Success Story: Decreasing Infant Mortality Rates in Shelby County

THE VISION: “HEALTHY BABIES BORN IN HEALTHY COMMUNITIES”

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Disclosure Statement

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Objectives

- Review of Infant Mortality Trends in Memphis- Shelby County, Tennessee
- Overview of Infant Mortality Projects and Initiatives
- Identify and Discuss opportunities to address Infant Mortality
- Conclusions
- Open Discussion
Facts about Shelby County, Tennessee

- Largest County in Tennessee
- Great Attractions: Beale Street, National Civil Rights Museum, Graceland
- Home of the MEMPHIS Grizzlies, MEMPHIS Red Birds
- Home of 6 Universities/Colleges
- Nick named “The River City” or “The Bluff City”
Infant Mortality

• Keeping babies alive is one of Shelby County’s highest priorities. Infant mortality is a major indicator of community health. It reflects a community’s ability to assure its babies are born into an environment that will sustain them throughout their first year of life- and beyond.

• Historically, Shelby County has experienced high infant death rates and the community has consistently sought to improve the chances of babies living past their first birthday.
In 2005, The Commercial Appeal publication of an award-winning series of articles on infant mortality proved to be a watershed moment in the fight to improve community health.

In 2006, the Governor’s Summit made infant mortality a statewide problem.
Between 2006 and 2015, Shelby County’s infant mortality rate declined by almost 40% from 13.8 to 8.2 deaths per 1,000 live births.
Infant Mortality Statistics

Infant Mortality Rate (infant deaths per 1,000 live births)
Shelby County, Tennessee, and United States, 2004-2015

Data Source: Shelby County Health Department Office of Epidemiology and Infectious Diseases, prepared from Birth and Death Certificate Files for Shelby County Residents, 2004–2015, Tennessee Department of Health, Office of Policy, Planning and Assessment, Division of Health Statistics.
Note: Calculations exclude records with Missing/Unknown values.
Infant Mortality – What are some causes that attributed to the HIGH Infant Mortality Rate in Shelby County?

Conceptualized by the LHIF Communications Workgroup 2011

- Stress
- Born too small, too soon
- Smoking
- Unhealthy Weight
- Infections
- Poverty
- Social Injustice
- Infant Mortality
- Lack of Father Involvement
- Lack of Prenatal Care
- Poor Nutrition
- Unemployment
- Discrimination
- Neighborhood Conditions
- Lack of Family Supporting Wages

10/9/2017
Place Matters

Improvements in the infant mortality rate are not evenly dispensed across Shelby County. Zip Codes with the Highest Infant Mortality Rate Have:

- High Poverty Rates
- High Unemployment
- Low Educational Attainment
- High Crime Rate
- Food Deserts
- Transportation Concerns
- Socioeconomic Conditions

Data Source: Shelby County Health Department Office of Epidemiology and Infectious Diseases, prepared from Birth Certificate Files for Shelby County Residents, 2011–2015, Tennessee Department of Health, Office of Policy, Planning and Assessment, Division of Health Statistics.
Social Determinates of Health

Health Starts in homes, schools, and communities. Healthy People 2020 highlights the importance of addressing the social determinates of health by including “Create social and physical environments that promote good health for all”.

Source: Dahlgren and Whitehead, 1992
Understanding Social Determinates of Health

- Safe Housing and local food markets
- Access to educational, economic and job opportunities
- Transportation
- Access to Health Care
- Availability of Community Resources
Leading Causes of Infant Mortality

• In 2012, birth defects were the leading causes of infant death in Tennessee, followed by preterm birth and low birthweight and accidents. Together, these three causes accounted for 2 out of 5 infant deaths in the state\(^1\).

• Sudden infant death syndrome (SIDS) was the 5\(^{th}\) leading cause of infant death\(^1\).

