Indiana State Department of Health
Infant Mortality Summit
November 1, 2013

“Lessons Learned from Reducing Infant Mortality in Texas”

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Commissioner
Texas Department of State Health Services
Infant Mortality 2009

Preterm Births 2009
A High Human Cost of Prematurity

• Low birth weight
• Underdeveloped organs or organ systems
• Increased morbidity
  o Breathing problems, including respiratory distress syndrome
  o Life-threatening infections
• Increased disability
  o Cerebral palsy, blindness, and deafness
  o Chronic lung disease
  o Learning and developmental disabilities
• Increased mortality
  o Premature birth is the number 1 killer of newborns
  o Increased early childhood and late childhood mortality
• Significant impact on their family
Texas Medicaid Birth Expenditures (1999 – 2010)

Sources: AHQP Claims Universe, TMHP. DSP Delivery records, HHSC.
Prepared By: Strategic Decision Support, March 2012.
Medicaid Costs

- ~57% of all Texas births (225,000) paid by Medicaid
- $2.6 billion per year in birth and delivery-related services for moms and infants through first year
  - >73% of Medicaid costs for hospitalized newborns tied to billing codes for prematurity
- Infant care costs growing by ~7% per year
  - 54.6% are attributable to extremely preterm infants
- Newborn costs (1st year)
  - Extreme Preterm infant: $71,210
  - Term infant: $420
Poor Health of Newborn Infants Drives Hospital/Healthcare Costs

Average Charge per Stay and per Day for the Top 10 Principal Diagnoses with Highest Charges per Stay, 2006

- Infant respiratory distress syndrome
- Premature birth and low birth weight
- Cardiac and circulatory birth defects
- Leukemia
- Heart valve disorders
- Immunity disorders
- Spinal cord injury
- Lack of oxygen to baby in uterus or during birth
- Ballooning or rupture of an artery
- Respiratory failure, insufficiency, arrest
Possible Points for Intervention

Maternal Health/Prematurity

Maternal Care

Newborn Care

Infant Health

Preconception Health
Health Behaviors
Perinatal Care

Prenatal Care
High Risk Referral
Obstetric Care

Perinatal Management
Neonatal Care
Pediatric Surgery

Safe Sleep
Breast Feeding
Injury Prevention
Percent of Texas Women Receiving Prenatal Care in First Trimester by Race and Ethnicity

- Total
- White
- Black
- Hispanic
- Other
- Healthy People 2020 goal

*provisional
Inductions Have Increased Steadily in Texas and the US

Induction Births, Texas and U.S., 2000-2011

Percent of Live Births

TX

US


18.4 19.9 24 25.1


18.4 19.9 24 25.1

19
Elective Inductions Increase Prematurity and C-Section Rates

• In 2011, 1 in 4 deliveries were induced in Texas

• Induction rates increased by 40% in Texas between 2000-2011

• In 2011, 32.2% of single-birth inductions were performed before 39 weeks of gestation

• Labor induction is associated with an increased risk of delivery by cesarean section (C-section)
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

Adverse Neonatal Outcomes
By Week of Gestation at Delivery

Adapted from Tita AT, et al. NEJM 2009;360:111
Preventing Infant Mortality through Regionalization of Perinatal Services

• Very low birth weight (VLBW) infants represent less than 2% of US births, but account for 55% of infant deaths

• Levels of perinatal care (I, II, & III)
  o Level III facilities have the ability to care for very low birth weight and very preterm (VPT) infants
  o VLBW and VPT infants not born in a level III hospital are more likely to die

• HP 2010 goal: 90% of all VLBW infants are born in level III hospitals
  o Has only been met by 5 states
  o 10 states (including TX) are below 70%
  o Less than 50% of VLBW births in Texas occur in level III facilities (49% based on 2005 & 2006 birth certificate data)
Safe to Sleep

SIDS Rate and Back Sleeping (1988 – 2006)

SIDS Rate Source: CDC, National Center for Health Statistics, Sleep Position Data: NICHD, National Infant Sleep Position Study.
So, how do we solve these problems?
Healthy Texas Babies

• Healthy Texas Babies (HTB) is an initiative to decrease infant mortality in Texas

• Goals of Healthy Texas Babies Initiative:
  o Provide local partnerships and coalitions with major roles in shaping programs in their communities
  o Use evidence-based interventions
  o Decrease preterm birth rate by 8% over 2 years
  o Save ~ $7.2 million in Medicaid costs over 2 years
Healthy Texas Babies

March of Dimes
- Healthy Babies Are Worth the Wait®

State Agencies
- DSHS
- HHSC
- DFPS, DARS, TEA, and........
- Office of Attorney General

Health Partners
- Professional Associations
- Academic Institutions
- Local Health Departments and Health Authorities
- Hospital Districts and Public Hospitals
- Texas Early Childhood Coalition

Private Industry
- Private Insurers
  - Member Education
  - Provider Relations
  - Incentives
- Businesses
  - Employee Wellness
  - Customer Goodwill
- Hospitals
- Media

