TO: NQF Members and Public

FR: NQF Staff

RE: Pre-voting review for *Perinatal and Reproductive Healthcare: Endorsement Maintenance 2011*

DA: December 21st, 2011

NQF has previously endorsed consensus standards to evaluate the quality of care for perinatal and reproductive healthcare. This project seeks to identify and endorse measures for public reporting and quality improvement addressing reproductive health, pregnancy, childbirth and post-partum care, and newborn care. An evaluation of all NQF-endorsed perinatal and reproductive health measures and consideration of new measures will ensure the currency of NQF's portfolio of voluntary consensus standards.

A 27-member Steering Committee representing a range of stakeholder perspectives was appointed to evaluate 3 new measures (including one composite measure with ten components) and 19 previously endorsed measures for maintenance review.

The draft document, *National Voluntary Consensus Standards: Perinatal and Reproductive Healthcare Endorsement Maintenance, 2011: A Consensus Report* is posted on the NQF website along with the measure submission forms. This report recommends continued endorsement of 12 measures and endorsement of 2 newly submitted measures.

Pursuant to section II.A of the Consensus Development Process v. 1.8, this draft document, along with the accompanying material, is being provided to you at this time for purposes of review and comment only and is not intended to be used for voting purposes. You may post your comments and view the comments of others on the NQF website.

Please note that the organization of this report has been modified, similar to the recent Renal and Cardiovascular Endorsement Maintenance reports. The intention is to begin with high-level information (e.g., overarching evaluation issues and lists of measures) followed by more detail about the evaluation ratings and rationale in the measure evaluation summary tables. The detailed measure specifications for the recommended measures are in Appendix A and all submitted measure information is posted on the project web page.

All comments must be submitted no later than 6:00 pm ET, January 19, 2012.

Thank you for your interest in NQF's work. We look forward to your review and comments.

NATIONAL QUALITY FORUM

PERINATAL AND REPRODUCTIVE HEALTH ENDORSEMENT MAINTENANCE, 2011

DRAFT TECHNICAL REPORT FOR COMMENT

December 21, 2011

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PERINATAL AND REPRODUCTIVE HEALTH ENDORSEMENT MAINTENANCE, 2011 Draft Technical Report

INTRODUCTION

Research suggests that morbidity and mortality associated with pregnancy and childbirth are to a large extent preventable through adherence to existing evidence-based guidelines. Poor-quality care during pregnancy, labor and delivery, and the postpartum period can translate into unnecessary maternal and newborn complications, prolonged lengths of stay, costly neonatal intensive care unit (NICU) admissions, and anxiety and suffering for patients and families. Moreover, numerous studies have documented persistent racial, ethnic, and socioeconomic disparities in maternal morbidity and mortality, preterm births, low birth weight infants, and other adverse outcomes.

This endorsement maintenance project evaluated measures for public reporting/accountability and quality improvement that specifically address reproductive health; pregnancy care; childbirth; and newborn care. Perinatal and reproductive health-related consensus standards that were endorsed by NQF before June 2009 were evaluated under the maintenance process. Endorsement maintenance provides the opportunity to harmonize specifications and to ensure that an endorsed measure represents the best in class. Composite and outcome measures and measures sensitive to the needs of vulnerable populations, including racial/ethnic minorities and Medicaid populations were a priority.

MEASURE EVALUATION

On November 29-30, 2011 the Perinatal and Reproductive Health Steering Committee evaluated three new measures and 19 measures undergoing maintenance review against NQF's standard evaluation criteria. To facilitate the evaluation, the committee and candidate standards were divided into four workgroups for preliminary review of the measures against the evaluation sub-criteria prior to consideration by the entire Steering Committee. The Committee's discussion and ratings of the criteria are summarized in the evaluation tables beginning on page 8.

PERINATAL AND REPRODUCTIVE HEALTH ENDORSMENT MAINTENANCE SUMMARY

	MAINTENANCE	NEW	TOTAL
Measures under consideration	**28**	**3***	**31**
Withdrawn from consideration	**10**		
Recommended	**12**	**2**	**14**
Not recommended	**6**	**1**	**7**
Reasons for Not Recommending	**Importance – 3 Scientific Acceptability - 1 Overall - 1 Competing measure – 1**	**Importance - 1**	

*****

****Includes one composite measure with 10 components.**

Overarching Issues

During the Steering Committee's discussion of the measures, several overarching issues emerged that were factored into the Committee's ratings and recommendations for multiple measures and are not repeated in detail with each individual measure:

Long-term outcomes

Several measures assessed use of medications have been shown to benefit the infant (steroids, Group B Strep prophylaxis) or the mother (prophylactic antibiotics for Cesarean section) without evidence of adverse outcomes in the short term. However, emerging data raise concerns regarding potential changes in neonatal gut flora with C-section and antibiotics use. Data on long-term outcomes are not available though questions remain. The Committee suggested that population-health level measures that can follow children for many years may provide valuable information on potential long-term risks.

Population-level companion measures

The Committee noted that several measures have significant regional and cultural influences, such as breast feeding rates. Companion population-level measures may be useful in changing the attitudes and values of a community for overall improved care for women and infants.

Composite measures

The Committee generally supported the concept of composite measures for various aspects of prenatal, intra-partum, postpartum, and neonatal care. Although the Committee did not recommend the one safety-related composite measure submitted for consideration, they urged the developers to continue their work and offered suggestions to improve the measure. There were also multiple Committee suggestions for new composite measure development.

Use of vital statistics as a data source

Committee members noted that vital statistics data are underutilized for performance measurement. Many stakeholders such as states and Medicaid agencies do not have access to medical record data. Birth certificate data can provide additional clinical information not available in billing records. Measures that combine claims data and vital records data can be useful in the absence of chart data.

Related and competing measures

The Committee evaluated four similar measures for health-care acquired neonatal infections and agreed it would prefer to recommend a single measure rather than multiple, overlapping measures. While the measure specifications are similar, the data sources for three of the four measures, however, are very different. One is built from hospital billing data, a second is based on voluntary individual hospital submissions to The Joint Commission, and two are developed from data submitted to the Vermont Oxford Network by its member hospitals. Thus the variation and

benchmark information each could generate is potentially quite different, and the various current users understandably do not want to lose that capacity. However, states and private purchasers do not readily have access to the registry-base measures. Given these issues, the Committee recommended retaining three of the measures for the present time.

Harmonization

Harmonization was not a significant issue in this project. One new measure was submitted fully harmonized with an endorsed measure. It is anticipated that clinician-level measures in development will be harmonized with these facility-level measures.

RECOMMENDATIONS FOR FUTURE MEASURE DEVELOPMENT

During their discussions the Committee identified numerous areas where additional measure development is needed:

- Preconception care – reproductive health planning and optimized health status at onset of pregnancy including HIV screening, obesity screening; assessment of medication use; screening for tobacco, drugs and alcohol use; and coordination with clinicians caring for medical conditions such as diabetes and hypertension.
- Prenatal care – the many important care processes lend themselves to a composite that might include: HIV screening, tuberculosis screening, Hepatitis B screening, screening for tobacco, drugs and alcohol use; screening for domestic violence; screening for STDs; screening for congenital anomalies; accurate dating; weight management; and flu vaccination.
- Disparities-sensitive measures in prenatal care such as anemia.
- Management of obesity and weight gain during pregnancy.
- The common, consequential, and treatable circumstances of smoking in pregnancy.
- Postpartum depression and treatment.
- Access to and adequacy of genetic counseling and patient assessment of the counseling.
- Quality of obstetrical ultrasound, i.e., potentially diagnosable conditions that were missed.
- Diabetes management including appropriate screening, management, glucose control and post-partum follow-up.
- Spontaneous labor and birth and lack of unwarranted intervention measure in low-risk women.
- Vaginal Birth After C-section (VBAC) – counseling all women; availability of VBAC and VBAC success rates.
- Appropriateness/efficiency measures (in addition to episiotomy and C-section) for induction of labor, ultrasound use, prenatal testing.
- Measures that are specific to care that nurses provide
- "Ideal" or "Optimal" birth outcome measure – mom and baby go home together without complications; a measure could build on the NQF-endorsed *Healthy Term Newborn* measure (#716).
- A composite measure that addresses the quality of care during labor and birth.
- Breastfeeding –

  - measures to support hospitals using measure *Exclusive Breast Milk Feeding (#480)*, e.g., prenatal education on benefits of breastfeeding, skin-to-skin contact during the first hour of life, timing of breastfeeding initiation; and elements of WHO Baby Friendly Hospital Initiative and CDC Maternity Practices in Infant Nutrition and Care (mPINC) survey;
  - rates of exclusive breastfeeding stratified by maternal intention to breastfeed;
  - rates of breastfeeding for infants cared for in NICUs stratified by weight groups and gestational age.
- Postpartum follow-up – expand beyond NQF-endorsed measure *Prenatal and Postpartum Care* (#1517) to include important care at the postpartum visit such as contraception counseling/reproductive health planning, diabetes follow-up, weight management, breastfeeding support.
- Care of VLBW infants (<1500 grams and >24 weeks) such as any human milk at discharge; chronic lung disease (oxygen required at 36 weeks); pneumothorax rate; growth velocity; and in-hospital mortality after 12 hours of life.
- Prematurity rates and Late Preterm Infants (70% of Preterm Infants born in the United States), e.g., number of infants born, location of care, intervention rates, use of progesterone in appropriate patients; stratified by race/ethnicity
- Adverse outcome measures for mother and infant including mortality and near misses and complications, such as from instrumented deliveries.
- Care coordination and care transitions in maternity care.
- Family-centered care/family empowerment and shared decision-making.
- Adaptation of the CAHPS provider, facility and health plan surveys tailored to the experience of care of childbearing woman and infants that include the full range of care providers, settings and complex issues such as pain relief
- Patient reported outcomes of the childbirth experience captured around six weeks postpartum.

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MEASURE EVALUATION SUMMARY TABLES

MEASURES RECOMMENDED

0469 PC-01 Elective Delivery

Measure Submission Form

Description: This measure assesses patients with elective vaginal deliveries or elective cesarean sections at >= 37 and < 39 weeks of gestation completed. This measure is a part of a set of five nationally implemented measures that address perinatal care (PC-02: Cesarean Section, PC-03: Antenatal Steroids, PC-04: Health Care-Associated Bloodstream Infections in Newborns, PC-05: Exclusive Breast Milk Feeding)

Numerator Statement: Patients with elective deliveries with ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for one or more of the following:

- Medical induction of labor as defined in Appendix A, Table 11.05 available at: http://manual.jointcommission.org
- Cesarean section as defined in Appendix A, Table 11.06 while not in Active Labor or experiencing Spontaneous Rupture of Membranes available at: http://manual.jointcommission.org

Denominator Statement: Patients delivering newborns with >= 37 and < 39 weeks of gestation completed

Exclusions:

- ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for conditions possibly justifying elective delivery prior to 39 weeks gestation as defined in Appendix A, Table 11.07
- Less than 8 years of age
- Greater than or equal to 65 years of age
- Length of Stay >120 days
- Enrolled in clinical trials

Adjustment/Stratification: No risk adjustment or risk stratification Not Applicable Not Applicable

Level of Analysis: Facility, Population : National

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data, Paper Records

Measure Steward: The Joint Commission

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-25; N-0

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-7; M-0; L-1; I-0; 1b. Performance Gap: H-8; M-0; L-0; I-0

1c. Evidence Quantity: H-7; M-1; L-0; I-0; Quality: H-3; M-4; L-1; I-0; Consistency: H-7; M-0; L-1; I-0

Rationale:

- Significant opportunity for improvement – Joint Commission data indicates current performance at 18%.
- Evidence is strong that elective delivery prior to 39 weeks impacts newborn adversely.
- The goal is not 0% because of unusual circumstances that will not be captured by the measure.
- .

2. Scientific Acceptability of Measure Properties: Y-24; N-1

(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)

2a. Reliability: H-5; M-2; L-0; I-1 2b. Validity: H-4; M-4; L-0; I-0

Rationale:

- Measure has generous exclusions, but two significant exclusions are left out – prior Classical C-section and myomectomy – developer acknowledges that they are hearing this feedback repeatedly and are considering including, though the number of Classical C-sections and myomectomies is quite small.
- Some coding issues – “active labor” not easily coded; ICD-10 has greater specificity but Classical C-section and myomectomy are not in the first iteration.
- Exclusions are generous but some “diagnosis creep” may be seen with increased use of allowable exclusions

3. Usability: H-9; M-15; L-1; I-0

(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*

0469 PC-01 Elective Delivery
3a. Public Reporting: H-4; M-3; L-0; I-1 3b. QI: H-4; M-3; L-0; I-1 Rationale: • Some limitations for use with Medicaid not all elements are readily captured in billing codes. • Some chart review is needed after use of the codes. • The March of Dimes has embraced the issue of premature elective delivery as part of their larger Campaign on Prematurity.
4. Feasibility: H-3; M-21; L-1; I-0 *(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)* 4a. Byproduct of Care Processes: H-7; M-0; L-1; I-0 4b. Electronic data sources: H-4; M-4; L-0; I-0 4c. Suscep inaccuracies, consequences: H-2; M-4; L-1; I-1 4d. Data collection strategy: H-6; M-2; L-0; I-0 Rationale: • Data intense but feasible. • Possibility for overuse of "soft" exclusion criteria.
Steering Committee Recommendation for Endorsement: Y-25; N-0 Rationale: Since endorsement in 2008 this measure has been adopted by many providers and the March of Dimes has launched a major campaign to prevent unnecessary prematurity. Data indicates significant opportunity for improvement and the evidence is strong that newborns are adversely affected by unnecessary early birth. The developers indicate a willingness to include two important exclusions – Classical C-section and myomectomy. RECOMMENDATION: Strongly recommend additional exclusions for prior Classical C/S and myomectomy

0470 Incidence of Episiotomy

Measure Submission Form

Description: Percentage of vaginal deliveries (excluding those coded with shoulder dystocia) during which an episiotomy is performed.
Numerator Statement: Number of episiotomy procedures (ICD-9 code 72.1, 72.21, 72.31, 72.71, 73.6; ICD-10 PCS:0W8NXZZ,0WQNXZZ,10D07Z3,10D07Z4,10D07Z5,10D07Z6) performed on women undergoing a vaginal delivery (excluding those with shoulder dystocia) during the analytic period- monthly,quarterly, yearly etc.
Denominator Statement: All vaginal deliveries during the analytic period- monthly, quarterly, yearly etc. excluding those coded with a shoulder dystocia.
Exclusions: Women who have a coded complication of shoulder dystocia. In the case of shoulder dystocia, an episiotomy is performed to free the shoulder and prevent/mitigate birth injury to the infant.
Adjustment/Stratification: No risk adjustment or risk stratification NA NA
Level of Analysis: Facility
Type of Measure: Outcome, Process
Data Source: Administrative claims, Paper Records
Measure Steward: Christiana Care Health System

STEERING COMMITTEE MEETING 11/29-30/2011
Importance to Measure and Report: Y-19; N-0
(1a. High Impact: 1b. Performance Gap, 1c. Evidence)
1a. Impact: H-5; M-4; L-0; I-0; 1b. Performance Gap: H-6; M-3; L-0; I-0
1c. Evidence Quantity: H-6; M-2; L-0; I-1; Quality: H-4; M-4; L-0; I-1; Consistency: H-6; M-1; L-0; I-1
Rationale:

- Significant literature against episiotomy; evidence for increased risk of 3rd and 4th degree lacerations with episiotomy.
- ACOG supports restricted use of episiotomy.
- Wide variation in provider performance: in 2010 the National Perinatal Information Center reported a national rate of 16.2% with tremendous inter center variation (4.3% to 34.6%).
- Committee members report that when this measure is implemented, rapid improvement is seen.

2. Scientific Acceptability of Measure Properties: Y-19; N-0
(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: H-8; M-1; L-0; I-0 2b. Validity: H-4; M-5; L-0; I-0
Rationale:

- Uses administrative data; CPT procedure codes are usually coded reliably.
- Developers comparison with charts: some mismatch but random whether over coding or under coding.
- Only exclusion is shoulder dystocia – an appropriate indication for episiotomy.
- Level of analysis at the facility level produces a stable result. Confidence intervals for individual clinicians is very unstable.

3. Usability: H-14; M-4; L-1; I-0
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: H-5; M-1; L-3; I-0
3b. QI: H-5; M-4; L-0; I-0
Rationale:

- Easily understood by multiple audiences.
- NPIC data shows wide variation in episiotomy incidence.
- Where measure has been used, rates of episiotomy are dropping.

4. Feasibility: H-15; M-5; L-0; I-0
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)
4a. Byproduct of Care Processes: H-8; M-1; L-0; I-0
4b. Electronic data sources: H-8; M-1; L-0; I-0
4c. Suscep inaccuracies, consequences: H-8; M-0; L-1; I-0
4d. Data collection strategy: H-9; M-0; L-0; I-0
Rationale:

- High fidelity in coding..

0470 Incidence of Episiotomy
• Measures is easy to collect and useful for comparisons
Steering Committee Recommendation for Endorsement: Y-19; N-1 Rationale: Current data indicates overuse of episiotomy and wide variation in performance. Evidence and ACOG guidelines support restricted use of episiotomy. When this measure is implemented, rapid performance improvement has been observed.

0471 PC-02 Cesarean Section

Measure Submission Form

Description: This measure assesses the number of nulliparous women with a term, singleton baby in a vertex position delivered by cesarean section. This measure is part of a set of five nationally implemented measures that address perinatal care (PC-01: Elective Delivery, PC-03: Antenatal Steroids, PC-04: Health Care-Associated Bloodstream Infections in Newborns, PC-05: Exclusive Breast Milk Feeding).

Numerator Statement: Patients with cesarean sections with ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for cesarean section as defined in Appendix A, Table 11.06 available at:
http://manual.jointcommission.org

Denominator Statement: Nulliparous patients delivered of a live term singleton newborn in vertex presentation

Exclusions: • ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for contraindications to vaginal delivery as defined in Appendix A, Table 11.09

- Less than 8 years of age
- Greater than or equal to 65 years of age
- Length of Stay >120 days
- Enrolled in clinical trials

Adjustment/Stratification: Other Direct rate standardization to the distribution of the 2006 US population of nulliparous births. See attached spreadsheet for age bands used in the direct standardization. Not Applicable The Stratification Table used for direct standardization includes the Set Number, Stratified By, and the Age Stratum (Allowable Value). The Age Stratum refers to Patient Age which is calculated by the data element Admission Date minus the data element Birthdate. Each case will be stratified according to the patient age, after the Category Assignments (e.g., numerator, denominator, not in measure population) are completed and the overall rate is calculated.

Set Number	Stratified By	Age Stratum
PC-02a	Overall Rate	No allowable value exists for the overall rate. It includes all patients greater than or equal to 8 years and less than 65 years.
PC-02b	Age 8 years through 14 years	A Patient Age (Admission Date minus Birthdate) greater than or equal to 8 years and less than 15 years.
PC-02c	Age 15 years through 19 years	A Patient Age (Admission Date minus Birthdate) greater than or equal to 15 years and less than 20 years.
PC-02d	Age 20 years through 24 years	A Patient Age (Admission Date minus Birthdate) greater than or equal to 20 years and less than 25 years.
PC-02e	Age 25 years through 29 years	A Patient Age (Admission Date minus Birthdate) greater than or equal to 25 years and less than 30 years.
PC-02f	Age 30 years through 34 years	A Patient Age (Admission Date minus Birthdate) greater than or equal to 30 years and less than 35 years.
PC-02g	Age 35 years through 40 years	A Patient Age (Admission Date minus Birthdate) greater than or equal to 35 years and less than 40 years.
PC-02h	Age 40 years through 44 years	A Patient Age (Admission Date minus Birthdate) greater than or equal to 40 years and less than 45 years.
PC-02i	Age 45 years through 64 years	A Patient Age (Admission Date minus Birthdate) greater than or equal to 45 years and less than 65 years.

Level of Analysis: Facility, Population : National

Type of Measure: Outcome

Data Source: Administrative claims, Paper Records

Measure Steward: The Joint Commision

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-25; N-0

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-7; M-0; L-0; I-0; 1b. Performance Gap: H-7; M-0; L-0; I-0

1c. Evidence Quantity: H-6; M-0; L-0; I-0; Quality: H-4; M-2; L-0; I-0; Consistency: H-5; M-1; L-0; I-0

Rationale:

- ACOG says this is the "optimal measure" for Cesarean section because it focuses on the first-time, uncomplicated pregnancy.
- Current performance 27.7% nationwide; rates are stable, not increasing.
- Measure looks at the outcome of the management of labor.
- The low-risk population is responsible for the large overall increase in C-section rates and shows the greatest variation.

