American Congress of Obstetricians and Gynecologists
National Committee for Quality Assurance
Physician Consortium for Performance Improvement®

Maternity Care
Performance Measurement Set

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Physician Performance Measures (Measures) and related data specifications have been developed by the American Medical Association (AMA) convened Physician Consortium for Performance Improvement® (PCPI™) and the National Committee for Quality Assurance (NCQA).

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Purpose of Measurement Set

The American Congress of Obstetricians and Gynecologists (ACOG), the National Committee for Quality Assurance (NCQA) and the American Medical Association convened Physician Consortium for Performance Improvement® (AMA-PCPI) collaborated to develop a set of quality measures aimed at improving care for women during pregnancy, delivery, and post-partum. It is the goal of evidence-based measures for pregnancy care to include both measures of outcomes as well as measures of processes that are known to positively influence desirable outcomes for both the mother and baby. Examples of desired outcomes for pregnancy include:

- Ending preventable morbidity, mortality
- Reducing infections
- Reducing unnecessary procedures that may cause harm or risk to mother and baby
- Reducing depression, substance use, and during and after pregnancy

The Work Group aimed to develop a comprehensive set of measures that support the efficient delivery of high quality health care in each of the Institute of Medicine's (IOM) six aims for quality improvement (safe, effective, patient centered, timely, efficient, and equitable).

This work also represents the formal periodic review and maintenance of an existing measure set on prenatal care and testing. In 2006, the PCPI and ACOG developed a set of 2 measures for prenatal screening and testing. The PCPI stipulates a regular review of measures (every 3-4 years) or when there is a major change in scientific evidence, results from testing or other issues noted that materially affect the integrity of the measure.

Measurement as a Tool for Improvement:
Performance measurement serves as an important component in a quality improvement strategy but performance measurement alone will not achieve the desired goal of improving patient care. Measures can have their greatest effect when they are used judiciously and linked directly to operational steps that clinicians, patients, and health plans can apply in practice to improve care. To that end, the PCPI will work with quality improvement collaboratives and other initiatives to ensure that these measures are implemented with the goal of improved patient care.

Maternity Care Work Group Recommendations
The Maternity Care Work Group considered and discussed a wide range of measurement opportunities focusing on pregnancy, labor and delivery, and postpartum care. The key priorities for measurement focus on identification and management of health risks, coordination of care across providers, patient engagement, and, particularly for pregnancy care, avoiding overuse of procedures and services. The Maternity Care Work Group recognized a significant gap in measures addressing critical patient-centric outcomes for women: decreasing induction of labor, cesarean sections, and adverse events during childbirth.

Currently, there are limited data for monitoring the quality of care for women of reproductive age. The most commonly used measures address reproductive health care needs and pregnancy. For example, the NCQA-developed Healthcare Effectiveness Data and Information Set (HEDIS) contains measures addressing screenings for gender specific cancers and infections (breast and cervical cancer screening, Chlamydia), as well as measures focused on access and use of care during pregnancy.[1] Over 500 Commercial and Managed care plans representing nearly 100 million Americans reported on these measures in 2008.[2] In addition, state Medicaid programs frequently use these measures as the basis of pay-for-performance rewards.[3] Recently, the National Quality Forum, a consensus-based body that endorses quality measure, endorsed 24 measures related to maternity care. Nearly all focus on prenatal services received during the last trimester of pregnancy through hospital discharge for both mother and newborn. While a number of these measures are voluntarily reported as part of hospital accreditation efforts, [4] there is no national mechanism for monitoring performance.

There are several key shortcomings to existing quality measurement efforts. First, the most commonly used measures focus on access to visits without considering the content of prenatal and postpartum care. Second, current measures address women's cancers and sexually transmitted diseases, but not the full range of preventive needs, particularly related to depression and substance use. Third, existing measures do not address the interrelatedness of women's reproductive health and health in general. Fourth, many important measures are not captured in routine ways that would allow for quality improvement and accountability.

Maternity Care Outcomes

The Maternity Care Work Group focused on developing a set of measures that included both measures of outcomes as well as measures of processes that are known to positively influence desirable outcomes for both the mother and baby. Examples of desired outcomes for pregnancy include:

- Ending preventable morbidity, mortality
- Reducing infections
- Reducing unnecessary procedures that may cause harm or risk to mother and baby
- Increasing diagnosis of depression, substance use issues, and domestic violence during pregnancy

Intended Audience, Care Setting, and Patient Population

The PCPI and the NCQA encourage the use of these measures by physicians, other health care professionals, and healthcare systems, or health plans, where appropriate. These clinical performance measures are designed for practitioner and/or system level quality improvement to achieve better outcomes for maternity care patients. Unless otherwise indicated, the measures are also appropriate for accountability if the appropriate methodological, statistical, and implementation rules are achieved. These measures may also be used by patients and consumers for decision-making. Patients should be able to use these measures for informed decisions about their care and treatment decisions, such as birthing options and education of appropriate procedures and the overutilization of procedures.

These measures are meant to be used to calculate performance and/or reporting at the individual practitioner, group, or system level. Performance measurement serves as an important component in a quality improvement strategy but performance measurement alone will not achieve the desired goal of improving patient care. Measures can have their greatest effect when they are used judiciously and linked directly to operational steps that clinicians, patients, and health plans can apply in practice to improve care.

Importance of Topic and Opportunities for Improvement

Maternity Care was prioritized as a topic for measure development, based on information available on the variability in care provided to pregnant women, despite the availability of evidence-based guidelines for prenatal care, labor and delivery and post-partum care. Current quality gaps emphasize the need to develop measures that improve specific processes that have been demonstrated to improve outcomes: ending preventable morbidity and mortality, reducing maternal infections, reducing unnecessary procedures that may cause harm or risk to mother and baby, and reducing depression, substance use, and domestic violence during and after pregnancy.

Utilization and Costs of Maternity Care Services and Procedures

- Six of the fifteen most commonly performed hospital procedures are associated with childbirth. Hospital charges for maternal and newborn care are greater than charges for any other condition: $79 billion in 2005, jumping to $86 billion in 2006.

- Cesarean sections are now the most common operating room procedure in the United States and expenses related to cesarean section births account for 45% of the more than $79 billion in annual hospital charges that childbirth incurs in the U.S. annually; cesarean sections cost about $13,000 for privately insured patients.[5,6]

- Induction of labor has been on the rise in the U.S., increasing from 9.5 percent in 1990 to 22.1 percent in 2004.[7]

- In 2006, diabetes during pregnancy (diabetes diagnosed both prior to and during pregnancy), was reported at a rate of 42.3 per 1,000 women, (just over 4 percent) compared with 38.5 per 1,000 in 2005.[8] It is now estimated at almost 7 percent.[8]

- A 2011 CDC report indicates that following pregnancy, approximately 5 to 10 percent of women with gestational diabetes are found to have diabetes, usually type 2. Women who have had gestational diabetes have a 35 to 60 percent chance of developing diabetes in the next 10 to 20 years.[8]

- Prenatal care utilization had risen fairly steadily from 1990 to 2003; levels for 2004 and 2005 were unchanged.[7] Despite substantial evidence linking improved pregnancy outcomes with prenatal care and recent improvements in prenatal care utilization, specific subpopulations continue to receive late prenatal care and experience adverse birth outcomes.

Data on Variations in Care and Overuse of Procedures

- More than 22% of all gravid women undergo induction of labor in the United States, and the overall rate of induction of labor has more than doubled since 1990 to 225 per 1,000 live births in 2006. [9]

- A 2003 study at Intermountain Health Care looked at institutional data on labor induction and outcomes to determine if national research findings were relevant to a local setting. The analysis found that nearly one-third of inductions were inappropriate and there was an increased rate of neonatal intensive care admissions associated with induced preterm deliveries (5.3 percent for pregnancies of 37 weeks gestation versus 2.1 percent at 39 weeks). [10]

- Elective repeat cesarean delivery before 39 weeks of gestation is common and is associated with respiratory and other adverse neonatal outcomes. A 2009 *NEJM* article examined a C-section registry from 19 academic medical centers and found more than one-third did not follow ACOG guidelines; infants delivered at 37 weeks to mothers who had elective repeat C-sections were about twice as likely as newborns delivered at the recommended 39 weeks to experience breathing problems, bloodstream infections, and other complications. Of 24,077 repeat cesarean deliveries at term, 13,258 were performed electively; of these, 35.8% were performed before 39 completed weeks of gestation (6.3% at 37 weeks and 29.5% at 38 weeks) and 49.1% at 39 weeks of gestation.[11]

- This 2009 report also showed that, as compared with births at 39 weeks, births at 37 weeks and at 38 weeks were associated with an increased risk of the primary outcome. The rates of adverse respiratory outcomes, mechanical ventilation, newborn sepsis, hypoglycemia, admission to the neonatal ICU, and hospitalization for 5 days or more were increased by a factor of 1.8 to 4.2 for births at 37 weeks and 1.3 to 2.1 for births at 38 weeks. [11]

- A 2006 *Health Affairs* report looked at geographical variation in cesarean sections; great geographic variation in the use of cesarean delivery was found. For births over 2,500 grams, adjusted cesarean rates vary fourfold between low- and high-use areas. Even for births under 2,500 grams, high-use counties had rates that are double those of low-use ones. Higher cesarean rates are only partially explained by patient characteristics but are greatly influenced by nonmedical factors such as provider density, the capacity of the local health care system, and malpractice pressure. Areas with higher usage rates perform the intervention in medically less appropriate populations—and do not see improvements in maternal or neonatal mortality.[12]

- Data from the 2009 National Vital Statistics Report highlights that the overall U.S. cesarean delivery rate rose to 32.9 percent of all births, up from the all-time high rate of 31.1 in 2006.[13] The cesarean rate has climbed 50 percent since the 1996 low. Rates for primary cesareans were up, and vaginal births after previous cesarean were down for both revised and unrevised reporting areas. Cesarean rates have risen at all gestational ages over the last decade.

- Data from the 2009 National Vital Statistics Report shows that the preterm birth rate declined slightly for the third straight year to 12.18 percent from 12.8 percent of all births in 2006.[13] The percentage of infants delivered at less than 37 completed weeks of gestation climbed 20 percent from 1990-2006. Most of this rise is attributable to increases in late preterm births (34–36 weeks). Since 2006, total and late preterm births have decreased by 5 percent. From 2008 to 2009, preterm birth rates decreased slightly for non-Hispanic white infants and Hispanic infants, but the decrease for non-Hispanic black infants was not statistically significant. The singleton preterm rate also decreased from 10.63 percent in 2008 to 10.44 percent in 2009. This rate had climbed 14 percent from 1990 to 2006.

- The low birthweight (LBW) rate declined slightly to 8.16 percent in 2009 after climbing to 8.3 percent in 2006, the highest level in four decades. The 2009 LBW of 8.16 percent is considered essentially unchanged from the 2008 LBW rate of 8.18 percent.[13]

- The percentage of infants born at less than 2,500 grams rose nearly 20 percent from 1990-2006, but has declined slowly since.[13] The small changes in LBW from 2008 to 2009 for the three largest race and Hispanic origin groups were not statistically significant.[13] The LBW rate for infants born in single deliveries decreased only slightly from to 6.36 percent in 2009 from 6.49 percent in 2008.

