid for 51% of births in 2005, and taxpayers and Medicaid programs, who paid for 42% of those births [3].

Payment Reform Priority Overview

Full episode of care bundling with risk adjustment payments for maternal and newborn care is a recommended long-term solution. Bundling needs to include financial incentives, e.g., “bonuses” for clinicians and hospitals that improve maternal and infant outcomes, as well as incentives for consumers to choose more efficient, higher-value care options. Furthermore, bundling needs to remove inadvertent financial disincentives that stand in the way of reliable provision of effective, high-value care practices. Bundled payment reform especially benefits low-income and minority women who are at highest risk for fragmented care and poorer birth outcomes resulting in expensive NICU admissions. A re-aligned payment system would promote horizontal and vertical integration of services, encouraging investment in preventive services and increased use of evidence-based practices. In short, all women and children will have improved and equal opportunity to receive the right dose of medical interventions.

Given the extent of the perverse incentives in the current payment system, we propose a two-phase strategy. ***Phase One*** involves implementing several payment reform priorities to partially address some of the most serious incentive mis-alignments (refer to recommendations 2-4). ***Phase Two*** involves new federal and state payment policies for full episode of maternity care bundling that will be based upon lessons from demonstration projects (refer to recommendation 1). With the implementation of bundled payment, most Phase One reform recommendations will become obsolete. However, some, such as non-payment for deliveries that occur in inappropriate settings, will need to remain as they address issues that bundled payment may not correct.

The payment reform priorities are based on the following assumptions:

- Quality maternity care is safe, efficient, timely, effective, and equitable.

- Quality maternity care is woman-centered and family-centered, meaning that every decision and every action must be guided by the needs of women, newborns, and their families.
- Clinicians want to provide quality maternity care and do the right thing, at the right time, for the right reasons
- Clinicians have adequate training, resources, and technical assistance to implement quality improvement measures as necessary.
- The lack of positive incentives, and the presence of negative and perverse incentives, discourages clinicians from providing quality maternity care within the systems where they work.
- Negative, often perverse, incentives for quality maternity care can be re-adjusted and re-aligned. Negative incentives are defined as financial reimbursements that work against providers and hospitals that want to do the right thing. Perverse incentives encourage clinicians and hospitals through reimbursement systems to either overuse or underuse medical interventions.
- Policy, payment, regulation, accreditation, litigation and other macro-level systems impact the maternity care that women receive.

Recommendations

1. Restructure payment with risk-adjusted full episode of care bundling, combined with bonuses for meeting benchmarks and provision for high-cost outlier cases (see *From Volume to Value: Transforming Health Care Payment and Delivery Systems to Improve Quality and Reduce Costs* available at http://www.rwjf.org/pr/product.jsp?id=36217).

a. Strategy:

- Pay hospitals and provider organizations bundled, i.e., capitated, fees for combined maternal and newborn care, based on realistic, estimated costs of care, adjusting for age, marital status, race, ethnicity, socioeconomic status, and language of enrolled women of reproductive age. Bundled and risk-adjusted payments for combined maternal and newborn care to hospitals/birth settings and provider groups would provide incentives to use more cost-effective clinicians (e.g., midwives and family physicians) and settings (e.g., community health centers, birth centers, home birth), and the right dose of medical interventions.
- The vast majority of deliveries have very homogeneous costs, with the only significant difference being mode of delivery. These deliveries, plus those with very minor complications should be included in the basic bundled payment. Combined, these two groups include about 95% of all deliveries.
- Of the cases that don't fit into the basic bundled payment group, many fit into groups that can be assigned bundled payments. Only those types of cases with very large variances in costs, such as extremely preterm infants, will have to be excluded from this prospective payment system. By excluding the cases with extreme variance and very high costs, the need for caps and/or secondary insurance on hospital costs will be minimal, thus reducing the risk for smaller hospitals, birth centers, and clinician groups.

- Include within these payments bonuses for meeting benchmarks (combination of attainment and progress). Pay for performance will promote quality in targeted areas and could reduce disparities, as shown in the United Kingdom (and planned by Massachusetts Medicaid). These should prioritize outcomes and include benchmarks for types of care that there may be incentives to reduce with bundled payments. This is clearly a problem for some components of postpartum care, and the benchmarks should include elements for items such as postpartum contraception counseling, care coordination of chronic illnesses, and depression screening. In tandem with these efforts, maternity care benefits must be structured to create shared incentives for both providers/facilities and childbearing women to choose effective higher-value care options.
- Selected very high-risk groups of newborns, especially extremely preterm and low birthweight infants and infants with surgically correctable major anomalies, incur very large costs, and these costs have very large variances. It is virtually impossible to include these infants in a pre-determined, bundled payment system without subjecting providers to unreasonable levels of risk. Thus, these cases must be excluded from the bundled payment system.
- State Medicaid payers are best positioned to implement the bundling payment strategy given they are the primary payer of maternity care for low-income and minority women. This strategy could be piloted through demonstration projects funded through competitive Request for Funding Proposals targeting hospitals, provider organizations or health centers.

b. <u>Lead responsibilities:</u>

- Centers for Medicare and Medicare Services (CMS) and its payment advisory bodies, including the Medicaid and CHIP Payment and Access Commission (MACPAC); private insurers; private foundations or Agency for Healthcare Research and Quality

c. <u>Challenges and solutions:</u>

- The American Medical Association's Relative Value Scale Update Committee and specialty societies would likely oppose or attempt to weaken this payment reform; recognition of adverse consequences of incentives for overtreatment and mistreatment could provide the political will to implement this reform.
- Funding is needed to set up and evaluate pilots; although these would require up-front investments, potential gains are great; the gains include saving lives and reducing harm, while saving money.

d. <u>Mechanisms for collaboration:</u>

- A broad coalition of consumers and advocates, members of Congress and public and private purchasers should support this payment reform.
- Quality and measurement research professionals should help set up pilots (and help develop adequate payments based on risk factors, as well as mechanisms for addressing catastrophic costs through caps or

secondary insurance) and evaluate pilots for quality, cost and outcome implications.
- Funding could come from public sources (e.g., Agency for Healthcare Research and Quality, Centers for Disease Control and Prevention, Health Resources and Services Administration) or private sources (e.g., Robert Wood Johnson Foundation, March of Dimes, Commonwealth Fund).

e. Timeframe for achievement:

- Such demonstration projects would likely require at least 5 years to design, implement, and evaluate.

2. Provide the right level of hospital and clinician reimbursement for maternity interventions. Specifically, reward intended outcomes and do not financially reward hospitals and clinicians with enhanced reimbursement when they overuse procedures that increase harm for mothers and newborns, or when they provide care to cases that should be referred to providers at higher levels of service. Two common procedures that are regularly overused are elective delivery (induction and cesarean section) prior to 39 weeks (NQF measure), and age-adjusted cesarean section in low-risk women (NQF measure and Healthy People 2010 goal).

a. Strategies:

