Strategies to Improve Birth Outcomes & Collaborative Improvement & Innovation Network (CoIIN)

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National Association of Medicaid Directors
2013 Fall Conference
Birth to Launch Panel
Washington, DC
November 12, 2013
Evidence-Based Strategies to Improve Birth outcomes

• Reduce early elective delivery
• Reduce smoking in pregnancy
• Increase safe sleep
• Improve perinatal regionalization
• Increase access to interconception care
Evidence-Based Strategies to Promote Healthy Babies

- Reduce early elective delivery
- Reduce smoking in pregnancy
- Increase safe sleep
- Improve perinatal regionalization
- Increase access to interconception care
Complications of Elective Deliveries Between 37 and 39 Weeks

- Increased NICU admissions
- Increased transient tachypnea of the newborn (TTN)
- Increased respiratory distress syndrome (RDS)
- Increased ventilator support
- Increased suspected or proven sepsis
- Increased newborn feeding problems and other transition issues

Respiratory Distress Syndrome (RDS) By Weeks Gestation Deliveries Without Complications, 2000-2003

Ventilator Usage By Weeks Gestation Deliveries Without Complications, 2000-2003

<table>
<thead>
<tr>
<th>Gestational Weeks</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>37th Week (8,001)</td>
<td>1.19%</td>
</tr>
<tr>
<td>38th Week (18,988)</td>
<td>0.47%</td>
</tr>
<tr>
<td>39th Week (33,185)</td>
<td>0.25%</td>
</tr>
<tr>
<td>40th Week (19,601)</td>
<td>0.30%</td>
</tr>
<tr>
<td>41st Week (4,505)</td>
<td>0.47%</td>
</tr>
<tr>
<td>42nd Week (258)</td>
<td>0.39%</td>
</tr>
</tbody>
</table>

Adverse Neonatal Outcomes
By Week of Gestation at Delivery

Adapted from Tita AT, et al. NEJM 2009;360:111
NICU Admissions By Weeks Gestation Deliveries Without Complications, 2000-2003

- 37th Week: 6.66% (8,001)
- 38th Week: 3.36% (18,988)
- 39th Week: 2.47% (33,185)
- 40th Week: 2.65% (19,601)
- 41st Week: 3.44% (4,505)
- 42nd Week: 4.26% (258)

The Gestational Age that Women Considered it Safe to Deliver

- 34 weeks: 13.7%
- 35 weeks: 7.2%
- 36 weeks: 30.8%
- 37 weeks: 21.5%
- 38 weeks: 19.2%
- 39 weeks: 3.4%
- 40 weeks: 4.2%
Reduce Early Elective Delivery

- Kentucky
  - Healthy Babies are Worth the Wait

- Louisiana
  - Louisiana Birth Outcomes Project

- California
  - California Maternal Care Quality Collaborative

- Ohio
  - Ohio Perinatal Quality Collaborative

- Oklahoma
  - Every Week Counts

- Indiana
  - Every Week Counts
Reduce Early Elective Delivery:
What Can Medicaid Do?

• Support state quality measurement & improvement efforts

• Incentives for reducing early elective delivery
  • *North Carolina Pregnancy Medical Home*

• Non-payment for early elective delivery
  • *Texas House Bill 1983*
Percent Elective Deliveries <39 Weeks, Ohio Perinatal Quality Collaborative

The denominator is the number of scheduled deliveries 36 to 38 weeks gestation (number of scheduled delivery forms submitted). The numerator is the number of scheduled deliveries without indication documented.
Percent Elective Deliveries <39 Weeks, California Maternal Quality Care Collaborative

ELECTIVE DELIVERY <39 WEEKS (PC-01)

Inductions and Cesareans before labor among uncomplicated 37 and 38wk gestations (JC, CMS, NQF)

Elective Delivery <39 Weeks Rate

Target: <5.0%

Jan 2011 - Dec 2011
Percent Elective Deliveries <39 Weeks, Healthy Texas Babies

Percent Non-Medically Indicated Live Births Among All Early Term Singleton Live Births Excluding Women with Preexisting Conditions, Texas

2009 2010 2011 2012

25% 30% 35% 40% 45% 50%
Evidence-Based Strategies to Promote Healthy Babies

- Reduce early elective delivery
- **Reduce smoking in pregnancy**
- Increase safe sleep
- Improve perinatal regionalization
- Increase access to interconception care
Smoking Cessation in Pregnancy