Retired Measures

During the Work Group's review of the two existing prenatal testing measures, the following measures were recommended for retirement as single, stand-alone measures. A number of circumstances might warrant the retirement of a measure from a measure set including, but not limited to, that the measure no longer remains clinically relevant/appropriate as determined by current guidelines and scientific evidence, high clinician performance implying that the measure no longer represents an opportunity for quality improvement, testing results demonstrating poor feasibility of data collection or weak correlation with improved health outcomes, and identification of significant unintended consequences of measurement. The rationale for retiring individual measures from the previous prenatal testing and screening measure sets is provided below.

Retired ACOG/ PCPI Prenatal Testing and Screening Measures	Rationale
Anti-D Immune Globulin	Anti-D Immune Globulin for Rh Negative is an important screening measure but the work group determined that this measure is now standard of care and no longer a quality improvement gap or area of focus for prenatal care.
Screening for Human Immunodeficiency Virus (HIV)	Screening all patients for HIV is an important component of prenatal care. The work group determined that this measure would be better served in a bundled measure for prenatal care rather than a stand alone measure, therefore it is a component of the Prenatal Screening measure.

Maternity Care Work Group Recommendations

The Maternity Care Work Group is proposing ten draft measures for consideration. The proposed draft measures support the efficient delivery of high quality health care in each of the Institute of Medicine's (IOM) six aims for quality improvement as described in the following table:

IOM Domains of Health Care Quality		Safe	Effective		Patient-centered	Timely	Efficient	Equitable
			Underuse	Overuse				
Draft Measures								
1	Establishment of Gestational Age	√	√		√	√	√	√
2	Prenatal Care Screening							
3	Behavioral Health Risk Assessment	√	√		√	√	√	√
4	BMI Assessment and Weight Gain Recommendations	√	√		√	√		√
5	Elective Delivery Before 39 Weeks	√		√	√	√		√
6	Cesarean Delivery for Low-Risk Nulliparous Women	√		√	√	√	√	√
7	Episiotomy	√		√	√			√
8	Spontaneous Labor and Birth	√	√		√			√
9	Care Coordination: Prenatal Record Present at Time of Delivery	√	√		√	√	√	√
10	Post-Partum Follow-up		√		√	√	√	√

The measures listed below may be used for quality improvement and accountability.

Measures addressing overuse of services/treatments
Elective Delivery Before 39 Weeks
Cesarean Delivery for Low-Risk Nulliparous Women
Episiotomy
Measures addressing patient-safety
Spontaneous Labor and Birth
Measures addressing underuse
Establishment of Gestational Age
Prenatal Care Screening
Behavioral Health: Risk Assessment
BMI Assessment and Weight Gain Recommendations
Measures addressing underuse of patient-centered care strategies
Care Coordination: Prenatal Record Present at Time of Delivery
Post-Partum Follow-up

Clinical Evidence Base

Clinical Evidence Base Available for Maternity Care Measures

Evidence-based clinical practice guidelines are available for prenatal care, labor and deliver, and post-partum care. The following guidelines were reviewed for this project:

- American College of Obstetricians and Gynecologists
- American Academy of Family Physicians
- Centers for Disease Control
- United States Preventive Services Task Force
- Veterans Administration/Department of Defense Clinical Practice Guideline For Pregnancy Management
- American Diabetes Association
- Society of Obstetricians and Gynecologists of Canada

These guidelines meet all of the required elements and many, if not all, of the preferred elements outlined in a recent PCPI position statement establishing a framework for consistent and objective selection of clinical practice guidelines from which PCPI work groups may derive clinical performance measures. Clinical practice guidelines serve as the foundation for the development of performance measures. Performance measures, however, are not clinical practice guidelines and cannot capture the full spectrum of care for all pregnant patients. The guideline principles with the strongest recommendations and often the highest level of evidence (well-designed randomized-controlled trials) served as the basis for measures in this set.

Measure Harmonization

When existing hospital-level or plan-level measures are available for the same measurement topics, the PCPI attempts to harmonize the measures to the extent feasible. This draft measurement set contains several measures that are similar to existing facility-level measures; the measures will be harmonized with the existing measures to the extent possible.

Other Potential Measures

The Work Group considered several other important constructs in Maternity Care, though ultimately determined that they were either outside the scope of this current set or lacked adequate evidence to support a performance measure. In particular, there was agreement among Work Group members that current evidence-based clinical practice guidelines lack concrete evidence regarding guidance for treatment of depression during pregnancy. As a result, there was not consensus on the Work Group to develop a measure assessing the treatment and follow-up for patients identified as being depressed during pregnancy. The Work Group agreed, however, that screening and identifying depression in the prenatal and post-partum period was critical and should be addressed. The Work Group will revisit this issue in future revisions to this measurement set. The Work Group also considered developing a measure of a "Healthy Newborn" for inclusion in this set. Since there was already a measure developed addressing this, the Work Group did want to create a redundant measure that would incur additional burden on clinicians. The Work Group also aimed to develop an outcome measure assessing adverse events during birth. There were several challenges identified as potential problems with this measure, such as risk adjustment, attribution, and the very low incidences of these events that would make it difficult to identify true quality differences. Additionally, there was a similar measure proposed to the recent NQF Perinatal Steering Committee that was not endorsed due to similar issues. As a result, the Work Group felt that it would be premature to develop a performance measure around adverse events at this time.

Additional topics around neonatal outcomes and patient-reported outcomes were also proposed as potential measure topics. Because this project was limited to Maternity Care, measures related to the neonate were outside the scope of this set. The PCPI will be working on addressing patient-reported outcome measures in 2012-2013 as part of grant to develop measures for the CHIPRA program.

Technical Specifications Overview

There are several data sources available for collecting performance measures; generally different data sources require different sets of measure specifications, due to the structure of the systems storing the data. The PCPI recognizes that Electronic Health Records (EHRs) are the state of the art for clinical encounters and is focusing significant resources and expertise toward specifying and testing measures within EHRs, as they hold the promise of providing the relevant clinical data for measures and for providing feedback to physicians and other health care providers that is timely and actionable.

The type of specifications for this measurement set are aligned with the PCPI plans for focusing on the development of EHR specifications for new measure development projects that were shared at the membership meeting held in October 2011. While the PCPI values prospective claims reporting programs and the data these programs can provide, the PCPI is looking to leverage the data in EHRs. This new focus will align the PCPI with national initiatives that highlight the benefits and wealth of data that EHRs bring to healthcare. Please consider the EHR focus when voting on the Maternity Care measurement set and the specifications.

The draft measure specifications included in this document include a listing of data elements required for electronic capture of the measures in Electronic Health Records (EHRs). Considering the data elements required to report on a measure is the first step in development of an EHR Specification. The PCPI will be working toward the creation of full EHR specifications at the conclusion of the voting period.

Additional detailed information regarding PCPI Specifications Methodology is included in the Technical Specifications section of this document.

Another venue for advancing this work in EHR data measurement is the AMA/NCQA/HIMSS Electronic Health Record Association (EHRA) Collaborative (see www.ama-assn.org/go/collaborative).

Additional detailed information regarding PCPI Specifications Methodology is included in the Technical Specifications Appendix A section of this document.

Measure Exceptions Overview

For ***process measures***, the PCPI provides three categories of reasons for which a patient may be excluded from the denominator of an individual measure:

- **Medical reasons**
  Includes:
  - not indicated (absence of organ/limb, already received/performed, other)
  - contraindicated (patient allergic history, potential adverse drug interaction, other)

- **Patient reasons**
  Includes:
  - patient declined
  - social or religious reasons
  - other patient reasons

- **System reasons**
  Includes:
  - resources to perform the services not available
  - insurance coverage/payor-related limitations
  - other reasons attributable to health care delivery system

These measure exception categories are not available uniformly across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. For some measures, examples have been provided in the measure exclusion language of instances that would constitute an exclusion. Examples are intended to guide clinicians and are not all-inclusive lists of all possible reasons why a patient could be excluded from a measure. The

exception of a patient may be reported by appending the appropriate modifier to the CPT Category II code designated for the measure:

- **Medical reasons**: modifier 1P
- **Patient reasons**: modifier 2P
- **System reasons**: modifier 3P

Although this methodology does not require the external reporting of more detailed exception data, the PCPI recommends that physicians document the *specific* reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The PCPI also advocates the systematic review and analysis of each physician's Exceptions data to identify practice patterns and opportunities for quality improvement. For example, it is possible for implementers to calculate the percentage of patients that physicians have identified as meeting the criteria for exception.

Please refer to documentation for each individual measure for information on the acceptable Exception categories and the codes and modifiers to be used for reporting.

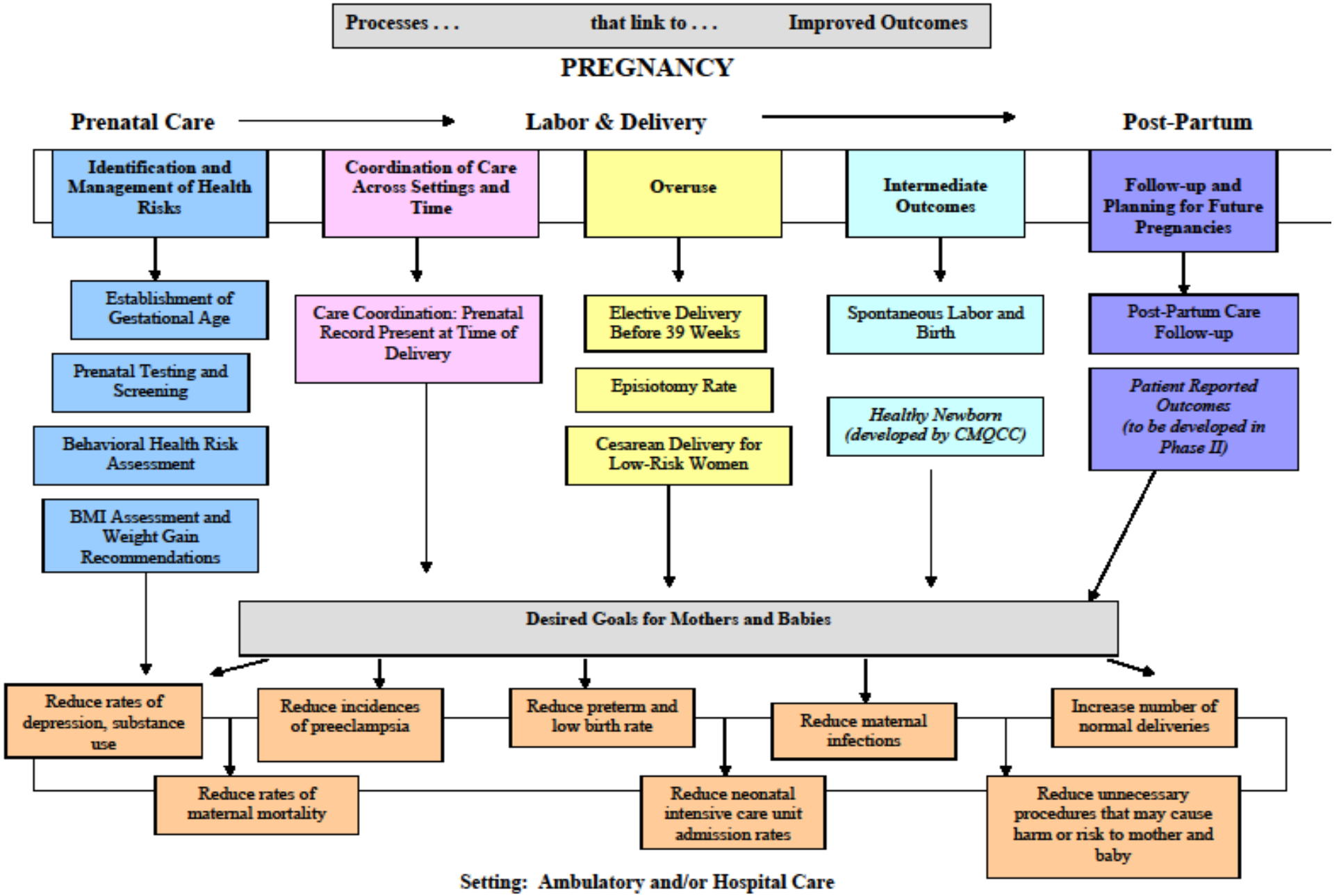
Testing and Implementation of the Measurement Set

