Community Collaboratives to address Infant Mortality

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Disclosures

No disclosures

Source: Annual Summary of Vital Statistics for 2014, KDHE
Objectives

• Review KS IM Statistics
• Become familiar with Infant Safe Sleep education
• Understand the need for consistent messaging and SS education in the prenatal setting
• Increase awareness of community initiatives and resources
Infant Mortality Data
Kansas in 2014

39,193 babies born
246 died before their 1st birthday

Source: Annual Summary of Vital Statistics for 2014, KDHE
Infant Mortality Data
By cause, Kansas 2010-2014

- Other external causes 4%
- Maternal Complications 10%
- SUID 17%
- Short Gestation/LBW 20%
- Congenital Anomalies 23%
- Other 26%

Source: Bureau of Epidemiology and Public Health Informatics, KDHE
Sedgwick County Infant Mortality

- 2010-2014 IMR 7.2 /1000
- 2010-2014 22% of Kansas infant deaths
  - Highest rate in state
  - 3 highest zip codes in state
    - 67214 (13.6/1000)
    - 67218 (13.1/1000)
    - 67213 (11.4/1000)

Racial Disparities in Infant Mortality

Source: Bureau of Epidemiology and Public Health Informatics, KDHE

- SIDS 1A = 1
- SIDS 1B = 1
- SIDS 2 = 34
- SUID = 9

31 of 36 had one or more unsafe sleep factors

- 39% were co-sleeping with adult and/or another child
- 64% were not placed on their back to sleep
- 11% occurred in a child care setting
- 91% of SIDS II cases: overlay/positional asphyxia could not be ruled out
- All SUID cases had an element of unsafe sleep environment

Source: State Child Death Review Board, Kansas Attorney General
AAP Guidelines

SIDS and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment
Task Force on Sudden Infant Death Syndrome
Pediatrics 2011;128;1030; originally published online October 17, 2011;
DOI: 10.1542/peds.2011-2284

Policy Statement
Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of All Children
Task Force on Sudden Infant Death Syndrome
The Changing Concept of Sudden Infant Death Syndrome: Diagnostic Coding Shifts, Controversies Regarding the Sleeping Environment, and New Variables to Consider in Reducing Risk
Safe Sleep Position

- Healthy term infants should sleep on their back as the safest sleep position at nighttime and naptime.

Safe Sleep Location

- Same Room, Separate Bed
- Safety approved crib, bassinet, or portable crib
Safe Sleep Environment

- Firm mattress with tight fitting sheet in safety approved crib
- No blankets, pillows, toys, stuffed animals
- A separate but proximate sleeping environment is recommended
Unsafe Sleep Environment
Safe Sleep and Breastfeeding

- Breastfeeding is recommended and is associated with a reduced risk of SIDS.
- There is a 68% decreased risk of SIDS for infants who are exclusively breastfed.
- There is a 32% decreased risk for SIDS for infants who are breastfed at all.
Safe Sleep and Breastfeeding

- Room Sharing without bed sharing
Infant Safe Sleep

It’s as easy as **ABC**

**The ABC’s of Safe Sleep**

*Alone, on their Back, and in a Crib*
Safe Sleep Research and QI

Goal is to improve health & safety outcomes of infants by promoting the American Academy of Pediatrics’ Safe Sleep Recommendations.
Mixed Messages

Inconsistent Messaging
Reducing Infant Mortality

- Parents/caregivers are most likely to follow the safe sleep guidelines if they:
  • Received information from healthcare providers
  • Received consistent messages from multiple healthcare providers
  • Received consistent messages from trusted female friends and relatives
  • Observed healthcare providers following the recommended behaviors

Reducing Infant Mortality
Consistency along continuum of care

- Preconception
- Prenatal
- Birth
- Infancy
- 1 Year

- Prenatal Visits
- Hospital Care
- Well Child Checks
- Childcare
- Friends and Family
- Home Visitation
- Hospital Readmission
- Health Class
- Community Health Fairs
Safe Sleep Taskforce Projects

- Well newborn hospital bundle
- Pediatric unit hospital bundle
- Children’s Hospital Association (CH) collaborative project
- Outpatient Safe Sleep Toolkit
  - Pilot project
  - OB pre/post assessment
  - Current KBA grant funded qualitative study
Outpatient Safe Sleep Toolkit Pilot