0471 PC-02 Cesarean Section

- Large regional variations are observed.
- Measure results are related to induction rates; also parallels regional hysterectomy patterns.

2. Scientific Acceptability of Measure Properties: Y-25; N-0
(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: H-6; M-1; L-0; I-0 2b. Validity: H-4; M-3; L-0; I-0
Rationale:

- Easily extractable from vital records.
- Good definitions.
- Stratification by age adjustment reflects linear rise in C/S rates from age 18 through 40 years (correlation coefficient = 98%).

3. Usability: H-23; M-2; L-0; I-0
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: H-6; M-1; L-0; I-0
3b. QI: H-5; M-2; L-0; I-0
Rationale:

- Medicaid program core measure
- Greater incentives may be needed to see greater impact on results.
- Systems issues need to be addressed
- Initially a poorly understood measure – significant learning curve as measure is more widely adopted.
- Improved performance on elective delivery < 39 weeks measure may reduce the C/S rate
- Another good measure for population assessment – vital records are readily available

4. Feasibility: H-16; M-9; L-0; I-0
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)
4a. Byproduct of Care Processes: H-5; M-2; L-0; I-0
4b. Electronic data sources: H-7; M-0; L-0; I-0
4c. Suscep inaccuracies, consequences: H-4; M-3; L-0; I-0
4d. Data collection strategy: H-7; M-0; L-0; I-0
Rationale:

- States, Medicaid agencies and purchasers can do this measure.
- Vital records as an alternative data source.

Steering Committee Recommendation for Endorsement: Y-25; N-0
Rationale: This is considered to be the "optimal measure" for primary Cesarean section. The measure assesses the outcome of the management of labor. Large regional variations are seen. The measure is readily constructed from several data sources.

0472 Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision– Cesarean Section.

Measure Submission Form

Description: Percentage of patients undergoing cesarean section who receive appropriate prophylactic antibiotics within 60 minutes of the start of the cesarean delivery, unless the patient is already receiving appropriate antibiotics

Numerator Statement: Percentage of women who receive recommended antibiotics within one hour before the start of cesarean section. This requires that (a) the antibiotic selection is consistent with current evidence and practice guidelines, and (b) that the antibiotics are given within an hour before delivery.

If the patient is already receiving appropriate antibiotics, for example for chorioamnionitis, additonal dosing is not necessary.

Denominator Statement: All patients undergoing cesarean section without evidence of prior infection or already receiving prophylactic antibiotics for other reasons. Patients with significant allergies to penicillin and/or cephalosporins AND allegies to gentamicin and/or clindamycin are also excluded.

Exclusions: Women with evidence of prior infection or already receiving prophylactic antibiotics for other reasons; or with significant allergies to penicillin and/or cephalosporins AND allegies to gentamicin and/or clindamycin.

We do not exclude patients having emergency cesarean deliveries. We recognize that while in the case of most urgent and emergent cesarean deliveries administering timely antibiotic prophylaxis will be possible, very rarely clinical circumstances may not permit administration of antibiotic prophylaxis before skin incisions. Specifying these unusual circumstances, especially from readily abstracted medical record data, is not possible/feasible. Allowing a self-defined exclusion risks inappropriate definition. Instead we recognize that ideal performance on this measure may not be 100% given the small number of unusual emergencies and/or other circumstances. Providers/facilities should however target a 100% goal by, among other efforts, considering how antibiotic prophylaxis will be appropriately delivered even in the case of emergencies

Adjustment/Stratification: No risk adjustment or risk stratification n/a The measure may electively be stratified by race, ethnicity, or other variables of interest. These additional variables would be identified and supplied by users according to local needs and interests.

Level of Analysis: Facility, Population : State

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Paper Records

Measure Steward: Massachusetts General Hospital/Partners Health Care System

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-26; N-0

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-7; M-1; L-0; I-0; 1b. Performance Gap: H-5; M-2; L-1; I-0

1c. Evidence Quantity: H-8; M-0; L-0; I-0; Quality: H-6; M-2; L-0; I-0; Consistency: H-8; M-0; L-0; I-0

Rationale:

- More than 1 million C-sections every year; high rates of surgical site infection.
- Clear evidence than antibiotic prophylaxis reduces surgical site infection.
- The measure is in use in the MassHealth pay for performance program --, state-wide rates of compliance with the overall measure (timing and selection) were 61% in FY 2008, 75% in RY 2009, and 77% in FY 2010.
- Uncertain impact of antibiotic exposure to fetus; early data indicating change in fetal gut flora with C-section and antibiotic exposure; recent studies show changes in microbiological environment but not yet associated with health outcomes – need longer-term studies to follow babies.

2. Scientific Acceptability of Measure Properties: Y-26; N-0

(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)

2a. Reliability: H-5; M-3; L-0; I-0 2b. Validity: H-6; M-2; L-0; I-0

Rationale:

- Good specifications.
- Well-tested; includes both timing and antibiotic selection.

3. Usability: H-24; M-2; L-0; I-0

(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*

3a. Public Reporting: H-7; M-1; L-0; I-0

3b. QI: H-8; M-0; L-0; I-0

Rationale:

- Used in Massachusetts with steady improvement in past three years.
- Hospitals already collect data for SCIP – this is an additional surgical procedure .

0472 Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision– Cesarean Section.
• Harmonized with SCIP measures.
4. Feasibility: H-19; M-7; L-0; I-0 *(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)* 4a. Byproduct of Care Processes: H-7; M-0; L-1; I-0 4b. Electronic data sources: H-2; M-4; L-2; I-0 4c. Suscep inaccuracies, consequences: H-6; M-2; L-0; I-0 4d. Data collection strategy: H-7; M-1; L-0; I-0 Rationale: • Can't do routine electronic data collection on all systems, but some do have the capability.
Steering Committee Recommendation for Endorsement: Y-26; N-0 Rationale: This measure is harmonized with the SCIP measures, but covers a surgery that is excluded in the SCIP measures. Cesarean section is a high-frequency procedure with significant risk of surgical site infection. Current use in Massachusetts identifies opportunity for improvement and improvement over time when implemented.

0473 Appropriate DVT Prophylaxis in Women Undergoing Cesarean Delivery

Measure Submission Form

Description: Measure adherance to current ACOG, SMFM recommendations for use of DVT prophylaxis in women undergoing cesarean delivery. Current ACOG and SMFM recommendations call for the use of pneumatic compression devices in all women undergoing cesarean delivery who are not already receiving medical VTE prophylaxis. Numerator: Number of women undergoing cesarean delivery receiving either pneumatic compression device or medical prophylaxis prior to cesarean delivery. Denominator: All women undergoing cesarean delivery.
Numerator Statement: Number of women undergoing cesarean delivery who receive either fractionated or unfractionated heparin or heparinoid, or pneumatic compression devices prior to surgery
Denominator Statement: All women undergoing cesarean delivery.
Exclusions: Not receiving medical anticoagulation
Adjustment/Stratification: No risk adjustment or risk stratification N/A N/A
Level of Analysis: Facility
Type of Measure: Process
Data Source: Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Pharmacy, Paper Records
Measure Steward: Hospital Corporation of America

STEERING COMMITTEE MEETING 11/29-30/2011
Importance to Measure and Report: Y-20; N-3
(1a. High Impact: 1b. Performance Gap, 1c. Evidence)
1a. Impact: H-3; M-4; L-1; I-0; 1b. Performance Gap: H-1; M-4; L-3; I-0
1c. Evidence Quantity: H-1; M-4; L-3; I-0; Quality: H-1; M-4; L-3; I-0; Consistency: H-3; M-2; L-2; I-0
Rationale:

- Process to prevent an uncommon but catastrophic event – pulmonary embolism accounts for 10% maternal deaths in US.
- VTE is the number 1 preventable cause of maternal death.
- Limited data on current performance as it is not in widespread use.
- Recent ACOG practice bulletin (September 2011) recommends DVT prophylaxis. Society of Maternal Fetal Medicine has similar guideline.
- Limited evidence in pregnant patients except for recent study from HCA; extrapolated from experience in other surgical patients. Data from HCA reported a reduction in fatal PE rate from 1.5/100,000 to 0.5/100,000 with use of prophylaxis.
- Cost-effectiveness data suggests low cost/easy to use.
- Does not address antepartum or post-partum DVT– intraoperative use only.
- 3/1000 incidence of DVT in pregnancy though some ascertainment issues; five-fold increase in DVT with C-section.

2. Scientific Acceptability of Measure Properties: Y-24; N-1
(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: H-3; M-2; L-2; I-0 2b. Validity: H-3; M-4; L-0; I-0
Rationale:

- Data elements are straightforward
- Single exclusion of being on pharmacologic prophylaxis (small number of patients) eases data collection.

3. Usability: H-18; M-6; L-1; I-0
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: H-3; M-4; L-0; I-0
3b. QI: H-4; M-2; L-1; I-0
Rationale:

- Easy to understand
- Easy to drive practice change
- However, does not deal with the problem of continuing compliance through to hospital discharge and longer period of elevated risk.

4. Feasibility: H-13; M-11; L-1; I-0
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)

0473 Appropriate DVT Prophylaxis in Women Undergoing Cesarean Delivery
4a. Byproduct of Care Processes: H-6; M-1; L-1; I-0 4b. Electronic data sources: H-5; M-2; L-1; I-0 4c. Suscep inaccuracies, consequences: H-2; M-4; L-2; I-0 4d. Data collection strategy: H-6; M-2; L-0; I-0 Rationale: • Data field in some electronic records already • Easy to document
Steering Committee Recommendation for Endorsement: Y-21; N-2 • Rationale: Existing measures of VTE prophylaxis exclude pregnant women/C-section despite being at risk for catastrophic event (PE or death). Preventive measures have been shown to reduce mortality but are not widely used.

0475 Hepatitis B Vaccine Coverage Among All Live Newborn Infants Prior to Hospital or Birthing Facility Discharge

Measure Submission Form

Description: Percent of live newborn infants that receive hepatitis B vaccination before discharge at each single hospital/birthing facility during given time period (one year).

Numerator Statement: The number of live newborn infants administered hepatitis B vaccine prior to discharge from the hospital/birthing facility ("birth dose" of hepatitis B vaccine).

Denominator Statement: The number of live newborn infants born at the hospital/birthing facility during the reporting window (one calendar year)

Exclusions: a. Optional recommended adjusted MEASURE denominator: determine number of live newborn infants born at the hospital/birthing facility whose parent/guardian refused hepatitis B birth dose and exclude from the denominator. ICD-10 code for this information might include the following (link: http://www.icd10data.com/ICD10CM/Codes/Z00-Z99/Z20-Z28/Z28-/#Z28):

i. Z28.03 Immunization not carried out because of immune compromised state of patient
ii. Z28.04 Immunization not carried out because of patient allergy to vaccine or component
iii. Z28.1 Immunization not carried out because of patient decision for reasons of belief or group pressure
iv. Z28.20 Immunization not carried out because of patient decision for unspecified reason
v. Z28.21 Immunization not carried out because of patient refusal
vi. Z28.29 Immunization not carried out because of patient decision for other reason
vii. Z28.82 Immunization not carried out because of caregiver refusal

The results of this measure should be reported as a separate MEASURE identifying that the coverage excludes infants whose parent(s)/guardian(s) refused hepatitis B vaccine for their infant before hospital or facility discharge (or by 1 month of age if during a prolonged stay).

Adjustment/Stratification: No risk adjustment or risk stratification N/A N/A

Level of Analysis: Clinician : Group/Practice, Clinician : Individual, Facility, Health Plan

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Pharmacy, Electronic Clinical Data : Registry

Measure Steward: Centers for Disease Control and Prevention

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-22; N-2

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-3; M-2; L-0; I-0; 1b. Performance Gap: H-3; M-2; L-0; I-0

1c. Evidence Quantity: H-3; M-2; L-0; I-0; Quality: H-1; M-4; L-0; I-0; Consistency: H-4; M-1; L-0; I-0

Rationale:

- Increasing number of pregnant women are found to be Hepatitis B Surface Antigen (HBsAg) positive (approximately 25,000/year)
- The 2010 National Immunization Study demonstrated that for 50 states and the District of Columbia, the calculated results for birth dose coverage were: median 66.7%; mean 65.7%; minimum 21.4%; maximum 83.3%. There is an APIC recommendation for neonatal immunization,
- Captures initial immunization in the series of three Hepatitis B vaccinations.
- Immunization prevents development of chronic hepatitis infection.

2. Scientific Acceptability of Measure Properties: Y-11; N-13 as written with optional exclusion for parent refusal;
If exclusions are mandatory Y=22; N=3

(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)

2a. Reliability: H-3; M-2; L-0; I-0 2b. Validity: H-3; M-2; L-0; I-0

Rationale:

- Optional exclusions affect standardization and reduce comparability. Developer reports that exclusions are included if hospitals can collect the data.
- Including refusals is important for validity as a performance measure – different perspective than for a public health surveillance measure.
- Developers report <3% refusal rate overall; some areas of 10-12% refusal.
- ICD-10 codes for parent refusal (none in ICD-9).

0475 Hepatitis B Vaccine Coverage Among All Live Newborn Infants Prior to Hospital or Birthing Facility Discharge
3. Usability: H-4; M-14 L-6; I-0 (*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)* 3a. Public Reporting: H-1; M-3; L-1; I-0 3b. QI: H-1; M-3; L-1; I-0 Rationale: • Not in use in public reporting • Difficult to capture refusals until ICD-10
4. Feasibility: H-3; M-19; L-3; I-0 *(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)* 4a. Byproduct of Care Processes: H-2; M-2; L-1; I-0 4b. Electronic data sources: H-1; M-3; L-1; I-0 4c. Suscep inaccuracies, consequences: H-0; M-3; L-1; I-1 4d. Data collection strategy: H-0; M-2; L-3; I-0 Rationale: • Costly to review charts for refusals though numbers are small • There is cost for initial programming for EHRs, but thereafter an advantage.
Steering Committee Recommendation for Endorsement: Y-22; N-3 with mandatory exclusion for parent refusal Rationale: This measure conforms to APIC recommendations for neonatal immunization and national rates demonstrate wide variation and opportunity for improvement. The developer agreed to remove the "optional" aspect of exclusions for parental refusal.

0476 PC-03 Antenatal Steroids

Measure Submission Form

Description: This measure assesses patients at risk of preterm delivery at 24 0/7-32 0/7 weeks gestation receiving antenatal steroids prior to delivering preterm newborns. This measure is a part of a set of five nationally implemented measures that address perinatal care (PC-01: Elective Delivery, PC-02: Cesarean Section, PC-04: Health Care-Associated Bloodstream Infections in Newborns, PC-05: Exclusive Breast Milk Feeding).

Numerator Statement: Patients with a full course of antenatal steroids completed prior to delivering preterm newborns (refer to Appendix B, Table 11.0, antenatal steroid medications available at: http://manual.jointcommission.org)

Denominator Statement: Patients delivering live preterm newborns with 24 0/7-32 0/7 weeks gestation completed

Exclusions:

- Less than 8 years of age
- Greater than or equal to 65 years of age
- Length of Stay >120 days
- Enrolled in clinical trials
- Documented Reason for Not Administering Antenatal Steroid
- ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for fetal demise as defined in Appendix A, Table 11.09.1 available at: http://manual.jointcommission.org

Adjustment/Stratification: No risk adjustment or risk stratification Not Applicable Not applicable, the measure is not stratified.

Level of Analysis: Facility, Population : National

Type of Measure: Process

Data Source: Electronic Clinical Data, Electronic Clinical Data : Registry, Paper Records

Measure Steward: The Joint Commission

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-24; N-0

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-5; M-0; L-0; I-0; 1b. Performance Gap: H-5; M-0; L-0; I-0

1c. Evidence Quantity: H-5; M-0; L-0; I-0; Quality: H-5; M-0; L-0; I-0; Consistency: H-5; M-0; L-0; I-0

Rationale:

- Strong data demonstrating the benefit of steroid use; NIH and ACOG recommend use of steroids.
- Change from the original endorsed measure:
  - Requires full course of treatment; (if no time for full course to be administered, patient is excluded)
  - 32-34 weeks with Premature Rupture of Membranes (PROM) not included
- There is no evidence or guidance for < 24 weeks
- From 2005-2007, data covering more than 90% of deliveries in California found that 23% of the more than 15,000 eligible infants did not receive antenatal steroids. Current Joint Commission data report 64.9% performance.
- Room for improvement; some improvement has been seen
- Another quality question might be whether steroids are overused in some patients. Need more information on the long-term impact of multiple steroid courses on the baby.

2. Scientific Acceptability of Measure Properties: Y-24; N-1

(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)

2a. Reliability: H-4; M-1; L-0; I-0 2b. Validity: H-5; M-0; L-0; I-0

Rationale:

- Testing indicates high reliability and moderate-high validity.
- The exclusion for patients who do not receive a complete course due to rapid delivery results in lack of credit to the provider for appropriate steroid therapy.

3. Usability: H-16; M-8; L-0; I-0

(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*

3a. Public Reporting: H-5; M-0; L-0; I-0

3b. QI: H-5; M-0; L-0; I-0

Rationale:

- This measure is on the recommended list of Medicaid core measures.

0476 PC-03 Antenatal Steroids
4. Feasibility: H-6; M-16; L-2; I-0 *(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)* 4a. Byproduct of Care Processes: H-3; M-2; L-0; I-0 4b. Electronic data sources: H-1; M-3; L-1; I-0 4c. Suscep inaccuracies, consequences: H-4; M-1; L-0; I-0 4d. Data collection strategy: H-4; M-0; L-1; I-0 Rationale: • Some chart review is needed
Steering Committee Recommendation for Endorsement: Y-25; N-0 Rationale: There is significant room for improvement in performance for this evidence-based process of care that improves outcomes for premature infants. The measure is well-specified and demonstrates good reliability and validity.

1746 Intrapartum Antibiotic Prophylaxis for Group B Streptococcus (GBS)

Measure Submission Form

Description: Percentage of pregnant women who are eligible for and receive appropriate intrapartum antibiotic prophylaxis (IAP) for Group B Streptococcus (GBS)
Numerator Statement: All eligible patients who receive intrapartum antibiotic prophylaxis for GBS.
Denominator Statement: All women delivering live infants, except certain classes (described in response to 2a1.9 below) who are specifically deemed not to be at risk of vertical transmission of GBS.
Exclusions: Women not included in the denominator defined above, with specific exclusions as described below.
Adjustment/Stratification: No risk adjustment or risk stratification
Level of Analysis: Facility, Integrated Delivery System, Population : State
Type of Measure: Process
Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Paper Records
Measure Steward: Massachusetts General Hospital

STEERING COMMITTEE MEETING 11/29-30/2011
Importance to Measure and Report: Y-26; N-0
(1a. High Impact: 1b. Performance Gap, 1c. Evidence)
1a. Impact: H-5; M-0; L-0; I-0; 1b. Performance Gap: H-2; M-3; L-0; I-0
1c. Evidence Quantity: H-3; M-2; L-0; I-0; Quality: H-3; M-2; L-0; I-0; Consistency: H-2; M-3; L-0; I-0
Rationale:

- New data from Massachusetts suggests more opportunity for improvement that previously thought.
- In use in Massachusetts – improved 71 to 87% over 3 years.
- CDC guidelines recommend prophylaxis for Group B Strep since it prevents lethal infection in newborns.

2. Scientific Acceptability of Measure Properties: Y-24; N-2
(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: H-3; M-1; L-0; I-0 2b. Validity: H-3; M-1; L-0; I-0
Rationale:

- Intended to align with CDC guidelines; developer will clarify specifications especially for pre-term screening.
- Reliability and validity rated moderate-high.

3. Usability: H-14; M-11; L-1; I-0
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: H-3; M-1; L-0; I-0
3b. QI: H-3; M-1; L-0; I-0
Rationale:

- In use in Massachusetts Medicaid program
- Unclear potential for unintended consequences: No data on long-term impact on children of exposure to antibiotics–. Though there is a not a clear relationship, gram negative infections have increased while GBS has declined.

4. Feasibility: H-6; M-19; L-1; I-0
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)
4a. Byproduct of Care Processes: H-4; M-0; L-0; I-0
4b. Electronic data sources: H-2; M-2; L-0; I-0
4c. Suscep inaccuracies, consequences: H-1; M-3; L-0; I-0
4d. Data collection strategy: H-3; M-1; L-0; I-0
Rationale:

- Requires manual chart abstraction

Steering Committee Recommendation for Endorsement: Y-26; N-0
Rationale: A measure of GBS prophylaxis was not recommended in the 2008 Perinatal project because data at that time indicated high performance. Newer data indicates that performance is not as high as previously thought. This measure aligns with evidence-based guidelines from CDC.