The PCPI and the NCQA recognize the importance of testing all of its measures and encourages testing of the Maternity Care measurement set for feasibility and reliability by organizations or individuals positioned to do so. The *Measure Testing Protocol for PCPI Measures*, initially approved by the PCPI in 2007 and revised in 2010, is available on the PCPI web site (see Position Papers at (see HUhttp://www.ama-assn.org/resources/doc/cqi/pcpi-testing-protocol.pdfUH); interested parties are encouraged to review this document and to contact PCPI staff. The PCPI will welcome the opportunity to promote the initial testing of these measures and to ensure that any results available from testing are used to refine the measures before implementation.

Validity testing of measures
Validity testing demonstrates that the measure reflects the quality of care provided, adequately distinguishing good and poor quality. If face validity is the only validity addressed, it is systematically assessed. Examples of validity testing include but are not limited to determining if measure scores adequately distinguish between providers known to have good or poor quality assessed by another valid method; correlation of measure scores with another valid indicator of quality for the specific topic; ability of measure scores to predict scores on some other related valid measure; and content validity for multi-item scales/tests.

Reliability testing of measures
Reliability testing of the outcome measure will be conducted using the PCPI-approved MIE testing protocol. reliability testing demonstrates that the results are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period. Examples of reliability testing include but are not limited to inter-rater/abstractor or intrarater/abstractor studies; internal consistency for multi-item scales; and test-retest for survey items. Reliability testing may address the data items or final measure score.

AMA-PCPI/ACOG/NCQA Maternity Care Measurement Set



Maternity Care Measures

Maternity Care
Measure #1:

Establishment of Gestational Age

Measure Description

Percentage of patients, regardless of age, who gave birth during a 12-month period seen at least once for prenatal care who had gestational age of the fetus estimated by ultrasound at or prior to 20 weeks *(20 weeks initially estimated by date of LMP).*

Measure Components

Numerator Statement	Patients who had gestational age of the fetus estimated by ultrasound at or prior to 20 weeks *(20 weeks initially estimated by date of LMP).*
Denominator Statement	All patients, regardless of age, who gave birth during a 12-month period seen at least once for prenatal care.
Denominator Exceptions	None
Supporting Guideline & Other References	The following evidence statements are quoted verbatim from the referenced clinical guidelines: Ultrasonography in Pregnancy (ACOG, 2009)[14] (Level A): • Ultrasound examination is an accurate method of determining gestational age, fetal number, viability, and placental location. • Gestational age is most accurately determined in the first half of pregnancy. • Ultrasonography can be used in the diagnosis of many major fetal anomalies. • Ultrasonography is safe for the fetus when used appropriately. (Level B): • Ultrasonography is helpful in detecting fetal growth disturbances. • Ultrasonography can detect abnormalities in amniotic fluid volume. (Level C): • The optimal timing for a single ultrasound examination in the absence of specific indications for a first trimester examination is at 18–20 weeks of gestation. • The benefits and limitations of ultrasonography should be discussed with all patients.

Measure Importance

Relationship to desired outcome	The use of ultrasonography to assess for potential fetal abnormalities, confirm the site of pregnancy within the uterus, and determine gestational age is considered the standard of care. Also, the use of ultrasound scanning during the first trimester is correlated with reduced post-term labor induction rates as compared to second trimester ultrasound scanning.

Opportunity for Improvement	A critical factor in assessing infant mortality risk is gestational age, since it has been shown that for any constant birth weight the mortality rate decreases as gestational age increases. Accurate gestational age is also critical to the timing of birth and decisions made for many procedures related to birth. Patients with an accurate gestational age established have lower risk of having procedures at inappropriate times during the pregnancy.
IOM Domains of Health Care Quality Addressed	• Safe • Quality • Timely • Effective • Patient-Centered • Equitable
Exception Justification	N/A
Harmonization with Existing Measures	There is no existing performance measure that assesses gestational age.

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Clinician-level • Group-level
Care setting	• Ambulatory care
Data source	• Electronic health record (EHR) data

Maternity Care
Measure #2:

Prenatal Care Screening

Measure Description

Percentage of patients, regardless of age, who gave birth during a 12-month period seen at least once for prenatal care who received the following screening tests within the specified time frames: screening for neural tube defects; screening for Gestational Diabetes; screening for Asymptomatic Bacteriuria; Hepatitis B specific antigen screening; HIV screening; Group B streptococcus screening (GBS).

Measure Components

Numerator Statement	Patients who received the following screening tests during the prenatal period within the specified time frames: • Screening for neural tube defects: o Screening using Maternal Serum alpha-fetoprotein Screen (MSAFP) between weeks 15-20 weeks gestation OR by ultrasound after 16 weeks gestation • Screening for Gestational Diabetes before or at 28 weeks *(patients with a diagnosis of Diabetes are excluded)* • Screening for Asymptomatic Bacteriuria before or at 16 weeks gestation • Hepatitis B specific antigen screening at first visit *(patients with documented immunity to Hepatitis B or active Hepatitis B are excluded)* • HIV screening at first visit *(patients with a diagnosis of HIV are excluded)* • Group B streptococcus screening (GBS) at 35 to 37 weeks (*patients with previously diagnosed GBS OR a prior baby that was infected are excluded)* *To satisfactorily meet the numerator – ALL components must be performed.
Denominator Statement	All patients, regardless of age, who gave birth during a 12-month period seen at least once for prenatal care
Denominator Exceptions	None
Supporting Guideline & **Other References**	The following evidence statements are quoted <u>verbatim</u> from the referenced clinical guidelines: <u>Screening for fetal chromosomal abnormalities (ACOG, 2007)</u>[15] • First-trimester screening using both nuchal translucency measurement and biochemical markers is an effective screening test for Down syndrome in the general population. At the same false-positive rates, this screening strategy results in a higher Down syndrome detection rate than does the second-trimester maternal serum triple screen and is comparable to the quadruple screen. (Level A) • Women found to have increased risk of aneuploidy with first-trimester screening should be offered genetic counseling and the option of

chorionic villus sampling (CVS) or second-trimester amniocentesis. (Level A)

- Screening and invasive diagnostic testing for aneuploidy should be available to all women who present for prenatal care before 20 weeks of gestation regardless of maternal age. Women should be counseled regarding the differences between screening and invasive diagnostic testing. (Level B)
- Patients who have a fetal nuchal translucency measurement of 3.5 mm or higher in the first trimester, despite a negative aneuploidy screen, or normal fetal chromosomes, should be offered a targeted ultrasound examination, fetal echocardiogram, or both. (Level B)

Screening for Asymptomatic Bacteriuria

- Pregnant women should have a urine culture to screen for asymptomatic bacteriuria at 12 to 16 weeks' gestation or at the first prenatal visit, if later[16] (USPSTF, 2008, Grade A recommendation).

Screening for Gestational Diabetes Mellitus[17]

- All pregnant women should be screened for GDM and/or impaired glucose tolerance (IGT); however, depending on level of risk, timing of screening will differ. Research indicates the similarities between GDM and IGT, and both are associated with increased risks of poor maternal/neonatal outcomes if left untreated. (American Dietetic Association, 2008,Strong, Imperative, Grades I and II)

HIV Screening

- Clinicians should screen all pregnant women for HIV. There is good evidence that both standard and FDA-approved rapid screening tests accurately detect HIV infection in pregnant women and fair evidence that introduction of universal prenatal counseling and voluntary testing increases the proportion of HIV-infected women who are diagnosed and are treated before delivery. (USPSTF) (A Recommendation)
- Universal HIV testing with patient notification should be a routine component of prenatal care; however, this must be in accordance with current state laws. (ACOG/AAP)
- HIV screening should be a routine part of prenatal care for all women. (CDC)[18]
- HIV screening is recommended after the patient is notified that testing will be performed unless the patient declines (opt-out screening).
- Separate written consent for HIV testing should not be required; general consent for medical care should be considered sufficient to encompass consent for HIV testing
- Repeat screening in the third trimester is recommended in certain jurisdictions with elevated rates of HIV infection among pregnant women.

GBS Screening (CDC Guideline, 2010)[19]

- All pregnant women should be screened at 35--37 weeks' gestation for vaginal and rectal GBS colonization (AII).
- At the time of labor or rupture of membranes, intrapartum chemoprophylaxis should be given to all pregnant women identified as GBS carriers (AII).
- Colonization during a previous pregnancy is not an indication for intrapartum prophylaxis in subsequent deliveries. Screening to detect GBS colonization in each pregnancy will determine the need for prophylaxis in that pregnancy.

Measure Importance

Relationship to desired outcome

Appropriate prenatal care, including timely screening and testing, is an important component for a positive outcome for both mother and baby. This measure is assessing prenatal care screenings where there is a gap in quality of care and therefore not all prenatal screening tests are included in this measure.

The use of ultrasonography to assess for potential fetal abnormalities, confirm the site of pregnancy within the uterus, and determine gestational age is considered the standard of care. Also, the use of ultrasound scanning during the first trimester is correlated with reduced post-term labor induction rates as compared to second trimester ultrasound scanning.

The risk of not screening for asymptomatic bacteriuria has been linked to a greater risk for pyelonephritis and for low birth weight (< 2500 g) and that urine culture can reliably detect asymptomatic bacteriuria. A positive test result is defined as the presence in a midstream clean-catch specimen of at least 105 colony-forming units per milliliter of urine of a single uropathogen.

