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Increasing Safe Sleep in Arkansas: One Size Doesn't Fit All

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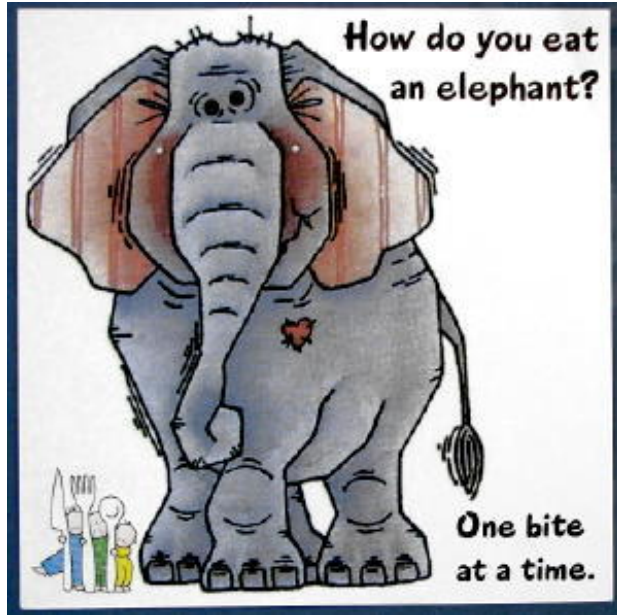
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How We Chunked It Down



- Need
- Research and Evaluation
- Community Collaboration
- More Research and Evaluation
- Hospital Initiatives
- More Community Collaboration
- Population Health
- And More Research and Evaluation