- **Smoking cessation interventions work**
  - Review of 72 clinical trials involving 25,000 pregnant women
  - Reduced smoking by 6% overall (by 24% in most effective interventions)
  - Reduced low birth weight and preterm births by about 15%
Smoking Cessation

• **Colorado**
  - *Colorado QuitLine, a free program for pregnant women*

• **Oklahoma**
  - *Practice facilitation model in obstetric care settings; SoonerQuit statewide media campaign*

• **North Carolina**
  - *You Quit Two Quit Project*

• **Massachusetts**
  - *QuitWorks referral program*

• **Michigan**
  - *Free quitline counseling for uninsured or Medicaid enrollees*
Smoking Cessation: What Can Medicaid Do?

• State Medicaid programs must now cover tobacco cessation services for pregnant women without cost-sharing
  • Cover physician or non-physician smoking cessation counseling
  • Cover prescription and non-prescription tobacco cessation drugs
  • Claim 50% Federal Financial Participation match for quit lines
Evidence-Based Strategies to Promote Healthy Babies

• Reduce early elective delivery
• Reduce smoking in pregnancy
• Increase safe sleep
• Improve perinatal regionalization
• Increase access to interconception care
Safe to Sleep

SIDS Rate and Back Sleeping

SIDS Rate Source: CDC, National Center for Health Statistics,
Sleep Position Data: NICHD, National Infant Sleep Position Study.
Prone Sleep Prevalence by Race and Ethnicity

National Infant Sleep Position Survey, 2008;
Slide courtesy of Dr Rachel Moon
Established Risk Factors for Sleep-Related Deaths

- Side or prone position (OR 2.3-13.1)
- **Bedsharing** (OR 2.88): risk increases with
  - Smoker parent (OR 2.3-17.7)
  - Infant <3 months (OR 4.7-10.4), regardless of parental smoking status
  - Soft surfaces (couches, armchairs (OR 5.1-66.9)
  - Soft bedding (OR 2.8-4.1)
  - Multiple bedsharers (OR 5.4)
  - Parent consumed alcohol, drugs, or is overtired (OR 1.66)
- **Soft bedding** (OR 5.0; + prone = 21.0)
- Smoke exposure (prenatal + postnatal)
- Prenatal drug and alcohol use (OR varies, >3.0)

OR: odds ratio

Slide courtesy of Dr Rachel Moon
Level A AAP Recommendations for Reducing the Risk of SIDS/SUID

- Based on good and consistent scientific evidence
  - Back to sleep for every sleep
  - Room-sharing without bed-sharing
  - Keep soft objects and loose bedding out of the crib
  - Use a firm sleep surface
  - Pregnant women should receive regular prenatal care
  - Avoid smoke exposure during pregnancy and after birth
  - Avoid alcohol and illicit drug use during pregnancy and after birth
  - Breastfeeding is recommended

Pediatrics. 2011; 128(5)
Slide courtesy of Dr Rachel Moon
Safe Sleep:
What Can Medicaid Do?

• Make safe sleep screening standard part of well-infant visits under EPSDT authority

• Make home visiting covered service under Medicaid
Home Visiting Works

• Improves parental capacity and efficacy
• Strengthens positive parenting behaviors & reduces negative ones
• Improves birth outcomes
• Promotes healthy child development & links children to better, more consistent healthcare
• Identifies early developmental delays and links children to appropriate services
• Reduces maternal depression
• Improves school readiness
• Puts parents & children on a trajectory toward long-term health & productivity
Home Visiting Works

• Among 19 year old girls born to high-risk mothers, nurse home visiting
  • Reduced lifetime risk of arrest or conviction by > 80%
  • Reduced teen pregnancy by 65%
  • Reduced Medicaid use by 60%

Home Visiting
Return-on-Investment

• **For every $1 invested in home visiting**
  • Return to society: $9.50
  • Return to federal government: $2.90
  • Return to state government: $4.40
Evidence-Based Strategies to Promote Healthy Babies

- Reduce early elective delivery
- Reduce smoking in pregnancy
- Increase safe sleep
- **Improve perinatal regionalization**
- Increase access to interconception care
Perinatal Regionalization for Very Low-Birth-Weight and Very Preterm Infants
A Meta-analysis

Sarah Marie Lasswell, MPH
Wanda Denise Barfield, MD, MPH
Roger William Rochat, MD
Lillian Blackmon, MD

Context For more than 30 years, guidelines for perinatal regionalization have recommended that very low-birth-weight (VLBW) infants be born at highly specialized hospitals, most commonly designated as level III hospitals. Despite these recommendations, some regions continue to have large percentages of VLBW infants born in lower-level hospitals.