Approximately 7 percent of pregnancies in the United States are complicated by gestational diabetes. Gestational diabetes can lead to neonatal hypoglycemia, respiratory distress syndrome, and fetal macrosomia. Larger infants have increased rates of birth trauma, shoulder dystocia, and cesarean delivery. Women with gestational diabetes who have a higher pre-pregnancy body mass index (BMI) or who gain more weight during pregnancy are more likely to develop type 2 diabetes following pregnancy.

Despite substantial progress in prevention of perinatal group B streptococcal (GBS) disease since the 1990s, GBS remains the leading cause of early-onset neonatal sepsis in the United States. The majority of infections in newborns occur within the first week of life and are designated early-onset disease. Late-onset infections occur in infants aged >1 week, with most infections evident in the first 3 months of life. Young infants with invasive GBS disease usually present with sepsis or pneumonia, and less often contract meningitis, osteomyelitis, or septic arthritis. In pregnant women, GBS can cause clinical infections, but most women have no symptoms associated with genital tract colonization. Urinary tract infections caused by GBS complicate 2%--4% of pregnancies. During pregnancy or the postpartum period, women can contract amnionitis, endometritis, sepsis, or rarely, meningitis caused by GBS.[19]

Opportunity for Improvement

Studies indicate that many pregnant women are not tested and screened for essential prenatal markers. In 2006, Diabetes during pregnancy (diabetes diagnosed both prior to and during pregnancy), was reported at a rate of 42.3 per 1,000 women, (just over 4 percent) compared with 38.5 per 1,000 in 2005. During the 1990s, the diabetes rate increased by an average of 3 percent per year, but between 2000 and 2002, the pace of increase rose to 6 percent per year.

Evidence in pregnant women is convincing that detection of and treatment for asymptomatic bacteriuria with antibiotics significantly lowers the incidence of symptomatic urinary tract infections in the mother and low birth weight in the offspring.

The incidence of invasive GBS infections among pregnant women in the United States declined by 21% from 0.29 per 1,000 live births in 1993 to 0.23 in 1998, suggesting that increased use of intrapartum antibiotics also prevented some cases of maternal GBS amnionitis and endometritis. The most robust evaluation comes from a multistate, population-based analysis of 819,000 live births during

	2003--2004 and a similarly designed study of births during 1998--1999. The proportion of infants whose mothers were screened for GBS colonization before delivery increased from 48.1% during 1998--1999 to 85.0% during 2003--2004; among women screened during 2003--2004, a total of 98.4% had a result available at labor. Among screened women, 24.2% were documented as GBS-positive, within the range of expected colonization rates. The proportion of mothers with an indication for intrapartum antibiotic prophylaxis who received them also increased substantially, from 73.8% during 1998--1999 to 85.1% during 2003—2004.[19]
IOM Domains of Health Care Quality Addressed	• Safe • Quality • Timely • Effective • Patient-Centered • Equitable
Exception Justification	N/A
Harmonization with Existing Measures	There is no existing performance measure that includes all of these elements.

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Clinician-level • Group-level
Care setting	• Ambulatory care
Data source	• Electronic health record (EHR) data

Maternity Care
Measure #3:

Behavioral Health Risk Assessment

Measure Description

Percentage of patients, regardless of age, who gave birth during a 12-month period seen at least once for prenatal care who received a behavioral health screening risk assessment that includes the following screenings at the first prenatal visit: screening for depression, alcohol use, tobacco use, drug use, and intimate partner violence screening.

Measure Components

Numerator Statement	Patients who received the following behavioral health screening risk assessments at the first prenatal visit Depression screening Patients who were screened for depression at the first visit. Questions may be asked either directly by a health care provider or in the form of self-completed paper- or computer administered questionnaires and results should be documented in the medical record. Depression screening may include a self-reported validated depression screening tool (eg, PHQ-2, Beck Depression Inventory, Beck Depression Inventory for Primary Care, Edinburgh Postnatal Depression Scale (EPDS)) Alcohol use screening Patients who were screened for any alcohol use at the first visit Tobacco use screening Patients who were screened for tobacco use* at the first visit Drug use (illicit and prescription, over the counter) screening Patients who were screened for any drug use at the first visit Intimate partner violence screening- Patients who were screened for intimate partner violence/abuse at the first visit. Questions may be asked either directly by a health care provider or in the form of self-completed paper- or computer administered questionnaires and results should be documented in the medical record. Intimate partner violence screening may include a self-reported validated depression screening tool (eg, Hurt, Insult, Threaten, and Scream (HITS), Woman Abuse Screening Tool (WAST), Partner Violence Screen (PVS), Abuse Assessment Screen (AAS)) To satisfactorily meet the numerator – ALL screening components must be performed.
Denominator Statement	All patients, regardless of age, who gave birth during a 12-month period seen at least once for prenatal care
Denominator Exceptions	None
Supporting Guideline & Other	The following evidence statements are quoted verbatim from the referenced clinical guidelines:

References	Depression Screening • Complete a social and mental health history on all new prenatal patients. • Routine depression screening is recommended for all patients in clinical practices that have systems in place to assure effective diagnosis, treatment and follow-up[20] Depression Screening Weeks 6-8, 28 (Veterans Administration/Department of Defense Clinical Practice Guideline For Pregnancy Management, 2009) • Women should be screened for depression during their first contact with obstetric healthcare services, at week 28 and at the postpartum visit. • Depression screening should be performed using a standardized screening tool such as the Edinburgh Postnatal Depression Scale (EDPS) or the PHQ-2. • Women should be asked early in pregnancy if they have had any previous psychiatric illnesses, and if they had a past history of serious psychiatric disorder they should be referred for a psychiatric assessment during the antenatal period USPSTF, 2009 • All positive screening tests should trigger full diagnostic interviews that use standard diagnostic criteria to determine the presence or absence of specific depressive disorders, such as MDD or dysthymia. • The severity of depression and comorbid psychological problems (for example, anxiety, panic attacks, or substance abuse) should be addressed. Alcohol and Drug Use Screening The USPSTF strongly recommends screening and behavioral counseling interventions to reduce alcohol misuse by adults, including pregnant women, in primary care settings. (B Recommendation) (USPSTF, 2004). The USPSTF strongly recommends that clinicians screen all adults for tobacco use and provide tobacco cessation interventions for those who use tobacco products. (A Recommendation) (USPSTF, 2003) Intimate Partner Violence Screening: Society of Obstetricians and Gynaecologists of Canada (SOGC), 2005 [21] Recommendation: 1. Providers should include queries about violence in the behavioural health assessment of new patients, at annual preventive visits, as a part of prenatal care and in response to symptoms or conditions associated with abuse (B). *B: There is fair evidence to support the recommendation for use of a diagnostic test, treatment, or intervention.* Summary statement 1. At least 3 systematic reviews of "screening" for IPV have found insufficient evidence to recommend for or against routine screening. Asking women about violence is not a screening intervention: victims are not asymptomatic; disclosure is not a test result, it is a voluntary act, and the presence or absence of violence is not under the victim's control; and most interventions required to protect and support survivors are societal, not medical.(I). I: Evidence obtained from at least one properly designed randomized controlled trial. American College of Obstetricians and Gynecologists, 2012[22] Obstetrician–gynecologists are in the unique position to provide assistance for women who experience IPV because of the nature of the patient–physician

	relationship and the many opportunities for intervention that occur during the course of annual examinations, family planning, pregnancy, and follow-up visits for ongoing care. (Not rated) Screening all patients at various times is also important because some women do not disclose abuse the first time they are asked. Health care providers should screen all women for IPV at periodic intervals, such as annual examinations and new patient visits. Signs of depression, substance abuse, mental health problems, requests for repeat pregnancy tests when the patient does not wish to be pregnant, new or recurrent STIs, asking to be tested for an STI, or expressing fear when negotiating condom use with a partner should prompt an assessment for IPV. (Not rated) Screening for IPV during obstetric care should occur at the first prenatal visit, at least once per trimester, and at the postpartum checkup. (Not rated)

Measure Importance

Relationship to desired outcome

Clinical depression is common among reproductive-age women and is the leading cause of disability in women in the US each year. Between 14%-23% of pregnant women will experience depression symptoms during pregnancy and an estimated 5%-25% of women will have postpartum depression. Studies have shown that untreated maternal depression negatively affects an infant's cognitive, neurologic, and motor skill development. A mother's untreated depression can also negatively impact older children's mental health and behavior. During pregnancy, depression can lead to preeclampsia, preterm delivery, and low birth weight. [23](ACOG, 2010) The U.S. Preventive Services Task Force reviewed evidence about the accuracy of screening instruments in identifying depressed adults in 2002. Many formal screening tools are available, including instruments designed specifically for older adults. Asking 2 simple questions about mood and anhedonia ("Over the past 2 weeks, have you felt down, depressed, or hopeless?" and "Over the past 2 weeks, have you felt little interest or pleasure in doing things?") may be as effective as using more formal instruments. There is little evidence to recommend 1 screening method over another; therefore, clinicians may choose the method most consistent with their personal preference, the patient population being served, and the practice setting. (USPSTF 2009)

Alcohol and substance abuse in pregnant women have been linked to a variety of adverse outcomes for both the mother and her newborn. Besides birth-related, short-term adverse effects, substance use during pregnancy also can lead to long-term developmental problems in the child. Screening pregnant women for alcohol use has become of increasing importance, because new research indicates that even low levels of prenatal alcohol exposure can negatively affect the developing fetus. Adverse effects of prenatal alcohol exposure can range from subtle developmental problems, or fetal alcohol effects, to full-blown fetal alcohol syndrome. In addition, certain neurobehavioral outcomes associated with prenatal alcohol exposure can persist in the affected person into adolescence (Sampson et al. 1994) and adulthood (Kelly et al. 2000).

According to new studies, even low levels of prenatal alcohol exposure can negatively affect the developing fetus, thereby increasing the importance of identifying women who drink during pregnancy. In response, researchers have developed several simple alcohol-screening instruments for use with pregnant women. These instruments, which can be administered quickly and easily, have been evaluated and found to be effective. Because of the potential adverse

consequences of prenatal alcohol exposure, short screening questionnaires are worthwhile preventive measures when combined with appropriate follow-up. Women abused during pregnancy are more likely to be depressed, suicidal, and experience pregnancy complications and poor outcomes, including maternal and fetal death.

Opportunity for Improvement

Numerous research studies have assessed the lack of screening for depression, alcohol and substance use among pregnant women. A 2003 report demonstrated the prevalence of depressive symptomatology during pregnancy when seen in obstetric settings, the extent of treatment in this population, and specific risk factors associated with mood symptoms in pregnancy.[24] A total of 3472 pregnant women age 18 and older were screened while waiting for their prenatal care visits in 10 obstetrics clinics using a brief (10 minute) screening questionnaire. This screen measured demographics, tobacco and alcohol (TWEAK problem alcohol use screening measure), and depression measures, including the Center for Epidemiological Studies-Depression scale (CES-D), use of antidepressant medications, past history of depression, and current treatment (i.e., medications, psychotherapy, or counseling) for depression. RESULTS: Of women screened, 20% (n = 689) scored above the cutoff score on the CES-D, and only 13.8% of those women reported receiving any formal treatment for depression. Past history of depression, poorer overall health, greater alcohol use consequences, smoking, being unmarried, unemployment, and lower educational attainment were significantly associated with symptoms of depression during pregnancy. These data show that a substantial number of pregnant women screened in obstetrics settings have significant symptoms of depression, and most of them are not being monitored in treatment. As elevations in depressive symptomatology have been associated with adverse maternal and infant outcomes, further study of the impact of psychiatric treatment in gravid women is essential.