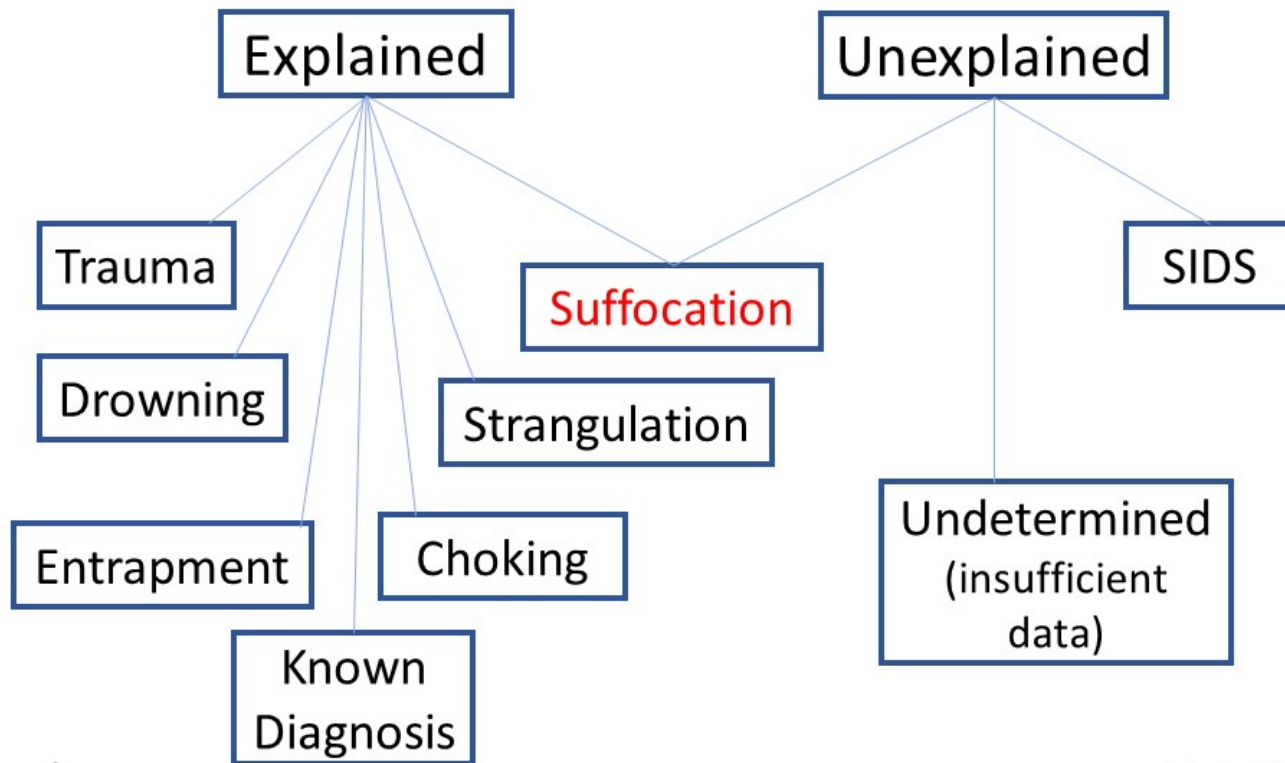
Infant Mortality

Five Leading Causes of Death Before 1st Birthday:

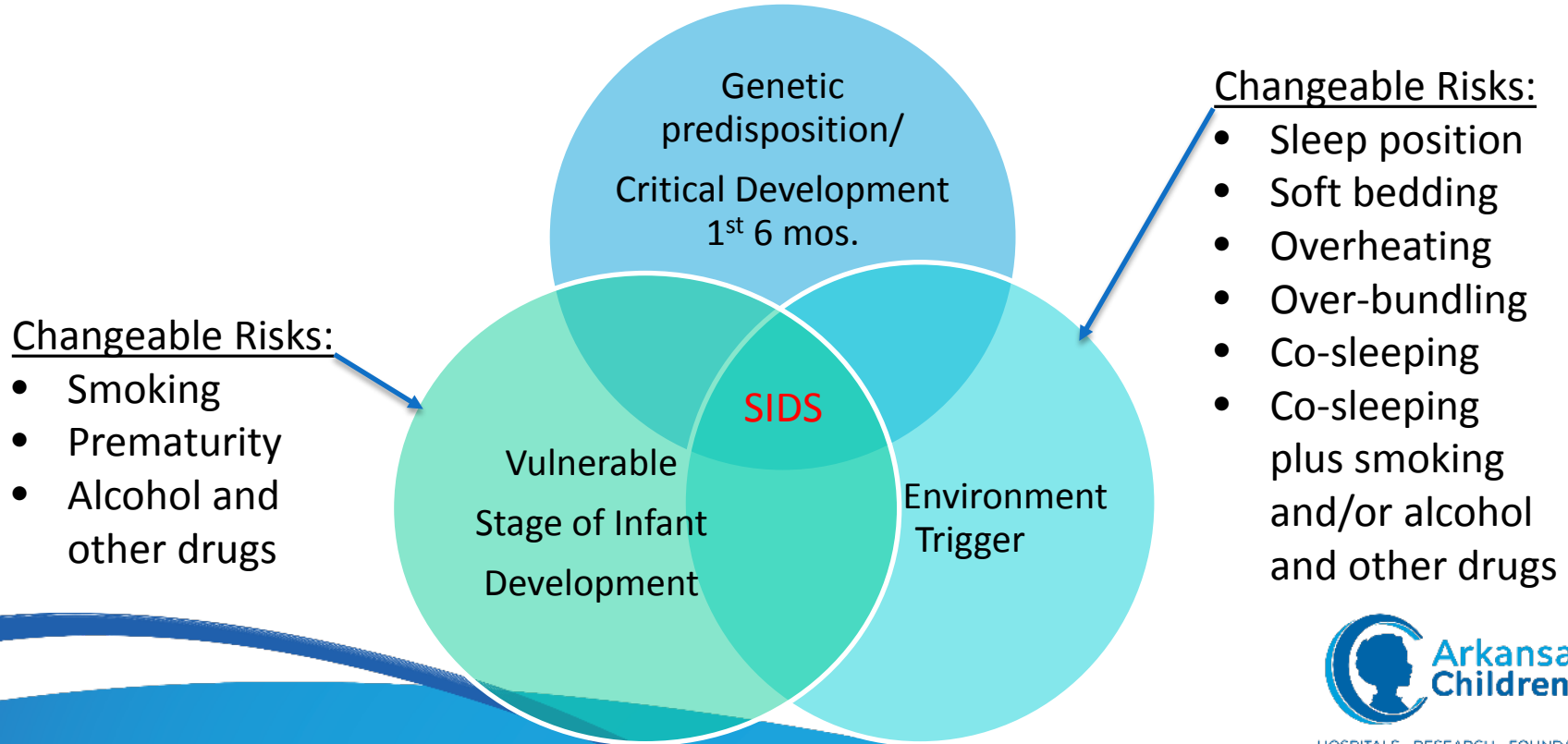
- Birth defects
- Preterm birth
- Sudden Infant Death Syndrome
- Pregnancy Complications
- Injuries