Conclusion For VLBW and VPT infants, birth outside of a level III hospital is significantly associated with increased likelihood of neonatal or predischARGE death.

JAMA. 2010;304(9):992-1000

www.jama.com
### VLBW infants (<1500g) Admitted Directly to NICU

<table>
<thead>
<tr>
<th>State</th>
<th>No. of infants with VLBW</th>
<th>Total* No.</th>
<th>%</th>
<th>95% CI†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall§</td>
<td>25,231</td>
<td>19,512</td>
<td>77.3</td>
<td>(76.8–77.9)</td>
</tr>
<tr>
<td>California</td>
<td>5,965</td>
<td>3,801</td>
<td>63.7</td>
<td>(62.5–64.9)</td>
</tr>
<tr>
<td>Delaware</td>
<td>193</td>
<td>172</td>
<td>89.0</td>
<td>(84.5–93.4)</td>
</tr>
<tr>
<td>Florida</td>
<td>3,306</td>
<td>2,718</td>
<td>82.2</td>
<td>(80.9–83.5)</td>
</tr>
<tr>
<td>Idaho</td>
<td>206</td>
<td>176</td>
<td>85.4</td>
<td>(80.5–90.2)</td>
</tr>
<tr>
<td>Kansas</td>
<td>411</td>
<td>331</td>
<td>80.7</td>
<td>(76.9–84.5)</td>
</tr>
<tr>
<td>Kentucky</td>
<td>647</td>
<td>573</td>
<td>88.6</td>
<td>(86.1–91.0)</td>
</tr>
<tr>
<td>North Dakota</td>
<td>82</td>
<td>77</td>
<td>93.4</td>
<td>(87.8–99.0)</td>
</tr>
<tr>
<td>Nebraska</td>
<td>276</td>
<td>232</td>
<td>84.3</td>
<td>(79.9–88.6)</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>121</td>
<td>102</td>
<td>84.3</td>
<td>(77.8–90.8)</td>
</tr>
<tr>
<td>New York**</td>
<td>1,588</td>
<td>1,401</td>
<td>88.2</td>
<td>(86.6–89.8)</td>
</tr>
<tr>
<td>Ohio</td>
<td>1,991</td>
<td>1,534</td>
<td>77.0</td>
<td>(75.2–78.9)</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>1,998</td>
<td>1,667</td>
<td>83.4</td>
<td>(81.8–85.0)</td>
</tr>
<tr>
<td>South Carolina</td>
<td>944</td>
<td>815</td>
<td>86.4</td>
<td>(84.2–88.6)</td>
</tr>
<tr>
<td>South Dakota</td>
<td>111</td>
<td>104</td>
<td>92.8</td>
<td>(87.2–98.3)</td>
</tr>
<tr>
<td>Tennessee</td>
<td>1,316</td>
<td>1,132</td>
<td>86.0</td>
<td>(84.1–87.9)</td>
</tr>
<tr>
<td>Texas</td>
<td>5,266</td>
<td>4,107</td>
<td>78.1</td>
<td>(76.9–79.2)</td>
</tr>
<tr>
<td>Vermont</td>
<td>57</td>
<td>45</td>
<td>79.0</td>
<td>(68.4–89.5)</td>
</tr>
<tr>
<td>Washington</td>
<td>726</td>
<td>518</td>
<td>71.5</td>
<td>(68.2–74.8)</td>
</tr>
</tbody>
</table>

MMWR Nov 12, 2010 59:144-7
Barriers to Perinatal Regionalization

• Lack of standards and definitions for levels of NICU care
  • American Academy of Pediatrics issued new policy statement on levels of neonatal care
    http://pediatrics.aappublications.org/content/130/3/587.full.pdf+html

• Reimbursement policies
Perinatal Regionalization:
What Can Medicaid Do?

- Reimburse regionalized system processes (e.g. transport, administration)
- Use financial incentives or disincentives to support appropriate levels of care
Evidence-Based Strategies to Promote Healthy Babies

- Reduce early elective delivery
- Reduce smoking in pregnancy
- Increase safe sleep
- Improve perinatal regionalization
- Increase access to interconception care
Interconception Care: What Can Medicaid Do?