Integrating routine screening and treatment for substance use, including alcohol and cigarette smoking, into the prenatal care system, the health outcomes of mothers and their babies can be significantly improved, according to a retrospective study conducted by a large health care organization in the U.S.[25] The study examined the records of nearly 50,000 pregnant women who went through the prenatal substance use screening between 1999 and 2003. They found that women who were screened positive, assessed by the specialist, and treated for substance use had significantly better birth-related outcomes than those who screened positive but turned down assessments and/or treatment by the Early Start specialist. The birth-related benefits were seen in both the mothers and the newborns. The risk of having a preterm delivery, placental abruption, and intrauterine fetal death (still birth) were all significantly reduced. The babies born to mothers who underwent the Early Start program had lower risks of requiring neonatal-assisted ventilation and having low birth weight. Of the women included in the study, 2,073 were positive for alcohol, smoking, or substance use at screening and received an assessment and at least one follow-up appointment with a specialist; 1,203 were screened positive, assessed by the specialist, and declined follow-up appointment; and 156 were screened positive but received neither assessment nor follow-up. The other 46,000 women who had negative results at screening served as the control group.

IOM Domains of Health Care Quality Addressed

- Effective
- Safe
- Timely
- Equitable
- Patient-Centered
- Efficient

Exception Justification

N/A

Harmonization with Existing Measures	There is currently no existing endorsed measure for behavioral health risk assessment during the prenatal period.

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Clinician-level • Group-level
Care setting	• Ambulatory Care
Data source	• Electronic health record (EHR) data

Maternity Care
Measure #4:

BMI Assessment and Recommended Weight Gain

Measure Description

Percentage of patients, regardless of age, who gave birth during a 12-month period seen at least once for prenatal care who had a BMI value recorded and were counseled on recommended weight gain during pregnancy at first prenatal care visit.

Measure Components

<table>
<tr><td>Numerator Statement</td><td>Patients who had a BMI value recorded and were counseled on recommended weight gain during pregnancy at first prenatal care visit</td></tr>
<tr><td>Denominator Statement</td><td>All patients, regardless of age, who gave birth during a 12-month period seen at least once for prenatal care</td></tr>
<tr><td>Denominator Exceptions</td><td>None</td></tr>
<tr><td>Supporting Guideline & Other References</td><td>The following evidence statements are quoted <u>verbatim</u> from the referenced clinical guidelines:

2009 IOM Guidelines for weight gain during pregnancy
<table>
<tr><th>Pre-pregnancy BMI</th><th>BMI+ (kg/m2) (WHO)</th><th>Total Weight Gain Range (lbs)</th><th>Rates of Weight Gain* 2nd and 3rd Trimester (Mean Range in lbs/wk)</th></tr>
<tr><td>Underweight</td><td><18.5</td><td>28–40</td><td>1
(1–1.3)</td></tr>
<tr><td>Normal weight</td><td>18.5-24.9</td><td>25–35</td><td>1
(0.8–1)</td></tr>
<tr><td>Overweight</td><td>25.0-29.9</td><td>15–25</td><td>0.6
(0.5–0.7)</td></tr>
<tr><td>Obese (includes all classes)</td><td>≥30.0</td><td>11–20</td><td>0.5
(0.4–0.6)</td></tr>
</table>
<u>VA/DoD Clinical Guidelines for Pregnancy Management</u>:
• Recommend assessing and documenting body mass index (BMI) of all pregnant women at the initial visit.
• Pregnant women found to have a BMI <20 kg/m2 should be referred for nutrition counseling and considered at increased risk for fetal growth restriction.[26]

<u>U.S. Preventive Services Task Force (USPSTF)</u>
The recommends that clinicians screen all adult patients for obesity and offer intensive counseling and behavioral interventions to promote sustained weight loss for obese adults. (B Recommendation, USPSTF, 2003)

<u>Obesity in pregnancy (Society of Obstetricians and Gynecologists of Canada, 2010)</u> [27]

1.Periodic health examinations and other appointments for gynecologic care prior</td></tr>
</table>

	to pregnancy offer ideal opportunities to raise the issue of weight loss before conception. Women should be encouraged to enter pregnancy with a body mass index (BMI) <30 kg/m2, and ideally <25 kg/m2. (III-B) 2.BMI should be calculated from pre-pregnancy height and weight. Those with a pre-pregnancy BMI >30 kg/m2 are considered obese. This information can be helpful in counseling women about pregnancy risks associated with obesity. (II-2B) 3.Obese pregnant women should receive counseling about weight gain, nutrition, and food choices. (II-2B) 4.Obese women should be advised that they are at risk for medical complications such as cardiac disease, pulmonary disease, gestational hypertension, gestational diabetes, and obstructive sleep apnea. Regular exercise during pregnancy may help to reduce some of these risks. (II-2B) 5.Obese women should be advised that their fetus is at an increased risk of congenital abnormalities, and appropriate screening should be done. (II-2B) 6.Obstetric care providers should take BMI into consideration when arranging for fetal anatomic assessment in the second trimester. Anatomic assessment at 20 to 22 weeks may be a better choice for the obese pregnant patient. (II-2B) 7.Obese pregnant women have an increased risk of Caesarean section, and the success of vaginal birth after Caesarean section is decreased. (II-2B) 8. Antenatal consultation with an anesthesiologist should be considered to review analgesic options and to ensure a plan is in place should a regional anesthetic be chosen. (III-B) 9.The risk of venous thromboembolism for each obese woman should be evaluated. In some clinical situations, consideration for thromboprophylaxis should be individualized. (III-B).

Measure Importance

Relationship to desired outcome	Maternal obesity is associated with adverse pregnancy outcomes, including increased risk for gestational diabetes, preeclampsia, cesarean section, and macrosomia. Obese women are more likely to gain in excess of current gestation weight guidelines, which increases the risk for maternal and offspring morbidity. In women of childbearing age, the prevalence of obesity his about 29%.[28] To improve outcomes, obstetric providers must effectively evaluate and manage their obese pregnant patients by advising them on the appropriate amount of weight gain in pregnancy, nutritional counseling, and physical activity counseling.
Opportunity for Improvement	A study looking at practitioner behavior related to managing overweight and obese pregnant patients found that few obstetric providers were fully compliant with clinical practice recommendations, defined obesity correctly, or recommended weight gains concordant with IOM guidelines.[28] Provider personal factors were the strongest correlates of self-reported management practices. In 2007–2008, a survey was administered to 58 practicing obstetricians, nurse practitioners, and certified nurse midwives at a multispecialty practice in Massachusetts. A 26-item questionnaire that included provider self-reported weight, socio-demographic characteristics, knowledge, attitudes, and management practices with an 8-point score for adherence to 8 practices

	recommended by the American College of Obstetricians and Gynecologists (ACOG) for the management of obese pregnant women. The results showed that among the respondents, 37% did not correctly report the minimum body mass index (BMI) for diagnosing obesity, and most reported advising gestational weight gains that were discordant with Institute of Medicine (IOM) guidelines, especially for obese women (71%). The majority of respondents almost always recommended a range of weight gain (74%), advised regular physical activity (74%), or discussed diet (64%) with obese mothers, but few routinely ordered glucose tolerance testing during the first trimester (26%).
IOM Domains of Health Care Quality Addressed	• Safe • Effective • Patient-centered • Equitable • Timely
Exception Justification	N/A
Harmonization with Existing Measures	There is currently no existing endorsed measure addressing BMI assessment and weight gain recommendations during the prenatal period.

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Process
Level of Measurement	• Clinician-level • Group-level
Care setting	• Ambulatory care
Data source	• Electronic health record (EHR) data

Maternity Care
Measure #5:

Elective Delivery or Early Induction Without Medical Indication at >=37 and < 39 weeks (Overuse)

For this measure, a lower score indicates higher quality

Measure Description

Percentage of patients, regardless of age, who gave birth during a 12-month period who delivered a live singleton at >=37 and < 39 weeks of gestation completed who had elective deliveries or early inductions without medical indication.

Measure Components

Numerator Statement	Patients who had elective deliveries or early inductions
Denominator Statement	All patients, regardless of age, who gave birth during a 12-month period delivering a live singleton at >=37 and < 39 weeks of gestation completed without medical indication for induction* *Following are *examples* of maternal or fetal conditions that may be medical indications for induction of labor: · Hemorrhage and Placental Complications · Hypertension, Preeclampsia and Eclampsia · Rupture of Membranes-Premature, Prolonged · Maternal Conditions Complicating Pregnancy/Delivery · Fetal Conditions Complicating Pregnancy/Delivery · Malposition and Malpresentation of Fetus · Late Pregnancy · Prior Uterine Surgery OR Patient in clinical trial
Denominator Exceptions	None
Supporting Guideline & Other References	The following evidence statements are quoted <u>verbatim</u> from the referenced clinical guidelines. <u>ACOG induction of labor guidelines (ACOG, 2009)</u>[9] The goal of induction of labor is to achieve vaginal delivery by stimulating uterine contractions before the spontaneous onset of labor. Generally, induction of labor has merit as a therapeutic option when the benefits of expeditious delivery outweigh the risks of continuing the pregnancy. The benefits of labor induction must be weighed against the potential maternal and fetal risks associated with this procedure. "Labor may also be induced for logistic reasons, e.g., rapid labor, distance, or psychosocial reasons. In such circumstances, at least 1 of the criteria (for being > 39 weeks) should be met or fetal lung maturity should be established."

	Indications for induction of labor are not absolute but should take into account maternal and fetal conditions, gestational age, cervical status, and other factors. Following are examples of maternal or fetal conditions that may be indications for induction of labor: · Placental abruption · Chorioamnionitis · Fetal demise · Gestational hypertension · Preeclampsia, eclampsia · Premature rupture of membranes · Postterm pregnancy · Maternal medical conditions (eg, diabetes mellitus, renal disease, chronic pulmonary disease, chronic hypertension, antiphospholipid syndrome) · Fetal compromise (eg, severe fetal growth restriction, isoimmunization, oligohydramnios) The individual patient and clinical situation should be considered in determining when induction of labor is contraindicated. Generally, the contraindications to labor induction are the same as those for spontaneous labor and vaginal delivery. They include, but are not limited to, the following situations: · Vasa previa or complete placenta previa · Transverse fetal lie · Umbilical cord prolapse · Previous classical cesarean delivery · Active genital herpes infection · Previous myomectomy entering the endometrial cavity

Measure Importance

Relationship to desired outcome

Elective delivery or early induction often leads to prematurity, increased costs, and an increased incidence of cesarean section. Studies have determined that elective delivery or elective cesarean section prior to the gestational age of 39 weeks may result in significant short term neonatal morbidity (neonatal intensive care unit admission rates of 13-21%). Among women undergoing induction, women with their first pregnancies have a higher rate of cesarean delivery than women with prior vaginal births. Recent research shows that infants born prior to 39 weeks face a higher risk of breathing disorders and other problems than those who remain in the womb longer.