- Toolkit for Family Medicine, Obstetrical & Pediatric clinics
  - 4-item pre-appointment parent Safe Sleep Quiz
  - brief provider script
  - NICHD FAQ provider resource book
  - ABCs of Safe Sleep DVD and URLs
  - NICHD parent handouts
  - Child Care Checklist, including safe sleep items
Outpatient Safe Sleep Toolkit Pilot

SAFE SLEEP QUIZ

PRE-NATAL Safe Sleep Assessment

1. How will you lay your baby down to sleep?
   - On the back
   - On the tummy
   - On the side
   - Not sure

2. Where will your baby sleep at home?
   - In a bassinet next to my bed
   - In a portable crib next to my bed
   - In a crib in my room
   - In a crib in the baby’s room
   - In a big bed
   - Don’t know/not sure
   - Other (specify) __________

3. Please check the items that are already in your baby’s sleeping area at home, or that you plan to get for your baby’s sleeping area.
   - Firm Mattress
   - Blanket
   - Pillow
   - Fitted Sheet
   - Bumper Pad
   - Stuffed Toy
   - Other __________

4. Have you talked about Safe Sleep with others who may put your child down to sleep?
   - Yes
   - No

Optional Information

If you are willing to give us more information to use for a quality improvement project about infant safe sleep, please fill out the questions below. Your responses are anonymous. No personal identifying information will be collected. Participation is completely voluntary. Your child’s care will not be impacted if you decide not to answer the survey questions.

What is your sex?  □ Female □ Male

How old are you? ________

What is your highest level of education?
   - GED/High School Graduate
   - Some college
   - Bachelor’s Degree
   - Associate’s Degree
   - Master’s Degree
   - Other __________

What is your race?
   - White
   - African American
   - Mixed race
   - Other
   - Asian

Are you Hispanic?  □ Yes □ No

How many children do you have? ________
Outpatient Toolkit: Results

- Race (n=443)
- Ethnicity (n=479)

- At baseline most parents reported
  - safe sleep location (>80%)
  - safe position (80%)
  - at least 1 unsafe item in the sleep environment (>60%)

- Providers engaged in safe sleep discussion with most parents
Outpatient Safe Sleep Toolkit Pilot: Limitations

- Self report
- Only pre-appointment measure for parents/caregivers
- Provider responses did not differentiate “did not occur” from missing data
- Confusing wording on the 4th item led to revisions
Trends in Results

- Unsafe items in the environment continued to be identified
- Parents reported unsafe items in nurseries before baby was born
- A survey of local physicians found fewer obstetricians spent adequate time discussing safe sleep strategies with patients than family physicians and pediatricians
  - 21% discussed sleep position
  - 7% discussed breastfeeding
  - 6% discussed pacifier use
  - 0% discussed peak age for SIDS, safest mattress type, bed sharing or the safest place to sleep
- Therefore, we partnered with the largest obstetrical clinic in town to implement the Safe Sleep Toolkit
OB Clinic Toolkit Study: Logistics

- Purpose
  - to collaborate with an obstetrical practice to evaluate the effectiveness of the Safe Sleep Toolkit to increase knowledge and provider-patient communication of the AAP safe sleep guidelines

- Safe sleep communication was assessed before & after implementing the Safe Sleep Toolkit
  - Unmatched mothers at 28 or 36 week gestation
  - Matched provider
OB Clinic Toolkit Study: Maternal Results

- Participants race (n=56 pre; 55 post)

- Maternal report for any safe sleep discussion (78% vs 32%) (p<0.001)

- Maternal knowledge, especially surrounding unsafe sleep practices, improved significantly.
OB Clinic Toolkit Study: Post Intervention Maternal Results

<table>
<thead>
<tr>
<th></th>
<th>Before Appointment</th>
<th>After Appointment</th>
<th>McNemar p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Safe position</strong></td>
<td>93%</td>
<td>98%</td>
<td>0.250</td>
</tr>
<tr>
<td><strong>Safe location</strong></td>
<td>96%</td>
<td>98%</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>No unsafe items</strong></td>
<td>64%</td>
<td>75%</td>
<td>0.070</td>
</tr>
<tr>
<td><strong>Firm mattress and fitted sheet</strong></td>
<td>82%</td>
<td>85%</td>
<td>0.687</td>
</tr>
</tbody>
</table>