1746 Intrapartum Antibiotic Prophylaxis for Group B Streptococcus (GBS)

0477 Under 1500g infant Not Delivered at Appropriate Level of Care
Measure Submission Form Description: The number per 1,000 livebirths of <1500g infants delivered at hospitals not appropriate for that size infant. Numerator Statement: Liveborn infants (<1500gms but over 24 weeks gestation) born at the given birth hospital Denominator Statement: All live births over 24 weeks gestation at the given birth hospital. NICU Level III status is defined by the State Department of Health or similar body typically using American Academy of Pediatrics Criteria. Exclusions: Stillbirths and livebirths <24weeks gestation. Adjustment/Stratification: No risk adjustment or risk stratification n.a. none Level of Analysis: Facility, Health Plan, Population : County or City, Population : National, Population : Regional, Population : State Type of Measure: Outcome Data Source: Electronic Clinical Data : Registry, Other Measure Steward: California Maternal Quality Care Collaborative
STEERING COMMITTEE MEETING 11/29-30/2011 Importance to Measure and Report: Y-25; N-0 (1a. High Impact: 1b. Performance Gap, 1c. Evidence) 1a. Impact: H-5; M-0; L-0; I-0; 1b. Performance Gap: H-5; M-0; L-0; I-0 1c. Evidence Quantity: H-3; M-1; L-0; I-0; Quality: H-3; M-1; L-0; I-0; Consistency: H-4; M-0; L-0; I-0 Rationale: • 2010 meta-analysis by CDC demonstrated a significant survival benefit for VLBW infants in Level 3 NICU (60% increase in mortality outside Level 3 NICU) • Measure has been used at state-level for many years – regionalization of care ongoing for 30+ years but lately seeing de-regionalization due to economic factors • In California (2008) the range of VLBW births in non-level III facilities was 0 to 15 per thousand with a mean of 4.8. The distribution is not evenly distributed. • In California, developers found that failure to transfer is not common among rural hospitals but more frequent among urban hospitals where a Level 3 NICU is close by – likely economic factors rather than medical factors determine transfer. • All states have networks for transfers.
2. Scientific Acceptability of Measure Properties: Y-25; N-0 (2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity) 2a. Reliability: H-5; M-0; L-0; I-0 2b. Validity: H-4; M-1; L-0; I-0 Rationale: • This measure uses AAP definition of Level 3 NICU. States use various definitions. • Specifications are precise • Standard reporting under state vital statistics • Excludes hospital with <50 deliveries – a single event distorts the results
3. Usability: H-17; M-8; L-0; I-0 (*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)* 3a. Public Reporting: H-1; M-3; L-1; I-0 3b. QI: H-2; M-2; L-1; I-0 Rationale: • EMTALA law concerns misinterpreted – requires evaluation but does not preclude indicated transfer. • This measure addresses system and administrative accountability for coordinating maternal transport. • Need to involve EMS in quality improvement as transfer protocols typically require transport to nearest hospital rather than most appropriate hospital.

0477 Under 1500g infant Not Delivered at Appropriate Level of Care
• Public reporting of this information likely to have big impact on local community and hospital trustees.
4. Feasibility: H-23; M-2; L-0; I-0 *(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)* 4a. Byproduct of Care Processes: H-5; M-0; L-0; I-0 4b. Electronic data sources: H-3; M-2; L-0; I-0 4c. Suscep inaccuracies, consequences: H-4; M-1; L-0; I-0 4d. Data collection strategy: H-5; M-0; L-0; I-0 Rationale: • Easy to report • Collected in state birth data • <1% missing data
Steering Committee Recommendation for Endorsement: Y-25; N-0 Rationale: This measure assesses appropriate transfer of VLBW babies to hospitals that greatly improve their chance of survival. In recent years, previously established regional transfer networks have been breaking down and transfer is not occurring, possibly due to economic rather than medical reasons. Current use of the measure in California indicates a large opportunity for improvement.

0478 Neonatal Blood Stream Infection Rate (NQI #3)

Measure Submission Form

Description: Percentage of high-risk newborn discharges with an ICD-9-CM diagnosis code of bloodstream infection

Numerator Statement: Discharges among cases meeting the inclusion and exclusion rules for the denominator with an ICD-9-CM code for bloodstream infection in any secondary diagnosis field

Denominator Statement: All newborns and outborns with

1) Birth weight 500 to 1499g OR

2) Gestational age between 24 and 30 weeks OR

3) Birth weight greater than or equal to 1500g AND

- in-hospital death OR
- operating room procedure OR
- mechanical ventilation OR
- age in days less than 2 AND transferred from another health care facility

Exclusions: Exclude cases:

• with principal diagnosis code of sepsis or secondary diagnosis code present on admission

• with birth weight less than 500 grams

• with length of stay less than 2 days

• with missing data for (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1=missing)

See Pediatric Quality Indicators Appendices:

• Appendix L – Low Birth Weight Categories

http://qualityindicators.ahrq.gov/Downloads/Software/SAS/V43/TechnicalSpecifications/PDI%20Appendices.pdf

Adjustment/Stratification: Statistical risk model The predicted value for each case is computed using a hierarchical model (logistic regression with hospital random effect) and covariates for gender, birthweight (500g groups), modified CMS DRG, congenital anomolies, transfer-in status and the availability of point of origin. The specific covariates retained in the model for this measure are listed below. The reference population used in the regression is the universe of discharges for states that participate in the HCUP State Inpatient Data (SID) for the years 2008, a database consisting of 43 states and approximately 6 million pediatric discharges. The expected rate is computed as the sum of the predicted value for each case divided by the number of cases for the unit of analysis of interest (i.e., hospital). The risk adjusted rate is computed using indirect standardization as the observed rate divided by the expected rate, multiplied by the reference population rate.

Specific covariates used for this measure:

Birth Weight	1000 to 2499
Birth Weight	750 to 999
Birth Weight	<500 to 749
Modified DRG	1501 Neonates, died or transferred to another acute care facility
Congenital anomalies category	1 Gastrointestinal
Congenital anomalies category	5 Cardiovascular
Congenital anomalies category	8 Other
TRNSFER	Transfer-in
NOPOUB04	UB-04 Point-of-Origin Data Not Available Not applicable

Level of Analysis: Facility

Type of Measure: Outcome

Data Source: Administrative claims

Measure Steward: Agency for Healthcare Research and Quality

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-25; N-0

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-5; M-0; L-0; I-0; 1b. Performance Gap: H-4; M-1; L-0; I-0

1c. Evidence Quantity: H-4; M-1; L-0; I-0; Quality: H-2; M-3; L-0; I-0; Consistency: H-2; M-2; L-0; I-1

Rationale:

- Important patient safety-related outcome measure.
- Increased incidence of infection in VLBW babies

2. Scientific Acceptability of Measure Properties: Y-23; N-2

0478 Neonatal Blood Stream Infection Rate (NQI #3)

(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: H-2; M-3; L-0; I-0 2b. Validity: H-1; M-4; L-0; I-0
Rationale:

- Uses discharge billing data
- No chart based validation; user feedback assessed.
- Risk model includes transfers into hospital. Some recent changes to the measure due to harmonization efforts – AHRQ estimates has very little impact on mean rates or distribution
- Exclusions for specific bacteria only if present on admission
- ICD-9 to ICD-10 conversion in draft; ICD-10 has more specific codes for certain bacteria
- Includes larger babies who have certain characteristics as proxy for " likely to have been in NICU"
- Developer notes coding for mechanical ventilation is generally good as it is justification for longer length of stay

3. Usability: H-13; M-11; L-0; I-0
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: H-2; M-3; L-0; I-0
3b. QI: H-3; M-2; L-0; I-0
Rationale:

- Harmonized with new Joint Commission measure
- Transfers not a huge impact

4. Feasibility: H-18; M-7; L-0; I-0
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)
4a. Byproduct of Care Processes: H-4; M-1; L-0; I-0
4b. Electronic data sources: H-4; M-1; L-0; I-0
4c. Suscep inaccuracies, consequences: H-2; M-3; L-0; I-0
4d. Data collection strategy: H-4; M-1; L-0; I-0
Rationale:

- Based on administrative data.

Preliminary Assessment of Criteria Met/Suitable for Endorsement: Y-25; N-0
(All criteria met, but final recommendation pending further information and/or evaluation of related and competing measures)
Comments:

- Uses discharge billing data
- Important patient safety-related outcome measure.

5. Related and Competing Measures (*5a. Harmonization; 5b. Superior to competing measures*)
1731 Healthcare-associated bloodstream infections in newborns (Joint Commission)
303 Late sepsis or meningitis in neonates (risk-adjusted) (VON)
304 Late sepsis or meningitis in VLBW neonates (risk-adjusted) (VON)

Comments:
The different data streams are important for different users: states, Medicaid and purchasers do not have access to chart data and rely on administrative data; Registry measures provide more clinical detail for the feedback/quality improvement program. The combined coding and chart review of the Joint Commission is important for accreditation purposes.

Steering Committee Recommendation for Endorsement: Y-10; N-8 to recommend both 478 and 1731 as harmonized measures with different data streams
Steering Committee members acknowledged the added burden of multiple measures on hospitals and struggled with evaluating competing measures for hospital-acquired infections. The Committee noted that the variety of users with different data capabilities justify multiple, harmonized measuresat this time.

1731 Health Care-Associated Bloodstream Infections in Newborns

Measure Submission Form

Description: This measure assesses the number of staphylococcal and gram negative septicemias or bacteremias in high-risk newborns. This measure is a part of a set of five nationally implemented measures that address perinatal care (PC-01: Elective Delivery, PC-02: Cesarean Section, PC-03: Antenatal Steroids, PC-05: Exclusive Breast Milk Feeding).

Numerator Statement: Newborns with septicemia or bacteremia with an ICD-9-CM Other Diagnosis Codes for septicemias as defined in Appendix A, Table 11.10.1 OR one or more ICD-9-CM Other Diagnosis Codes for newborn septicemia or bacteremia as defined in Appendix A, Table 11.10 and one diagnosis code for newborn bacteremia from Table 11.11 available at: http://manual.jointcommission.org

Denominator Statement: Liveborn newborns with an ICD-9-CM Other Diagnosis Codes for birth weight between 500 and 1499g as defined in Appendix A, Table 11.12, 11.13 or 11.14 OR Birth Weight between 500 and 1499g OR an ICD-9-CM Other Diagnosis Codes for birth weight = 1500g as defined in Appendix A, Table 11.15, 11.16 or 11.17 OR Birth Weight = 1500g who experienced one or more of the following:

- o Experienced death
- o ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for major surgery as defined in Appendix A, Table 11.18
- o ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for mechanical ventilation as defined in Appendix A, Table 11.19
- o Transferred in from another acute care hospital or health care setting within 2 days of birth.

Exclusions:

- ICD-9-CM Principal Diagnosis Code for sepsis as defined in Appendix A, Table 11.10.2
- ICD-9-CM Principal Diagnosis Code for liveborn newborn as defined in Appendix A, Table 11.10.3 AND ICD-9-CM Other Diagnosis Codes for newborn septicemia or bacteremia as defined in Appendix A, Table 11.10
- ICD-9-CM Other Diagnosis Codes for birth weight < 500g as defined in Appendix A, Table 11.20 OR Birth Weight < 500g
- Length of Stay < 2 days OR > 120 days
- Enrolled in clinical trials

Adjustment/Stratification: Statistical risk model Logistic regression

Model Risk Factors:

Intercept	Intercept
Birth Weight	1250g to 2499g
Birth Weight	1000 to 1249g
Birth Weight	500 to 999g
Modified DRG	Newborn Transfers Out or Died
Congenital Anomaly	Gastrointestinal Anomaly
Congenital Anomaly	Cardiovascular Anomaly
Congenital Anomaly	Other Anomaly
Out-born Birth	Newborns Transfers In Not applicable, the measure is not stratified.

Level of Analysis: Facility, Population : National

Type of Measure: Outcome

Data Source: Administrative claims, Electronic Clinical Data, Paper Records

Measure Steward: The Joint Commission

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-20; N-4

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-3; M-1; L-0; I-0; 1b. Performance Gap: H-3; M-1; L-0; I-0

1c. Evidence Quantity: H-1; M-2; L-0; I-0; Quality: H-2; M-1; L-0; I-0; Consistency: H-2; M-1; L-0; I-0

Rationale:

- Significant problem especially for VLBW infants
- Infections increase LOS and costs
- Variable rates reported: 6-33%
- Very similar to measure 478 – harmonized within limits of data sources

2. Scientific Acceptability of Measure Properties: Y-21; N-0

(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)

2a. Reliability: H-1; M-3; L-0; I-0 2b. Validity: H-0; M-3; L-0; I-0

1731 Health Care-Associated Bloodstream Infections in Newborns

Rationale:

- Risk-adjusted outcome measure – not statistically significant results - Committee noted that measure implementers could change the reporting strategy such as using a 90% confidence interval rather than 95%
- Moderate reliability and validity
- Some coding issues noted.

3. Usability: H-9; M-12; L-0; I-0
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: H-2; M-1; L-0; I-1
3b. QI: H-3; M-0; L-0; I-1
Rationale:

- Improvement seen with use of the measure.
- Several similar measures for healthcare-acquired infection in newborns. Measure is harmonized with claims-based measure 478.

4. Feasibility: H-7; M-14; L-0; I-0
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)
4a. Byproduct of Care Processes: H-3; M-1; L-0; I-0
4b. Electronic data sources: H-1; M-2; L-0; I-1
4c. Suscep inaccuracies, consequences: H-1; M-3; L-0; I-0
4d. Data collection strategy: H-4; M-0; L-0; I-0
Rationale:

- Requires some chart abstraction
-

Preliminary Assessment of Criteria Met/Suitable for Endorsement: Y-21; N-0
(All criteria met, but final recommendation pending further information and/or evaluation of related and competing measures)
Comments:

- This is an important, adverse outcome measure.

5. Related and Competing Measures (*5a. Harmonization; 5b. Superior to competing measures*)
478 Nosocomial blood stream infections in neonates (NQI #3) (AHRQ)
303 Late sepsis or meningitis in neonates (risk-adjusted) (VON)
304 Late sepsis or meningitis in VLBW neonates (risk-adjusted) (VON)

Comments:

- Committee had some difficulty comparing 478 and 1731 particularly for the exclusion of infection at the time of birth but once clarified were comfortable that the measure captured "health-care acquired" infections
- The different data streams are important for different users: states, Medicaid and purchasers do not have access to chart data and rely on administrative data; Registry measures provide more clinical detail for the feedback/quality improvement program. The combined coding and chart review of the Joint Commission is important for accreditation purposes.

Steering Committee Recommendation for Endorsement: Y-10; N-8 to recommend both 478 and 1731 due to harmonized measures with different data streams
Rationale:
Steering Committee members acknowledged the added burden of multiple measures on hospitals and struggled with evaluating competing measures for hospital-acquired infections. The Committee noted that the variety of users with different data capabilities justify multiple, harmonized measures at this time.

0304 Late Sepsis or Meningitis in Very Low Birth Weight (VLBW) Neonates (risk-adjusted)

Measure Submission Form

Description: Standardized rate and standardized morbidity ratio for nosocomial bacterial infection after day 3 of life for very low birth weight infants, including infants with birth weights between 401 and 1500 grams and infants whose gestational age is between 22 and 29 weeks.

Numerator Statement: Eligible infants with one or more of the following criteria:

Criterion 1:

Bacterial Pathogen. A bacterial pathogen is recovered from a blood and/or cerebral spinal fluid culture obtained after Day 3 of life.

OR

Criterion 2:

Coagulase Negative Staphylococcus. The infant has all 3 of the following:

1. Coagulase negative staphylococcus is recovered from a blood culture obtained from either a central line, or peripheral blood sample and/or is recovered from cerebrospinal fluid obtained by lumbar puncture, ventricular tap or ventricular drain.
2. One or more signs of generalized infection (such as apnea, temperature instability, feeding intolerance, worsening respiratory distress or hemodynamic instability).
3. Teatment with 5 or more days of intravenous antibiotics after the above cultures were obtained. If the infant died, was discharged, or transferred prior to the completion of 5 days of intravenous antibiotics, this condition would still be met if the intention were to treat for 5 or more days.

Denominator Statement: Eligible infants who are in the reporting hospital after day 3 of life.

Exclusions: Exclude patients who do not meet eligibility criteria for birth weight, gestational age or hospital admission, or if the infant is discharged home, is transferred or dies prior to day 3 of life.

Adjustment/Stratification: Statistical risk model The risk adjustment process begins by using logistic regression to model the infection measure on model covariates: gestational age and its squared term, small for gestational age (Yes/No), multiple gestation (Yes/No), APGAR score at 1 minute (0-10), infant gender (Female, Male), Maternal Race/Ethnicity (Black, Hispanic, White, Asian, Other), Vaginal Delivery (Yes/No), Major Birth Defect (Yes/No) and Birth Location (Inborn, Outborn).

An estimate is made of the "systematic variation" associated with the hospital standardized morbidity ratios (SMRs) using the method suggested by Martuzzi and Hills (Martuzzi M and Hills M, Estimating the degree of heterogeneity between event rates using likelihood, Am J of Epi, 1995, 141, 4, 369-374. This method assumes that the SMRs are distributed gamma, and that deviations from the gamma distribution are associated with random variation. The systematic variation is used to "shrink" center SMR values and their confidence limits based on the number of infants reported (see, e.g., Simpson J et al, Analysing differences in clinical outcomes between hospitals, Qual Saf Health Care, 2003, 12,

257-262. The values for centers with a smaller number of infants shrink more toward the mean of all centers than do centers with more infants. Values for estimates of the number of observed cases minus the number of expected cases (O-E) and control limits for O-E values are also shrunken using the systematic variation value.

The shrinkage method described above is the "gamma-Poisson" approach to filtering random variation associated with Nosocomial Bacterial Infection as a risk adjusted indicator of performance. This approach has been used in other settings for documenting hospital performance. N/A

Level of Analysis: Facility

Type of Measure: Outcome

Data Source: Electronic Clinical Data : Registry

Measure Steward: Vermont Oxford Network

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-26; N-0

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-3; M-2; L-0; I-0; 1b. Performance Gap: H-4; M-1; L-0; I-0

1c. Evidence Quantity: H-2; M-1; L-0; I-1; Quality: H-2; M-2; L-0; I-0; Consistency: H-4; M-0; L-0; I-0

Rationale:

- VLBW infants at much higher risk for infection – most vulnerable population

0304 Late Sepsis or Meningitis in Very Low Birth Weight (VLBW) Neonates (risk-adjusted)

- Current performance – 15% infection rate
- A different measure from 478 and 1731 Because it focuses on the high-risk, VLBW babies who have higher infection rates. Measures 478 and 1731 address all newborns.

2. Scientific Acceptability of Measure Properties: Y-26; N-0
(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: H-2; M-3; L-0; I-0 2b. Validity: H-1; M-4; L-0; I-0
Rationale:

- Risk model slightly different for this population compared to the overall population in measure 303.

3. Usability: H-13; M-11; L-1; I-0
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: H-2; M-2; L-1; I-0
3b. QI: H-4; M-1; L-0; I-0
Rationale:

- 80% of VLBW infants in US enrolled in VON
- A number of states have focused on this VLBW measure

4. Feasibility: H-11; M-14; L-1; I-0
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)
4a. Byproduct of Care Processes: H-5; M-0; L-0; I-0
4b. Electronic data sources: H-1; M-3; L-1; I-0
4c. Suscep inaccuracies, consequences: H-3; M-1; L-0; I-1
4d. Data collection strategy: H-3; M-1; L-0; I-1
Rationale:
80% of VLBW babies born in the US are currently reported to the VON registry. The data is already collected with benchmarking and feedback to the participants. VON data is not public reported.

Preliminary Assessment of Criteria Met/Suitable for Endorsement: Y-25; N-1
(All criteria met, but final recommendation pending further information and/or evaluation of related and competing measures)
Comments:

- VLBW infants are an important subgroup with very high risk of infection

5. Related and Competing Measures (*5a. Harmonization; 5b. Superior to competing measures*)
478 Nosocomial blood stream infections in neonates (NQI #3) (AHRQ)
1731 Healthcare-associated bloodstream infections in newborns (Joint Commission)
303 Late sepsis or meningitis in neonates (risk-adjusted) (VON)

Comments:

- 80% of VLBW infants are in VON registry; hospitals will continue participation
- VLBW infants a special population not captured independently in 478 or 1371 with high infection rates around 15%

Steering Committee Recommendation for Endorsement: Y-9; N-8
Rationale: The Committee agreed that this measure is addresses a special population not captured independently in 478 or 1731 with high infections rates (15%) but Committee members also note that VON data is not publicly available even though 80% of VLBW infants are included in the network.