- The Centers for Medicare and Medicaid Services are implementing a "Do Not Pay List" strategy to withhold financial rewards for mistakes and make hospitals accountable for the associated costs (e.g., no increased DRG payment for nosocomial infections). In maternity care, Medicaid and private insurers should develop a similar approach and not pay for overuse of procedures that have higher costs and poorer maternal and newborn outcomes. For example, Medicaid and private payers currently provide enhanced cesarean section payments (approximately double the cost of a vaginal birth) for all cesarean surgeries performed, providing incentives to perform procedures that are not needed. This incentive also incurs extra expense through increased admission to neonatal intensive care units (NICUs), shorter fetal brain development period, and less breastfeeding [4, 5]. At present, there is also excess postpartum maternal readmission, peripartum hysterectomy, hospitalization for placenta previa, infection, and length of stay [1, 3, 5, 7, 9]. Some savings from paying for the right dose of procedures should fund priorities that do not generate revenue, such as informed consent processes, designation of "Baby Friendly" hospitals, and doula services for low-income women.
- Do not apply the reduced reimbursement for excess use of procedures such as cesarean sections and induction to any specific woman's care – but reflect it in hospital bundle payments. For example, cap hospital and provider reimbursement of low-risk, age adjusted cesarean sections and pay the vaginal birth rate for all other low-risk births regardless of actual mode of birth. Base the low-risk population definition for cesarean section reimbursement on the Healthy People 2010 goal and the National Quality Forum quality measure, namely, age-adjusted, nulliparous, term (after 37 completed

weeks), singleton, vertex (NTSV) births. Define age-adjusted cesarean rates greater than 15% in the NTSV population (Healthy People 2010 goal) as excessive. Include caps and/or secondary insurance on hospital costs to treat smaller hospitals, birth centers, and clinician groups fairly.

- Do not financially reward NICU overuse, such as payment for full-term infants requiring non-intensive care phototherapy services.
- Develop risk-appropriate maternal standards of care, as an essential precursor to determining payment reform recommendations, parallel to the American Academy of Pediatrics NICU level standards for newborns.
- Design reimbursement strategies that reward providers at hospitals with a non-AAP level III B NICU who transfer a woman prior to giving birth to her premature infant of less than 32 weeks gestational age. Financially penalize providers and the non-AAP level III B hospitals who allow women who could have been transferred to give birth to infants less than 32 weeks or less than 1500 grams, e.g., the woman was in the hospital more than 2 hours prior to giving birth. Transporting mothers before birth will save costs and reduce infant harm.

b. Lead responsibilities:

- Medicaid should develop "Do Not Pay" policies for maternity care.
- Medicaid and private payers should design reimbursement strategies that reward clinicians and hospitals who transport mothers prior to birth of high-risk newborns.
- March of Dimes should include risk-appropriate maternal care standards in its updated *Toward Improving the Outcome of Pregnancy*, and should partner with American Academy of Family Physicians, American College of Nurse-Midwives, American College of Obstetricians and Gynecologists, and Association of Women's Health, Obstetric and Neonatal Nurses, and consumer advocacy groups in this work.

c. Challenges and solutions:

- Clinical teams need to learn how to support normal labor and reduce use of cesarean section in low-risk women (e.g., doula care and avoiding elective induction in first-time mothers).
- To help counter resistance of clinicians to changes in practice style, implement public health campaigns to inform women of the risk of overuse of maternity interventions and designate facilities that promote, protect and support normal labor as "Mother Friendly."

d. Mechanisms for collaboration:

- Interprofessional collaboration among ACOG, ACNM, AWHONN, and childbirth educators. March of Dimes' "Big 5 States" initiative can help lead the discussions for developing maternal standards of care. Medicaid and private payers can take the lead on reimbursement strategies that re-align incentives.

e. Timeline for achievement:

- 1 year to implement the Obstetrics Do Not Pay List and the other payment strategies. 4 years to develop and implement the "Mother Friendly Hospital" designation.

3. Redesign reimbursement strategies to promote and support hospitals and providers who offer safe vaginal births after cesarean (VBAC).

a. Strategies:

- Medicaid and private insurers pay about 10% to 15% more for enhanced surveillance when a woman with a previous cesarean labors. Track the proportion of women with a vaginal birth among women planning VBAC, report provider and hospital performance to Medicaid and private insurers as part of the annual reimbursement negotiated bundled rates.
- Define a VBAC attempt and enhanced VBAC surveillance.
- Develop a composite VBAC measure that includes expected VBAC rate established by quality measure developers, for National Quality Forum (NQF) endorsement.
- Public health departments should track access to VBAC.
- Ensure that women are given adequate informed consent when deciding whether to plan VBAC or repeat cesarean, including information about established risks of repeat cesarean sections to mothers and infants (e.g., premature loss of their uterus; limitations to family size; increased risks of previas, percretas, accretas, thromboembolism, preterm birth, and even maternal death) [1, 6, 9]. To ensure informed consent, non-biased professional with no financial stake in the decision should provide information to women (models: classes offered in NY State prior to sterilization decisions, VBAC classes offered at Saddleback Hospital near Los Angeles).
- Evaluate laborist model as potential cost-effective solution for enhanced surveillance and increased access to VBAC. Refer to: http://oblaborist.org/hospitalistsreviewessay.htm

b. Lead responsibilities:

- Medicaid should pay an increment for enhanced VBAC surveillance.
- Quality measure developers such as the California Maternal Quality Care Collaborative determine definitions; Medicaid and private insurers pay for the measure development.
- State health departments and Centers for Disease Control and Prevention track access to VBAC.
- Medicaid and private insurers ensure adequate informed consent about mode of birth; government agencies such as Agency for Healthcare Research and Quality or childbirth education associations such as Lamaze International should develop standardized decision support materials and Lamaze International.
- Private insurers and public health departments track VBAC rates based on whether there are laborists or no laborists.

c. Challenges and solutions:

- As many physicians and labor and delivery nurses do not appreciate the serious health consequences to women and future pregnancies of not offering VBAC, there is a need for professional and public education about these outcomes.

d. Mechanisms for collaboration:

- Centers for Disease Control and Prevention carries out Maternal Mortality Reviews; American College of Obstetricians and Gynecologists Committee on Patient Safety and Quality Improvement informs colleagues about benefits and harms of VBAC versus repeat cesarean.

e. Timeline for achievement:

- One year to change reimbursement
- Two years to develop and evaluate composite VBAC quality measure and submit it NQF
- One year to track and post VBAC access data
- One year to develop the educational materials and 2 years to spread them across the country
- Three years to assess impact of laborist model on VBAC

4. Promote the use of health information technology (HIT) systems that connect outpatient and inpatient care settings to foster care coordination, value-based reimbursement decision making, data-driven quality improvement. HIT will reduce redundancy (e.g., repeating lab tests) and foster timely, efficient care (e.g., immediate access to critical health care information during triage). Particular attention is needed to ensure equitable distribution of HIT for low-income women and their newborns.

Please see Health Information Technology section of this report for this crucial tool for payment reform and efficient provision of quality care.

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Improving Functioning of Liability System

Current Problems

The current liability system functions in ways that are counter to an ideal vision of maternity care.

Surveys conducted by the American College of Obstetricians and Gynecologists clarify that many members experience legal claims and suits. This vulnerability extends to other members of the maternity care team. A very high percentage of liability claims are dropped, settled without payment or settled in favor of the defendant in court. Feared impact appears to exceed actual impact, and is nonetheless deeply unsettling. Liability fear negatively impacts the quality and cost of maternity care.

The current punitive system may affect the maternity workforce, such as residents' decisions about where to practice, and may discourage clinicians from entering the field. Studies suggest that liability pressure impacts practice style and contributes, for example, to increased use of cesarean section and decreased vaginal birth after cesarean. Electronic fetal monitoring (EFM) and cesarean section have been increasingly used with the hope of reducing the incidence of intrapartum asphyxia and cerebral palsy. Despite steady increases in the use of EFM and cesarean section, and perhaps various other tests and treatments associated with liability pressure, and a near disappearance of forceps and vaginal breech deliveries, the incidence of cerebral palsy has not changed, and just a small proportion of cases of cerebral palsy can be attributed to intrapartum events (ACOG, *Evaluation of Cesarean Delivery*, 2000). Newborn outcomes have not improved, post-surgical complications are increasing, and costs associated with this style of care and complications have steadily increased. Nonetheless, litigation for bad neurologic outcomes unrelated to any intrapartum event and associated costs continue to increase. A no-fault system could help support families with caretaking responsibilities for injured newborns and reduce liability pressure, but there is no strong political will for such an approach within national health policy.