Opportunity for Improvement

To assist the Maternity Care work group in evaluating the Elective Delivery measure for overall performance rates and variation by maternal age and maternal race/ethnicity, 2008 data from the Centers for Disease Control and Prevention, National Center for Health Statistics Birth Data File was analyzed. The data was analyzed for frequency of induction assisted births in women with 37 or 38 week gestations and no identifiable medical conditions for early induction.

Of the 4,255,156 records, there were 879,192 births that met the criteria for inclusion. Of these 879,192 births, there were 167,875 births where labor was induced. This is represents 19.1% (167,875 / 879,192) of eligible births.

Based on maternal age at delivery, the average induction rate decreases with increases in the mother's age category.

Non-Hispanic white women had a rate (23.0%) that was above the overall average, while Non-Hispanic black women and Mexican women had a rate that was below

the overall average (17.5% and 13.2%, respectively.)

According to the Centers for Disease Control and Prevention, one in five pregnancies is induced, double the rate in 1990. There is little data on the percentage of inductions that are elective, though a Hospital Corporation of America study of nearly 18,000 births at its 27 hospitals estimated that 10% of all births before 39 weeks are elective.

A survey conducted in 2007 of almost 20,000 births in HCA hospitals throughout the U.S. carried out in conjunction with the March of Dimes at the request of ACOG revealed that almost 1/3 of all babies delivered in the United States are electively delivered with 5% of all deliveries in the U.S. delivered out of compliance with ACOG/AAP guidelines. Most of these result in significant short term neonatal morbidity (neonatal intensive care unit admission rates of 13-21%). [42]

More than 22% of all gravid women undergo induction of labor in the United States, and the overall rate of induction of labor has more than doubled since 1990 to 225 per 1,000 live births in 2006[29]

A 2003 study at Intermountain Health Care looked at institutional data on labor induction and outcomes to determine if national research findings were relevant to a local setting. The analysis found that nearly one-third of inductions were inappropriate and there was an increased rate of neonatal intensive care admissions associated with induced preterm deliveries (5.3 percent for pregnancies of 37 weeks gestation versus 2.1 percent at 39 weeks). [30]

As compared with births at 39 weeks, births at 37 weeks and at 38 weeks were associated with an increased risk of the primary outcome. The rates of adverse respiratory outcomes, mechanical ventilation, newborn sepsis, hypoglycemia, admission to the neonatal ICU, and hospitalization for 5 days or more were increased by a factor of 1.8 to 4.2 for births at 37 weeks and 1.3 to 2.1 for births at 38 weeks.

There is a continued pronounced shift towards shorter gestational ages, suggesting more medical management of labor and delivery via techniques such as induction of labor and cesarean delivery.[31]

Compared with delivery at 39 weeks, elective repeat C-section at 37 weeks is associated with 2.1 times the increased risk of neonatal morbidity and delivery at 38 weeks was associated with 1.5 times the increased risk of neonatal morbidity.[11]

A 2006 report looking at the percentage of admissions to the neonatal intensive care units in both the public and private sector comparing the timing of delivery showed that 50% of the admissions violated the American College of Obstetricians and Gynecologists criteria for the timing of scheduled C-section delivery.[32]

IOM Domains of Health Care Quality Addressed

- Safe
- Effective
- Patient-centered
- Equitable
- Timeliness

Exception Justification

There are some serious maternal or fetal conditions that may be indications for induction of labor.

Harmonization with Existing Measures	This measure is harmonized with the Joint Commission elective delivery measure in terms of the measure intent, medical reasons for indication of induction of labor, and measure language. The above-mentioned measures are facility-level measures whereas this measure includes attribution at the individual provider level.

Measure Designation

Measure purpose	• Quality Improvement • Accountability
Type of measure	• Outcome
Level of Measurement	• Clinician -level • Group-level
Care setting	• Inpatient
Data source	• Electronic health record (EHR) data

Maternity Care
Measure #6:

Cesarean Delivery for Nulliparous (NTSV) Women (Appropriate Use)

For this measure, the desired performance goal is not a cesarean section rate of zero. This measure is an overall rate of all patients receiving a cesarean section. It can be used as a baseline for other related measures in this set.

Measure Description

Percentage of nulliparous patients, regardless of age, who gave birth during a 12-month period to a live singleton in vertex presentation at or beyond 37 weeks of gestation who had a cesarean delivery.

Measure Components

Numerator Statement	Patients who had a cesarean delivery
Denominator Statement	All nulliparous patients, regardless of age, who gave birth during a 12-month period to a live singleton in vertex presentation at or beyond 37 weeks of gestation.
Denominator Exceptions	None
Supporting Guideline & Other References	The following evidence statements are quoted verbatim from the referenced clinical guidelines. Cesarean Delivery on Maternal Request (ACOG, 2007)[33] Cesarean delivery on maternal request should not be performed before gestational age of 39 weeks has been accurately determined unless there is documentation of lung maturity. Cesarean delivery on maternal request should not be motivated by the unavailability of effective pain management. Cesarean delivery on maternal request is not recommended for women desiring several children, given that the risks of placenta previa, placenta accreta, and gravid hysterectomy increase with each cesarean delivery.[33]

Measure Importance

Relationship to desired outcome

Elective repeat cesarean delivery before 39 weeks of gestation is common and is associated with respiratory and other adverse neonatal outcomes.[11] Inappropriate cesarean sections may result in increased risk or harm to both mother and baby. Higher procedure rates might even be associated with iatrogenic harm, stemming from surgical complications that are not offset by therapeutic benefit. Many cesarean births occur for non-clinical factors, such as provider supply and malpractice liability, and patient preference. [12]

The incidence of cesarean delivery without medical or obstetric indications is increasing in the United States, and a component of this increase is cesarean delivery on maternal request. [34] Cesarean sections are now the most common operating room procedure in the United States and expenses related to C-section

births account for 45% of the more than $79 billion in annual hospital charges that childbirth incurs in the U.S. annually; C-sections cost about $13,000 for privately insured patients. Given the tools available, the magnitude of this component is difficult to quantify. There is insufficient evidence to evaluate fully the benefits and risks of cesarean delivery on maternal request as compared to planned vaginal delivery, and more research is needed. Until quality evidence becomes available, any decision to perform a cesarean delivery on maternal request should be carefully individualized and consistent with ethical principles. Given that the risks of placenta previa and accrete rise with each cesarean delivery, cesarean delivery on maternal request is not recommended for women desiring several children. Cesareans are an expensive intervention, with an average cost in 2003 of $12,468—twice the cost of the average vaginal birth ($6,240). There is also evidence that women undergoing a cesarean delivery are at much higher risk for rehospitalization for uterine infection and obstetrical surgical wound complications.[35]

Opportunity for Improvement

To assist the Maternity Care work group in evaluating Cesarean Delivery for Nulliparous (NTSV) Women for overall performance rates and variation by maternal age and maternal race/ethnicity, 2008 data from the Centers for Disease Control and Prevention, National Center for Health Statistics Birth Data File was analyzed. The data was analyzed for frequency of cesarean delivery in nulliparous women with a singleton in vertex presentation at or beyond 37 weeks of gestation.

Of the 4,255,156 records, there were 1,185,890 births that met the criteria for inclusion. Of these 1,185,890 births 321,459 newborns were delivered by Cesarean. This represents 27.1% (321,459 / 1,185,890) of eligible births. Based on maternal age at delivery, the average Cesarean rate increases with maternal age. The rate varied from 17.6% for mothers less than 18 years old, to 23.5% for mothers 18-24 years old, to 30.8% for mothers 25-35 years old, to 46.1% to mothers greater than 35 years old.

Non-Hispanic white women had a rate (26.9%) that was slightly below the overall average, while Non-Hispanic black women had a rate that was above the overall average (30.0%) and Mexican had a rate that was below the overall average (24.3%).

2006 data show that the cesarean delivery rate rose 3 percent to 31.1 percent of all births. The cesarean rate has climbed 50 percent since the 1996 low. Rates for primary cesareans were up and vaginal births after previous cesarean were down for both revised and unrevised reporting areas. Cesarean rates have risen at all gestational ages over the last decade.

A 2009 *NEJM* article examined a C-section registry from 19 academic medical centers and found more than one-third did not follow ACOG guidelines; infants delivered at 37 weeks to mothers who had elective repeat C-sections were about twice as likely as newborns delivered at the recommended 39 weeks to experience breathing problems, bloodstream infections, and other complications. Of 24,077 repeat cesarean deliveries at term, 13,258 were performed electively; of these, 35.8% were performed before 39 completed weeks of gestation (6.3% at 37 weeks and 29.5% at 38 weeks) and 49.1% at 39 weeks of gestation.

There is enormous geographic variation in the use of cesarean delivery. Higher cesarean rates are only partially explained by patient characteristics but are greatly influenced by nonmedical factors such as provider density, the capacity of the local health care system, and malpractice pressure. Areas with higher usage rates perform the intervention in medically less appropriate populations—that is, relatively healthier births—and do not see improvements in maternal or neonatal mortality. [36]

	A 2006 *Health Affairs* report looked at geographical variation in cesarean sections; great geographic variation in the use of cesarean delivery was found. For births over 2,500 grams, adjusted cesarean rates vary fourfold between low- and high-use areas. Even for births under 2,500 grams, high-use counties had rates that are double those of low-use ones.
IOM Domains of Health Care Quality Addressed	• Safe • Effective • Efficient • Timely • Equitable • Patient-Centered
Exception Justification	N/A
Harmonization with Existing Measures	This measure is harmonized with the Joint Commission Cesarean delivery measure in terms of measure language and measure intent. The Joint Commission measure is a facility-level measures whereas this measure includes attribution at the individual provider level.

Measure Designation

Measure purpose	• Quality Improvement • Accountability
Type of measure	• Outcome
Level of Measurement	• Clinician-level • Group-level
Care setting	• Inpatient
Data source	• Electronic health record (EHR) data

Maternity Care
Measure #7:

Episiotomy
(Overuse)

For this measure, a lower score indicates higher quality

Measure Description

Percentage of patients, regardless of age, who gave birth vaginally (without shoulder dystocia), during a 12-month period who underwent an episiotomy.