0480 PC-05 Exclusive Breast Milk Feeding

Measure Submission Form

Description: This measure assesses the number of newborns exclusively fed breast milk feeding during the newborn´s entire hospitalization. This measure is a part of a set of five nationally implemented measures that address perinatal care (PC-01: Elective Delivery, PC-02: Cesarean Section, PC-03: Antenatal Steroids, PC-04: Health Care-Associated Bloodstream Infections in Newborns).
Numerator Statement: Newborns that were fed breast milk only since birth
Denominator Statement: Single term liveborn newborns discharged from the hospital with ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for single liveborn newborn as defined in Appendix A, Table 11.20.1available at: http://manual.jointcommission.org
Exclusions:

- Admitted to the Neonatal Intensive Care Unit (NICU) at this hospital during the hospitalization
- ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for galactosemia as defined in Appendix A, Table 11.21
- ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for parenteral infusion as defined in Appendix A, Table 11.22
- Experienced death
- Length of Stay >120 days
- Enrolled in clinical trials
- Documented Reason for Not Exclusively Feeding Breast Milk
- Patients transferred to another hospital
- ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for premature newborns as defined in Appendix A, Table 11.23

Adjustment/Stratification: No risk adjustment or risk stratification Not Applicable
Level of Analysis: Facility, Population : National
Type of Measure: Process
Data Source: Administrative claims, Electronic Clinical Data, Paper Records
Measure Steward: The Joint Commission

STEERING COMMITTEE MEETING 11/29-30/2011
Importance to Measure and Report: Y-21; N-3
(1a. High Impact: 1b. Performance Gap, 1c. Evidence)
1a. Impact: H-4; M-1; L-0; I-0; 1b. Performance Gap: H-4; M-1; L-0; I-0
1c. Evidence Quantity: H-4; M-1; L-0; I-0; Quality: H-5; M-0; L-0; I-0; Consistency: H-5; M-0; L-0; I-0
Rationale:

- Documented medical benefits to baby; some issues with intent and implementation of "exclusive"
- Exclusive breastfeeding during hospitalization and at discharge increases longer term breastfeeding
- Current performance = 41%
- Data presented on racial and ethnic disparities- large disparities; very susceptible to values of the patient population
- Large nursing component – a systems issue of the hospital environment
- Goal is not 100% -- Joint Commission set a 75% target

2. Scientific Acceptability of Measure Properties: Y-22; N-2
(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: H-3; M-2; L-0; I-0 2b. Validity: H-5; M-0; L-0; I-0
Rationale:

- A Committee member noted that if the measure is "risk-adjusted" for race and educational level, 40% of the variance is removed
- Measure is not stratified for disparities – developers note lack of reliability in the data element for race needed for stratification. Some Committee members argued that "rules now exist" to assign race.
- Exclusions for NICU, HIV, multiple births, transfers, mom taking drugs or medications
- Sampling is allowed

3. Usability: H-16; M-6; L-2; I-0
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: H-5; M-0; L-0; I-0

0480 PC-05 Exclusive Breast Milk Feeding
3b. QI: H-4; M-1; L-0; I-0 Rationale: • Would also be good as a population –level measure – communities can facilitate change in attitudes and cultural values • Health benefits for the child and the mother • The bar may be too high for some users – consider intermediate process measures to facilitate adoption
4. Feasibility: H-9; M-12; L-3; I-0 *(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)* 4a. Byproduct of Care Processes: H-4; M-1; L-0; I-0 4b. Electronic data sources: H-5; M-0; L-0; I-0 4c. Suscep inaccuracies, consequences: H-2; M-2; L-0; I-0 4d. Data collection strategy: H-3; M-2; L-0; I-0 Rationale: • Possible encroachment on patient autonomy – overzealous insistence on breastfeeding can alienate mothers • Labor intensive to collect data unless data collection (feeding) forms are designed well • An important measure for Medicaid
Steering Committee Recommendation for Endorsement: Y-20; N-4 Rationale: Breast milk feeding confers many health benefits to mother and child. Current rates of breast milk feeding are low with much room for improvement. Supporting breast milk feeding requires strong systems support and significant nursing involvement.

0483 Proportion of Infants 22 to 29 Weeks Gestation Screened for Retinopathy of Prematurity.

Measure Submission Form

Description: Proportion of infants 22 to 29 weeks gestation who were in the reporting hospital at the postnatal age recommended for retinopathy of prematurity (ROP) screening by the American Academy of Pediatrics (AAP) and who received a retinal examination for ROP prior to discharge.

Numerator Statement: Number of infants 22 to 29 weeks gestation who were in the reporting hospital at the postnatal age recommended for ROP screening by the AAP and who received a retinal exam for ROP prior to discharge.

Denominator Statement: All eligible infants 22 to 29 weeks gestation who were in the reporting hospital at the postnatal age recommended for ROP screening by the AAP.

Exclusions: 1. Infants outside the gestational age range of 22 to 29 weeks.
2. Outborn infants admitted to the reporting hospital more than 28 days after birth.
3. Outborn infants who have been home prior to admission.
4. Infants who die in the delivery room or initial resuscitation area prior to admission to the neonatal intensive care unit.
5. Infants not in the reporting hospital at the postnatal age recommended for ROP screening by the AAP.

Adjustment/Stratification: Stratification by risk category/subgroup N/A Reports are stratified by gestational age, birth location and birth weight category.

Level of Analysis: Facility

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry, Paper Records

Measure Steward: Vermont Oxford Network

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-21; N-4

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-4; M-1; L-0; I-0; 1b. Performance Gap: H-0; M-4; L-1; I-0

1c. Evidence Quantity: H-4; M-0; L-0; I-1; Quality: H-2; M-2; L-1; I-0; Consistency: H-3; M-2; L-0; I-0

Rationale:

- Screening recommended by AAP and AAO
- VON data – moderate opportunity for improvement (not published data); 79% performance at the 10th percentile.
- APP recommendation up to 30 6/7 weeks but VON eligibility criteria limits measure to 29 6/7 weeks
- Larger babies are often discharged or transferred prior to appropriate time of of screening and may be lost to follow-up; < 29 weeks targets babies who are still in hospital when screening should occur
- Risk is higher at lower gestational ages

2. Scientific Acceptability of Measure Properties: Y-23; N-2

(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)

2a. Reliability: H-4; M-1; L-0; I-0 2b. Validity: H-5; M-0; L-0; I-0

Rationale:

- Exclusion rate 21-24%; unknown how big the 30-32 weeks group recommended for screening that is not captured
- There are a small number of babies that are too sick to be screened at the appropriate time
- Credit is given for screening at whatever gestational age – not necessarily when recommended by AAP
- Excludes outborn infants >28 days due to VON eligibility criteria

3. Usability: H-11; M-13; L-1; I-0

(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*

3a. Public Reporting: H-2; M-3; L-0; I-0

3b. QI: H-4; M-1; L-0; I-0

Rationale:

- Mainly used for internal QI. Hospital may share their VON data at their discretion.
- The measure is used in California Perinatal Quality Care Collaborative and is reported to the state.
- Questions regarding transition of this measure from registry to wider use – limited by registry criteria

0483 Proportion of Infants 22 to 29 Weeks Gestation Screened for Retinopathy of Prematurity.

- No public reporting known
- Does not address whether appropriate follow-up was done after screening.

4. Feasibility: H-15; M-9; L-1; I-0
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)
4a. Byproduct of Care Processes: H-5; M-0; L-0; I-0
4b. Electronic data sources: H-4; M-1; L-0; I-0
4c. Suscep inaccuracies, consequences: H-3; M-2; L-0; I-0
4d. Data collection strategy: H-5; M-0; L-0; I-0
Rationale:

- Currently used by VON registry participants. Clinical data is submitted to the registry.

Steering Committee Recommendation for Endorsement: Y-23; N-2
Rationale: Appropriate screening for retinopathy allows intervention to optimize vision. Although the data is not publicly available, the majority of hospitals with Level 3 NICUs participate in the VON registry.

MEASURES NOT RECOMMENDED

0479 Birth Dose of Hepatitis B Vaccine and Hepatitis B Immune Globulin for Newborns of Hepatitis B Surface Antigen (HBsAg) Positive Mothers

Measure Submission Form

Description: Percentage of infants born to hepatitis B surface antigen (HBsAg)-positive mothers who receive a birth dose of hepatitis B virus (HBV) vaccine and hepatitis B immune globulin (HBIG)

Numerator Statement: Number of infants born to HBsAg positive mothers who receive a birth dose of HBV vaccine and HBIG upon delivery

Denominator Statement: Number of infants born to mothers who tested positive for HBsAg during prenatal screening or upon admission to the hospital for delivery

Exclusions: Pregnancies of HBsAg positive mothers which result in any one of the following: stillbirths, voluntary abortions, miscarriages

Adjustment/Stratification: No risk adjustment or risk stratification. Given a large enough population, this measure does not require stratification for calculation. Stratification is only applicable when calculating estimates for specific populations. At minimum, the facility where HBIG and HBV vaccine was administered to the infant would be a variable for stratification. ´Facility´ is an appropriate stratification variable due to the policies specific to the facility (e.g., birth hospital) which would have specific policies and/or standing orders to the administration of the HBIG and HBV vaccine.

Level of Analysis: Facility

Type of Measure: Process

Data Source: Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy, Electronic Clinical Data : Registry, Paper Records

Measure Steward: California Department of Public Health

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-6; N-20

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-2; M-1; L-1; I-1; 1b. Performance Gap: H-0; M-1; L-4; I-0

1c. Evidence Quantity: H-3; M-0; L-0; I-2; Quality: H-3; M-1; L-0; I-1; Consistency: H-3; M-0; L-0; I-2

Rationale:

- In California >97% newborns receive it – translates to about 60 missed per year; uncertain about generalizability for national use – California has large Asian population at higher risk
- Not 100% preventive for vertical transmission
- More or less useful depending on population – regional differences; differences in carriers of Hepatits B e-antigen –more likely to transmit
- CDC priority – highly preventive action
- Small impact; small opportunity; already recommended measure 475 – this measure adds little additional benefit
- Small number with chart review burden

Steering Committee Recommendation for Endorsement: Did not pass Importance criteria

Rationale: The Committee noted a small impact and small opportunity for improvement. The immunization component is already covered in measure 475. This measure adds little additional benefit.

0481 First Temperature Measured Within One Hour of Admission to the NICU.

Measure Submission Form

Description: Percent of NICU admissions with a birth weight of 501-1500g with a first temperature taken within 1 hour of NICU admission.

Numerator Statement: Infants 501 to 1500 grams with first temperature taken within 1 hr of NICU admission

Denominator Statement: Infants whose birth weight is between 501 and 1500 grams who are admitted to a NICU in the reporting hospital.

Exclusions: 1. Infants outside the birth weight range 501 to 1500 grams.
2. Outborn infants admitted more than 28 days after birth.
3. Outborn infants who have been home prior to admission.
4. Infants not admitted to the NICU.

Adjustment/Stratification: No risk adjustment or risk stratification N/A The measure is separately determined by birth location (inborn, outborn), as well for all eligible infants. The measure is reported by birth weight category (four levels and 10 levels), by gestational age and gestational age category (five levels) and by birth location (inborn, outborn).

Level of Analysis: Facility

Type of Measure: Process

Data Source: Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry, Paper Records

Measure Steward: Vermont Oxford Network

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-4; N-21

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-3; M-2; L-0; I-0; 1b. Performance Gap: H-2; M-0; L-3; I-0

1c. Evidence Quantity: H-2; M-1; L-1; I-1; Quality: H-3; M-1; L-0; I-1; Consistency: H-3; M-1; L-0; I-1

Rationale:

- Little performance gap (98% performance) though should be 100%
- Standard of care to take vital signs
- Not a challenging performance measure

Steering Committee Recommendation for Endorsement: Did not pass importance criteria

Rationale: The Committee noted this basic assessment measure has little opportunity for improvement.

0482 First NICU Temperature < 36 degrees Centigrade

Measure Submission Form

Description: Proportion of infants with birth weights between 501 to 1500 grams with first temperature measured within one hour of admission to the neonatal intensive care unit (NICU) below 36 degrees centigrade.

Numerator Statement: Infants whose birth weight is between 501-1500 grams and whose temperature first measured within one hour of admission to the NICU and is less than 36 degrees centigrade.

Denominator Statement: Number of infants with birth weights between 501 and 1500 grams whose temperature was measured within one hour of admission to the NICU.

Exclusions: 1. Infants outside the birth weight range 501 to 1500 grams.
2. Outborn infants admitted more than 28 days after birth.
3. Outborn infants who have been home prior to admission.
4. Infants not admitted to the NICU.
5. Infants whose temperature is not measured within one hour of admission to the NICU.

Adjustment/Stratification: No risk adjustment or risk stratification N/A The measure is separately determined by birth location (inborn, outborn), as well for all eligible infants. The measure is reported by birth weight category (four levels and 10 levels), by gestational age and gestational age category (five levels) and by birth location (inborn, outborn).

Level of Analysis: Facility

Type of Measure: Outcome

Data Source: Administrative claims, Electronic Clinical Data : Registry, Paper Records

Measure Steward: Vermont Oxford Network

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-19; N-7

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-5; M-0; L-0; I-0; 1b. Performance Gap: H-5; M-0; L-0; I-0

1c. Evidence Quantity: H-1; M-4; L-0; I-0; Quality: H-1; M-4; L-0; I-0; Consistency: H-3; M-2; L-0; I-0

Rationale:

- Intermediate outcome; scant literature on long-term outcomes – lower temps associated with increased late sepsis and mortality
- Target value questioned: WHO recommendations 36 vs. 36.5 degrees
- Action is prevention of heat loss

2. Scientific Acceptability of Measure Properties: Y-8; N-18 as written; Y-7; N-18 if threshold changed to <36.5

(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)

2a. Reliability: H-4; M-1; L-0; I-0 2b. Validity: H-3; M-2; L-0; I-0

Rationale:

- Target value dispute 36 vs. 36.5 degrees
- Method of taking temperature not standardized – may be axillary, rectal or skin – not specified; variation in result depending on method of taking temperature; are different methods systematically different? Should different methods have different thresholds? Biggest concern for validity of the measure. No guidance from AAP or WHO on standard method.

Steering Committee Recommendation for Endorsement: Did not pass Scientific Acceptability, which is required for endorsement

Rationale:

- Dispute over temperature target
- Lack of standardization on method of taking temperature; different methods are known to give different results

0303 Late Sepsis or Meningitis in Neonates (risk-adjusted)

Measure Submission Form

Description: Standardized rate and standardized morbidity ratio for nosocomial bacterial infection after day 3 of life for very low birth weight infants, other infants who are admitted to a neonatal intensive care unit within 28 days of birth and other infants who die in a hospital within 28 days of birth.

Numerator Statement: Eligible infants with one or more of the following criteria:

Criterion 1: Bacterial Pathogen. A bacterial pathogen is recovered from a blood and/or cerebral spinal fluid culture obtained after Day 3 of life.

OR

Criterion 2: Coagulase Negative Staphylococcus. The infant has all 3 of the following:

1. Coagulase negative staphylococcus is recovered from a blood culture obtained from either a central line, or peripheral blood sample and/or is recovered from cerebrospinal fluid obtained by lumbar puncture, ventricular tap or ventricular drain.
2. One or more signs of generalized infection (such as apnea, temperature instability, feeding intolerance, worsening respiratory distress or hemodynamic instability).
3. Teatment with 5 or more days of intravenous antibiotics after the above cultures were obtained. If the infant died, was discharged, or transferred prior to the completion of 5 days of intravenous antibiotics, this condition would still be met if the intention were to treat for 5 or more days.

Denominator Statement: Eligible infants who are in the reporting hospital after day 3 of life.

Exclusions: Exclude patients who do not meet eligibility criteria for birth weight, gestational age or NICU admission. Exclude infants who are discharged home, transferred or die prior to day 3 of life.

Adjustment/Stratification: Statistical risk model: The risk adjustment process begins by using logistic regression to model the dichotomous measure with several case mix variables: gestational age and its quadratic term, APGAR score at 1 minute, maternal race, infant gender, multiple birth (Yes/No), vaginal delivery (Yes/No), birth location (Inborn/Outborn), major birth defect (Yes/No) and small for gestational age (Yes/No).

An estimate is made of the "systematic variation" associated with the hospital standardized morbidity ratios (SMRs) using the method suggested by Martuzzi and Hills (Martuzzi M and Hills M, Estimating the degree of heterogeneity between event rates using likelihood, Am J of Epi, 141, 4, 369-374 (1995). This method assumes that the SMRs are distributed gamma, and that deviations from the gamma distribution are associated with random variation. The systematic variation is used to "shrink" center SMR values and their confidence limits based on the number of infants reported. The values for centers with a smaller number of infants shrink more toward the mean of all centers than do centers with more infants. The adjusted rate for the hospital is shrunken using the calculated measure of systematic variation.

The shrinkage method described above is the "gamma-Poisson" approach to filtering random variation associated with Nosocomial Bacterial Infection as a risk adjusted indicator of performance. This approach has been used in other settings for documenting hospital performance. See, e.g., Simpson J et al, Analysing differences in clinical outcomes between hospitals, Qual Saf Health Care, 12, 257-262 (2003). N/A

Level of Analysis: Facility

Type of Measure: Outcome

Data Source: Electronic Clinical Data : Registry

Measure Steward: Vermont Oxford Network

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-24; N-1

(1a. High Impact: 1b. Performance Gap, 1c. Evidence)

1a. Impact: H-4; M-1; L-0; I-0; 1b. Performance Gap: H-4; M-1; L-0; I-0

1c. Evidence Quantity: H-2; M-1; L-0; I-1; Quality: H-2; M-2; L-0; I-0; Consistency: H-4; M-0; L-0; I-0

Rationale:

- Somewhat different than AHRQ measure 478; includes meningitis
- Different case finding criteria

0303 Late Sepsis or Meningitis in Neonates (risk-adjusted)

- Current infection rate at 3%

2. Scientific Acceptability of Measure Properties: Y-20; N-6
(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: H-2; M-3; L-0; I-0 2b. Validity: H-2; M-2; L-1; I-0
Rationale:

- How important are the many bacteria?
- What is the data quality of the registry?
- Shrinkage effect in the risk model;
- Risk model includes race as a co-factor - will mask disparities; VON says race doesn't have much impact, they are considering removing
- Disparities are seen at hospital-level: hospitals in areas with large minority population do poorly for all patients
- VON has not systematically considered the impact of LOS on rates
- Back transfer from another hospital with low infection rates or hospitals with high mortality may do well on measure because there is less exposure/opportunity for infection.

3. Usability: H-9; M-14; L-3; I-0
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: H-1; M-3; L-1; I-0
3b. QI: H-4; M-1; L-0; I-0
Rationale:

- Hospitals are over-burdened with infection measures

4. Feasibility: H-6; M-17; L-3; I-0
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)
4a. Byproduct of Care Processes: H-4; M-1; L-0; I-0
4b. Electronic data sources: H-2; M-2; L-1; I-0
4c. Suscep inaccuracies, consequences: H-2; M-2; L-1; I-0
4d. Data collection strategy: H-4; M-1; L-0; I-0
Rationale:

- Bacteria specifications require intense chart review
- Demonstrated feasibility for VON members; unclear for non-members

Preliminary Assessment of Criteria Met/Suitable for Endorsement: Y-23; N-3
(All criteria met, but final recommendation pending further information and/or evaluation of related and competing measures)
Comments:

- Overlap with 478 and 1731

5. Related and Competing Measures (*5a. Harmonization; 5b. Superior to competing measures*)
478 Nosocomial blood stream infections in neonates (NQI #3) (AHRQ)
1731 Healthcare-associated bloodstream infections in newborns (Joint Commission)
304 Late sepsis or meningitis in VLBW neonates (risk-adjusted) (VON)

Comments:

- Hospitals select which measure meets their needs: Level 3 centers generally use VON; Level 1 and 2 centers will use a different measure
- VON registry data is not publicly reported or used for accountability except if the hospital chooses to share the data
- Overlaps with 478 and 1371

Steering Committee Recommendation for Endorsement: Y-3; N-14
Rationale:

- VON registry data are not publicly reported or used for accountability except if the hospital chooses to share the data

0303 Late Sepsis or Meningitis in Neonates (risk-adjusted)
• Overlaps with 478 and 1371

0502 Pregnancy Test for Female Abdominal Pain Patients.

Measure Submission Form

Description: Percentage of female patients aged 14 to 50 who present to the emergency department (ED) with a chief complaint of abdominal pain for whom a pregnancy test ordered

Numerator Statement: Number of patients in the denominator who have a pregnancy test (urine or serum) ordered in the ED

Denominator Statement: All women, ages 14 – 50 years old, who present to the ED with a chief complaint of abdominal pain.