Despite this focus on preventing serious disability in newborns, the liability and medical systems are not sufficiently responsive to the needs of patients who suffer harm, through both unpreventable occurrences and inappropriate or negligent care. Just a fraction of cases of negligent injury involve legal claims, and few of those receive compensation. The current liability focus on individual blame discourages a more constructive health system perspective with appropriate assignment of accountability. 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 injury" (*Obstet Gynecol* 2008 112:1279-83). Many obstetric providers have been unwilling to look objectively at their care systems and embrace the need for quality improvement. Caregivers should practice within margins of safety and standards of care in a safe and respectful environment, and continue to grow and learn throughout their professional lives.

In setting a direction for moving forward, we can learn from systems that have favorably impacted safety, claiming, and associated costs. Systems with captive insurance companies connected to academic centers have established programs designed to promote safe practice using education modules, drills, simulation programs, and good collection of data that are fed back to providers as part of peer review. These programs have improved safety and reduced liability costs in comparison with others in the same

geographic area. Other systems that have instituted safety programs have reduced their exposure to liability and secured premium reductions for participating providers.

Recommendations

1. Establish a uniform data set to enable maternity care clinicians and facilities to monitor care practices and improve quality.

Clinicians and facilities need standardized accurate summaries of their clinical practices and trends to reflect upon their practice and engage in and monitor effects of risk management, peer review, and patient safety initiatives such as team training and simulation drills. Standardized nomenclature, guided by a data dictionary, fosters good communication and safety. Standardized collection of priority data elements will facilitate effective performance measurement and feedback (of both currently endorsed measures and those that cannot be collected at present due to limitations in data sources), and health information technology interoperability. *Please see the first recommendation in the Health Information Technology section of this report for a multi-disciplinary process for developing a national Uniform Data Set for quality clinical care, performance measurement, and quality improvement.*

2. Capture, disseminate and apply lessons from the strategies of effective and ineffective maternity care quality improvement programs, including impacts on liability experiences.

a. Strategies:

- Evaluate, report and make readily available results of maternity care quality improvement programs in the United States.
- Provide all stakeholders access to lessons from the growing number of systematic reviews that assess strategies for effective professional practice and effective communication with consumers.
- Establish mechanisms to integrate these functions reliably into the practice of maternity care, including use of Maintenance of Certification.

b. Lead responsibilities:

- Sponsors of quality improvement programs, with financial support of foundations for evaluation and reporting; members of Congress, Medicaid and CHIP Payment and Access Commission (MACPAC), and Joint Commission for integrated quality improvement mechanisms

c. Challenges and solutions:

- Existing quality improvement reports in journal and on websites and available systematic reviews of effective practice are underutilized, and a central database would facilitate access; many key evaluation reports and references to available systematic reviews are gathered in the Evidence-Based Maternity Care Resource Directory on Childbirth Connection's website, at

http://www.childbirthconnection.org/article.asp?ClickedLink=184&ck=10263&area=2

- Additional and ongoing evaluation, reporting, dissemination and application require resources and should be standard components of maternity care practice; in consideration of Medicaid's considerable responsibility for maternity care, strategies should be explored with members of Congress and MACPAC.

d. Mechanisms for collaboration:

- American Academy of Family Physicians; American College of Nurse-Midwives; American College of Obstetricians and Gynecologists Committee for Patient Safety and Quality Improvement; Association of Women's Health, Obstetric and Neonatal Nurses; liability insurers should adjust premiums downward as the quality of maternity practice and maternity outcomes improve.

e. Timetable for achievement:

- "Sicily Statement" clarifies that ongoing assessment and refinement of practice, in consideration of best evidence, is an essential ongoing component of effective professional practice.

3. Use standardized data systems to evaluate care practices, with an aim toward safe, effective high-quality maternity care.

a. Strategies:

- Carry out closed and open claims analysis to help caregiver teams and facilities understand common factors contributing to claims and develop strategies for reducing liability risk.
- Evaluate impact of the laborist models on access to skilled labor support (e.g., VBAC, vaginal breech and twin birth, external version), mother/family and clinician satisfaction, maternity costs and liability experiences.
- Compare 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 post-discharge 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 relationships between community hospitals and academic medical centers, on processes, costs and outcomes of care, including liability experiences.

b. Lead responsibilities:

- Liability insurers collaborate with claims analysis; Agency for Healthcare Research and Quality and foundations support priority research; academic researchers carry out priority evaluation research

c. Challenges and solutions:

- Negative attitudes toward home birth make it difficult to include in studies best-case comparison groups and provide the necessary supportive care coordination to ensure safety and a fair evaluation of this site of care. A large database of outcomes of home birth collected by MANA is available to researchers.
- There may be similar challenges in developing studies of other maternity care models including midwife-led care, and doula models for continuous labor support.

d. Mechanisms for collaboration:

- American Board of Obstetricians and Gynecologists and equivalent family medicine and midwifery bodies can incorporate lessons into Maintenance of Certification programs; Joint Commission can incorporate lessons into hospital credentialing programs.

e. Timetable for achievement:

- Assessment and quality improvement are immediate and ongoing components of maternity practice.

Reducing Disparities in Access, Quality and Outcomes of Care

Current Problems

Low-income and minority childbearing families, particularly African Americans, experience greater maternal and neonatal morbidity and mortality. These disparities largely reflect social factors, e.g. intergenerational poverty, social isolation, low education, and racism, that undermine maternal health through nutritional, inflammatory, infectious and vascular pathways resulting in preterm birth, fetal growth restriction, and other pregnancy related morbidity.[1] These disparities are compounded by a maternity system that is ill-equipped to address the complex, biopsychosocial needs of underserved women resulting in disparities in health care process and outcomes and high costs from neonatal intensive care and long-term medical care and societal costs related to adverse birth outcomes.[2]

The current national performance measurement system is not conducive to measuring and redressing disparities. As Medicaid is the primary payer for 43% of births in the United States and this proportion is increasing over time, Medicaid programs need to understand disparities in performance to address disparities within quality improvement programs and provide leadership on maternity disparities for the health system overall.

Payers often fail to reimburse for services that offer potential for ameliorating disparities but do so for various overused maternity services. For example, they do not routinely cover a series of effective, high-value services, such as breastfeeding promotion and support and labor doula services. Some of these services are included in enhanced Medicaid maternity benefits, but others are either not available or require fees that low-income women cannot afford. Consistent coverage of carefully selected services that have not traditionally been included in maternity benefits has the potential to improve maternity care quality and outcomes and reduce disparities. Reducing payment of overused and ineffective services and redirecting savings to such services would greatly increase the value of payer investments and free funding for women with greater needs.

Health information technology (HIT) is a promising tool for reducing disparities, in terms of both improved data collection and improved care coordination and decision support, but is often too expensive for safety providers to afford. Standardized data fields and processes for collecting data on race, ethnicity, educational level, income, language, and insurance are needed. Payers of maternity care within safety net settings such as state Medicaid programs, along with federal agencies such as HRSA, AHRQ and CDC, have a vested interest in research, data registry, surveillance, and other functions of HIT. Subsidies for hardware, software and/or consulting are needed to level the playing field and avoid unintended consequences of the emergence of disparities in HIT capability across providers. State-federal partnerships could be developed to help finance and coordinate implementation of relevant HIT – particularly maternity modules – and at a minimum support development of standards and systems for implementation, and quality improvement.

