### Centers for Medicare & Medicaid - Neonatal Outcomes Project

#### Summary of Key Change Concepts

### Maternal Risk Reduction

**Change Package Content**

**Intervention #1** – Prevention, identification and treatment of chronic medical conditions (diabetes, hypertension, heart disease, depression, etc.) and high risk behaviors (smoking, substance abuse, domestic violence)

- **System Change**
  - State will encourage prevention and healthy behaviors beyond pregnancy

- **Office Change**
  - Use evidence-based interventions developed to date (i.e. ACOGs 5 A principles) for smoking cessation
  - Plan follow up after delivery for prevention of subsequent high risk deliveries

### Antenatal Practices

**Change Package Content**

**Maternal Transfer Bundle**

**Intervention #2** - Early identification of mothers at high-risk for prematurity (including those in rural areas) and prenatal transfer of these expectant mothers to facilities with tertiary care NICUs (Neonatal Intensive Care Units)

- **System Changes**
  - States will promote changes at the regional level including the development of a system to identify women at high risk for preterm delivery and establish a maternal transport system which promotes early in utero transfer of women with threatened extremely premature delivery.

- **Office Changes**
- Develop an program to educate providers about evidence based management of high risk pregnant women
- Establish triggers to identify women at high-risk for preterm delivery.
- Educate expectant mothers about the signs and symptoms of premature labor and the possible need for intrauterine transfer.
- Targeted (“high risk”) case management with reimbursement

**Hospital Changes**

**Community Hospital:**
- Optimize Peripartum Management: Achieve consensus with consulting perinatal center about initial management of women with threatened extremely premature delivery.
- Establish a maternal transport protocol which promotes early in utero transfer of women with threatened extremely premature delivery.

**Perinatal Center:**
- Ensure complete report and hand-off of the transported expectant mother.
- Achieve consensus amongst providers regarding the care and management of women with threatened extremely premature delivery.
- Routinely consult neonatology in developing the plan of care and surveillance of women with threatened extremely premature delivery.

**NOTE:** Use of 17P to prevent preterm delivery should be added to the recommended changes after FDA approval.

**Intervention #3 - Use of antenatal steroids in pregnant women at risk of preterm delivery**
- Educate physician and nursing staff about the use and benefits of antenatal steroids.
- Provide information about antenatal steroids to women with threatened extremely premature delivery.
- Administer and document steroid dose and time.
- Establish measurement strategy for antenatal steroid use.

**Immediate Postnatal Practices**

<table>
<thead>
<tr>
<th>Change Package Content</th>
<th>Neonatal Transfer Bundle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention #4 - For those premature babies born at facilities without tertiary care neonatal intensive care units, optimal resuscitation and stabilization of the baby before transfer to the appropriate facility</strong></td>
<td></td>
</tr>
<tr>
<td>Optimal Resuscitation:</td>
<td></td>
</tr>
<tr>
<td>- Review organization policies regarding the availability of key personnel for emergency interventions.</td>
<td></td>
</tr>
<tr>
<td>- Ensure at every delivery, there is at least one person whose primary responsibility is the neonate and who is</td>
<td></td>
</tr>
</tbody>
</table>
- 3 -

**Neonatal Intensive Care Unit Practices**

**Intervention #6 – Nutrition Care Bundle in the NICU for infants at-risk for poor growth and bronchopulmonary dysplasia (BPD)**
- Use of early amino acids (on day 1) to minimize protein catabolism, and promote positive nitrogen balance
- Early trophic feedings to improve gut maturation, feeding tolerance, and time to achieve full enteral feedings
- Strategies to improve rates of maternal lactation
- Improved use of human milk preferentially, both in the NICU and beyond discharge
- Fortification of human milk for VLBW infants
- Increased emphasis on growth as part of daily NICU care
- Appropriate nutritional support during the transition to home phase of care; (i.e. sharing growth charts with local PCP, specific post-discharge nutritional recommendations, access to pediatric dietician, etc.)
- Vitamin A prophylaxis in infants with a birth weight less than 1000 grams to prevent chronic lung disease

**Intervention #7 - Proper Infection Control Practices in the NICU and hospital to prevent hospital-acquired infection**
- Standardize approach to the evaluation and management of infants of Group B Streptococcus colonized mothers.
- Emphasize proper hand hygiene practices (using CDC recommendations).
- Provide skin care.
- Standardize placement and maintenance of central line.
- Standardize diagnosis and treatment of bacteremia.
- Implement standardized order set for the appropriate antibiotic choices and doses for early-onset versus late-onset infection.
- Develop or adopt a surveillance system to monitor and report the NICU nosocomial infection rate.

**Intervention #8 – Coordinating NICU discharge planning**
- Involve families in defining planning and coordinating ongoing evaluative and preventive care in the process of establishing a medical home outside of NICU.
- Provide written and oral communication of follow-up care instructions to families at discharge. Assess family understanding: include understanding of the need for continued care.
- Increase communication between discharge team and accepting community organization (e.g., pediatrician in community, level II nursery, MCH Coordinator, licensed social worker, EIP) to ensure optimal follow-up care of infant.
- Identify specific community resources for the family including resources required to resolve outstanding health care issues at the time of discharge.

**Intervention #9 – Optimizing follow-up care of high-risk infants**
- Increase communication between discharge team and accepting community organization (e.g., pediatrician in community, level II nursery, MCH Coordinator, licensed social worker, EIP) to ensure optimal follow-up care of infant.
- Adopt quality of care indicators for the neurodevelopmental follow-up of VLBW (<1500 g) children.
- Ensure a process for developmental surveillance and screening. Develop or adopt a system within the NICU to monitor and report follow up rate and developmental outcome.
- 5 -

- Align billing/reimbursement to encourage follow-up services.