Advocacy and Community Organizations
- Faith Based Organizations
- Neighborhood Health Coalitions
- Family Organizations
- Parent to Parent

Military
Legislation 82nd Session (2011)

- Legislation to eliminate Medicaid payment for elective inductions/C-sections <39 weeks
- Outreach campaign to promote father’s involvement with children before birth
- Council created to study neonatal intensive care unit regionalization
- $4.1 million General Revenue appropriated for this effort
HTB Local Coalitions

Ten Local Coalitions

- Evidence-based projects
- Broad-based Membership
- December 2011-August 2013
- $200K contracts awarded to each of the 10 local coalitions
“Someday Starts Now”

- **Educate men and women** of child-bearing age on steps they can take now to have a healthy baby, someday
- **Change the mind-set** of and motivate healthy actions among Dads-To-Be and Moms-To-Be through specific campaign messaging
- **Deliver an identifiable campaign** with consistent messaging and branding
- **Develop a website** and mobile application that provide top-line information and links to additional resources
- **Evoke an urgency** to be healthier today — not tomorrow, not next week, not someday in the future — Now
- **Get people to think** about being healthy today to have healthy babies tomorrow
Healthy Texas Babies Initiative: Someday Starts Now Campaign

Someday starts now.

The choices you make now matter. That’s especially true if there’s a baby in your future, whether it’s months or years away. Your decisions today can affect the health and well-being of your child for the rest of his or her life. Fortunately, you don’t have to go it alone. This site is designed to provide the information and resources you and your partner need to start your healthy future — right here, right now.
“Someday Starts Now”
Legislation 83rd Session (2013)

• SB 495 – Task force to study maternal mortality and severe maternal morbidity

• HB 15 – Perinatal Advisory Council to develop a designation process for neonatal and maternal levels of care

• HB 1605 – Pilot program in Harris County to provide maternity case management to certain Medicaid managed care enrollees
Designations for Hospitals Providing Neonatal and Maternity Services

Key Provisions of HB15

• Creates 2 designation programs for hospitals; Maternal and Neonatal

• Requires designation for Medicaid reimbursement of maternal or neonatal services

• Creates a system approach for neonatal and maternal care modeled on trauma designation
  – regions
  – advisory councils

• Effective September 1, 2013
  – full implementation: August 31, 2019
Other Initiatives

• **1115 Medicaid Transformation Waiver**
  - Delivery System Reform Incentive Payment to implement innovative strategies to improve birth outcomes

• **Improved Data Sharing**
  - DSHS and HHSC developing process to share birth record data with managed care organizations

• **Expanded Primary Health Care**
  - Preventive and primary care to 170,000 women/year
  - Comprehensive family planning; allows physicians to manage chronic disease to improve women’s health
Transition

Healthy Texas Babies (November, 2010)

To

Texas Collaborative for Healthy Babies and Mothers (November, 2013)
President’s Challenge 2012: Healthy Babies

**Goal:** Improve birth outcomes by reducing infant mortality and prematurity in the United States

**Overall Objectives:**

1. Focus on improving birth outcomes as SHOs and state leadership teams work with state partners on health and community system changes

2. Create a unified message that builds on the best practices from around the nation and the efforts from Regions IV and VI, which can be adopted by states, U.S. territories, and the District of Columbia

3. Develop clear measurements to evaluate targeted outreach, progress, and return on investment
S.M.A.R.T. Goal:

• Reduce prematurity rates:
  – by 8%
  – by 2014
50 States Have Taken the Pledge

Pledge to Reduce Prematurity by 8% by 2014

50 States Have Taken the Pledge

Franklin Delano Roosevelt Award (9.6% Prematurity Rate)
www.astho.org/healthybabies/

In September 2011, ASTHO President David Lakey (TX) issued his President’s Challenge: the Healthy Babies Initiative. His goal for the challenge is to improve birth outcomes by reducing infant mortality and prematurity in the United States. Specifically, the goal is to decrease prematurity in the United States by 3% by 2014. State and territorial health agencies can make an incredible impact in this area, and this resource is designed to help. The resources are categorized in the ways: by lifecycle, as depicted in the images below, including Preconception, Prenatal, Birth to 28 Days, and First Year, and by scope resources, including Policy Resources, Community Resources, Organizational Resources, Health IT Resources, Healthcare Provider Resources, and Self-Management Resources.
National Partners
Collaborative Improvement & Innovation Network (CoIIN)
COIIN Design

Common Strategies for Regions IV and VI

**Strategy Leads**
(2-3 experts, including state officials)

**Data and/or Methods Experts**

**Staff support**
(MCHB/HRSA plus CMS and partner organizations ATRANSO, AMCHP, March of Dimes, CitymatCH)

- Smoking cessation
- Interconception care
- Early elective deliveries
- Safe sleep
- Perinatal regionalization

Supported by Contract Team of expertise in quality improvement
The Gestational Age that Women Considered it Safe to Deliver

Obstet Gynecol 2009;114:1254
A baby’s brain at 35 weeks weighs only two-thirds of what it will weigh at 39 to 40 weeks.