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Present standards for measurement are barriers to closing gaps in disparities:

- There are limited assessment of disparities in quality of care and few incentives to address disparities in structure, process, and outcomes. Assessment is a necessary, but not sufficient, condition for eliminating disparities.
- There is an absence of disparity quality measures and incentives for performance measurement of disparities, particularly stratification of measures by race, ethnicity, socioeconomic status, insurance, and language. Without direct measures of disparities, safety net providers may be penalized as described above. Without measurement of disparities, little attention will be paid to reducing disparities.

Reimbursement and funding foster disparities in numerous ways:

- Funding is inadequate and misaligned for maternity care of low-income and minority women (who often are at higher risk and have greater health care needs). Payment for neonatal intensive care is separated from that for maternity care, providing less incentive to optimize birth outcomes. In addition, Medicaid in most states pays community physicians much less for maternity care than do commercial payers. This results in disparities in available resources between safety net providers (who care for women with greater health needs) and providers who serve commercially insured women with fewer needs. Limited coverage of expanded Medicaid during pregnancy for previously uninsured women is another challenge. Such coverage typically does not cover family planning services, preconception care or long-term postpartum care.
- Coverage for critical ancillary services is often unavailable for low-income and minority women. Examples of services that are often not reimbursed include home visitation services beginning during pregnancy and extending to the first three years of the child's life, social work and case management services, breastfeeding promotion and lactation consultation, and labor doulas.
- Funding is inequitable, with reimbursement generally greater for lower-risk commercially insured women than for higher-risk Medicaid and uninsured women.
- Payment systems are perverse. There is funding for expensive technology (at times reimbursing for interventions in the absence of adequate evidence), but funding is frequently unavailable for low-technology evidence-based interventions that offer potential for reducing disparities. Pay-for-performance (P4P) also has the potential for unintended consequences, including diverting resources from safety net providers who serve higher-risk populations (and who are less prepared for P4P because, for example, they have fewer resources to invest in health information technology).
- Payment systems are disconnected and disjointed. They fail to promote care over time or to promote prevention of adverse birth outcomes. As long as providers are reimbursed based on cost of care, e.g., hospitalization for maternal and neonatal complications, there is little incentive to invest in prevention. This disproportionately affects low-income and minority women, who have higher rates of adverse outcomes.

The current status of health information technology is also an important barrier:

- HIT infrastructure, including electronic medical records, is inadequate, particularly among safety net providers. Inadequate HIT is a major obstacle to quality improvement and reduction in disparities.
- Reliable data management systems and information exchange are needed.

Recommendations

1. Restructure payment with risk-adjusted full episode of care bundling, combined with bonuses for meeting benchmarks and appropriate provision for high-cost outlier cases, a model detailed in the 2008 report, *From Volume to Value: Transforming Health Care Payment and Delivery Systems to Improve Quality and Reduce Costs*.

Such restructuring could especially benefit low-income and minority women, who are at highest risk for births resulting in expensive NICU admissions. Bundled and risk-adjusted payments for combined maternal and newborn care to hospitals and provider organizations would provide incentives to use more cost-effective clinicians (e.g., midwives and family physicians) and settings (e.g., community health centers) and appropriate technology care practices. State Medicaid payers are best positioned to implement this strategy in pilots as they are the primary payer of maternity care for low-income and minority women. This strategy should be piloted through demonstration projects funded through competitive proposals targeting hospitals, provider organizations or health centers under the auspices of the Centers for Medicare and Medicaid Services and the Medicaid and CHIP Payment and Access Commission (MACPAC). *Please see the first recommendation in the Payment Reform section of this report for more details.*

2. Stratify NQF maternity care measures by race, ethnicity, socio-economic status and language, consistent with NQF commitment to measurement of disparities. An NQF advisory committee has developed recommendations for non-perinatal measures (see *National Quality Forum. National Voluntary Consensus Standards for Ambulatory Care—Measuring Healthcare Disparities. Washington, DC: 2008*), which could be applied to currently endorsed (and future) NQF perinatal measures.

a. Strategies:

- Report NQF-endorsed maternity care measures by membership in key disparity populations. Begin with the following measures, which are generally relevant to disparity populations because of high prevalence of the targeted condition or evidence of disparities in delivery of the intervention:
    a) Cesarean Rate for Low-Risk First Birth Women
    b) Nosocomial Blood Stream Infections in Neonates
    c) Birth Dose of Hepatitis B Vaccine
    d) Hepatitis Immune Globulin for Newborns of Mothers with Chronic Hepatitis B
    e) Exclusive Breastfeeding at Hospital Discharge
    f) Timely Surfactant Administration to Premature Neonates
- Over time, add and stratify new maternity care quality measures, particularly those relevant to disparities, such as:
    a) Assessment and management of psychosocial and behavioral risk factors throughout the perinatal period (preconceptually through infancy and on)
    b) Assessment and management of infections during pregnancy

c) Assessment and management of medical comorbidity, particularly metabolic and hypertensive disorders, both preconceptually and prenatally
d) Preconception and prenatal education
e) Use of progesterone agents for high-risk women
f) Rates of preterm labor
g) Long-term rates of breastfeeding
h) Education regarding infant positioning
i) Presence of coach for labor (who has undergone some training or attended classes)
j) Assessment of communication and interpersonal relations including respect, and informed decision-making within maternity care using new CAHPS measures for cultural competency and low literacy

- Reconvene National Quality Forum Perinatal Care Steering Committee to address this recommendation
- Use resulting measures to level the playing field in terms of payment systems and case-mix effects, for example with pay for performance (P4P) that Massachusetts Medicaid has proposed to improve quality (http://www.cms.hhs.gov/MedicaidSCHIPQualPrac/Downloads/disp4p.pdf)

b. Lead responsibilities:

- National Quality Forum

c. Challenges and solutions:

- Within its large agenda, this recommendation alone might not lead NQF to reconvene its Perinatal Care Steering Committee; a recommendation from its Consensus Standards Approval Committee (CSAC) and recognition that its new measure set could soon be widely implemented might lead NQF leaders to reconvene the Committee for this purpose.
- The work of modifying existing measures requires additional resources, which may not have been set aside from initial funding of Perinatal Care Project.

d. Mechanisms for collaboration:

- NQF Consensus Standards Approval Committee to trigger modification of the measure set; National Association of State Medicaid Directors to trigger modification and foster use of resulting performance data for quality improvement

e. Timetable for achievement:

- The measure set could be modified in a few months, leading to data to inform Medicaid and other quality improvement initiatives as they are developed. Pilots of limited P4P could be potentially implemented using NQF endorsed measures through Medicaid pilots within 2 to 3 years, perhaps through RFAs through federal and private funders listed above.