• For Shelby County, the TOP 3 leading causes of Infant Mortality are\(^2\): (2013-2015 data)
  - Preterm Births and Low Birth Weights
  - Birth Defects
  - SIDS

Leading Causes of Infant Deaths - Race and Ethnicity

- **Black non-Hispanics:**
  1. Disorders due to preterm birth and low birth weight (97)
  2. Birth Defects (69)
  3. Accidents (31)

- **White non-Hispanics:**
  1. Birth Defects (16)
  2. SIDS (7)
  3. Accidents (4)

- **Hispanics:**
  1. Disorders due to preterm birth and low birth weight (9)
  2. Birth Defects (3)
  3. SIDS (2)

- **Combined, preterm birth and low birthweight, birth defects, accidents and SIDS made up approximately one-half of infant deaths among all three racial/ethnic groups.**
Tennessee’s Efforts to Address Infant Mortality

In 2013, a Public Health Advisory Committee on Infant Mortality developed the “Tennessee Public Health Strategic Plan to Improve Birth Outcomes and Reduce Infant Mortality.” This plan currently remains the blueprint for statewide efforts in addressing infant mortality.

**Strategies include:**

- Decrease unintended pregnancies
- Maintain a strong public health infrastructure
- Increase the proportion of very low birth weight infants born at level III hospitals or subspecialty perinatal centers
- Decrease the rate of sudden unexpected infant deaths (i.e. SIDS, accidental suffocation/strangulation in bed, and undetermined causes)
- Increase the proportion of women who begin prenatal care in the first trimester
- Decrease the rate of preterm births
- Increase the proportion of infants who were ever breastfed
- Decrease the percentage of women who smoke during pregnancy
Shelby County Health Department
Infant Mortality Reduction Initiative Measures to Address Infant Mortality

- Infant Mortality Rate
- African American/Black Infant Mortality Rate
- Early Prenatal Care (PNC)
- Breastfeeding Initiation
- Smoking During Pregnancy
- Teen Birth Rate
- Low Birth Weight
- Preterm Births
- Birth Spacing
- SUID/Sleep Related Deaths
<table>
<thead>
<tr>
<th>Measure</th>
<th>2010-2012 Shelby County Baseline</th>
<th>IMRI Target</th>
<th>2013-2015</th>
<th>% Change</th>
<th>Direction of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant Mortality Rate (infant deaths per 1,000 live births)</td>
<td>10.2</td>
<td>&lt; 10</td>
<td>9.0</td>
<td>-11.8%</td>
<td>↓</td>
</tr>
<tr>
<td>African American/ Black Infant Mortality Rate (infant deaths per 1,000 live births)</td>
<td>13.5</td>
<td>&lt; 12</td>
<td>11.8</td>
<td>-12.6%</td>
<td>↓</td>
</tr>
<tr>
<td>Early Prenatal Care (percent of live births with PNC in first trimester)</td>
<td>62.4</td>
<td>≥ 68.6</td>
<td>66.5</td>
<td>+6.6%*</td>
<td>↑</td>
</tr>
<tr>
<td>Breastfeeding Initiation (percent live births with breastfeeding at hospital)</td>
<td>65.0</td>
<td>≥ 71.5</td>
<td>69.7</td>
<td>+7.2%*</td>
<td>↑</td>
</tr>
<tr>
<td>Smoking During Pregnancy (percent of live births with moms reporting smoking during pregnancy)</td>
<td>7.3</td>
<td>≤ 6.6</td>
<td>6.4</td>
<td>-12.3%*</td>
<td>↓</td>
</tr>
</tbody>
</table>

*denotes that 2013-2015 rate is statistically different than the 2010-2012 rate (p-value < .05)

→ Change is in the desired direction
→ Change is NOT in the desired direction
Change is significant AND in the desired direction
Change is significant BUT NOT in the desired direction