- Comparison of Safe Sleep Quizzes of post-intervention mothers from before and after their appointment showed 10% planned to remove unsafe items
OB Clinic Toolkit Study: Provider Results

- Increases in knowledge of bumpers and positioners as unsafe; though few identified portable cribs as safe

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<th>After Appointment</th>
<th>McNemar p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back only as safe</td>
<td>73%</td>
<td>100%</td>
<td>0.250</td>
</tr>
<tr>
<td>Cribs, portable cribs, bassinet as safe</td>
<td>18%</td>
<td>36%</td>
<td>0.625</td>
</tr>
<tr>
<td>No unsafe items</td>
<td>36%</td>
<td>91%</td>
<td>0.031</td>
</tr>
<tr>
<td>Firm mattress and fitted sheet</td>
<td>82%</td>
<td>100%</td>
<td>0.500</td>
</tr>
</tbody>
</table>
All providers found the toolkit easy to implement and felt it improved or greatly improved patient care.

<table>
<thead>
<tr>
<th>Percent of patients with whom discussion was had about...</th>
<th>Pre Intervention</th>
<th>Post Intervention</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back to sleep</td>
<td>0 (0-100)</td>
<td>90 (75-100)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Room sharing without bed sharing</td>
<td>0 (0-80)</td>
<td>90 (75-100)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Use of firm sleep surface</td>
<td>0 (0-80)</td>
<td>90 (50-100)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Use of fitted sheet</td>
<td>0 (0-80)</td>
<td>90 (0-100)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>No soft objects in sleeping area</td>
<td>0 (0-100)</td>
<td>90 (50-100)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
OB Clinic Toolkit Study: Limitations

- Single practice
- Homogeneous sample
- Self-report data
- Intervention was a single dose of education
Collaborations for Consistent Messaging

- Home Visitation Programs
  - Pre and postnatal home visitation

- BabyTalk and Becoming a Mom programs
  - 6 2-hour prenatal education classes covering pregnancy, infant care, & postpartum health

- Safe Sleep Instructors
  - Train-the-trainer program to develop state-wide infrastructure for safe sleep education

- Child care providers
  - Training and policy requiring adherence to safe sleep
Safe Sleep Community Baby Shower

- **Purpose**
  - Provide Safe Sleep education to high risk pregnant women, along with tools to create a safe environment (portable crib, wearable blanket)
  - Connect participants with resources and programs in the community (e.g. Medicaid, clinical care, home visitation)

- **Partners**
  - Wichita Black Nurse Association, KIDS Network, Alpha Kappa Alpha, Delta Sigma Theta, Zeta Phi Beta Sororities and local service organizations

Safe Sleep Community Baby Shower Results

- Significant knowledge changes observed, but trend toward high knowledge at pretest
- Shift to focus on addressing barriers
  - 87% - 94% report greater confidence in ability to get baby to sleep on back, in same room but separate bed, and to keep loose blankets out of the bed
  - 22% reported infant would have slept in an unsafe location without the provided crib

<table>
<thead>
<tr>
<th>Intentions</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleep Position on Back*</td>
<td>79%</td>
<td>99%</td>
</tr>
<tr>
<td>Sleep location: Crib, portable crib or bassinet*</td>
<td>83%</td>
<td>99%</td>
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</table>

* Statistically significant differences between correct responses pre and posttest within group.
Other Initiatives to Address Key Drivers of Infant Mortality

- ↓ Smoking
  - e.g. Community Action Team nurse training program, Baby and Me Tobacco Free pilot

- ↑ Breastfeeding
  - e.g. High 5/Baby-Friendly hospital designations, Business Case for Breastfeeding, Wichita Breastfeeding Coalition
Conclusions

− Infant mortality is still an issue in Kansas and racial disparities are prevalent
− Despite the AAP recommendations, sleep related deaths continue to occur, the majority of which may be preventable
− Consistent messaging across the continuum of care is needed to impact behavior change
− New strategies and partnerships are needed to address key drivers
References


• Zero to One health disparities video. Team One. Will be available at: kidsks.org.
Questions?