Exclusions: i. Females for whom pregnancy is already documented or reported (verbal report by patient is acceptable).
ii. Females with documented or reported hysterectomy (verbal report by patient is acceptable).
iii. Females documented or reported to be post-menopausal (verbal report by patient is acceptable).
iv. Patient refusal
v. Patients who do not complete their ED evaluation (Left before completion, Left AMA, etc.)

Adjustment/Stratification: No risk adjustment or risk stratification n/a n/a

Level of Analysis: Clinician : Group/Practice, Clinician : Individual, Facility

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data : Electronic Health Record, Paper Records

Measure Steward: American College of Emergency Physicians

STEERING COMMITTEE MEETING 11/29-30/2011

Importance to Measure and Report: Y-18; N-8
(1a. High Impact: 1b. Performance Gap, 1c. Evidence)
1a. Impact: H-4; M-1; L-1; I-0; 1b. Performance Gap: H-2; M-2; L-2; I-0
1c. Evidence Quantity: H-0; M-2; L-4; I-0 Quality: H-0; M-3; L-3; I-0; Consistency: H-1; M-3; L-2; I-0
Rationale:

- Limited data on current performance; a Committee member reported her unpublished data for women aged 11-50 years in 8 hospitals (180,000 patients per year) – current performance about 45%
- The selection of "test ordered" rather than "test performed" was questioned. Developer reported that "ordered" is used because it is specified as such for PQRS program
- Incidence of ectopic in the literature about 1%; higher in some populations
- No data on relationship to outcomes; death from ectopic pregnancy is falling; also good to screen prior to CT imaging for abdominal pain, but no direct evidence

2. Scientific Acceptability of Measure Properties: Y-17; N-9
(2a. Reliability – precise specifications, testing; 2b. Validity – testing, threats to validity)
2a. Reliability: H-1; M-5; L-0; I-0 2b. Validity: H-1; M-4; L-1; I-0
Rationale:

- Unclear on reliability and validity; different rates from different data sources were presented by the develop (hospital chart review compared to electronic data);

3. Usability: H-9; M-11; L-2; I-4
(*Meaningful, understandable, and useful to the intended audiences for 3a. Public Reporting/Accountability and 3b. Quality Improvement)*
3a. Public Reporting: H-2; M-3; L-1; I-0
3b. QI: H-2; M-2; L-1; I-0
Rationale:

- Easily captured in EHRs

4. Feasibility: H-1; M-14; L-8; I-3
(4a. Clinical data generated during care delivery; 4b. Electronic sources; 4c.Susceptibility to inaccuracies/ unintended consequences identified 4d. Data collection strategy can be implemented)
4a. Byproduct of Care Processes: H-3; M-2; L-1; I-0
4b. Electronic data sources: H-1; M-4; L-1; I-0;
4c. Suscep inaccuracies, consequences: H-0; M-4; L-2; I-0
4d. Data collection strategy: H-1; M-3; L-2; I-0
Rationale:

- Easier with EHR; burdensome chart review

Steering Committee Recommendation for Endorsement: Y-12; N-14

0502 Pregnancy Test for Female Abdominal Pain Patients.
Rationale: • Limited data on impact and relationship to outcomes – need more studies on benefit of measure

0582 Diabetes and Pregnancy: Avoidance of Oral Hypoglycemic Agents

Measure Submission Form

Description: This measure identifies pregnant women with diabetes who are not taking an oral hypoglycemic agent.
Numerator Statement: Patients in the denominator who are not taking an oral hypoglycemic agent.
Denominator Statement: Pregnant women with a diagnosis of non-gestational diabetes prior to pregnancy.
Exclusions: No claims for gestational diabetes anytime after pregnancy onset date, no diagnosis of miscarriage or abortion anytime after the pregnancy onset date, no claims for polycystic ovaries when determining pre-pregnancy diabetes diagnosis.
Adjustment/Stratification: No risk adjustment or risk stratification. We have developed a hierarchical logistic regression model with expert biostatisticians at the Johns Hopkins School of Public Health that enables one to produce a probability distribution around a point estimate of the "quality score" for a given physician. The measure specifications do not require the results to be stratified.
Level of Analysis: Clinician : Group/Practice, Clinician : Individual, Health Plan, Integrated Delivery System, Population : Community, Population : County or City
Type of Measure: Process
Data Source: Administrative claims, Electronic Clinical Data : Pharmacy, Other
Measure Steward: Resolution Health, Inc.

STEERING COMMITTEE MEETING 11/29-30/2011
Importance to Measure and Report: Y-1; N-24
(1a. High Impact: 1b. Performance Gap, 1c. Evidence)
1a. Impact: H-3; M-0; L-1; I-1; 1b. Performance Gap: H-0; M-3; L-0; I-2
1c. Evidence (*based on decision logic*): NA IF a Health Outcome, rationale supports: Y-; N-
Quantity: H-2; M-1; L-1; I-0; Quality: H-2; M-1; L-1; I-0; Consistency: H-3; M-0; L-1; I-0
Rationale:

- Only captures women with diabetes before pregnancy: small impact
- Evolving evidence that some oral hypoglycemics may be appropriate for some women (metformin and glyburide) – developer adjusted the measure after the preliminary Workgroup discussion and removed metformin and glyburide from the list of oral hypoglycemic agents that would trigger the measure
- Not a large performance gap – 81–100% performance in health plans
- Does not address the appropriate use of insulin and glycemic control in pregnancy

Steering Committee Recommendation for Endorsement: Did not pass Importance criteria, which is required for endorsement
Rationale:

- Small impact, with changing evidenceneed better measures on appropriate management of diabetes in pregnancy

1769 Adverse Outcome Index

Measure Submission Form

Description: The rate and severity of adverse events in the obstetric population during their delivery hospitalization
Numerator Statement: Any delivery with one or more of the adverse events.
Denominator Statement: Total deliveries occurring during the time frame under review.
Exclusions: None
Adjustment/Stratification: No risk adjustment or risk stratification
Level of Analysis: Clinician : Team, Facility
Type of Measure: Composite
Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Pharmacy, Paper Records
Measure Steward: Beth Israel Deaconess Medical Center

STEERING COMMITTEE MEETING 11/29-30/2011
Importance to Measure and Report: Y-7; N-17
(1a. High Impact: 1b. Performance Gap, 1c. Evidence)
Rationale:

- Outcome measures are not risk-adjusted
- Seven of ten component measures were not rated as meeting the endorsement criteria – see individual evaluations
- Six of the ten components provide incentives for use of Cesarean section
- Not ready for public reporting and accountability purposes
- Computed in three ways: the Adverse Outcome Index (AOI) is a simple rate: percent of deliveries complicated by one or more of the 10 adverse events described above. The Weighted Adverse Outcome Score (WAOS) is calculated by multiplying each event by its weight, summing all weights and dividing by the number of deliveries. The Severity Index (SI) is calculated by multiplying all the events by its weight, summing all the weights and dividing by the number of cases with an adverse event (numerator for the AOI).

Steering Committee Recommendation for Endorsement: Did not pass Importance criteria
Rationale:

- Not ready for public reporting and accountability purposes
- Concern about incentives to use Cesarean section to avoid adverse outcomes
- Concern about subjective process for determining weighting of individual components

0741 Five Minute APGAR Less Than 7

Measure Submission Form

Description: Inborns only, Birthweight >= 2500 grams and >= 37 weeks completed gestation and APGAR 5 < 7, excludes cases with congenital anomalies (DX codes 740-759.9) or fetal hydrops (DX code 778.0) or dwarfism (DX Code 259.4).
Numerator Statement: All infants who meet above criteria.
Denominator Statement: For the AOI composite: All deliveries occurring during the review period
Exclusions: None
Adjustment/Stratification: No risk adjustment or risk stratification N/A
Level of Analysis: Clinician : Individual, Clinician : Team, Facility
Type of Measure: Outcome
Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record
Measure Steward: Beth Israel Deaconess Medical Center

Composite Component Measure - Assessment of Criteria Met/Suitable for Endorsement: Y-10; N-14
Comments:

- Is low Apgar score a measure of substandard care?
- AAP Policy statement – use caution when using Apgar score, particularly when diagnosing asphyxia
- Restricted to term babies without congenital anomalies
- Cord blood gases might be a better measure

0742 Birth Trauma
Measure Submission Form Description: All inborn babies who suffer one of a specific set of injuries during delivery. Numerator Statement: All newborns meeting diagnostic criteria Denominator Statement: As part of the AOI, all deliveries Exclusions: None Adjustment/Stratification: No risk adjustment or risk stratification Level of Analysis: Clinician : Team, Facility Type of Measure: Outcome Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record Measure Steward: Department of OB/Gyn. Beth Israel Deaconess Medical Center
Composite Component - Assessment of Criteria Met/Suitable for Endorsement: Y-8; N-15 Comments: • Similar to 474 except it includes brachial plexus injury or code 767.8 other specified trauma • Not risk-adjusted.

0743 In-hospital Maternal Deaths
Measure Submission Form Description: All pregnant women who die during the same hospital admission as their delivery Numerator Statement: All women who fit the description Denominator Statement: All pregnant women who deliver during the specified timeframe Exclusions: None Adjustment/Stratification: No risk adjustment or risk stratification n/a N/A Level of Analysis: Clinician : Team, Facility Type of Measure: Outcome Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record Measure Steward: Beth Israel Deaconess Medical Center
Composite Component -Assessment of Criteria Met/Suitable for Endorsement: Y-12; N-12 Comments: • Developer postulates 50% deaths are preventable • Maternal death is a true sentinel event – all cases need to be reviewed –approximately 600 cases/year in US • *Maternal death or serious injury associated with labor or delivery in a low-risk pregnancy while being cared for in a healthcare setting* is an NQF-endorsed Serious Reportable Event: • • Lack of risk-adjustment

0744 Uterine Rupture During Labor
Measure Submission Form Description: Rupture of uterus during labor in the primary, first or second diagnosis code positions only Numerator Statement: Uterine rupture (outcome) occurring during labor Denominator Statement: All women who deliver during period of analysis Exclusions: None Adjustment/Stratification: No risk adjustment or risk stratification No Level of Analysis: Clinician : Team, Facility Type of Measure: Outcome Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record Measure Steward: Beth Israel Deaconess Medical Center
Composite Component - Assessment of Criteria Met/Suitable for Endorsement: Y-4; N-20

0744 Uterine Rupture During Labor

Comments:

- Rare event : 0.06-.55%
- Can happen in spontaneous labor
- This measure could eliminate a VBAC option for patients
- Seems too heavily weighted in the weighted adverse outcome score (WAOS)

0745 Unplanned maternal admission to the ICU

Measure Submission Form

Description: Any admission to the ICU or transfer to another hospital for admission to ICU during hospitalization in which the woman delivered a baby.
Numerator Statement: All women meeting above criteria
Denominator Statement: All women who deliver an infant during period of evaluation
Exclusions: None. Specific cases can be excluded after review if post-partum ICU admission were planned due to underlying maternal medical conditions.
Adjustment/Stratification: No risk adjustment or risk stratification None Some women with significant comorbidities (e.g. placenta accreta) may have a planned ICU admission. This is excluded from the numerator data. In addition, any women who deliver while in the ICU are excluded.
Level of Analysis: Clinician : Team, Facility
Type of Measure: Outcome
Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record
Measure Steward: Department of OB/Gyn. Beth Israel Deaconess Medical Center

Composite Component - Assessment of Criteria Met/Suitable for Endorsement: Y-8; N-16

Comments:

- Lack of risk adjustment
- A process, not an outcome
- Post-hoc removal of planned admissions
- Delay in going to the ICU is also a problem
- Does it represent bad care?

0746 In-hospital Neonatal Death

Measure Submission Form

Description: Any inborn with discharge disposition of died within 7 days of birth (perinatal death), excluding birth weight < 2500 grams, gestational age < 37 weeks, cases with congenital anomalies (DX codes 740-759.9), fetal hydrops (778.0), or dwarfism (259.4)
Numerator Statement: Any inborn with discharge disposition of died within 7 days of birth (perinatal death) who does not meet exclusion criteria
Denominator Statement: All inborns with birth weight >= 2500 grams and >= 37 gestational age and without exclusion criteria
Exclusions: None
Adjustment/Stratification: No risk adjustment or risk stratification NA except for exclusions
Level of Analysis: Clinician : Team, Facility
Type of Measure: Outcome
Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record
Measure Steward: Beth Israel Deaconess Medical Center

Composite Component - Assessment of Criteria Met/Suitable for Endorsement: Y-8; N-16

Comments:

- Neonatal death has only half the weighting of maternal death
- Includes intrapartum and neonatal deaths; 750/yr – heterogeneous group: 1/5 due to hypoxia/asphyxia

0746 In-hospital Neonatal Death

- No risk-adjustment

0747 Admission to Neonatal Intensive Care Unit at Term

Measure Submission Form

Description: Admission to NICU of neonate birthweight = 2500 grams and = 37 weeks gestational age (GA) for >1 day Inborns only BW = 2500 grams, GA = 37 weeks, and NICU admission (day or charge) within one day of birth for greater than a day. Excludes cases with congenital anomalies (DX codes 740-759.9) fetal hydrops (778.0), dwarfism (259.4), or neonatal abstinence syndrome (779.5)
OR
Inborns with BW = 2500 grams and GA = 37 weeks and transferred to another hospital (UB92/UB04 disp=02 or =05) within 1 day of birth and excluding cases with congenital anomalies (DX codes 740-759.9), fetal hydrops (778.0), dwarfism (259.4) or neonatal abstinence syndrome (779.5)

Numerator Statement: All live inborns who meet the criteria, excluding those with congenital anomalies or fetal hydrops,dwarfism or neonatal abstinence syndrome.

Denominator Statement: All deliveries during occurring during the period under review

Exclusions: None

Adjustment/Stratification: No risk adjustment or risk stratification None

Level of Analysis: Clinician : Team, Facility

Type of Measure: Outcome

Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record

Measure Steward: Beth Israel Deaconess Medical Center

Composite Component - Assessment of Criteria Met/Suitable for Endorsement: Y-11; N-13

Comments:

- Baseline rate = 6-8%; higher than other components – will overwhelm other components of AOI
- Variability in NICU admission – some is quality, some is system inefficiency, overuse, staffing
- No risk-adjustment

0748 Third or Fourth Degree Perineal Laceration

Measure Submission Form

Description: Number of women who suffer a 3rd or 4th degree laceration of the perineum during vaginal delivery.

Numerator Statement: All women who meet above criteria

Denominator Statement: As part of the AOI/WAOS/SI- all women who deliver.

Exclusions: None

Adjustment/Stratification: No risk adjustment or risk stratification None

Level of Analysis: Clinician : Team, Facility

Type of Measure: Outcome

Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Patient Reported Data/Survey

Measure Steward: Beth Israel Deaconess Medical Center

Composite Component - Assessment of Criteria Met/Suitable for Endorsement: Y-7; N-17

Comments:

- Occurs in 3.7% of operative deliveries
- Variation in provider diagnosis and coding
- Needs risk-adjustment
- Often drives the entire composite
- Focus on laceration does not address episiotomy use, which is the sentinel event and it's easier to measure episiotomy

0749 Unanticipated Operative Procedure
Measure Submission Form Description: This is the rate of women who during their delivery hospitalization have an unanticipated operative procedure defined as DRG 370-375 or MS DRG 765-768 and 774-775 with one of the following procedure codes in first or second procedure field: 75.92 (evacuation of other hematoma of vulva or vagina) or 69.02 (D&C following delivery), 54.61 (re-closure of postoperative disruption of abdominal wall), 38.86 (other surgical occlusion of abdominal vessels), 39.98 (control of hemorrhage), 69.52 (aspiration curettage following delivery). Numerator Statement: All women who deliver an inborn who meet the diagnostic criteria Denominator Statement: All women who deliver during period of evaluation Exclusions: none Adjustment/Stratification: No risk adjustment or risk stratification none none Level of Analysis: Clinician : Team, Facility Type of Measure: Outcome Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Paper Records Measure Steward: Beth Israel Deaconess Medical Center
Composite Component - Assessment of Criteria Met/Suitable for Endorsement: Y-15; N-9 Comments: • Limited to hospitalization only, does not include readmissions • Variation in exposure – hospitals with very short LOS will have lower exposure for this measure

0750 Maternal blood transfusion
Measure Submission Form Description: Maternal Blood Transfusion – DRG 370-375 or MS DRG 765-768 and 774-775 with procedure code 99.03 (Other transfusion of whole blood), 99.04 (Transfusion of packed cells), 99.05 (Transfusion of platelets), 99.07 (Transfusion of other serum), 99.08 (Transfusion of blood expander) or Blood Transfusion Indicator = 1 Numerator Statement: All women who have a transfusion during their delivery hospitalization Denominator Statement: All women who deliver an infant during period of evaluation Exclusions: none Adjustment/Stratification: No risk adjustment or risk stratification none none Level of Analysis: Clinician : Team, Facility Type of Measure: Outcome Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Pharmacy, Paper Records Measure Steward: Beth Israel Deaconess Medical Center
Composite Component -Assessment of Criteria Met/Suitable for Endorsement: Y-17; N-7 Comments: • Sometimes transfusion is the right thing to do

MEASURES WITHDRAWN FROM CONSIDERATION

Nine measures previously endorsed by NQF have not been re-submitted or withdrawn from maintenance of endorsement. Two additional measures were withdrawn after initial submission. The following measures are being retired from endorsement:

Measure	Reason for retirement
0012: Prenatal Screening for Human Immunodeficiency Virus (HIV) (AMA/PCPI)	Will be superseded by measures currently in development.
0014: Prenatal Anti-D Immune Globulin (AMA/PCPI)	Will be superseded by measures currently in development.
0015: Prenatal Blood Groups (ABO), D (Rh) Type (AMA/PCPI)	Will be superseded by measures currently in development.
0016: Prenatal Blood Group Antibody Testing (AMA/PCPI)	Will be superseded by measures currently in development.
0333: Severity-Standardized ALOS - Deliveries (Leapfrog Group)	Developer no longer maintains the measure.
0474: Birth Trauma – Injury to Neonate (PSI 17) (AHRQ)	Withdrawn during Steering Committee discussion.
0485: Neonatal Immunization (Child Health Corporation of America)	Measure no longer aligns with APIC guidelines
0606: Pregnant women that had HIV testing (Ingenix)	Developer elected not to pursue maintenance of endorsement.
0607: Pregnant women that had syphilis screening (Ingenix)	Developer elected not to pursue maintenance of endorsement.
0608: Pregnant women that had HBsAg testing (Ingenix)	Developer elected not to pursue maintenance of endorsement.
0484: Proportion of infants 22-29 weeks gestation treated with surfactant who are treated within 2 hours of birth (VON)	Withdrawn due to changing evidence and practice.

NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR PERINATAL AND REPRODUCTIVE HEALTHCARE: ENDORSEMENT MAINTENANCE 2011

APPENDIX A: MEASURE SPECIFICATIONS

The following tables present the detailed specifications for the National Quality Forum (NQF)-endorsed® *National Voluntary Consensus Standards Perinatal and Reproductive Healthcare: Endorsement Maintenance 2011.* All information presented has been derived directly from measure sources/developers without modification or alteration (except when the measure developed agreed to such modification during the NQF Consensus Development Process) and is current as of December 21, 2011. All NQF-endorsed voluntary consensus standards are open source, meaning they are fully accessible and disclosed. Measures stewards include Agency for Healthcare Research and Quality, California Maternal Quality Care Collaborative, Centers for Disease Control and Prevention, Christiana Care Health System, Hospital Corporation of America, Massachusetts General Hospital/Partners Health Care System, The Joint Commission, and the Vermont Oxford Network.