Measure Components

Numerator Statement	Patients who underwent an episiotomy
Denominator Statement	All patients, regardless of age, who gave birth vaginally (without shoulder dystocia), during a 12-month period
Denominator Exceptions	None
Supporting Guideline & Other References	The following evidence statements are quoted verbatim from the referenced clinical guidelines. ACOG Episiotomy Clinical Recommendations (2006)[37] • Restricted use of episiotomy is preferable to routine use of episiotomy. (ACOG, 2006, Level A) • Median episiotomy is associated with higher rates of injury to the anal sphincter and rectum than is mediolateral episiotomy. (Level A) • Mediolateral episiotomy may be preferable to median episiotomy in selected cases. (ACOG, 2006, Level B) • Routine episiotomy does not prevent pelvic floor damage leading to incontinence. (ACOG, 2006, Level B)

Measure Importance

Relationship to desired outcome	Mediolateral episiotomy is associated with difficulty of repair, greater blood loss, and, possibly, more early postpartum discomfort. Median episiotomy is associated with a greater risk for extension to include the anal sphincter or rectum. Reported complications of episiotomy include bleeding, infection, abscess formation, and dehiscence.[37]
Opportunity for Improvement	A 2008 study in the Journal of American Medical Association, showed there are no increased or better outcomes with the use of episiotomies and sometimes cause more harm than good. Evidence does not support maternal benefits traditionally ascribed to routine episiotomy. In fact, outcomes with episiotomy can be considered worse since some proportion of women who would have had lesser injury instead had a surgical incision. [38] This study also concluded that routine episiotomies increased : • need for stitching • experience of pain and tenderness • healing period

- likelihood of leaking stool or gas
- pain with intercourse

IOM Domains of Health Care Quality Addressed	• Effective • Safe	• Equitable • Patient-Centered
Exception Justification	N/A	
Harmonization with Existing Measures	This measure is harmonized with the NQF-endorsed Episiotomy measure developed by Christiana Care Health Services in conjunction with the National Perinatal Information Center/Quality Analytic Services (NPIC/QAS) ; the aforementioned measure is specified at the facility-level; this measure is specified at the individual provider-level.	

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Outcome
Level of Measurement	• Clinician-level
Care setting	• Inpatient
Data source	• Electronic health record (EHR) data

Maternity Care

Measure #8
Spontaneous Labor and Birth

(Intermediate Outcome)

Measure Description

Percentage of patients, regardless of age, who gave birth vaginally or by cesarean during a 12-month period to a live singleton in vertex presentation between 37and 41 weeks of gestation who have not had a prior cesarean section, whose labor started spontaneously, without the use of induced labor, using no forceps and no vacuum assistance and who gave birth vaginally.

Measure Components

Numerator Statement	Patients whose labor started spontaneously without the use of induced labor, using no forceps and no vacuum assistance and who gave birth vaginally Definition of induction: Labor induction is the use of medications or other methods to bring on (induce) labor. (ACOG)
Denominator Statement	All patients, regardless of age, who gave birth vaginally or by cesarean during a 12-month period to a live singleton in vertex presentation between 37 to 41 weeks of gestation who have not had a prior cesarean section
Denominator Exceptions	None
Supporting Guideline & Other References	The following evidence statements are quoted verbatim from the referenced clinical guidelines. A normal birth is spontaneous in onset, is low-risk at the start of labor and remains so throughout labor and birth. The infant is born spontaneously in vertex position between 37 and 42+ completed weeks of pregnancy. Normal birth includes the opportunity for skin–skin holding and breastfeeding in the first hour after the birth. [39] The individual patient and clinical situation should be considered in determining when induction of labor is contraindicated. Generally, the contraindications to labor induction are the same as those for spontaneous labor and vaginal delivery. They include, but are not limited to, the following situations: · Vasa previa or complete placenta previa · Transverse fetal lie · Umbilical cord prolapse · Previous classical cesarean delivery · Active genital herpes infection · Previous myomectomy entering the endometrial cavity

Measure Importance

Relationship to desired outcome	Normal, spontaneous, vaginal births have been on the decline for a number of years, with no demonstrated improvement in maternal and newborn outcomes. The interventions identified in this measure offer benefits when used judiciously, but expose women and newborns to risk of harm with no benefit when used

	outside of clearly supported indications.[40, 41, 42, 43, 44, 45] Labor induction and augmentation involve widespread use of a high-alert medication that is a factor in a high proportion of maternity care liability claims,[8, 9] The interventions are also costly, exposing public and private purchasers to great expense for the care of a primarily healthy population.[46, 47] In an environment with widespread lack of access to vaginal birth after cesarean, the health and financial costs of cesarean section are magnified in future births. In a national U.S. survey, half of childbearing women who gave birth in 2005 agreed that giving birth is a process that should not be interfered with unless medically necessary; however, survey participants experienced high rates of most procedures identified in this measure: provider induced labor (34%), augmented labor (47%), assisted delivery (7%), and cesarean section (32%).[48] This measure is an adaptation for the United States of a consensus measure from the UK ("Normal Birth").[49] The principal proposed changes are to eliminate the requirement of no pharmacologic pain relief and to risk stratify. The measure builds on widely understood concepts and terminology: spontaneous onset of labor and spontaneous birth. The 2008 National Quality Forum *Perinatal Care* report called for the development and implementation of a Normal Birth measure,[50] and the National Priorities Partnership has called for concerted national action to address overused maternity care interventions.[51]
Opportunity for Improvement	To assist the Maternity Care work group in evaluating Spontaneous Labor and Birth for overall performance rates and variation by maternal age and maternal race/ethnicity, 2008 data from the Centers for Disease Control and Prevention, National Center for Health Statistics Birth Data File was analyzed. The data was analyzed for frequency of vaginal delivery without the use of forceps, vacuum assistance, or induction and no identifiable medical conditions for early induction or prior cesarean section. Of the 2,761,379 records, there were 1,526,645 births that met the criteria for inclusion. Of these 1,526,645 births, there were 873,210 births where vaginal delivery without the use of forceps, vacuum assistance, or induction. This is represents 57.2% (873,210 / 1,526,645) of eligible births. Based on maternal age at delivery, the average spontaneous labor and delivery rate decreases with increases in the mother's age category. The rate varied from 60.2% for mothers less than 18 years old, to 58.2% for mothers 18-24 years old, to 57.0% for mothers 25-35 years old, to 53.1% to mothers greater than 35 years old. Non-Hispanic white women had a rate (52.0%) that was below the overall average, while Non-Hispanic black women and Mexican women had a rate that was above the overall average (58.0% and 67.0%, respectively.) Current U.S. data shows a marked decrease in spontaneous labor and birth. The implementation of this measure may help to reverse this trend. The use of a similar measure in the U.K., for example, demonstrated that collection and reporting of a "Normal Birth" measure in England over a period of six years was associated with a reversal in the trend of decline in the proportion of childbearing women meeting the criteria and an increase in the proportion meeting the criteria.[52] Current data about unwarranted practice variation[53, 54] and the benchmark achievements of some services and settings[55] suggest great opportunities to obtain better outcomes at lower cost. Many widely used indications for labor induction are not supported by rigorous higher quality evidence.[56] There are abundant non-invasive measures for facilitating labor progress and spontaneous birth that do not rely on the interventions targeted in

	this measure.[57]	
IOM Domains of Health Care Quality Addressed	• Effective • Safe • Efficient	• Equitable • Patient-Centered • Timely
Exception Justification	N/A	
Harmonization with Existing Measures	There is currently no endorsed measure for appropriateness of care during delivery for low-risk women. There is, however, a similar measure developed by the U.K. that measures the number of "Normal Births". This measure is an adaptation for the United States of a consensus measure from the UK ("Normal Birth").[58] The principal proposed changes are to eliminate the requirement of no pharmacologic pain relief and to risk stratify. The measure builds on widely understood concepts and terminology: spontaneous onset of labor and spontaneous birth.	

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Outcome
Level of Measurement	• Clinician-level • Facility-level • Group-level
Care setting	• Inpatient
Data source	• Electronic health record (EHR) data

Maternity Care
Measure #9:

Care Coordination: Prenatal Record Present at Time of Delivery

(Structural Measure)

Measure Description

Percentage of patients, regardless of age, who gave birth at 36 weeks gestation or beyond during a 12-month period whose prenatal record*, or equivalent medical record, was present at the facility at the time of delivery (may include faxing or emailing copy to labor and delivery)

**Components of the prenatal record to be present at delivery are: gestational age; results of: screening for neural tube defects; Screening for Gestational Diabetes; Screening for Asymptomatic Bacteriuria; Hepatitis B specific antigen screening; HIV screening; Group B streptococcus screening (GBS).*

Measure Components

Numerator Statement	Patients whose prenatal record, or equivalent medical record, were present at the facility at time of delivery (may include faxing or emailing copy to labor and delivery) **Components of the prenatal record* to be present at delivery are: gestational age; results of: screening for neural tube defects; Screening for Gestational Diabetes; Screening for Asymptomatic Bacteriuria; Hepatitis B specific antigen screening; HIV screening; Group B streptococcus screening (GBS).*
Denominator Statement	All patients, regardless of age, who gave birth at 36 weeks gestation or beyond during a 12-month period
Denominator Exceptions	System reason for prenatal record not being present at time of delivery (eg, patient delivered at a different facility than planned, other system reason).
Supporting Guideline & Other References	The following evidence statements are quoted <u>verbatim</u> from the referenced clinical guidelines. <u>ACOG and AAP Guidelines for Perinatal Care (ACOG/AAP, 2007):</u> By 36 weeks of gestation, preregistration for labor and delivery at the hospital should be confirmed. By 36 weeks, a copy of the prenatal medical record should be on file in the hospital's labor registration area, including information pertaining to the patient's antepartum course, or equivalent electronic medical record should be accessible. Consideration should be given to providing periodic updates to the prenatal medical record on file. At the time of the patient's admission to the labor and delivery area, pertinent information from the prenatal record should be noted in the admission records.

Measure Importance

Relationship to desired outcome	Coordination of care during pregnancy, including labor and delivery is an essential component to appropriate maternity care. Having the prenatal record available at the hospital prior to birth decreases the chances of repeat testing and unnecessary procedures and provides important data that is critical to the patient. Having prenatal record and labs at the time of delivery also represents rescreening of the mother and is both a quality improvement and cost-reducing mechanism.
Opportunity for	Anecdotal information demonstrates that patients' often present to the hospital for childbirth and the prenatal record has not been made available.

Improvement		
IOM Domains of Health Care Quality Addressed	• Safe • Effective • Patient-Centered	• Equitable • Safety • Efficient
Exception Justification	There may be instances by which a patient delivers at a facility either out of state or where the care was not being delivered, therefore the prenatal record may not be accessible.	
Harmonization with Existing Measures	There are no existing measures in this area.	

Measure Designation

Measure purpose	• Quality improvement • Accountability
Type of measure	• Structural
Level of Measurement	• Clinician-level • Facility-level • Group-level
Care setting	• Inpatient
Data source	• Electronic health record (EHR) data

Measure #10:
Post-Partum Follow-Up and Care Coordination

Measure Description

Percentage of patients, regardless of age, who gave birth during a 12-month period who were seen for post-partum care within 8 weeks of giving birth who received a breast feeding evaluation and education, post-partum depression screening, post-partum glucose screening for gestational diabetes patients, and family and contraceptive planning.