- Medicaid 1115 Waiver
  - Georgia, Louisiana
- Increase use of postpartum visit or case management
Evidence-Based Strategies to Promote Healthy Babies

- Reduce early elective delivery
- Reduce smoking in pregnancy
- Increase safe sleep
- Improve perinatal regionalization
- Increase access to interconception care
Collaborative Improvement & Innovation Network (COIN) to Reduce Infant Mortality

- Partnership among HRSA, ASTHO, AMCHP, CDC, CityMatCH, CMS, March of Dimes, NGA, NPP, and the States
- Began in the 13 Southern States in January 2012
- States developed their state plans to reduce infant mortality

## COIN: Strategies & Structure

### 5 Strategy Teams

1. Reducing elective deliveries <39 weeks (ED);
2. Expanding interconception care in Medicaid (IC);
3. Reducing SIDS/SUID (SS);
4. Increasing smoking cessation among pregnant women (SC);
5. Enhancing perinatal regionalization (RS).

### Teams

- 2-3 Leads (Content Experts);
- Method Experts
- Data Experts
- Shared Workspace
- Data Dashboard
Percent of Non-Medically Indicated Deliveries Among Singleton Early Term Deliveries, Reg. IV & VI (Provisional)

Courtesy: William Sappenfield, MD, MPH
Percent of Non-Medically Indicated Deliveries Among Singleton Early Term Deliveries, Reg. IV &VI (Provisional)

Courtesy: William Sappenfield, MD, MPH
Percent of L&D Hospitals with “Hard Stop” Policy
Southern States, July 1 to Aug. 31, 2012

<table>
<thead>
<tr>
<th>State</th>
<th>Percent of Labor and Delivery Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS</td>
<td>34</td>
</tr>
<tr>
<td>NM</td>
<td>38</td>
</tr>
<tr>
<td>KY</td>
<td>42</td>
</tr>
<tr>
<td>AR</td>
<td>42</td>
</tr>
<tr>
<td>AL</td>
<td>56</td>
</tr>
<tr>
<td>NC</td>
<td>57</td>
</tr>
<tr>
<td>TN</td>
<td>60</td>
</tr>
<tr>
<td>TX</td>
<td>61</td>
</tr>
<tr>
<td>SC</td>
<td>63</td>
</tr>
<tr>
<td>OK</td>
<td>65</td>
</tr>
<tr>
<td>GA</td>
<td>65</td>
</tr>
<tr>
<td>LA</td>
<td>67</td>
</tr>
<tr>
<td>FL</td>
<td>71</td>
</tr>
</tbody>
</table>

Courtesy: William Sappenfield, MD, MPH
Summary 3: Highest number of VLBW births in a single hospital by state and level of care, 2010-2011

<table>
<thead>
<tr>
<th>State</th>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>FL</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>KY</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>LA</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>MS</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>NC</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>OK</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>SC</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>TN</td>
<td>150</td>
<td>200</td>
</tr>
</tbody>
</table>

Courtesy: Wanda Barfield, MD, MPH

Summary Caveats: MS Level II = Level I & II; status of out of state deliveries is different or unknown for some states; OK Level III and Level IV are combined; State summaries contain different years
The definition of insanity is doing the same thing over and over and expecting different results.

Benjamin Franklin
We must become the change we want to see.

- MOHANDAS GANDHI
“Never, ever, think outside the box.”
CMS Perinatal Expert Panel:
Improving Outcomes for Mothers & Infants in
the Medicaid Program

Mary S. Applegate, MD, FAAP, FACP
Medical Director, Ohio Department of Medicaid
NAMD November 2013
The Problem

• Enormous variation in health outcomes
  – across the country
  – for the maternal & infant populations
  – compared to other westernized countries
• Escalating costs
• Unacceptable disparities
• In Medicaid we have exactly what was designed: a payment system
The Question

• As the single largest payer for maternity and infant care, how can Medicaid pay for value, driving improved health outcomes?
• How can we best align & coordinate existing state, federal, professional and agency efforts, including private payers?
The Goal

• To strategically & expeditiously leverage federal authority & state partnerships to achieve:
  
• 1. Better care
    – safer, timelier, more efficient & effective
    – more patient-centered
    – more equitable