	Measure 0304: Late sepsis or meningitis in Very Low Birth Weight (VLBW) neonates (risk-adjusted) (Vermont Oxford Network)
Description	Standardized rate and standardized morbidity ratio for nosocomial bacterial infection after day 3 of life for very low birth weight infants, including infants with birth weights between 401 and 1500 grams and infants whose gestational age is between 22 and 29 weeks.
Numerator	Eligible infants with one or more of the following criteria: Criterion 1: Bacterial Pathogen. A bacterial pathogen is recovered from a blood and/or cerebral spinal fluid culture obtained after Day 3 of life. OR Criterion 2: Coagulase Negative Staphylococcus. The infant has all 3 of the following: 1. Coagulase negative staphylococcus is recovered from a blood culture obtained from either a central line, or peripheral blood sample and/or is recovered from cerebrospinal fluid obtained by lumbar puncture, ventricular tap or ventricular drain. 2. One or more signs of generalized infection (such as apnea, temperature instability, feeding intolerance, worsening respiratory distress or hemodynamic instability). 3. Treatment with 5 or more days of intravenous antibiotics after the above cultures were obtained. If the infant died, was discharged, or transferred prior to the completion of 5 days of intravenous antibiotics, this condition would still be met if the intention were to treat for 5 or more days.
Numerator Details	Infants whose birth weight is between 401 and 1500 grams or whose gestational age is between 22 weeks 0 days and 29 weeks 6 days are included if they have coagulase negative staphylococcus or one of the bacterial pathogens listed below after day 3 of life, provided they meet one of the following criteria: 1. They are born at the reporting hospital. OR 2. They are admitted to any location in the reporting hospital within 28 days of birth, without first having gone home. Bacterial Pathogens List: 1. Achromobacter species [including Achromobacter xylosoxidans (also known as Alcaligenes xylosoxidans) and others] 2. Acinetobacter species 3. Aeromonas species 4. Alcaligenes species [Alcaligenes xylosoxidans and others] 5. Bacteroides species 6. Burkholderia species [Burkholderia capecia and others] 7. Campylobacter species [Campylobacter fetus, C. jejuni and others] 8. Chryseobacterium species 9. Citrobacter species [Citrobacter diversus, C. freundii, C. koseri and others] 10. Clostridium species 11. Enterobacter species [Enterobacter aerogenes, E. cloacae, and others] 12. Enterococcus species [Enterococcus faecalis (also known as Streptococcus faecalis), E.faecium, and other Enterococcus species] 13. Escherichia coli

	14. Flavobacterium species 15. Haemophilus species [Haemophilus influenzae and others] 16. Klebsiella species [Klebsiella oxytoca, K. pneumoniae and others] 17. Listeria monocytogenes 18. Moraxella species [Moraxella catarrhalis (also known as Branhamella catarrhalis) and others] 19. Neisseria species [Neisseria meningitidis, N. gonorrhoeae and others] 20. Pasteurella species 21. Prevotella species 22. Proteus species [Proteus mirabilis, P. vulgaris and others] 23. Providencia species [Providencia rettgeri, and others] 24. Pseudomonas species [Pseudomonas aeruginosa and others] 25. Ralstonia species 26. Salmonella species 27. Serratia species [Serratia liquefaciens, S. marcescens and others] 28. Staphylococcus coagulase positive [aureus] 29. Stenotrophomonas maltophilia 30. Streptococcus species [including Streptococcus Group A, Streptococcus Group B, Streptococcus Group D, Streptococcus pneumoniae, Strep milleri and others]
Denominator	Eligible infants who are in the reporting hospital after day 3 of life.
Denominator Details	Infants whose birth weight is between 401 and 1500 grams or whose gestational age is between 22 weeks 0 days and 29 weeks 6 days are included if they are in the reporting hospital after day 3 of life, provided they meet one of the following criteria: 1. They are born at the reporting hospital. OR 2. They are admitted to any location in the reporting hospital within 28 days of birth, without first having gone home.
Exclusions	Exclude patients who do not meet eligibility criteria for birth weight, gestational age or hospital admission, or if the infant is discharged home, is transferred or dies prior to day 3 of life.
Exclusion details	1. Any infant who meets neither of the following conditions is excluded: - Birth weight between 401 and 1500 grams - Gestational age between 22 and 29 weeks. 2. Outborn infants who are admitted to the reporting hospital more than 28 days after birth are excluded. 3. Outborn infants who have been home prior to admission to the reporting hospital are excluded. 4. Infants discharged home on or before day 3 of life are excluded. 5. Infants who die on or before day 3 of life are excluded. 6. Infants who transfer to another hospital on or before day 3 of life and who are not readmitted to the reporting hospital. 7. Infants who transfer more than once prior to day 3 of life.
Risk Adjustment	Statistical risk model
Stratification	N/A
Numerator Time window	After day 3 of life and until death or discharge home or transfer from the reporting hospital. Infants readmitted to the reporting hospital following transfer to another hospital are monitored following readmission.

Type	Outcome
Type of Score	Other Adjusted rate and standardized morbidity ratio (observed minus expected values are also provided)
Data Source	Electronic Clinical Data : Registry
Level	Facility
Setting	Hospital/Acute Care Facility

	Measure 0475: Hepatitis B Vaccine Coverage Among All Live Newborn Infants Prior to Hospital or Birthing Facility Discharge (Centers for Disease Control and Prevention)
Description	Percent of live newborn infants that receive hepatitis B vaccination before discharge at each single hospital/birthing facility during given time period (one year).
Numerator	The number of live newborn infants administered hepatitis B vaccine prior to discharge from the hospital/birthing facility ("birth dose" of hepatitis B vaccine).
Numerator Details	Per hospital/birthing facility, the number of live newborn infants, during a calendar year, who received a dose of hepatitis B vaccine prior to hospital/birthing facility discharge (or within 1 month of life, if the infant had an extended hospital stay). Acceptable data sources include: pharmacy records, vaccine consent forms, medication administration records, claims data, nurses notes, electronic medical records, or other available records. a. Suggested ICD-9 code V05.3 converts to ICD-10 code z23 (type of immunization given will be identified by the procedure code—effective October 1, 2013. Procedure code for viral hepatitis unknown. Suggest the use of ICD-10 code z23.9955 described as "prophylactic administration of vaccine against other diseases" or ICD-10 code z23.9959 described as "other vaccination or inoculation"): http://www.icd10data.com/ICD10CM/Codes/Z00-Z99/Z20-Z28/Z23-/Z23 b. CPT administration codes: 90744 (hepatitis B vaccine) and 90471 (immunization administration code)
Denominator	The number of live newborn infants born at the hospital/birthing facility during the reporting window (one calendar year)
Denominator Details	a. The number of live births at the hospital during one calendar year can be determined from a variety of sources, including the paper or electronic patient records, claims data, nursery birth records, or other available records. ICD-10 codes can be used. Stillborn deliveries are not included in the definition of the MEASURE. i. ICD-10 codes to be used (link: http://www.icd10data.com/ICD10CM/Codes/Z00-Z99/Z30-Z39/Z37-/#Z37 and http://www.icd10data.com/ICD10CM/Codes/Z00-Z99/Z30-Z39/Z38-/#Z38) : 1. Z37.0 Single live birth 2. Z37.2 Twins, both live born 3. Z37.3 Twins, one live born and one stillborn 4. Z37.50 Multiple births, unspecified, all live born 5. Z37.51 Triplets, all live born 6. Z37.52 Quadruplets, all live born 7. Z37.53 Quintuplets, all live born 8. Z37.54 Sextuplets, all live born 9. Z37.59 Other multiple births, all live born 10. Z37.60 Multiple births, unspecified, some live born 11. Z37.61 Triplets, some live born 12. Z37.62 Quadruplets, some live born 13. Z37.63 Quintuplets, some live born 14. Z37.64 Sextuplets, some live born 15. Z37.69 Other multiple births, some live born 16. Z38.00 Single live born infant, delivered vaginally 17. Z38.01 Single live born infant, delivered by cesarean 18. Z38.1 Single live born infant, born outside hospital 19. Z38.2 Single live born infant, unspecified as to place of birth 20. Z38.30 Twin live born infant, delivered vaginally 21. Z38.31 Twin live born infant, delivered by cesarean 22. Z38.4 Twin live born infant, born outside hospital 23. Z38.5 Twin live born infant, unspecified as to place of birth

	24. Z38.61 Triplet live born infant, delivered vaginally 25. Z38.62 Triplet live born infant, delivered by cesarean 26. Z38.63 Quadruplet live born infant, delivered vaginally 27. Z38.64 Quadruplet live born infant, delivered by cesarean 28. Z38.65 Quintuplet live born infant, delivered vaginally 29. Z38.66 Quintuplet live born infant, delivered by cesarean 30. Z38.68 Other multiple live born infant, delivered vaginally 31. Z38.69 Other multiple live born infant, delivered by cesarean 32. Z38.7 Other multiple live born infant, born outside hospital 33. Z38.8 Other multiple live born infant, unspecified as to place of birth The results of this measure will identify that the coverage excludes infants whose parent(s)/guardian(s) refused hepatitis B vaccine for their infant before hospital or facility discharge (or by 1 month of age if during a prolonged stay).
Exclusions	a. Determine number of live newborn infants born at the hospital/birthing facility whose parent/guardian refused hepatitis B birth dose and exclude from the denominator. ICD-10 code for this information will include the following(link: http://www.icd10data.com/ICD10CM/Codes/Z00-Z99/Z20-Z28/Z28-/#Z28): i. Z28.03 Immunization not carried out because of immune compromised state of patient ii. Z28.04 Immunization not carried out because of patient allergy to vaccine or component iii. Z28.1 Immunization not carried out because of patient decision for reasons of belief or group pressure iv. Z28.20 Immunization not carried out because of patient decision for unspecified reason v. Z28.21 Immunization not carried out because of patient refusal vi. Z28.29 Immunization not carried out because of patient decision for other reason vii. Z28.82 Immunization not carried out because of caregiver refusal
Exclusion details	Subtract from the number of infants discharged from the hospital/birthing facility, the number of infants born at the facility during one calendar year, whose parent/guardian refused administration of a birth dose of hepatitis B vaccine before discharge from the hospital/birthing facility. Information on exclusions might come from a variety of sources, including vaccine consent forms, clinical notes, and medication administration records. No billing codes exist for vaccine refusal; therefore ICD-10 codes in the Z28 series should be used to document vaccine refusal.
Risk Adjustment	No risk adjustment or risk stratification
Stratification	N/A
Numerator Time window	one calendar year
Type	Process
Type of Score	Rate/proportion
Data Source	Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Pharmacy, Electronic Clinical Data : Registry
Level	Clinician : Group/Practice, Clinician : Individual, Facility, Health Plan
Setting	Hospital/Acute Care Facility

	Measure 0478: Neonatal Blood Stream Infection Rate (NQI #3) (Agency for Healthcare Research and Quality)
Description	Percentage of high-risk newborn discharges with an ICD-9-CM diagnosis code of bloodstream infection
Numerator	Discharges among cases meeting the inclusion and exclusion rules for the denominator with an ICD-9-CM code for bloodstream infection in any secondary diagnosis field
Numerator Details	Note: the specification reflects the harmonized measure with The Joint Commission, rather than the technical specification as currently posted. Any secondary diagnosis ICD-9-CM code for: 03810 STAPHYLCOCC SEPTICEM NOS 03811 METH SUSC STAPH AUR SEPT 03812 MRSA SEPTICEMIA 03819 STAPHYLCOCC SEPTICEM NEC 03840 GRAM-NEG SEPTICEMIA NOS 03842 E COLI SEPTICEMIA 03843 PSEUDOMONAS SEPTICEMIA 03844 SERRATIA SEPTICEMIA 03849 GRAM-NEG SEPTICEMIA NEC 1125 DISSEMINATED CANDIDIASIS OR Any secondary diagnosis ICD-9-CM code for: 77181 NB SEPTICEMIA [SEPSIS] 77183 BACTEREMIA OF NEWBORN AND Any secondary diagnosis ICD-9-CM code for: 04104 ENTEROCOCCUS GROUP D 04110 STAPHYLOCOCCUS UNSPCFIED 04111 MTH SUS STPH AUR ELS/NOS

	04119 OTHER STAPHYLOCOCCUS 0413 KLEBSIELLA INFECT N 0414 E. COLI INFECT NOS 04141 SHIGA TXN-PRODUCE E.COLI 04142 SHGA TXN PROD E.COLI NEC 04143 SHGA TXN PROD E.COLI NOS 04149 E.COLI INFECTION NEC/NOS 0417 PSEUDOMONAS INFECT NOS 04185 OTH GRAM NEGATV BACTERIA
Denominator	All newborns and outborns with 1) Birth weight 500 to 1499g OR 2) Gestational age between 24 and 30 weeks OR 3) Birth weight greater than or equal to 1500g AND - in-hospital death OR - operating room procedure OR - mechanical ventilation OR - age in days less than 2 AND transferred from another health care facility
Denominator Details	Note: the specification reflects the harmonized measure with The Joint Commission, rather than the technical specification as currently posted. In-hospital death (DISP=20) ICD-9-CM Diagnosis Codes for gestation age between 24 and 30 weeks: 76522 24 COMPLETED WEEKS OF GESTATION 76523 25-26 COMPLETED WEEKS OF GESTATION 76524 27-28 COMPLETED WEEKS OF GESTATION 76525 29-30 COMPLETED WEEKS OF GESTATION ICD-9-CM Procedure Codes for Mechanical Ventilation: 9670 CONTINUOUS MECHANICAL VENTILATION OF UNSPEC DURATION 9671 CONTINUOUS MECHANICAL VENTILATION FOR LESS THAN 96 CONSECUTIVE HRS 9672 CONTINUOUS MECHANICAL VENTILATION FOR 96 CONSECUTIVE HOURS OR MORE

	See Pediatric Quality Indicators Appendices: • Appendix A – Operating Room Procedure Codes NOTE: THE FOLLOWING CODES SHOULD BE REMOVED FROM APPENDIX A: ´0058´ INS INTRA-ANSM PRES MNTR (begin 2008) ´0059´ INTRAVASC MSMNT COR ART (begin 2008) ´0067´ INTRAVAS MSMNT THORC ART (begin 2008) ´0068´ INTRAVAS MSMT PERIPH ART (begin 2008) ´0069´ INTRAVS MSMT VES NEC/NOS (begin 2008) • Appendix I – Definitions of Neonate, Newborn, Normal Newborn, and Outborn • Appendix J – Admission Codes for Transfers • Appendix L – Low Birth Weight Categories http://qualityindicators.ahrq.gov/Downloads/Software/SAS/V43/TechnicalSpecifications/PDI%20Appendices.pdf
Exclusions	Exclude cases: • with principal diagnosis code of sepsis or secondary diagnosis code present on admission • with birth weight less than 500 grams • with length of stay less than 2 days • with missing data for (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1=missing) See Pediatric Quality Indicators Appendices: • Appendix L – Low Birth Weight Categories http://qualityindicators.ahrq.gov/Downloads/Software/SAS/V43/TechnicalSpecifications/PDI%20Appendices.pdf
Exclusion details	Note: the specification reflects the harmonized measure with the Joint Commission, rather than the technical specification as currently posted. ICD-9-CM Diagnosis Codes for Sepsis: 0380 STREPTOCOCCAL SEPTICEMIA 0381 STAPHYLOCOCCAL SEPTICEMIA 03810 STAPHYLOCOCCAL SEPTICEMIA, UNSPECIFIED 03811 METHICILLIN SUSCEPTIBLE STAPHYLOCOCCUS AUREUS SEPTICEMIA (OCT08) 03812 METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS SEPTICEMIA (OCT08) 03819 OTHER STAPHYLOCOCCAL SEPTICEMIA 0382 PNEUMOCOCCAL SEPTICEMIA (STREPTOCOCCUS PNEUMONIAE SEPTICEMIA) 0383 SEPTICEMIA DUE TO ANAEROBES 03840 GRAM-NEGATIVE ORGANISM, UNSPECIFIED 03841 HEMOPHILUS INFLUENZAE 03842

	ESCHERICHIA COLI 03843 PSEUDOMONAS 03844 SERRATIA 03849 SEPTICEMIA DUE TO OTHER GRAM-NEGATIVE ORGANISMS 0388 OTHER SPECIFIED SEPTICEMIAS 0389 UNSPECIFIED SEPTICEMIA 1125 DISSEMINATED CANDIDIASIS 77181 NB SEPTICEMIA [SEPSIS] 77183 BACTEREMIA OF NEWBORN 78552 SEPTIC SHOCK 78559* SHOCK WITHOUT MENTION OF TRAUMA, OTHER 7907 BACTEREMIA 99591 SYSTEMIC INFLAMMATORY RESPONSE SYNDROME DUE TO INFECTIOUS PROCESS W/O ORGAN DYSFUNCTION 99592 SYSTEMIC INFLAMMATORY RESPONSE SYNDROME DUE TO INFECTIOUS PROCESS W/ ORGAN DYSFUNCTION 9980 POSTOPERATIVE SHOCK 99800 POSTOPERATIVE SHOCK, NOS 99802 POSTOP SHOCK, SEPTIC *Not valid for discharges effective October 1, 2004
Risk Adjustment	Statistical risk model
Stratification	Not applicable
Numerator Time window	Users may select the time window, but generally one calendar year
Type	Outcome
Type of Score	Rate/proportion
Data Source	Administrative claims
Level	Facility
Setting	Hospital/Acute Care Facility

	Measure 0471: PC-02 Cesarean Section (The Joint Commission)
Description	This measure assesses the number of nulliparous women with a term, singleton baby in a vertex position delivered by cesarean section. This measure is part of a set of five nationally implemented measures that address perinatal care (PC-01: Elective Delivery, PC-03: Antenatal Steroids, PC-04: Health Care-Associated Bloodstream Infections in Newborns, PC-05: Exclusive Breast Milk Feeding).
Numerator	Patients with cesarean sections with ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for cesarean section as defined in Appendix A, Table 11.06 available at: http://manual.jointcommission.org
Numerator Details	Two data elements are used to calculate the numerator: 1. ICD-9-CM Other Procedure Codes - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies significant procedures performed other than the principal procedure during this hospitalization. 2. ICD-9-CM Principal Procedure Code - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies the principal procedure performed during this hospitalization. The principal procedure is the procedure performed for definitive treatment rather than diagnostic or exploratory purposes, or which is necessary to take care of a complication. Patients are eligible for the numerator population with ICD-9-CM Other Procedure Codes or ICD-9-CM Principal Procedure Code for cesarean section. If none of these codes is present, patients are in the denominator population only.
Denominator	Nulliparous patients delivered of a live term singleton newborn in vertex presentation
Denominator Details	Ten data elements are used to calculate the denominator: 1. Admission Date – The month, day and year of admission to acute inpatient care. 2. Birthdate - The month, day and year the patient was born. 3. Clinical Trial - Documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients with pregnancy were being studied. Allowable values: Yes or No/UTD 4. Discharge Date – The month day and year the patient was discharged from acute care, left against medical advice or expired during the stay. 5. Gestational Age – Documentation of the weeks of gestation completed at the time of delivery. Allowable Values: 1-50 or UTD. 6. ICD-9-CM Other Diagnosis Codes - The International Classification of Diseases, Ninth Revision, and Clinical Modification (ICD-9-CM) codes associated with the secondary diagnoses for this hospitalization. 7. ICD-9-CM Other Procedure Codes - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies significant procedures performed other than the principal procedure during this hospitalization. 8. ICD-9-CM Principal Diagnosis Code - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code associated with the diagnosis established after study to be chiefly responsible for occasioning the admission of the patient for this hospitalization. 9. ICD-9-CM Principal Procedure Code - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies the principal procedure performed during this hospitalization. The principal procedure is the procedure performed for definitive treatment rather than diagnostic or exploratory purposes, or which is necessary to take care of a complication. 10. Parity - The number of deliveries, whether resulting in live or stillborn infants, the patient experienced prior to current hospitalization. Allowable Values: 0-50 or UTD.
Exclusions	• ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for contraindications to

	vaginal delivery as defined in Appendix A, Table 11.09 • Less than 8 years of age • Greater than or equal to 65 years of age • Length of Stay >120 days • Enrolled in clinical trials
Exclusion details	• Patients with ICD-9-CM Principal Diagnosis Code or Other Diagnosis Codes for contraindications to vaginal delivery are excluded. • The patient age in years is equal to the Admission Date minus the Birthdate. Patients less than 8 years of age or greater or equal to 65 years of age are excluded. • Length of stay (LOS) in days is equal to the Discharge Date minus the Admission Date. If the LOS is greater than 120 days, the patient is excluded. • Patients are excluded if "Yes" is selected for Clinical Trial.
Risk Adjustment	Other Direct rate standardization to the distribution of the 2006 US population of nulliparous births. See attached spreadsheet for age bands used in the direct standardization.
Stratification	The Stratification Table used for direct standardization includes the Set Number, Stratified By, and the Age Stratum (Allowable Value). The Age Stratum refers to Patient Age which is calculated by the data element Admission Date minus the data element Birthdate. Each case will be stratified according to the patient age, after the Category Assignments (e.g., numerator, denominator, not in measure population) are completed and the overall rate is calculated. Set Number Stratified By Age Stratum PC-02a Overall Rate No allowable value exists for the overall rate. It includes all patients greater than or equal to 8 years and less than 65 years. PC-02b Age 8 years through 14 yearsA Patient Age (Admission Date minus Birthdate) greater than or equal to 8 years and less than 15 years. PC-02c Age 15 years through 19 years A Patient Age (Admission Date minus Birthdate) greater than or equal to 15 years and less than 20 years. PC-02d Age 20 years through 24 years A Patient Age (Admission Date minus Birthdate) greater than or equal to 20 years and less than 25 years. PC-02e Age 25 years through 29 years A Patient Age (Admission Date minus Birthdate) greater than or equal to 25 years and less than 30 years. PC-02f Age 30 years through 34 years A Patient Age (Admission Date minus Birthdate) greater than or equal to 30 years and less than 35 years. PC-02g Age 35 years through 40 years A Patient Age (Admission Date minus Birthdate) greater than or equal to 35 years and less than 40 years. PC-02h Age 40 years through 44 years A Patient Age (Admission Date minus Birthdate) greater than or equal to 40 years and less than 45 years. PC-02i Age 45 years through 64 years A Patient Age (Admission Date minus Birthdate) greater than or equal to 45 years and less than 65 years.
Numerator Time window	Episode of care
Type	Outcome
Type of Score	Rate/proportion
Data Source	Administrative claims, Paper Records
Level	Facility, Population : National
Setting	Hospital/Acute Care Facility