Data Source: Tennessee Department of Health, Office of Policy, Planning and Assessment, Division of Health Statistics, Birth and Death Record Data 2010-2015; Prepared by Shelby County Office of Epidemiology and Infectious Diseases, 02/09/17.
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<tr>
<td>Teen Birth Rate (live births per 1,000 females ages 10-19 years)</td>
<td>26.4</td>
<td>&lt; 20</td>
<td>20.7</td>
<td>-21.6%*</td>
<td>↓</td>
</tr>
<tr>
<td>Low Birth Weight (percent of live births born at &lt;2500g)</td>
<td>11.3</td>
<td>≤ 10.2</td>
<td>11.6</td>
<td>+2.7%</td>
<td>↑</td>
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<tr>
<td>Preterm Births (percent of live births born &lt;37 weeks)</td>
<td>12.9</td>
<td>≤ 11.6</td>
<td>12.7</td>
<td>-1.6%</td>
<td>↓</td>
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<tr>
<td>Birth Spacing (percent of live births conceived at least 18 months after last live birth)</td>
<td>66.5</td>
<td>≥ 73.2</td>
<td>67.8</td>
<td>+2.0%*</td>
<td>↑</td>
</tr>
<tr>
<td>SUID Death Rate (SIDS, ASSB, and Unknown deaths per 1,000 live births)</td>
<td>1.8</td>
<td>≤ 1.6</td>
<td>1.8</td>
<td>0.0</td>
<td>≈</td>
</tr>
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Infant Mortality

Over the past 12 years, the growing awareness and investment has resulted in collective and continuous community engagement to combat infant mortality. As a result, significant improvements have been noted.
What Accounted for POSITIVE changes with the Infant Mortality Rate?

- Partnerships/Collaborations
- Programs/Projects/Initiatives
- Collective Impact
it takes a village
Partnering for Healthy Birth Outcomes

The recommendations present many layers of responsibility to achieve the vision of “Healthy Babies Born in Healthy Communities”. The following chart will detail and indicate some of the partnerships/projects that have been established to address infant mortality.

**Policy Makers**
How should federal, state and local governments and corporate entities help public health, providers and agencies to reduce disparity and increase infant survival?

**Health Plans**
Clincs/Provider Groups
Private Practices
How can healthcare providers and health insurers apply Standards of Care and the concepts of Social Justice to reduce disparity and increase infant survival?

**Community Agencies**
How can social service provider and other community agencies address the social determinants of health birth outcomes?

**Individuals/Consumers**
What actions can individuals and families take to reduce disparity and increase infant survival?

**Memphis Shelby County Community Groups**
How can the community be informed? How can the community act to reduce disparity and increase infant survival?

Acknowledges City of Milwaukee FIMR Program – Annual Report 2013
Partnerships/Collaborations

- County Mayor, Mark H. Luttrell
- Tennessee Department of Health
- (6) Birthing Hospitals
- Faith Based Organizations
- Federally Qualified Health Care Centers
- Early Success Coalition
- Community Organizations
- Academia
- Public School Systems
- Department of Children’s Services
- March of Dimes

- Internal Programs and External County Programs
  - Newborn Screening
  - Home Visitation Program
  - Breastfeeding Support
  - Immunization Program
  - Clinical Services
  - Health Planning and Promotion
    - MCH Epidemiologist
- Cribs for Kids
- Shelby County Breastfeeding Coalition
- Consumers
Programs/Projects/Initiatives

• Infant Mortality Core Leadership Group
  ▪ Case Review Team/Case Action Team Group Members
• Social Marketing
• DOSE (Direct On Scene Education)
• CityMatCH/NACCHO Special Projects
• Male/Fatherhood Engagement
• Breastfeeding – Peer and Professional Support
• Safe Sleep Resources and Education
• 17-P Pilot Program (Progesterone Education for High Risk Women)
Safe Sleep
Infant Sleeping Practices
In the state of Tennessee, sleep-related infant deaths have decreased by 25% (2012-2014).

HOWEVER...MUCH WORK IS STILL NEEDED:

1 in 5 infant deaths in Tennessee are due to unsafe sleep conditions.