• 2. Better outcomes

• 3. Lower cost
The Partners

- American College of Gynecologists (ACOG)
- Secretary’s Advisory Commission on Infant Mortality (SACIM)
- Association of State and Territorial Health Officials (ASTHO)
- National Association of Medicaid Directors (NAMD)
- Louisiana Birth Outcomes’ Initiative
- California Maternal Quality Care Collaborative
- Ascension Health
- Pediatrics and Child Health at Howard University
- National Institute of Children’s Healthcare Quality (NICHQ)
- Association of Women’s Health, Obstetrics, and Neonatal Nurses (AWOHNN)
- Medicaid Health Plans of America (MHPA)
- Association of Community Affiliated Plans (ACAP)
- National Association of State Health Policy (NASHP)
- Medicaid Medical Directors Network (MMDN)
- National Partnership for Women and Families
- National Governor’s Association (NGA)
- National Association of Public Hospitals (NAPH)
- March of Dimes
- Child Birth Connection
CMS Expert Panel: The Process

Clinician Leaders

Infant Mortality Analysis & key Drivers

Environmental Scan

Relevant Measures

Existing Measures

Alignment

Data Sources

GAP Analysis

Brain Storming

Themes

Enhanced Maternal Care

Perinatal Payment Strategies

Data Measurement & Reporting

Effective Reproductive Health Enablers

1. Education & Shared Decision Making
2. Quality
3. Financing
4. Data & Measurement

Clinical Priorities

Communicate to State & Federal Partners
**Summary of CMS Expert Panel**

**Action Areas:**
1. Improve intentionality of pregnancy, birth spacing through patient engagement, shared decision making, education & access
2. Improve & Facilitate breastfeeding
3. Target women at high risk for: a. Preterm birth (implement 17P) b. for medical complexity (provide enhanced services)
4. Include pregnancy as part of value based purchasing strategy
5. Improve access through adolescent & adult well checks and post partum visits
6. Invest in existing and develop enhanced data systems to address IMR & disparities at population levels

<table>
<thead>
<tr>
<th>Data Measurement and Reporting</th>
<th>Enhanced Maternal Care Management</th>
<th>Effective Reproductive Enablers</th>
<th>Perinatal Payment Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving frequency and content of Post Partum Visit (PPV)</td>
<td>Standard Pregnancy Risk Assessment</td>
<td>Remove barriers rather than change patients Implement policies/payment Cover LARCS in all settings</td>
<td>Link payment to quality in service &amp; outcome: e.g. a. Unbundle global fee to get to regionalization b. Blend NSVD /C/S rates c. Develop &amp; standardize quality of care assessment</td>
</tr>
<tr>
<td>PPV measures refinement EHR derived patient activation</td>
<td>High Risk; 17P+++ Breastfeeding Tobacco cessation Shared Decision Making/Education Antenatal steroids Early Elective Deliveries C/Section</td>
<td>Improve rates and content of adolescent well checks including non traditional settings</td>
<td>Invest in systems to identify high risk pregnancies, including Vital Stats</td>
</tr>
<tr>
<td>Adopt contraception/Family Planning/birth spacing measures</td>
<td>Nontraditional support</td>
<td>Incent effective transportation plans</td>
<td>Invest &amp; support collaboration in Quality Improvement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wrap around integrated care Mental &amp; Physical Health services through 90 days Post partum after substance abuse and Mental Health</td>
<td>At systems levels, focus on women’s health with PPV, Adolescent well checks &amp; Low birth weight measures</td>
</tr>
</tbody>
</table>
The Summary

• Intentionality matters
  – safe birth spacing (measure needed)
  – interconception care (post partum visit gateway)
  – preconception care (adolescent well check frequency & content)

• Best feeding = breastfeeding

• Not to miss: Progesterone for Preterm birth prevention (standardize risk assessment, Identification, processes)

• Pay for value (Perinatal value-based purchasing plan that includes LARC coverage independent of setting, regionalization of high risk care for mothers & infants)

• Harness & align population data systems within and across states (foundation for QI and high-risk population targeting)
Next Steps

Coming soon to Medicaid.gov:

• Crosswalk of Current Activities and Potential Strategies to Improve maternal and Infant Outcomes
  – Based on the summary of strategies, a delineation of current activities underway and potential future work by CMS, State Medicaid programs or other agencies/professional bodies
Questions?

Mary.Applegate@Medicaid.ohio.gov