	Measure 0472: Appropriate Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision – Cesarean section. (Massachusetts General Hospital/Partners Health Care System)
Description	Percentage of patients undergoing cesarean section who receive appropriate prophylactic antibiotics within 60 minutes of the start of the cesarean delivery, unless the patient is already receiving appropriate antibiotics
Numerator	Percentage of women who receive recommended antibiotics within one hour before the start of cesarean section. This requires that (a) the antibiotic selection is consistent with current evidence and practice guidelines, and (b) that the antibiotics are given within an hour before delivery. If the patient is already receiving appropriate antibiotics, for example for chorioamnionitis, additional dosing is not necessary.
Numerator Details	Patients receiving antibiotics within an hour before incision as recommended in major guidelines, specifically of the American College of Obstetricians and Gynecologists (ACOG). The ACOG guidelines currently call for a first-generation cephalosporin such as cefazolin as first-line therapy, and the combination of gentamicin and clindamycin for women with relevant allergies. For the purposes of reporting, there may be one numerator of patients whose antibiotic selection is appropriate, and a second numerator of patients who receive antibiotics within one hour. While both components are necessary in the overall quality of care measure, separate reporting may help identify opportunities for improvement.
Denominator	All patients undergoing cesarean section without evidence of prior infection or already receiving prophylactic antibiotics for other reasons. Patients with significant allergies to penicillin and/or cephalosporins AND allergies to gentamicin and/or clindamycin are also excluded.
Denominator Details	All patients undergoing cesarean section without evidence of prior infection or already receiving prophylactic antibiotics for other reasons; or with multiple significant drug allergies. There may be various operational systems for identification of cesarean section, which is an unambiguous event. Most commonly hospital quality measurement systems rely on ICD-9 procedure codes (pending implementation of ICD-10). These may be found in Appendix A, Table 4.07 of the specifications for the National Hospital Quality Measures. Currently, they include o 74.0 Classical cesarean section o 74.1 Low cervical cesarean section o 74.2 Extraperitoneal cesarean section o 74.4 Cesarean section of other specified type o 74.99 Other cesarean section of unspecified type
Exclusions	Women with evidence of prior infection or already receiving prophylactic antibiotics for other reasons; or with significant allergies to penicillin and/or cephalosporins AND allergies to gentamicin and/or clindamycin. We do not exclude patients having emergency cesarean deliveries. We recognize that while in the case of most urgent and emergent cesarean deliveries administering timely antibiotic prophylaxis will be possible, very rarely clinical circumstances may not permit administration of antibiotic prophylaxis before skin incisions. Specifying these unusual circumstances, especially from readily abstracted medical record data, is not possible/feasible. Allowing a self-defined exclusion risks inappropriate definition. Instead we recognize that ideal performance on this measure may not be 100% given the small number of unusual emergencies and/or other circumstances. Providers/facilities should however target a 100% goal by, among other efforts, considering how antibiotic prophylaxis will be appropriately delivered even in the case of emergencies
Exclusion	Patients who had a principal ICD-9 diagnosis code suggestive of preoperative infectious disease (as defined

details	in Appendix A, Table 5.09 of the Specification Manual for National Hospital Quality Measures, Version 2.2, and future updates) • Patients who were already receiving antibiotics within 24 hours prior to surgery except that prophylaxis with penicillin or ampicillin for Group B Streptococcus (GBS) is not a reason for exclusion. • Patients with physician/advanced practice nurse/physician assistant/certified nurse midwife documented infection or prophylaxis for infection, except that prophylaxis for GBS is not a reason for exclusion. • Patients who undergo other surgeries within 3 days before or after the cesarean section.
Risk Adjustment	No risk adjustment or risk stratification
Stratification	The measure may electively be stratified by race, ethnicity, or other variables of interest. These additional variables would be identified and supplied by users according to local needs and interests.
Numerator Time window	One hour before incision time.
Type	Process
Type of Score	Rate/proportion
Data Source	Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Paper Records
Level	Facility, Population : State
Setting	Hospital/Acute Care Facility

	Measure 0473: Appropriate DVT prophylaxis in women undergoing cesarean delivery (Hospital Corporation of America)
Description	Measure adherence to current ACOG, SMFM recommendations for use of DVT prophylaxis in women undergoing cesarean delivery. Current ACOG and SMFM recommendations call for the use of pneumatic compression devices in all women undergoing cesarean delivery who are not already receiving medical VTE prophylaxis. Numerator: Number of women undergoing cesarean delivery receiving either pneumatic compression device or medical prophylaxis prior to cesarean delivery. Denominator: All women undergoing cesarean delivery.
Numerator	Number of women undergoing cesarean delivery who receive either fractionated or unfractionated heparin or heparinoid, or pneumatic compression devices prior to surgery
Numerator Details	Patients with DRG: 740,741,742,744,7491,7499 who had pneumatic compression devices placed pre-operatively
Denominator	All women undergoing cesarean delivery.
Denominator Details	DRG 740,741,742,744,7491,7499
Exclusions	Not receiving medical anticoagulation
Exclusion details	one of the following HCPCS codes: J1644, J1650, J1645, J1655
Risk Adjustment	No risk adjustment or risk stratification
Stratification	N/A
Numerator Time window	Hospital admission for delivery
Type	Process
Type of Score	Rate/proportion
Data Source	Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Pharmacy, Paper Records
Level	Facility
Setting	Hospital/Acute Care Facility

	Measure 0469: PC-01 Elective Delivery (The Joint Commission)
Description	This measure assesses patients with elective vaginal deliveries or elective cesarean sections at >= 37 and < 39 weeks of gestation completed. This measure is a part of a set of five nationally implemented measures that address perinatal care (PC-02: Cesarean Section, PC-03: Antenatal Steroids, PC-04: Health Care-Associated Bloodstream Infections in Newborns, PC-05: Exclusive Breast Milk Feeding)
Numerator	Patients with elective deliveries with ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for one or more of the following: • Medical induction of labor as defined in Appendix A, Table 11.05 available at: http://manual.jointcommission.org • Cesarean section as defined in Appendix A, Table 11.06 while not in Active Labor or experiencing Spontaneous Rupture of Membranes available at: http://manual.jointcommission.org
Numerator Details	Four data elements are used to calculate the numerator: 1. Active Labor- Documentation that the patient was in active labor or presented with regular uterine contractions with cervical change before medical induction and/or cesarean section. Allowable values: Yes or No/UTD. 2. ICD-9-CM Other Procedure Codes - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies significant procedures performed other than the principal procedure during this hospitalization. 3. ICD-9-CM Principal Procedure Code - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies the principal procedure performed during this hospitalization. The principal procedure is the procedure performed for definitive treatment rather than diagnostic or exploratory purposes, or which is necessary to take care of a complication. 4. Spontaneous Rupture of Membranes-Documentation that the patient had spontaneous rupture of membranes (SROM) before medical induction and/or cesarean section. Allowable values: Yes or No/UTD. Patients are eligible for the numerator population with ICD-9-CM Other Procedure Codes or ICD-9-CM Principal Procedure Code for medical induction or with ICD-9-CM Other Procedure Codes or ICD-9-CM Principal Procedure Code for cesarean section when the allowable value equals “no” for the data elements Active Labor and Spontaneous Rupture of Membranes.
Denominator	Patients delivering newborns with >= 37 and < 39 weeks of gestation completed
Denominator Details	Seven data elements are used to calculate the denominator: 1. Admission Date – The month, day and year of admission to acute inpatient care. 2. Birthdate - The month, day and year the patient was born. 3. Clinical Trial - Documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients with pregnancy were being studied. Allowable values: Yes or No/UTD 4. Discharge Date – The month day and year the patient was discharged from acute care, left against medical advice or expired during the stay. 5. Gestational Age – Documentation of the weeks of gestation completed at the time of delivery. Allowable Values: 1-50 or UTD. 6. ICD-9-CM Other Diagnosis Codes - The International Classification of Diseases, Ninth Revision, and Clinical Modification (ICD-9-CM) codes associated with the secondary diagnoses for this hospitalization. 7. ICD-9-CM Principal Diagnosis Code - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code associated with the diagnosis established after study to be chiefly responsible for occasioning the admission of the patient for this hospitalization.
Exclusions	• ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for conditions possibly justifying elective delivery prior to 39 weeks gestation as defined in Appendix A, Table 11.07

	• Less than 8 years of age • Greater than or equal to 65 years of age • Length of Stay >120 days • Enrolled in clinical trials
Exclusion details	• Patients with ICD-9-CM Principal Diagnosis Code or Other Diagnosis Codes for conditions for possibly justifying elective delivery are excluded. • The patient age in years is equal to the Admission Date minus the Birthdate. Patients less than 8 years of age or greater or equal to 65 years of age are excluded. • Length of stay (LOS) in days is equal to the Discharge Date minus the Admission Date. If the LOS is greater than 120 days, the patient is excluded. • Patients are excluded if "Yes" is selected for Clinical Trial.
Risk Adjustment	No risk adjustment or risk stratification
Stratification	Not Applicable
Numerator Time window	Episode of care
Type	Process
Type of Score	Rate/proportion
Data Source	Administrative claims, Electronic Clinical Data, Paper Records
Level	Facility, Population : National
Setting	Hospital/Acute Care Facility

	Measure 0470: Incidence of Episiotomy (Christiana Care Health System)
Description	Percentage of vaginal deliveries (excluding those coded with shoulder dystocia) during which an episiotomy is performed.
Numerator	Number of episiotomy procedures (ICD-9 code 72.1, 72.21, 72.31, 72.71, 73.6; ICD-10 PCS:0W8NXZZ,0WQNXZZ,10D07Z3,10D07Z4,10D07Z5,10D07Z6) performed on women undergoing a vaginal delivery (excluding those with shoulder dystocia) during the analytic period- monthly, quarterly, yearly etc.
Numerator Details	Any vaginal delivery with one of the ICD-9 codes for episiotomy- 72.1, 72.21, 72.31, 72.71, and 73.6 (ICD-10 PCS:see 2a.
Denominator	All vaginal deliveries during the analytic period- monthly, quarterly, yearly etc. excluding those coded with a shoulder dystocia.
Denominator Details	Any woman with a vaginal delivery calculated by either MS DRG 774,775,767,768
Exclusions	Women who have a coded complication of shoulder dystocia. In the case of shoulder dystocia, an episiotomy is performed to free the shoulder and prevent/mitigate birth injury to the infant.
Exclusion details	Vaginal deliveries coded with shoulder dystocia, ICD-9 code 660.41, 660.42(ICD-10 CM : 066.0)
Risk Adjustment	No risk adjustment or risk stratification
Stratification	NA
Numerator Time window	Inpatient delivery stay.
Type	Outcome, Process
Type of Score	
Data Source	Administrative claims, Paper Records
Level	Facility
Setting	Hospital/Acute Care Facility

	Measure 0476: PC-03 Antenatal Steroids (The Joint Commission)
Description	This measure assesses patients at risk of preterm delivery at 24 0/7-32 0/7 weeks gestation receiving antenatal steroids prior to delivering preterm newborns. This measure is a part of a set of five nationally implemented measures that address perinatal care (PC-01: Elective Delivery, PC-02: Cesarean Section, PC-04: Health Care-Associated Bloodstream Infections in Newborns, PC-05: Exclusive Breast Milk Feeding).
Numerator	Patients with a full course of antenatal steroids completed prior to delivering preterm newborns (refer to Appendix B, Table 11.0, antenatal steroid medications available at: http://manual.jointcommission.org)
Numerator Details	One data element is used to calculate the numerator: 1. Antenatal Steroids Administered- Documentation that a full course of antenatal steroids was administered before delivery. A full course of antenatal steroids consists of two doses of 12 mg betamethasone IM 24 hours apart OR four doses of 6 mg dexamethasone IM every 12 hours. Allowable values: Yes or No/UTD. Cases are eligible for the numerator population when allowable value = Yes is selected.
Denominator	Patients delivering live preterm newborns with 24 0/7-32 0/7 weeks gestation completed
Denominator Details	Eight data elements are used to calculate the denominator: 1. Admission Date – The month, day and year of admission to acute inpatient care. 2. Birthdate - The month, day and year the patient was born. 3. Clinical Trial - Documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients with pregnancy were being studied. Allowable values: Yes or No/UTD 4. Discharge Date – The month day and year the patient was discharged from acute care, left against medical advice or expired during the stay. 5. Gestational Age – Documentation of the weeks of gestation completed at the time of delivery. Allowable Values: 1-50 or UTD. 6. ICD-9-CM Other Diagnosis Codes - The International Classification of Diseases, Ninth Revision, and Clinical Modification (ICD-9-CM) codes associated with the secondary diagnoses for this hospitalization. 7. ICD-9-CM Principal Diagnosis Code - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code associated with the diagnosis established after study to be chiefly responsible for occasioning the admission of the patient for this hospitalization. 8. Reason for Not Administering Antenatal Steroid - Reasons for not administering a full course of antenatal steroids before delivery are clearly documented in the medical record. Reasons for not administering a full course of antenatal steroids may include fetal distress, imminent delivery or other reasons documented by physician/APN/PA/CNM. Allowable Values: Yes or No/UTD
Exclusions	• Less than 8 years of age • Greater than or equal to 65 years of age • Length of Stay >120 days • Enrolled in clinical trials • Documented Reason for Not Administering Antenatal Steroid • ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for fetal demise as defined in Appendix A, Table 11.09.1 available at: http://manual.jointcommission.org
Exclusion details	• The patient age in years is equal to the Admission Date minus the Birthdate. Patients less than 8 years of age or greater or equal to 65 years of age are excluded. • Length of stay (LOS) in days is equal to the Discharge Date minus the Admission Date. If the LOS is greater than 120 days, the patient is excluded. • Patients are excluded if "Yes" is selected for Clinical Trial.

	• The data element Reason for Not Administering Antenatal Steroid is used to determine if the patient had a documented reason for not receiving the antenatal steroid. • Patients with ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for fetal demise are excluded.
Risk Adjustment	No risk adjustment or risk stratification
Stratification	Not applicable, the measure is not stratified.
Numerator Time window	Episode of care
Type	Process
Type of Score	Rate/proportion
Data Source	Electronic Clinical Data, Electronic Clinical Data : Registry, Paper Records
Level	Facility, Population : National
Setting	Hospital/Acute Care Facility

	Measure 0480: PC-05 Exclusive Breast Milk Feeding (The Joint Commission)
Description	This measure assesses the number of newborns exclusively fed breast milk feeding during the newborn´s entire hospitalization. This measure is a part of a set of five nationally implemented measures that address perinatal care (PC-01: Elective Delivery, PC-02: Cesarean Section, PC-03: Antenatal Steroids, PC-04: Health Care-Associated Bloodstream Infections in Newborns).
Numerator	Newborns that were fed breast milk only since birth
Numerator Details	One data element is used to calculate the numerator: 1. Exclusive Breast Milk Feeding - Documentation that the newborn was exclusively fed breast milk during the entire hospitalization. Allowable Values: Yes or No/UTD. Cases are eligible for the numerator when allowable value = yes.
Denominator	Single term liveborn newborns discharged from the hospital with ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for single liveborn newborn as defined in Appendix A, Table 11.20.1available at: http://manual.jointcommission.org
Denominator Details	Thirteen data elements are used to calculate the denominator: 1. Admission Date – The month, day and year of admission to acute inpatient care. 2. Admission Type- The code indicating priority/type of admission. 3. Admission to NICU - Documentation that the newborn was admitted to the Neonatal Intensive Care Unit (NICU) at this hospital any time during the hospitalization. Allowable values: Yes or No/UTD 4. Birthdate - The month, day and year the patient was born. 5. Clinical Trial - Documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients who are newborns were being studied. Allowable values: Yes or No/UTD 6. Discharge Date – The month day and year the patient was discharged from acute care, left against medical advice or expired during the stay. 7. Discharge Status - The place or setting to which the patient was discharged. 8. ICD-9-CM Other Diagnosis Codes - The International Classification of Diseases, Ninth Revision, and Clinical Modification (ICD-9-CM) codes associated with the secondary diagnoses for this hospitalization. 9. ICD-9-CM Other Procedure Codes - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies significant procedures performed other than the principal procedure during this hospitalization. 10. ICD-9-CM Principal Diagnosis Code - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code associated with the diagnosis established after study to be chiefly responsible for occasioning the admission of the patient for this hospitalization. 11. ICD-9-CM Principal Procedure Code - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies the principal procedure performed during this hospitalization. The principal procedure is the procedure performed for definitive treatment rather than diagnostic or exploratory purposes, or which is necessary to take care of a complication. 12. Point of Origin for Admission or Visit- The code indicating the point of patient origin for this admission. 13. Reason for Not Exclusively Feeding Breast Milk - Reasons for not exclusively feeding breast milk during the entire hospitalization are clearly documented in the medical record. These reasons are due to a maternal medical condition for which feeding breast milk should be avoided. Allowable Values: Yes or No/UTD.
Exclusions	• Admitted to the Neonatal Intensive Care Unit (NICU) at this hospital during the hospitalization • ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for galactosemia as defined in Appendix A, Table 11.21 • ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for parenteral infusion as defined in Appendix A, Table 11.22

	• Experienced death • Length of Stay >120 days • Enrolled in clinical trials • Documented Reason for Not Exclusively Feeding Breast Milk • Patients transferred to another hospital • ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for premature newborns as defined in Appendix A, Table 11.23
Exclusion details	• The data element Admission to NICU is used to determine if the patient was admitted to the NICU. • Patients with ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for galactosemia are excluded. • Patients with ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for parenteral infusion are excluded. • The data element Discharge Status is used to determine if the patient experienced death. • Length of stay (LOS) in days is equal to the Discharge Date minus the Admission Date. If the LOS is greater than 120 days the patient is excluded. • Patients are excluded if "Yes" is selected for Clinical Trial. • The data element Reason for Not Exclusively Feeding Breast Milk is used to determine if the patient had a documented reason for not being exclusively fed breast milk. • The data element Discharge Status is used to determine if the patient the patient was transferred to another hospital. • Patients with ICD-9-CM Principal Diagnosis Code or ICD-9-CM Other Diagnosis Codes for premature newborns are excluded.
Risk Adjustment	No risk adjustment or risk stratification
Stratification	Not Applicable
Numerator Time window	Episode of care
Type	Process
Type of Score	Rate/proportion
Data Source	Administrative claims, Electronic Clinical Data, Paper Records
Level	Facility, Population : National
Setting	Hospital/Acute Care Facility

	Measure 0477: Under 1500g infant Not Delivered at Appropriate Level of Care (California Maternal Quality Care Collaborative)
Description	The number per 1,000 livebirths of <1500g infants delivered at hospitals not appropriate for that size infant.
Numerator	Liveborn infants (<1500gms but over 24 weeks gestation) born at the given birth hospital
Numerator Details	Birthweight: <1500gms; Gestational Age >=24.0 weeks; livebirth (not stillbirth)
Denominator	All live births over 24 weeks gestation at the given birth hospital. NICU Level III status is defined by the State Department of Health or similar body typically using American Academy of Pediatrics Criteria.
Denominator Details	All live births at the hospital>=24weeks gestation. This is easily calculated from Vital Stats data. The field used is typically the Best Obstetric Estimate of Gestational Age.
Exclusions	Stillbirths and livebirths <24weeks gestation.
Exclusion details	Vital Stats data clearly identify stillbirths and Best Obstetric Gestational Age.
Risk Adjustment	No risk adjustment or risk stratification
Stratification	none
Numerator Time window	one year
Type	Outcome
Type of Score	Rate/proportion
Data Source	Electronic Clinical Data : Registry, Other
Level	Facility, Health Plan, Population : County or City, Population : National, Population : Regional, Population : State
Setting	Hospital/Acute Care Facility