3. Mitigate unintended pay for performance (P4P) consequences and worsening disparities. Without use of measures that consider differences in case mix, e.g., complexity of patient problems and needs, P4P could worsen disparities by siphoning funding away from resource-constrained providers.

a. Strategies:

- Implement P4P stratified by payer, e.g., among private payers or within Medicaid, focusing initially on process measures that are less affected by case mix.
- Provide subsidies to safety net providers for quality improvement infrastructure, including health information technology, training in quality improvement systems, and team-based care.
- Refine case-mix adjustment.

b. Lead responsibilities:

- Medicaid, National Association of Public Hospitals and Health Systems, National Association of Community Health Centers

c. Challenges and solutions:

- None of these solutions alone may prove fully adequate. Significant case-mix differences likely exist within Medicaid, depending on conditions and local populations. Some process measures may be affected by unmeasured case-mix. Subsidies to safety net providers may prove inadequate relative to the needs of the population and refinements in case-mix adjustment require better clinical data. However, in aggregate, these recommendations may minimize the potential for unintended consequences.

d. Mechanisms for collaboration:

- Safety net providers should work with Medicaid at the state and local levels to implement these recommendations. Safety net providers need to strongly advocate for subsidies at the federal, state and local levels.

e. Timetable for achievement:

- 1-5 years, depending on the strategy

4. Reimburse for evidence-based, high value maternity services that are not consistently covered, e.g., language translation, home nurse visitation, case-management, breastfeeding promotion, and doulas. Each of these services could be potentially billed separately through qualified personnel, including nationally-certified midwives, and applied to all maternity care settings as appropriate. Implementing this will require demonstrating a strong evidence base (through systematic reviews of existing studies and in some cases funding for new research, establishment of national credentials and standards, and strong advocacy for payment reform).

a. Strategies:

- Consider the following list of priority services of demonstrated effectiveness with no known or notable downsides:

a) ***Language-translation***. Health facilities are inconsistent in implementing policies that meet high standards for addressing patients' linguistic needs, and payers do not reimburse for language translation despite a large body of research (and common sense) indicating that communication is fundamental to delivery of quality of care.
b) ***Care coordination.*** For high-risk women with psychosocial needs, there is an obvious need for care coordination of various services.
c) ***Nurse home visitation.*** There is high-quality evidence that nurse home visitation, beginning during pregnancy, improves long-term maternal and child outcomes.
d) ***Comprehensive breastfeeding promotion.*** There is consistent, growing evidence that breastfeeding improves child and maternal health, as well as a solid evidence base for various interventions designed to enhance breastfeeding beginning during pregnancy and continuing postpartum.
e) ***Doulas/labor coaches***. Doulas have been shown to increase satisfaction and reduce risk for operative birth.

b. Lead responsibilities:

- Medicaid programs and private insurers, including state-wide consensus building across all payers and involvement of the research community (NIH, AHRQ, private foundations) and professional organizations in strengthening the evidence base

c. Challenges and Solution:

- Purchasers will be concerned about costs of covering additional services due to uncertainty about whether they will be offset with savings; credible projections of net financial impacts are needed (for example, the current Cochrane Review suggests that one cesarean is averted for every five women who receive continuous labor support from a caregiver who is not a member of the hospital staff, which implies net short- and longer-term savings; modest resources are needed to develop an analyses using comparative effectiveness and cost data.
- Decisions will need to be made about eligibility for reimbursement for services such as breastfeeding support and labor support, but certification processes are in place for lactation consultants and doulas.

d. Mechanisms for collaboration:

- Quality and measurement experts should provide economic analyses to support changes in benefits packages; employers should negotiate with purchasers for these changes.

e. Timeline for achievement:

- Several years to implementation

5. Improve the capacity of the maternity care workforce to meet the needs of underserved populations and to close maternity care disparities.

Please see the Workforce section of this report for specific recommendations and their implementation. It is essential to improve recruitment, education, retention, and mentoring and other types of support to strengthen the racial/ethnic, geographic, linguistic, and socioeconomic diversity of the maternity care workforce and its capacity to provide high quality care to underserved populations. Effective measures will foster high quality, high value maternity care and contribute to community development.

6. Develop and promote HIT standards for maternity care, and provide subsidies to safety net providers.

Please see the Health Information Technology section of this report for specific recommendations and their implementation. Underserved populations often experience especially fragmented health care and may especially benefit from a strong HIT infrastructure. However, safety net providers have severely constrained resources and will need disproportionate support for obtaining and implementing HIT.

Workforce Composition and Distribution

Current Problems

The education and practice style of the current maternity workforce is poorly aligned with the needs of most childbearing women and newborns.

There is a need to clarify the optimal mix and capacity of maternity caregivers, to implement steps to achieve that mix and capacity, and to foster transparency in their identity, availability and performance. The optimal workforce would be designed to achieve a standard of promoting, protecting and supporting physiologic childbearing among low-risk women; caring appropriately for women at higher risk; providing culturally competent care; and meeting mental health needs.

Childbearing families should have access to a multi-disciplinary and sociodemographically diverse workforce. Systematic reviews comparing midwifery or family physician care of low-risk or mixed risk women to specialist care of similar women consistently find advantages to midwifery care and no disadvantages. Family physicians and midwives are utilized nation-wide in remote and inner city underserved areas and other settings. Despite a high proportion of indigent patients and their accompanying risk factors, these care providers have consistently demonstrated excellent outcomes such as increased spontaneous vaginal birth, decreased use of many interventions and of neonatal intensive care admissions, high patient satisfaction, and cost savings. Although there is variation across individual caregivers, midwives and family physicians are overall most likely to provide primary maternity care services to low- and mixed-risk childbearing women.

It is difficult and frequently impossible for consumers, purchasers, clinicians and policy makers to get needed information about the performance of different types of maternity caregivers, as well as about differences across types of settings, to promote increased transparency for micro- and macro-level decision making. Payers do not consistently list these professionals as maternity care providers and may not contract with them independently for the provision of maternity services. Thus, there are many barriers for consumers to identify, learn about the professional background of, and choose midwives and family physicians who could provide primary maternity care. Additionally, it is important to provide beneficiaries with information to help them identify caregivers who share their values and can provide culturally competent care.

Recommendations

(Note: These recommendations are in priority order. Recommendations 1-3 will be presented and discussed at the symposium in the context of workforce issues. Recommendation 4 will be presented and discussed at the symposium in the context of performance measurement. Recommendation 5 will be brought forward to Steering Committee for consideration in developing the core symposium product, a Blueprint for Action to improve the quality of maternity care)

1. Within health plans, foster transparency and access to a choice of caregivers with diverse disciplinary backgrounds (including family physicians, midwives and obstetricians) and with diverse racial, ethnic, and linguistic backgrounds.

a. Strategies:

- Educate public and private purchasers about quality and cost benefits of reimbursing midwives with nationally recognized credentials (CNM, CM, CPM) at the same rate as physicians, and listed them as official panel members.
- Ensure that public and private fee schedules reimburse midwives at the same rate as physicians for the same service.
- Provide beneficiaries with the name, clinical discipline, languages spoken, photograph, and contact information for all maternity caregivers who are panel members (obstetricians, family physicians, midwives) and ensure that all panel members who provide maternity care are readily identifiable to pregnant beneficiaries as maternity caregivers.
- Carry out research to develop national guidelines for inclusion and presentation of professional, demographic and other information about heath plan maternity caregiver panel members to beneficiaries and mechanisms for fostering adherence to them.

b. Lead responsibilities:

- Quality and measurement experts should provide the analysis to justify routine payment parity and change in panel reporting standards.
- Federal government programs (e.g., Medicare, Tricare, CHAMPVA), state Medicaid programs, and private insurers should implement physician-midwife parity across fee schedules; Medicaid programs should provide national leadership.
- Health plans should implement new standards for informing pregnant beneficiaries about all professionals on their panels who provide maternity services.
- Quality and measurement experts should work with health plans and childbearing women to carry out research to identify optimal professional and sociodemographic data items and presentation formats for providing beneficiaries with desired information about panel members and fostering their informed choice, leading to national guidelines.