35 weeks

39 to 40 weeks
The nation’s ob-gyns have redefined ‘term pregnancy’ to improve newborn outcomes and expand efforts to prevent nonmedically indicated deliveries before 39 weeks of gestation. In a joint Committee Opinion, The American College of Obstetricians and Gynecologists (The College) and the Society for Maternal-Fetal Medicine (SMFM) are discouraging use of the general label ‘term pregnancy’ and replacing it with a series of more specific labels: ‘early term,’ ‘full term,’ ‘late term,’ and ‘postterm.’

The following represent the four new definitions of ‘term’ deliveries:

- Early Term: Between 37 weeks 0 days and 38 weeks 6 days
- Full Term: Between 39 weeks 0 days and 40 weeks 6 days
- Late Term: Between 41 weeks 0 days and 41 weeks 6 days
- Postterm: Between 42 weeks 0 days and beyond

“This terminology change makes it clear to both patients and doctors that newborn outcomes are not uniform even after 37 weeks,” said Jeffrey L. Ecker, MD, chair of The College’s Committee on Obstetric Practice. “Each week of gestation up to 39 weeks is important for a fetus to fully develop before delivery and have a healthy start.”
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 Rate <39 Weeks Rate

Target: <5.0%

Jan 2011 - Dec 2011
Percent of Non-Medically Indicated Deliveries Among Singleton Early Term Deliveries, Reg. IV & VI

Percent of Non-Medically Indicated Deliveries Among Singleton Early Term Deliveries, Reg. IV & VI

Percent

Region IV
Region VI


0%  10%  20%  30%  40%  50%  60%
NON-MEDICALLY INDICATED EARLY TERM BIRTHS IN TEXAS

Percentage of Non-Medically Indicated (NMI) Early Term Singleton Births* in Texas, Q1 2011-Q3 2013**

- 2011 Q1: 43.1%
- 2011 Q2: 42.1%
- 2011 Q3: 39.9%
- 2011 Q4: 36.4%
- 2012 Q1: 35.9%
- 2012 Q2: 34.8%
- 2012 Q3: 35.1%
- 2012 Q4: 36.0%
- 2013 Q1: 35.3%
- 2013 Q2: 36.4%
- 2013 Q3: 34.4%

*Singleton births
**Excludes cases with a clear medical indication for birth before 39 weeks of gestation.
Non-Medically Indicated Births, 2012-2013
by Public Health Region

NMI Birth Rate
- 27.6 - 30.4
- 30.5 - 33.9
- 36 - 42.7
- 42.8 - 51.1

Data source: 7
Figure 1: Infant mortality rate for the United States and Texas, 2000 – 2012

2012 data are provisional and subject to change
Texas data from Death Vital Records, DSHS, Center for Health Statistics
U.S. data from National Center for Health Statistics Vital Records Report, Deaths
Prepared by FCHS, Office of Program Decision Support
Maternal and Infant Health Data

Figure 2: Infant mortality rate by race / ethnicity, 2000 - 2012

2012 data are provisional and subject to change
Texas data from Death Vital Records, DSHS, Center for Health Statistics
Prepared by FCHS, Office of Program Decision Support
Maternal and Infant Health Data

Figure 5: Percent of infants born preterm for the United States and Texas, 2000 – 2012

- The rate of preterm birth has declined about 6% since 2009
- The decline is mainly among infants born between 34 and 36 weeks gestation

2012 data are provisional and subject to change
Texas data from Birth Vital Records, DSHS, Center for Health Statistics
U.S. data from National Center for Health Statistics Vital Statistics Report, Births
Prepared by FCHS, Office of Program Decision Support
March of Dimes Preterm Birth Goals

*Preliminary data
Preterm is less than 37 completed weeks of pregnancy.
Prepared by March of Dimes Perinatal Data Center

8% reduction by 2014
21% reduction by 2020

Percent of live births

10.6 11.0 11.6 12.7 12.8 12.7 12.3 12.2 12.0 11.7 11.5 11.2 9.6
Partners in the Public Health System
Thank You!
Texas Medicaid Claims Data by Diagnosis Related Group

<table>
<thead>
<tr>
<th>DRG Code</th>
<th># of Claims</th>
<th>Total Cost (millions)</th>
<th>Cost per Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>386 Extreme Immaturity</td>
<td>4,507</td>
<td>$285</td>
<td>$63,245</td>
</tr>
<tr>
<td>387 Prematurity w/ Major Problems</td>
<td>3,332</td>
<td>$63.5</td>
<td>$19,059</td>
</tr>
<tr>
<td>388 Prematurity w/out Major Problems</td>
<td>6,461</td>
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<td>389 Full term Neonate w/ Major Problems</td>
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<td>390 Neonate w/ Other Significant Problems</td>
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<tr>
<td>391 Normal Newborn</td>
<td>125,304</td>
<td>$51.4</td>
<td>$410</td>
</tr>
</tbody>
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Note: Texas population is ~23 million