	Measure 0483: Proportion of infants 22 to 29 weeks gestation screened for retinopathy of prematurity. (Vermont Oxford Network)
Description	Proportion of infants 22 to 29 weeks gestation who were in the reporting hospital at the postnatal age recommended for retinopathy of prematurity (ROP) screening by the American Academy of Pediatrics (AAP) and who received a retinal examination for ROP prior to discharge.
Numerator	Number of infants 22 to 29 weeks gestation who were in the reporting hospital at the postnatal age recommended for ROP screening by the AAP and who received a retinal exam for ROP prior to discharge.
Numerator Details	All eligible infants 22 to 29 weeks gestation who were in the reporting hospital at the postnatal age recommended for ROP screening by the AAP)and who had a retinal examination for Retinopathy of Prematurity prior to discharge.
Denominator	All eligible infants 22 to 29 weeks gestation who were in the reporting hospital at the postnatal age recommended for ROP screening by the AAP.
Denominator Details	Any infant who is born at the reporting hospital and whose gestational age is between 22 weeks, 0 days and 29 weeks, 6 days should be included if they are in the reporting hospital at the postnatal age recommended for ROP screening by the AAP. Any outborn infant who is admitted to any location in the reporting hospital within 28 days of birth, without first having gone home, and whose gestational age is between 22 weeks, 0 days and 29 weeks, 6 days should be included if they are in the reporting hospital at the postnatal age recommended for ROP screening by the AAP.
Exclusions	1. Infants outside the gestational age range of 22 to 29 weeks. 2. Outborn infants admitted to the reporting hospital more than 28 days after birth. 3. Outborn infants who have been home prior to admission. 4. Infants who die in the delivery room or initial resuscitation area prior to admission to the neonatal intensive care unit. 5. Infants not in the reporting hospital at the postnatal age recommended for ROP screening by the AAP.
Exclusion details	See 2a1.8 above.
Risk Adjustment	Stratification by risk category/subgroup
Stratification	Reports are stratified by gestational age, birth location and birth weight category.
Numerator Time window	From birth until retinal exam for ROP.
Type	Process
Type of Score	Rate/proportion
Data Source	Administrative claims, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Registry, Paper Records
Level	Facility
Setting	Hospital/Acute Care Facility

	Measure 1731: Health Care-Associated Bloodstream Infections in Newborns (The Joint Commission)
Description	This measure assesses the number of staphylococcal and gram negative septicemias or bacteremias in high-risk newborns. This measure is a part of a set of five nationally implemented measures that address perinatal care (PC-01: Elective Delivery, PC-02: Cesarean Section, PC-03: Antenatal Steroids, PC-05: Exclusive Breast Milk Feeding).
Numerator	Newborns with septicemia or bacteremia with an ICD-9-CM Other Diagnosis Codes for septicemias as defined in Appendix A, Table 11.10.1 OR one or more ICD-9-CM Other Diagnosis Codes for newborn septicemia or bacteremia as defined in Appendix A, Table 11.10 and one diagnosis code for newborn bacteremia from Table 11.11 available at: http://manual.jointcommission.org
Numerator Details	One data element is used to calculate the numerator: 1. ICD-9-CM Other Diagnosis Codes- The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes associated with the secondary diagnoses for this hospitalization. Cases are eligible for the numerator population with ICD-9-CM Other Diagnosis Code for septicemias OR one or more ICD-9-CM Other Diagnosis Codes for newborn septicemia or bacteremia and one diagnosis code for newborn bacteremia.
Denominator	Liveborn newborns with an ICD-9-CM Other Diagnosis Codes for birth weight between 500 and 1499g as defined in Appendix A, Table 11.12, 11.13 or 11.14 OR Birth Weight between 500 and 1499g OR an ICD-9-CM Other Diagnosis Codes for birth weight = 1500g as defined in Appendix A, Table 11.15, 11.16 or 11.17 OR Birth Weight = 1500g who experienced one or more of the following: o Experienced death o ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for major surgery as defined in Appendix A, Table 11.18 o ICD-9-CM Principal Procedure Code or ICD-9-CM Other Procedure Codes for mechanical ventilation as defined in Appendix A, Table 11.19 o Transferred in from another acute care hospital or health care setting within 2 days of birth.
Denominator Details	Twelve data elements are used to calculate the denominator: 1. Admission Date – The month, day and year of admission to acute inpatient care. 2. Admission Type- The code indicating priority/type of admission. 3. Birth Weight- The weight (in grams) of a newborn at the time of delivery. 4. Birthdate - The month, day and year the patient was born. 5. Clinical Trial - Documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients who are newborns were being studied. Allowable values: Yes or No/UTD 6. Discharge Date – The month day and year the patient was discharged from acute care, left against medical advice or expired during the stay. 7. Discharge Status - The place or setting to which the patient was discharged. 8. ICD-9-CM Other Diagnosis Codes - The International Classification of Diseases, Ninth Revision, and Clinical Modification (ICD-9-CM) codes associated with the secondary diagnoses for this hospitalization. 9. ICD-9-CM Other Procedure Codes - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies significant procedures performed other than the principal procedure during this hospitalization. 10. ICD-9-CM Principal Diagnosis Code - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code associated with the diagnosis established after study to be chiefly responsible for occasioning the admission of the patient for this hospitalization. 11. ICD-9-CM Principal Procedure Code - The International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) code that identifies the principal procedure performed during this hospitalization. The

	principal procedure is the procedure performed for definitive treatment rather than diagnostic or exploratory purposes, or which is necessary to take care of a complication. 12. Point of Origin for Admission or Visit- The code indicating the point of patient origin for this admission.
Exclusions	• ICD-9-CM Principal Diagnosis Code for sepsis as defined in Appendix A, Table 11.10.2 • ICD-9-CM Principal Diagnosis Code for liveborn newborn as defined in Appendix A, Table 11.10.3 AND ICD-9-CM Other Diagnosis Codes for newborn septicemia or bacteremia as defined in Appendix A, Table 11.10 • ICD-9-CM Other Diagnosis Codes for birth weight < 500g as defined in Appendix A, Table 11.20 OR Birth Weight < 500g • Length of Stay < 2 days OR > 120 days • Enrolled in clinical trials
Exclusion details	• Patients with ICD-9-CM Principal Diagnosis Code for sepsis are excluded. • Patients with ICD-9-CM Principal Diagnosis Code for liveborn newborn and ICD-9-CM Other Diagnosis Codes for newborn septicemia are excluded. • Patients with ICD-9-CM Other Diagnosis Codes for birth weight <500 grams OR a birth weight <500 grams are excluded. • Length of stay (LOS) in days is equal to the Discharge Date minus the Admission Date. If the LOS is greater than 120 days or equal to or less than 2 days, the patient is excluded. • Patients are excluded if "Yes" is selected for Clinical Trial.
Risk Adjustment	Statistical risk model
Stratification	Not applicable, the measure is not stratified.
Numerator Time window	Episode of care
Type	Outcome
Type of Score	Rate/proportion
Data Source	Administrative claims, Electronic Clinical Data, Paper Records
Level	Facility, Population : National
Setting	Hospital/Acute Care Facility

	Measure 1746: Intrapartum Antibiotic Prophylaxis for Group B Streptococcus (GBS) (Massachusetts General Hospital)
Description	Percentage of pregnant women who are eligible for and receive appropriate intrapartum antibiotic prophylaxis (IAP) for Group B Streptococcus (GBS)
Numerator	All eligible patients who receive intrapartum antibiotic prophylaxis for GBS.
Numerator Details	Patients who receive antibiotics as recommended under current CDC guidelines. The 2010 guidelines recommend penicillin as the agent of choice, with ampicillin as an acceptable alternative. Penicillin-allergic women who do not have a history of anaphylaxis, angioedema, respiratory distress or urticaria following administration of penicillin or a cephalosporin should antimicrobial susceptibility testing. If the culture is susceptible to clindamycin, clindamycin should be given. If the culture is resistant to clindamycin, vancomycin should be given.
Denominator	All women delivering live infants, except certain classes (described in response to 2a1.9 below) who are specifically deemed not to be at risk of vertical transmission of GBS.
Denominator Details	The population may be identified in two stages. The first stage identified all women delivering live infants. The second stage further restricts the eligible population on the basis of specific clinical criteria. Identification of women giving birth to live infants is generally a straightforward task that may be accomplished in various ways. Commonly, it is done using ICD-9 principal and secondary diagnosis codes for live births as defined in the Appendices of the National Hospital Quality Measures, as they may be modified from time to time. In 2011, codes for live births are listed in Appendix A Tables 4.01, 4.02, 4.03, or 4.04 of the Specifications Manual. This population must be further restricted on the basis of the following criteria. • Previous infant with invasive GBS disease, or • GBS bacteriuria during current pregnancy, or • Positive GBS screening culture during current pregnancy* (unless a planned cesarean delivery, in the absence of labor or amniotic membrane rupture, is performed), or • Unknown GBS status (culture not done, incomplete or results unknown) and any of the following: o Delivery at < 37 weeks gestation** o Amniotic membrane rupture greater than or equal to 18 hours, or o Intrapartum temperature greater than or equal to 100.4° F (38.0° C) *Optimal timing for prenatal GBS screening is 35-37 weeks of gestation. In the absence of culture results for this period, other available results from the 5 weeks preceding delivery should be reviewed. **Recommendations for prophylaxis in the setting of threatened preterm delivery are presented separately by the CDC in Figures 5 and 6 of the most recent guidelines (Centers for Disease Control and Prevention. Prevention of perinatal Group B Streptococcal disease: revised guidelines from CDC, 2010. MMWR 2010;59(RR-10):1-36.) Those interested in detailed criteria and assessment of compliance for the preterm population are referred there for specifics.
Exclusions	Women not included in the denominator defined above, with specific exclusions as described below.
Exclusion details	Excluded populations: • Patient screened negative for GBS at 35-37 weeks of delivery. • Patients delivering via planned cesarean sections (in the absence of labor or amniotic membrane rupture). • Patients already on antibiotics for a pre-natal maternal infection or other

	prophylaxis. • Deliveries resulting in stillbirths identified by ICD-9-CM principal and secondary diagnosis codes (in any position) of V.27.1, V27.3, V27.4, V27.6, or V27.7. *Optimal timing for prenatal GBS screening is 35-37 weeks of gestation. In the absence of culture results for this period, other available results from the 5 weeks preceding delivery should be reviewed.
Risk Adjustment	No risk adjustment or risk stratification
Stratification	
Numerator Time window	At the time of labor or rupture of membranes, in the absence of complicating circumstances (listed as exclusions).
Type	Process
Type of Score	Rate/proportion
Data Source	Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Paper Records
Level	Facility, Integrated Delivery System, Population : State
Setting	Hospital/Acute Care Facility

APPENDIX B: STEERING COMMITTEE and NQF STAFF

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APPENDIX C: NQF-ENDORSED REPRODUCTIVE AND PERINATAL HEALTHCARE MEASURES

Measure Number	Title	Description	Steward
REPRODUCTIVE HEALTH			
0502	Pregnancy test for female abdominal pain patients.	Pregnancy test for female abdominal pain patients.	American College of Emergency Physicians
0651	Ultrasound determination of pregnancy location for pregnant patients with abdominal pain	Percentage of pregnant patients who present to the ED with a chief complaint of abdominal pain and or vaginal bleeding who receive a trans-abdominal or trans-vaginal ultrasound.	American College of Emergency Physicians
PREGNANCY CARE			
0012*	Prenatal Screening for Human Immunodeficiency Virus (HIV)	Percentage of patients who gave birth during a 12-month period who were screened for HIV infection during the first or second prenatal care visit.	AMA-PCPI
0014*	Prenatal Anti-D Immune Globulin	Percentage of D-negative, unsensitized patients who gave birth during a 12-month period who received anti-D immune globulin at 26-30 weeks gestation.	AMA-PCPI
0015*	Prenatal Blood Groups (ABO), D (Rh) Type	Percentage of patients who gave birth during a 12-month period who had a determination of blood group (ABO) and D (Rh) type by the second prenatal care visit.	AMA-PCPI
0016*	Prenatal Blood Group Antibody Testing	Percentage of patients who gave birth during a 12-month period who were screened for blood group antibodies during the first or second prenatal care visit.	AMA-PCPI
0476	Appropriate Use of Antenatal Steroids	Mothers receiving antenatal steroids during pregnancy at any time prior to delivery of a preterm infant	Providence St. Vincent Medical Center
0582	Diabetes and Pregnancy: Avoidance of Oral Hypoglycemic Agents	This measure identifies pregnant women with diabetes who are not taking an oral hypoglycemic agent.	Resolution Health, Inc.
0606*	Pregnant women that had HIV testing.	This measure identifies pregnant women who had an HIV test during their pregnancy.	Ingenix
0607*	Pregnant women that had syphilis screening.	This measure identifies pregnant women who had a syphilis test during their	Ingenix

*Measures have not been resubmitted for endorsement; endorsement will be retired at the completion of the Perinatal and Reproductive Healthcare Project.

		pregnancy.	
0608*	Pregnant women that had HBsAg testing.	This measure identifies pregnant women who had a HBsAg (hepatitis B) test during their pregnancy.	Ingenix
0652	RH Immunoglobulin (rhogam) for RH negative pregnant women at risk of fetal blood exposure	Percent of RH negative pregnant women at risk of fetal blood exposure who receive Rhogam the ED.	American College of Emergency Physicians
1391	Frequency of Ongoing Prenatal Care (FPC)	The percentage of Medicaid deliveries between November 6 of the year prior to the measurement year and November 5 of the measurement year that received the following number of expected prenatal visits. •>21 percent of expected visits •21 percent–40 percent of expected visits •41 percent–60 percent of expected visits •61 percent–80 percent of expected visits •=81 percent of expected visits	NCQA
1517	Prenatal and Postpartum Care	The percentage of deliveries of live births between November 6 of the year prior to the measurement year and November 5 of the measurement year. For these women, the measure assesses the following facets of prenatal and postpartum care. • Rate 1: Timeliness of Prenatal Care. The percentage of deliveries that received a prenatal care visit as a member of the organization in the first trimester or within 42 days of enrollment in the organization. • Rate 2: Postpartum Care. The percentage of deliveries that had a postpartum visit on or between 21 and 56 days after delivery.	NCQA
CHILDBIRTH			
0333*	Severity-Standardized ALOS - Deliveries	Standardized ALOS for deliveries	Leapfrog Group
0278	Low birth weight (PQI 9)	This measure is used to assess the number of low birth weight infants per 100 births. See Notes.	AHRQ
0469	Elective delivery prior to 39 completed weeks gestation	Percentage of babies electively delivered prior to 39 completed weeks gestation	Hospital Corporation of America
0470	Incidence of Episiotomy	Percentage of vaginal	Christiana Care

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		deliveries during which an episiotomy is performed	Health System
0471	Cesarean Rate for low-risk first birth women (aka NTSV CS rate)	Percentage of low-risk first birth women (aka NTSV CS rate: nulliparous, term, singleton, vertex) with a Cesarean rate that has the most variation among practitioners, hospitals, regions and states. Unlike other cesarean measures, it focuses attention on the proportion of cesarean births that is affected by elective medical practices such as induction and early labor admission. Furthermore, the success (or lack thereof) of management of the first labor directly impacts the remainder of the woman's reproductive life (especially given the current high rate of repeat cesarean births).	California Maternal Quality Care Collaborative
0472	Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision or at the Time of Delivery – Cesarean section.	Percentage of patients undergoing cesarean section who receive prophylactic antibiotics within one hour prior to surgical incision or at the time of delivery.	Massachusetts General Hospital/Partners Health Care System
0473	Appropriate DVT prophylaxis in women undergoing cesarean delivery	Measure adherence to current ACOG, ACCP recommendations for use of DVT prophylaxis in women undergoing cesarean delivery	Hospital Corporation of America
0474	Birth Trauma Rate: Injury to Neonates (PSI #17)	Percentage of neonates with specific birth trauma per 1000 births. Exclude infants with injury to skeleton and osteogenesis imperfecta, subdural or cerebral hemorrhage in preterm infant.	AHRQ, National Perinatal Information Center
0477	Under 1500g infant Not Delivered at Appropriate Level of Care	The number per 1,000 livebirths of <1500g infants delivered at hospitals not appropriate for that size infant.	California Maternal Quality Care Collaborative
NEWBORN CARE			
0303	Late sepsis or meningitis in neonates (risk-adjusted)	Percentage of infants born at the hospital, whose birth weight is between 401 and 1500 grams OR whose gestational age is between 22 weeks 0 days and 29 weeks 6 days with late sepsis or meningitis with one or more of the following criteria: Bacterial Pathogen, Coagulase Negative Staphylococcus, Fungal	Vermont Oxford Network

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		Infection	
0304	Late sepsis or meningitis in Very Low Birth Weight (VLBW) neonates (risk-adjusted)	Percentage of infants born at the hospital, whose birth weight is between 401 and 1500 grams OR whose gestational age is between 22 weeks 0 days and 29 weeks 6 days, who have late sepsis or meningitis, with one or more of the following criteria: Bacterial Pathogen, Coagulase Negative Staphylococcus, Fungal Infection	Vermont Oxford Network
0475	Measurement of Hepatitis B Vaccine Administration to All Newborns Prior to Hospital or Birthing Facility Discharge	Percentage of newborns administered hepatitis B vaccine prior to discharge from the birthing facility or hospital, subtract the number of newborns who died prior to discharge, and divide this number by the number of live newborns discharged from the birthing facility or hospital during a given time period (perhaps annually) to identify the hepatitis B vaccine coverage rate for newborns at a single birthing facility or hospital.	CDC
0478	Nosocomial Blood Stream Infections in Neonates (NQI #3)	Percentage of qualifying neonates with selected bacterial blood stream infections	AHRQ
0479	Birth dose of hepatitis B vaccine and hepatitis immune globulin for newborns of mothers with chronic hepatitis B	Percentage of newborns to hepatitis B surface antigen (HBsAg)-positive mothers who receive a birth dose of hepatitis B virus (HBV) vaccine and hepatitis B immune globulin (HBIG)	Asian Liver Center at Stanford University
0480	Exclusive Breastfeeding during Birth Hospitalization	Exclusive Breastfeeding (BF) for the first 6 mos of neonatal life has long been the expressed goal of WHO, DHHS, APA, and ACOG. Holding perinatal and intrapartum providers accountable is an important way to incent greater efforts during the critical prenatal and immediate postpartum periods where BF attitudes are solidified.	California Maternal Quality Care Collaborative
0481	First temperature measured within one hour of admission to the NICU.	Percent of NICU admissions with a birth weight of 501-1500g with a first temperature taken within 1 hour of NICU	Vermont Oxford Network

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		admission.	
0482	First NICU Temperature < 36 degrees C	Percent of all NICU admissions with a birth weight of 501-1500g whose first temperature was measured within one hour of admission to the NICU and was below 36 degrees Centigrade.	Vermont Oxford Network
0483	Proportion of infants 22 to 29 weeks gestation screened for retinopathy of prematurity.	Proportion of infants 22 to 29 weeks screened for retinopathy of prematurity using the guidelines from the American Academy of Pediatrics	Vermont Oxford Network
0484	Proportion of infants 22 to 29 weeks gestation treated with surfactant who are treated within 2 hours of birth.	Number of infants 22 to 29 weeks gestation treated with surfactant within 2 hours of birth	Vermont Oxford Network
0485*	Neonatal Immunization	Percent of neonates with a length of stay greater than 60 days receiving DPT, Hepatitis B, Polio, Hib, and PCV immunizations in adherence with current guidelines.	Child Health Corporation of America
0716	Healthy term newborn	Percent of term singleton livebirths (excluding those with diagnoses originating in the fetal period) who DO NOT have significant complications during birth or the nursery care.	California Maternal Quality Care Collaborative
1354	Hearing screening prior to hospital discharge (EHDI-1a)	This measure assesses the proportion of births that have been screened for hearing loss before hospital discharge.	CDC
1351	Proportion of infants covered by Newborn Bloodspot Screening (NBS)	What percentage of infants had bloodspot newborn screening performed as mandated by state of birth?	HRSA-MCHB
714	Standardized mortality ratio for neonates undergoing non-cardiac surgery	Ratio of observed to expected rate of in-hospital mortality following non-cardiac surgery among infants less than or equal to 30 days of age, risk-adjusted.	Children's Hospital Boston - Program for Patient Safety & Quality

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