c. Challenges and solutions:

- Obstetricians are widely viewed as standard caregivers for childbearing women; within payment parity, multi-disciplinary group practices have the incentive to bill for midwifery services through physicians and may just list physicians on their roster of caregivers; credible economic analyses can demonstrate return on investment with physician-midwife payment parity.
- Systematic implementation of changes in fee schedules and panel reporting are a challenge in the present large, fragmented system; leadership of Medicare, Medicaid and other government programs should impact private insurers.
- Funding is needed to carry out research and develop national guidelines for presenting information about health plan maternity

panel members to beneficiaries; however, it can readily be justified as new standards have the potential to improve quality and reduce costs.

d. Mechanisms for collaboration:

- American Academy of Family Physicians, American College of Nurse-Midwives, American College of Obstetricians and Gynecologists, National Association of Certified Professional Midwives, Centers for Medicare and Medicaid Services, commercial insurance providers

e. Timeline for achievement:

- Two years for analysis, publication and dissemination of case for equitable reimbursement; if funding were available, research and development of guidelines for presenting information about panel members to beneficiaries would take about a decade

2. Develop and disseminate a credible, comprehensive report to provide guidance about how to attain a workforce that is optimal for achieving 2020 aims for high quality, high value maternity care.

a. Strategies:

- Consider the availability and need for a maternity care workforce that includes an appropriate number of family physicians who provide maternity services, general obstetricians, maternal-fetal medicine specialists, maternity nurses, mental health professionals who can provide appropriate care for childbearing women and families, midwives with nationally recognized credentials (CNM, CM, CPM), and neonatologists that, further, reflects the evolving demographic make-up of childbearing women with respect to race, ethnicity and language.
- Describe optimal size and composition (both caregiver mix and sociodemographic make-up) for achieving 2020 Vision for a High Quality, High Value Maternity Care System, assuming that incentives such as debt forgiveness can be used to foster appropriate geographic distribution.
- Identify strategies for achieving the optimal maternity care workforce size and composition.
- Identify an objective oversight group with suitable power and authority to provide the necessary guidance to make the needed transition.
- Address the clear 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 by 1) developing career ladders for maternity care workforce (e.g., nursing aides, nurses, midwives, doulas), perhaps through training and mentoring subsidies in safety net settings, 2) outreach programs to educate primary and especially secondary students about these career opportunities and to mentor them, and 3) linking level of graduate medical education training support to improved outreach and diversity.

b. Lead responsibilities:

- Center for Health Professions, University of California, San Francisco
- Health Resources and Services Administration, public universities and private foundations for fostering maternity care workforce diversity

c. Challenges and solutions:

- Major funding is needed to carry out a comprehensive integrated analysis.
- In the case of excess capacity, professional organization partners may be expected to resist efforts to accurately identify needed capacity and to reduce capacity.

d. Mechanisms for collaboration:

- American Academy of Family Physicians; American Academy of Pediatrics; American College of Nurse-Midwives; American College of Obstetricians and Gynecologists; Association of Women's Health, Obstetric, and Neonatal Nurses; National Association of Certified Professional Midwives; National Association of Community Health Centers; Society for Maternal-Fetal Medicine; maternity care consumer and advocacy groups

e. Timeline for achievement:

- Once funding is in hand, one to two years will be required to collect, analyze and report the needed data for policy guidance.

3. Develop standardized performance measures that distinguish between and evaluate the care performance and outcomes achieved by obstetricians, family physicians and midwives with national credentials (CNM, CM, CPM), as well as hospitals and freestanding birth centers, whenever addressing care provided across these types of caregivers and/or settings for performance measurement and transparency, leading to informed consumer choice, better policy making and opportunities for improving the quality and value of maternity care.

a. Strategies:

- Those working on measure development and within measure endorsement consensus processes should establish a standard for relevant maternity measures collection and reporting that enable users to compare individual and aggregated results by type of caregiver and type of setting.
- Those involved with implementation and reporting should provide access to data that enables users to compare individual and aggregated results by type of caregiver and type of setting, as relevant to the measurement topic.

b. Lead responsibilities:

- Measure developers and development consensus bodies within federal agencies, hospital systems, quality collaboratives or other entities; National Quality Forum and its advisory bodies for measure

standards and endorsement; public and private purchasers, states and other entities for reporting.

c. Challenges and solutions:

- Decision makers frequently consider "physician" and "hospital" to be the sole relevant levels of analysis; this can be addressed by awareness of variation that is important to measure, including patient experiences, cost and outcomes.
- Risk-adjusted measures are needed for meaningful interpretation of results and fairness to both safety net providers and providers who care for high-risk women.
- Data are not routinely collected for many important outcomes, consumer experience and other measurement topics, which can be addressed by building consensus-developed uniform maternity data sets into health information technology.

d. Mechanisms for collaboration:

- Consumers/advocates and researchers can help raise awareness about the value this information to consumers, purchasers, policy makers and service providers.

e. Timeline for achievement:

- Strategies should be implemented immediately as an ongoing maternity care performance measure standard.

4. Develop, implement and report Consumer Assessment of Healthcare Providers and Systems (CAHPS) Maternity Provider, Health Facility, and Health Plan surveys that are tailored to the circumstances of childbearing women and newborns.

Please see details for this recommendation under Recommendation 4 within the Performance Measurement section of this report. This is an important workforce issue because generic CAHPS surveys refer only to "your doctor," raising concerns about their ability to measure and report on maternity care provided by midwives and nurse-practitioners. Similarly, they refer only to "your hospital," raising concerns about their ability to measure and report on maternity care provided in birth centers. A large body of research finds differences in practice style among obstetricians, family physicians and midwives caring for similar women, and between the care that similar women receive in hospitals and in freestanding birth centers. By measuring well and reporting clearly the performance of different types of caregivers and care settings, CAHPS Maternity surveys will facilitate informed decision making of consumers, purchasers, and policy makers and can help align decisions of these groups with quality. (There are also concerns about use of generic CAHPS for measuring maternity pain experiences and medication use.)

5. Conduct high-quality research to compare the effectiveness of laborist care to current approaches to childbirth care.

a. Strategies:

- Develop a plan for a research agenda to evaluate, in comparison with usual care, laborists: with different staffing models (including solo in smaller facilities and multi-disciplinary teams in larger facilities), in different settings (including urban and rural), and with different populations of women (including privately insured women and Medicaid beneficiaries).
- Design, carry out and report high-quality studies to compare the process, outcomes, and costs of care, as well as the experiences of women and families and the experiences of both laborists and other maternity professionals. Consider the impact on many current challenges that can potentially be addressed through the laborist model, including skill retention and access to services such as vaginal birth after cesarean, vaginal breech birth, vaginal twin birth, and external version; the appropriateness of care for low-risk women; and outcomes, including labor induction and cesarean section rates, satisfaction of women and their caregivers, and cost implications.

b. Lead responsibilities:

- Entity willing to sponsor this research, including a health or hospital system, a state Medicaid program with a waiver, the Agency for Healthcare Research and Quality, or a private foundation, and researchers that are able to carry it out

c. Challenges and solutions:

- Initial funding is needed; with encouraging initial results, much larger funding would be needed, which could lead to a large return on investment. Health professionals must be willing to forgo or commit to hospital-based work, but the model had potentially to alleviate many current professional stressors.

d. Mechanisms for collaboration:

- Sites willing to implement laborist care models within the requirements of a formal study are needed.

e. Timeline for achievement:

- With encouraging results of pilot studies, and adequate funding, a series of studies over about a decade could provide guidance needed for health planning.