Measure Components

Numerator Statement	Patients receiving the following at a post-partum visit: • Breast feeding evaluation and education, including patient-reported breast feeding • Post-partum depression screening • Post-partum glucose screening for gestational diabetes patients and • Family and contraceptive planning Breast Feeding Evaluation and Education: Patients who were evaluated for breast feeding before or at 8 weeks post-partum. Post-Partum Depression Screening: Patients who were screened for post-partum depression before or at 8 weeks post-partum. Questions may be asked either directly by a health care provider or in the form of self-completed paper- or computer administered questionnaires and results should be documented in the medical record. Depression screening may include a self-reported validated depression screening tool (eg, PHQ-2, Beck Depression Inventory, Beck Depression Inventory for Primary Care, Edinburgh Postnatal Depression Scale (EPDS)) Post-Partum Glucose Screening for Gestational Diabetes: Patients who were diagnosed with gestational diabetes during pregnancy who were screened with a glucose screen before or at 8 weeks post-partum. Family and Contraceptive Planning; Patients who were provided family and contraceptive planning and education *(including contraception, if necessary)* before or at 8 weeks post-partum. *To satisfactorily meet the numerator – ALL components must be performed.
Denominator Statement	All patients, regardless of age, who gave birth during a 12-month period seen for post-partum care visit before or at 8 weeks of giving birth.
Denominator Exceptions	None
Supporting Guideline & Other References	The following evidence statements are quoted verbatim from the referenced clinical guidelines. The following should be included in the postpartum visit (VA/DoD Clinical Practice Guideline for Pregnancy Management, 2009): - Pelvic and breast examinations. [B] - Cervical smear should be completed as indicated by cervical cancer screening guidelines. [A] - Initiate or continue the HPV vaccine series for women age < 26 years [C] - Screening for postpartum depression [B]

	- Screening for domestic violence [B] - Diabetes testing for patients with pregnancies complicated by gestational diabetes. The two-hour 75g oral glucose tolerance test (GTT) is recommended but a fasting glucose can also be done. [B] - Education about contraception, infant feeding method, sexual activity, weight, exercise and the woman's assessment of her adaptation to motherhood. Pre-existing or chronic medical conditions should be addressed with referral for appropriate follow-up as indicated. [I] <u>Breast Feeding</u> The USPSTF recommends interventions during pregnancy and after birth to promote and support breastfeeding. This recommendation applies to pregnant women, new mothers, and young children. In rare circumstances involving health issues in mothers or infants, such as human immunodeficiency virus (HIV) infection or galactosemia, breastfeeding may be contraindicated and interventions to promote breastfeeding may not be appropriate. Interventions to promote and support breastfeeding may also involve a woman's partner, other family members, and friends.[59] <u>Depression Screening</u> Edinburgh Postnatal Depression Scale (EPDS):The 10-question Edinburgh Postnatal Depression Scale (EPDS) is a valuable and efficient way of identifying patients at risk for "perinatal" depression. The EPDS is easy to administer and has proven to be an effective screening tool. Mothers who score above 13 are likely to be suffering from a depressive illness of varying severity. The EPDS score should not override clinical judgment. A careful clinical assessment should be carried out to confirm the diagnosis. The scale indicates how the mother has felt during the previous week. In doubtful cases it may be useful to repeat the tool after 2 weeks.[60]

Measure Importance

Relationship to desired outcome	Managing and ensuring concrete post partum follow up after delivery is a critical challenge to the health care system impacting the quality of care mothers receive. Post-partum follow-up for depression screening, breast feeding evaluation, family planning, and glucose screening are important risk factors to evaluate after childbirth. Maternal depression is one of the most common perinatal complications; however, the disorder remains unrecognized, undiagnosed, and untreated. [61] The various maternal depression disorders are defined by the severity of the depression and the timing and length of the episode. Studies report that three to 25 percent of women experience major depression during the year following childbirth. [62] Establishing the diagnosis of gestational diabetes mellitus offers an opportunity not only to improve pregnancy outcome, but also to decrease risk factors associated with the subsequent development of type 2 diabetes. The American College of Obstetricians and Gynecologists' Committee on Obstetric Practice recommends that all women with gestational diabetes mellitus be screened at 6-12 weeks postpartum and managed appropriately. This measure is a measure of the adequacy of the care provided for those that come for postpartum care , as patients who do not have post-partum visits are excluded from this measure. We recommend that those patients be identified in the HEDIS measure.
Opportunity for Improvement	A 2008 report summarized results of women's postpartum experiences from two national surveys carried out by Childbirth Connection showed that 6% of mothers did not have a postpartum office visit between 3 and 8 weeks after birth.

	Mothers were asked to rate if physical or emotional problems interfered with their ability to take care of their baby in the first two months after birth, and 33% reported their postpartum physical health interfered at least "some" with their ability to care for their baby, while 30% reported that their postpartum emotional health interfered at least "some." Mothers who experienced a cesarean were far more likely than mothers with vaginal births (55% to 27%) to report that physical problems interfered with their baby care.[63] A 2006 national survey by Childbirth Connection found that almost half of women were not screened for depression in the post-partum period. Survey results showed that only 58 percent of women reported that they were screened for depression during the postpartum visit. [64]	
IOM Domains of Health Care Quality Addressed	• Effective • Patient-Centered • Efficient	• Equitable • Timely
Exception Justification	N/A	
Harmonization with Existing Measures	There are currently no endorsed post-partum visit measures that assess breast feeding, depression, glucose screening for gestational diabetes patients, and family planning.	

Measure Designation

Measure purpose	• Quality Improvement • Accountability
Type of measure	• Process
Level of Measurement	• Clinician-level • Group-level
Care setting	• Ambulatory care
Data source	• Electronic health record (EHR) data

Guideline Evidence Classification and Rating Schemes

Maternity Care

Infectious Diseases Society of America Quality of Evidence

I. Evidence from >1 properly randomized, controlled trial

II. Evidence from >1 well-designed clinical trial, without randomization; from cohort or case-controlled analytic studies (preferably from >1 center); from multiple time-series; or from dramatic results from uncontrolled experiments

III. Evidence from opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

Strength of Recommendation

A. Good evidence to support a recommendation for use; should always be offered

B. Moderate evidence to support a recommendation for use; should generally be offered

C. Poor evidence to support a recommendation; optional

D. Moderate evidence to support a recommendation against use; should generally not be offered

E. Good evidence to support a recommendation against use; should never be offered

ICSI Evidence Grading System

A. Primary Reports of New Data Collection

Class A:

- Randomized, controlled trial

Class B:

- Cohort study

Class C:

- Non-randomized trial with concurrent or historical controls
- Case-control study
- Study of sensitivity and specificity of a diagnostic test
- Population-based descriptive study

Class D:

- Cross-sectional study
- Case series
- Case report

B. Reports that Synthesize or Reflect upon Collections of Primary Reports

Class M:

- Meta-analysis
- Systematic review
- Decision analysis
- Cost-effectiveness analysis

Class R:

- Consensus statement
- Consensus report
- Narrative review

Class X:

Medical opinion

ACOG Grades of Evidence

I: Evidence obtained from at least one properly designed randomized controlled trial.

II-1: Evidence obtained from well-designed controlled trials without randomization.

II-2: Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.

II-3: Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Levels of Recommendations

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.

Level C — Recommendations are based primarily on consensus and expert opinion.

Council of the Society of Obstetricians and Gynaecologists of Canada (SOGC) Grade of Recommendations

Table 1. Criteria for quality of evidence assessment and classification of recommendations

Level of evidence*	Classification of recommendations†
I: Evidence obtained from at least one properly designed randomized controlled trial. II-1: Evidence from well-designed controlled trials without randomization. II-2: Evidence from well-designed cohort (prospective or retrospective) or case-control studies, preferably from more than one centre or research group. II-3: Evidence from comparisons between times or places with or without the intervention. Dramatic results from uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category. III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.	A. There is good evidence to support the recommendation for use of a diagnostic test, treatment, or intervention. There is B. fair evidence to support the recommendation for use of a diagnostic test, treatment, or intervention. There is C. insufficient evidence to support the recommendation for use of a diagnostic test, treatment, or intervention. There is D. fair evidence not to support the recommendation for a diagnostic test, treatment, or intervention. There is good evidence not to support the recommendation for use of a diagnostic test, treatment, or intervention.

_The quality of evidence reported in these guidelines has been adapted from the Evaluation of Evidence criteria described in the Canadian Task Force on the Periodic Health Exam.150 †Recommendations included in these guidelines have been adapted from the Classification of Recommendations criteria described in the Canadian Task Force on the Periodic Health Exam.150

VA/DoD Clinical Practice Guideline For Pregnancy Management Evidence Rating System

A A strong recommendation that the clinicians provide the intervention to eligible patients.
Good evidence was found that the intervention improves important health outcomes and concludes that benefits substantially outweigh harm.

B A recommendation that clinicians provide (the service) to eligible patients.
At least fair evidence was found that the intervention improves health outcomes and concludes that benefits outweigh harm.

C No recommendation for or against the routine provision of the intervention is made.
At least fair evidence was found that the intervention can improve health outcomes, but concludes that the balance of benefits and harms is too close to justify a general recommendation.

D Recommendation is made against routinely providing the intervention to asymptomatic patients.
At least fair evidence was found that the intervention is ineffective or that harms outweigh benefits.

I The conclusion is that the evidence is insufficient to recommend for or against routinely providing the intervention.

Evidence that the intervention is effective is lacking, or poor quality, or conflicting, and the balance of benefits and harms cannot be determined.
** SR= Strength of Recommendation*

AAFP Grade of Recommendations

A. Recommendation based on consistent and good-quality, patient-oriented evidence*

B. Recommendation based on inconsistent or limited-quality, patient-oriented evidence*

C. Recommendation based on consensus, usual practice, opinion, disease-oriented evidence, or case series for studies of diagnosis, treatment, prevention, or screening*

Summary of Non-Material Interest Disclosures

None of the members of the Maternity Care Work Group had any disqualifying material interests under the PCPI Conflict of Interest Policy. The following is a summary of non disqualifying interests disclosed on Work Group members' Material Interest Disclosure Statements (not including information concerning family member interests). Completed Material Interest Disclosure Statements are available upon request.

Work Group Member	Disclosures
Eli Y. Adashi	None
Debra Bingham	None
David J. Burchfield	None
Aaron Caughey	None
Cynthia H. Chuang	None
Maureen Corry	None
Laura Goetzl	None
Michael F. Greene	None
Kimberly Gregory	Non-financial relationships: American College of Ob Gyns, Society Maternal Fetal Medicine – uncompensated board member
Tina Groat	Salary support: Employed by United Healthcare
Joy L. Hawkins	None
Matthew K Hoffman	None
R. Rima Jolivet	None
Catherine A. Jones	None
Jeffrey A. Kuller	None
Pat J. Kulpa	None
Charles J. Lockwood	Salary support: develop recommendations for Ob/ Gyn practice: Editor (Contemporary Ob/Gyn (consultant fee); Section Editor (Obstetrics) – up to date (consultant fee); Committee Member – ACOG (no salary)
Elliot K. Main	None
Celeste G. Milton	None
Janet Lee Partridge	None
T. Flint Porter	None
Samuel F. Posner	None
Catherine E. Ruhl	None
Lisa Summers	None
Carol S. Weisman	None
Allan J. Wilke	None
Louise E. Wilkins-Haug	Salary Support: Genetics editor for “Up To Date”; Course participant for American College of Clinical Genetics Review Course

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