Sudden Unexpected Infant Death (SUID)

- Sudden Unexpected Infant Death (SUID) describes any death of an infant that is sudden and unexpected that occurs during infancy, whether explained or unexplained.

- Approximately 3,500 SUID deaths annually in U.S – infants < 1 year old

- Infant safe sleep practices can prevent many SUID deaths.

CDC, 2016

Sleep-Related Death Contributing Factors:
- Co-Sleeping with Others
- Not Sleeping on Back
- Unsafe bedding and toys in sleep area
- Strangulation / Accidental Suffocation
- Entrapment
- Undetermined Sudden Infant Death Syndrome (SIDS)
Evaluation Methods and Results

- Child death review records indicate improvements in the occurrence of infant sleep-related death (Shelby County, Tennessee).
Safe Sleep Education!!

• Shelby County Health Department implemented a comprehensive infant safe sleep awareness campaign through outreach, partnerships, and collaborations.

• WHY?

• Sleep related deaths are largely PREVENTABLE!

➢ To promote unified messaging regarding infant safe sleep practices throughout Shelby County.

➢ To dispel generational myths relating to infant sleep.
Infant Safe Sleep

Baby sleeps safest alone, on their back, in a crib.
Highlighted Projects

• Gas Toppers

• Public Transit Bus Wraps
Marketing and Social Media Projects

• Fatherhood/Male Involvement Projects (*Daddy Boot Camp at the Shelby County Correctional Center*)
• Gas Toppers
• Media - Radio and Television
• Safe Sleep Ambassador Training
• Google Ads
• Availability of Infant Safe Sleep Resources (*Pack n Plays, sleep sacks/swaddlers, Safe Sleep demonstrations*)
• Collaborations and Partnerships – Cribs for Kids
• Website Shelby County Health Department (*ShelbyTNHealth.com*)
Marketing and Social Media Projects

- Billboards
- Blog Posts
- Bus Wraps and Bus Transit Stops
- Conferences and Summits (Fetal Infant Mortality Reduction Conference)
- Digital Monitors (Department of Motor Vehicles (DMV) and Shelby County Public Health Clinics)
- Direct On-Scene Education (DOSE) Training
- Floor Talkers (floor decals)
- Focus Groups/Listening Tours
Conclusions and Implications

PREVENTION and AWARENESS OPPORTUNITIES

• Multifaceted infant mortality educational outreach initiatives are essential to reaching at risk families.

• Availability to provide **FREE** safe sleep resources to families in need of a safe sleep environment is an **ASSET**!

• Collaboration with community partners and unified messaging is key.

• Outreach and Education/Social Media have demonstrated to promote an adherence to safe sleep guidelines and the increase in the breastfeeding initiation rates.

• Continued expansion and collaboration will continue to address infant mortality and will ensure positive outcomes for infants and their families.
Conclusions and Implications
PREVENTION and AWARENESS OPPORTUNITIES

• Educate the public and local media>focus groups/listening tours
• Embrace opportunities to promote the health of women and families across their life span- Life Course Theory
• Collaborate with Stakeholders – view “who is NOT at the table versus who is at the table”
• Engage Males/Fathers
• Strive to address Upstream Issues that address Infant Mortality
• Integration of “No Wrong Door”- promotion of family-centered opportunities to procure infant car seats and safe sleep resources
Final Comment

An engaged and informed community = decrease in infant mortality
Infant Mortality Vision for Shelby County

The Vision: Healthy Babies Born in Healthy Communities”

Healthy Pregnancies

Healthy Babies/Reduction in Infant Mortality

Healthy Communities
The Shelby County Health Department extends sincere gratitude to the many community representatives and organizations involved with addressing Infant Mortality and who are committed to ensuring every baby in Shelby County has the opportunity to reach their first birthday.

It takes the entire community to continue making progress. To join the movement, please visit www.shelbytnhealth.com or call (901) 222-9000.
Discussion & Collaboration

share
Questions

For additional information, please contact:

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