Development and Use of Health Information Technology

Current Problems

Even where health systems now have electronic medical records (EMRs), the EMRs are lagging in terms of maternity care delivery, and the EMRs are not designed to address the values and goals outlined in the 2020 Vision for a High Quality, High Value Maternity Care System, which includes coordinated care across locations and caregivers. In recent years, efforts have been made to improve in-hospital coordination through the use of electronic health records particularly in the intrapartum period. While many institutions that provide maternity care have now implemented integrated electronic fetal monitoring systems (i.e., OB TraceVue, Childwatch) in an effort to streamline care and improve documentation in the intrapartum period, there are still many gaps in integration of systems. For example, in many of these systems, documentation is entered by physicians, nurses and midwives, thus allowing care to be documented in a comprehensive manner, but they are not interoperable with external providers, nor are they integrated with other hospital clinical systems; so, documentation remains fragmented. When Electronic Medical Records become more widespread, they still may not provide the information that is needed through all stages of maternity care. The development of standards and interoperability across the technology sector has been principally focused on payment information and pharmacy and laboratory results, and has not been extended to other health information technology (HIT) components, including Electronic Medical Records. The unintended consequences of implementing electronic clinical decision support systems that do not interface with other clinical systems and do not incorporate provider workflow and coordination of care have been well documented (ref: Koppel).

HIT vendors have developed idiosyncratic systems using proprietary formats, language, and code, rather than basing systems on standards or open-source models. Most health care systems have also developed idiosyncratic identifiers for individual patients — there is not a single standard for developing patient identifiers. The lack of unique patient identifiers is a significant barrier to interoperability and linkage of HIT systems. Without unique IDs, it is expensive and difficult to link patient information across provider entities, and to develop population-based databases from multiple data sources. The lack of unique patient identifiers results in duplicative data collection across disease registries, and limits the capacity to understand and treat various conditions. Without unique identifiers, health care analysts, researchers, clinicians, and purchasers, and public health epidemiologists must resort to probabilistic matching to assess the quality of care being provided across an episode. Thus, understanding where care breaks down and leads to poor outcomes is much more difficult. It is also challenging for modification of payment systems or incentive programs.

Other side effects from poor interoperability include:

- Consumers and other health care purchasers are not getting the information they need to make decisions on who should provide care to meet their specific needs. Health care purchasers need performance information on health care outcomes and efficiency in order to be prudent purchasers of care for their employees or beneficiaries. Consumers need good information on outcomes of care and costs of care to select a clinician or hospital.

- The data elements that are critical to public health are not necessarily collected in EMRs; data critical to public health includes: standardized race, ethnicity, and primary language, and socioeconomic indicators such as education and income, environmental causes for illness, etc. These data elements will be vital to include in the EMR to help assess the performance of the healthcare system for populations at risk.

As our workgroup examined the barriers and potential solutions to effective use of health information technology, it became clear that the overall strategy had to be one focused on all HIT (not just EMRs) and that interoperability was key to achieving high quality maternity care. To achieve interoperability, systems must have:

- Standardized underlying data elements
- Standards for security, formats, nomenclature, language, messaging, etc.
- Persistent identifiers for patients and providers
- Participation by all care providers and patients, which may require financial support, especially for primary care providers
- Incentives for providers to communicate findings, care plans, results to all care providers with permission of patients

Recommendations

(Note: priority recommendations 1-3 will be discussed at the symposium, all four will be brought forward for the Steering Committee preparation of a Blueprint for Action to improve the quality of maternity care.)

1. Increase efforts towards interoperability across the full episode of maternity care by achieving consensus on standardized data elements for HIT systems, included electronic health records.

a. Strategy:

- Standardize data elements for the prenatal through postpartum periods through a transparent process that brings together stakeholders with complementary perspectives and interests.
- Due to time and resource pressure, build on the progress to date of maternity groups that have been working on uniform data set (UDS) projects.
- Coordinate, support, and expand current efforts in the development and adoption of a set of standardized data elements for care delivery and for monitoring quality of care, including performance measurement.
- Use suggested protocols developed by Health Research and Educational Trust (HRET) for defining and collecting race, ethnicity and primary language in hospital and state databases.[7]

b. Lead Responsibility:

- Several core constituencies must work together: consumer, clinical, health system and health information technology leaders, including NQF HITEP Working Groups, which are working on standardizing data elements for public reporting.
- Involve those with experience developing uniform maternity care data sets and companion resources (e.g., data dictionaries), including American Association of Birth Centers and Midwives Alliance of North America.

c. Challenges and solutions:

- Each entity engaged in developing standardized data elements has a particular set of goals and as a result it may be difficult to achieve consensus, given that standards may result in fewer data elements than the groups desire; as it advocates for women and children and has HIT capacity, the National Partnership for Women and Families can mediate this effort through activities in NQF and other forums.
- Recent interprofessional collaboration to standardize terminology and documentation relating to electronic fetal monitoring is a compelling precedent to encourage stakeholders to develop standardized data elements and companion resources, including a data dictionary.

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[7] Hasnain-Wynia, R., Pierce, D., Haque, A., Hedges Greising, C., Prince, V., Reiter, J. (2007) *Health Research and Educational Trust Disparities Toolkit.* hretdisparities.org accessed on 1-5-09.

- Significant financial resources are needed for a thoughtful process that succeeds in achieving clinical and quality improvement aims; Congress and the Centers for Medicare and Medicaid services have an interest in this success, and the Child Health Insurance Program Reauthorization Act of 2009 provides a precedent in calling for a model electronic health record format for children in Medicaid and CHIP.
- Due to the rapid adoption of HIT technology, progress on a maternity UDS is urgent; at least two maternity care UDS projects are under way and can contribute to timely achievement of a national standardized maternity UDS.

d. Mechanisms for collaboration:

- The National Partnership for Women and Families and a broad set of supporters could request that CMS staff or State Medicaid Directors push forward adoption of the proposed standardized data elements by endorsing entities. Given CMS' position in the market, it is likely endorsement entities will be influenced by their interest in standard maternity data elements.

e. Timeline for achievement:

- This is likely to take three years. Year 1 will focus on bringing together key participants and coming to agreement on the data elements. Year 2 will include advocacy efforts for the data elements for inclusion in standards by standard setting groups such as National Quality Forum (NQF), Health Information Technology Standards Panel (HITSP), American National Standards Institute Health Insurance Standards (ANSI X12N), Office of the National Coordinator for Health Information Technology (ONC), etc. Year 3 could be focused on incorporation of the data set into HIT systems, given feasible technology, and training of health care providers on appropriate use of data elements, through coding clinics or other such programs.

2. The health care community should address the need for linked patient and provider data for interoperability within HIT systems. Implement a persistent patient and provider identification system as a critical component for providing high-quality clinical care and evaluating it, and implement strong measures for protecting the integrity, security, privacy and confidentiality of individual health information.

a. Several potential strategies have been identified:

- Bring together state health data organizations to share their efforts at creating patient identifiers from algorithms within states, with the goal of voluntarily agreeing on a standard approach for hospital, ambulatory, emergency department, and health plan data.

- Using a model based on work done by the Markle Foundation,[8] which creates linked patient and provider and care site information. This local information could be accessed through a secure exchange entity, if authorized by the patient. This could meet the needs of local health care providers and may be less effective for public health and accountability purposes.
- Advocating for Federal laws that protect the security of the personal health information; yet allow for appropriate exchange of data between health care providers, public health, and for accountability and oversight.

b. Lead responsibilities:

- National Priorities Partners, the Office of the National Coordinator (ONC), Agency for Healthcare Research and Quality, and National Committee on Vital and Health Statistics should determine which strategies to employ to best address the needs of patients, public health, and purchasers.

c. Challenges and solutions:

- Privacy groups and anti-government groups would likely oppose the development of a single unique Federal Patient ID, and an identifier strategy that protects the information and allows only appropriate authorized access is needed and could be implemented in regions or states. A strong Federal law and regulatory apparatus could protect patient information by assessing significant fines and criminal penalties for theft or misuse. Further, the law could require high security standards aligned with other industries, such as banking. This law would need to be in place prior to implementation of a single unique patient identifier—but in the meantime efforts could be made to standardize the process of patient identifiers in current use. Many states, in their hospital discharge data, have created useful algorithms that could be used more routinely and thus some standardization could occur prior to rolling out any single patient identifier.
- Privacy and confidentiality of patient health information must be assured, and breech of confidentiality could threaten efforts to build and expand HIT.
- There is a critical need for EMR information transfers among health care providers for the provision of care, and there is also a critical need for population health data, including accurate numerators and denominators, for performance measurement and other tracking and surveillance efforts. Without persistent patient identifiers, sharing data with external providers will not work, nor will public health entities be able to acquire the data they need from the EMRs. Without identifiers linking providers to patients, information for quality improvement and accountability will also be lost.

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[8] Markle Foundation, Working Group on Accurately Linking Information for Health Care Quality and Safety. *Linking Health Care Information Proposed Methods for Improving Care and Protecting Privacy*, Feb. 2005. Accessed Feb 20, 2009 at: www.connectingforhealth.org/assets/reports/linking_report_2_2005.pdf

d. Mechanisms for collaboration:

- The Office of the National Coordinator should call together appropriate parties to come to consensus on how this issue can best be addressed in perhaps a staged manner.

e. Timeframe for Implementation:

- The first strategy could be addressed within two years given its voluntary nature. The second and third strategies will likely take 2 to 3 years. ONC could call together the National Priorities Partners, AHRQ, and others to assist in these strategies. These groups should also be available for supporting legislation, providing supportive comments, giving testimony at hearings, etc.

3. Implement incentives and rewards to drive adoption of standardized HIT by all care providers to facilitate provision and evaluation of maternity care from pregnancy through the postpartum period, and broader care coordination.

a. Strategies:

- Expand adoption of HIT for maternity care by influencing payers and public reporting entities to include maternal, newborn, and HIT. measures in pay for performance programs and in public reporting.
- State Medicaid programs, along with their federal partner (CMS), could incentivize providers to utilize systems that maximize care coordination, and thereby reduce program costs for adverse drugs events, avoidable emergency care, and avoidable re-admission to the hospital for either mother or baby.
- Safety net providers generally have lower reimbursement levels and care for patients with more complex health needs and more fragmented health care experiences. To avoid disparities in access to benefits of HIT, it is a priority to assist safety net providers with implementation of HIT.
- Ensure that initiatives include plans for adequate training and technical assistance to all providers who are called upon to adopt maternity care HIT.
- A new initiative defined in CHIPRA 2009, focuses on improving the quality of care provided to all children, including those covered by private insurance. It includes the development and dissemination of new child-specific health quality measures, the creation of a new model electronic medical record for children, and demonstration projects on quality improvement and health information technology for children. These efforts could form the basis for incentivizing providers in a demonstration project to implement systems that are interoperable and which can be used for both improved quality of care and greater accountability.

b. Lead Responsibilities:

- Utilize National Priorities Partners (National Committee for Quality Assurance, National Business Coalition on Health, Bridges to Excellence, The Leapfrog Group) to advocate for implementation of

national demonstrations for electronic medical records for children, meeting the criteria of interoperability, exchange with external providers, and data for quality assessment and accountability.
- The National Priorities Partners are in a unique position to advocate for this change. The National Priorities Partners have already established a call for "better coordinated care to avoid waste in care delivery, conflicting plans of care, over-under-misuse of prescribed medications, tests, and therapies."[9]

c. Challenges and solutions:

- Many of the National Priorities Partners are already engaged in both incentive and reporting programs; their established programs require substantial investment in their own programs —they may have limited bandwidth to advocate at the national level for demonstration programs.
- The National Priorities Partners can identify key Board Members in their organizations to advocate for these new demonstration programs, rather than utilize staff.

d. Mechanisms for collaboration:

- The National Partners could call together a workgroup of the National Priorities Partners or their delegated Board members and the Medicaid and CHIP Payment and Access Commission should also be engaged.

e. Timeline for achievement:

- Given budget crises in most states, innovative approaches such as funded demonstration programs may be rapidly implemented by individual state Medicaid programs. CMS could assist states with program design—given their experience in measurement and pay-for-performance. Within one year, states could have demonstration programs in place.

4. As stimulus legislation funds for HIT are spent over time, advocate stringent accountability requirements for legislative policy and funding to address requirement "meaningful" implementation: holding health care providers accountable for HIT implementation that improves maternity care across all care providers, fosters care coordination, involves information sharing, and collects and reports national standardized maternity measures.

a. Strategy:

- To foster accountability in the expansion of HIT, coordinate policy and advocacy efforts among payers, employer purchasers, and consumers to assure that policy makers understand the importance of interoperability and accountability in the dispersion of funding for HIT

[9] National Priorities Partnership. *National Priorities and Goals: Aligning Our Efforts to Transform America's Healthcare.* Washington, DC: National Quality Forum; 2008.

b. Lead responsibility:

- Employer purchasers and payers should take the lead in advocating for accountability in government dispersal of funds for expansion of HIT. Potential groups in this effort might include America's Health Insurance Plans, U.S. Chamber of Commerce, and National Business Coalitions for Health, The Leapfrog Group, and National Business Group on Health. In addition, it may be helpful to also suggest that Medicare Payment Advisory Commission (MedPAC) and Medicaid and CHIP Payment and Access Commission (MACPAC) develop strong policy positions on this.

c. Challenges and solutions:

- There is great pressure to move funding forward to stimulate the economy and to give providers latitude in the systems they purchase. The provider community has well-organized policy advocates, and they are likely to gain the support of the HIT vendor community.
- Policy makers must be reminded of the failures of Regional Health Information Organizations and Health Information Networks due to issues of privacy and data sharing and management—money alone will not ensure success. There must be accountability built into policy to assure systems will be interoperable and will provide the necessary information for care delivery, public health and performance measurement. Using the business community to make "a business case" for accountability is somewhat counterintuitive and as a result may be just what is needed to assure rational action in a time of crisis.
- Providers must be held accountable for purchasing systems that are interoperable and standardized to provide the range of information needed by payers, providers, consumers, and public health. Interfaces for legacy systems must be prioritized to assure that information can be linked between EMRs and other HIT software. In addition, providers must agree to share information across various care providers with patient permission, and to share information for public health purposes and for accountability, and to provide consumers with appropriate access to their information.

d. Mechanisms for collaboration:

- There is a history of payers and purchasers working together to move policy makers toward increasing healthcare transparency and incentives programs in government. Thus, these groups have a model for how to get this done.

e. Timeline for action:

- The initial work must be done within a short period of time—six months—to bring together the identified groups to develop talking points to be used with policy makers. Then a coordinated strategy can be used to assure policy makers are aware of the need for including accountability in any funding for HIT—within one year. Continuing efforts will be necessary to assure that accountability is actually enforced. This will be a 2-4 year timeframe.