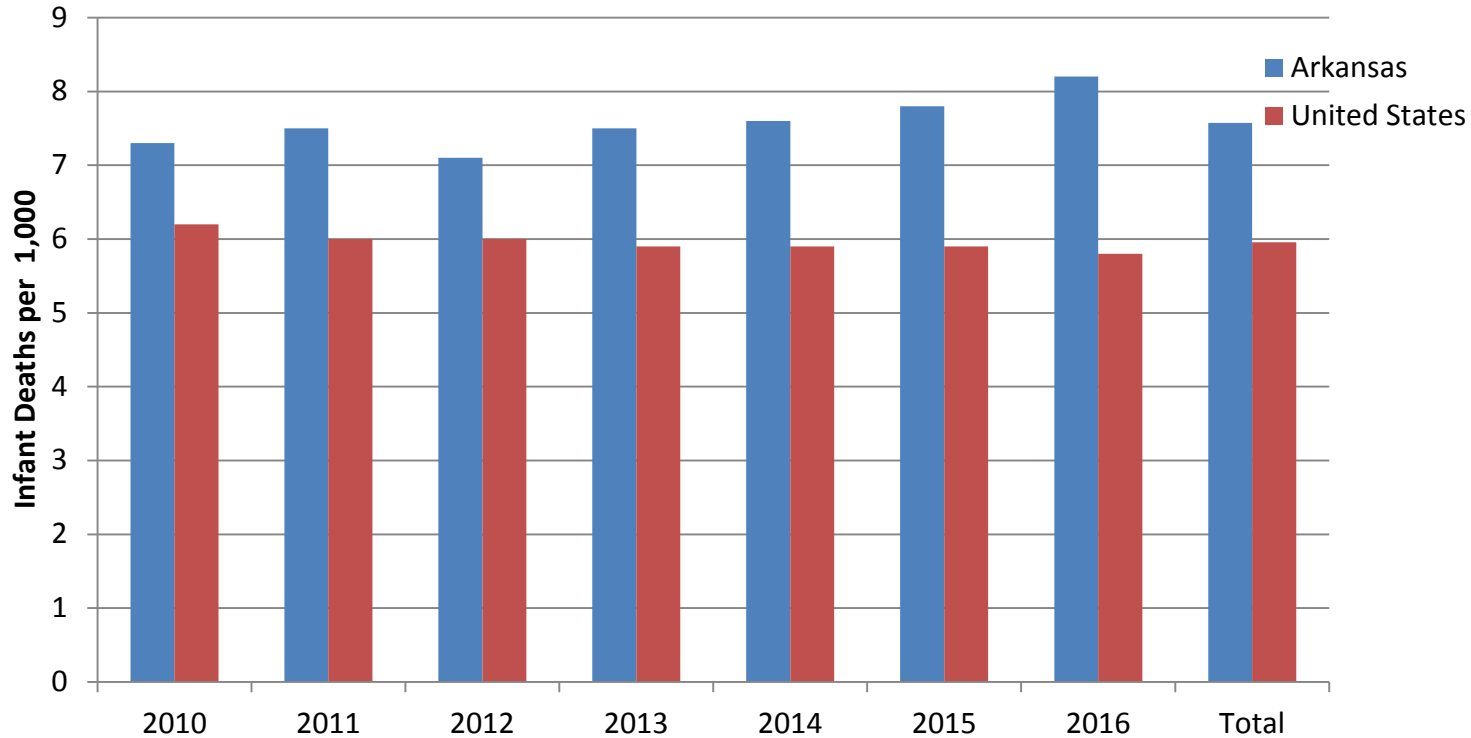
Sudden Unexpected Infant Death



SIDS Triple Risk Model

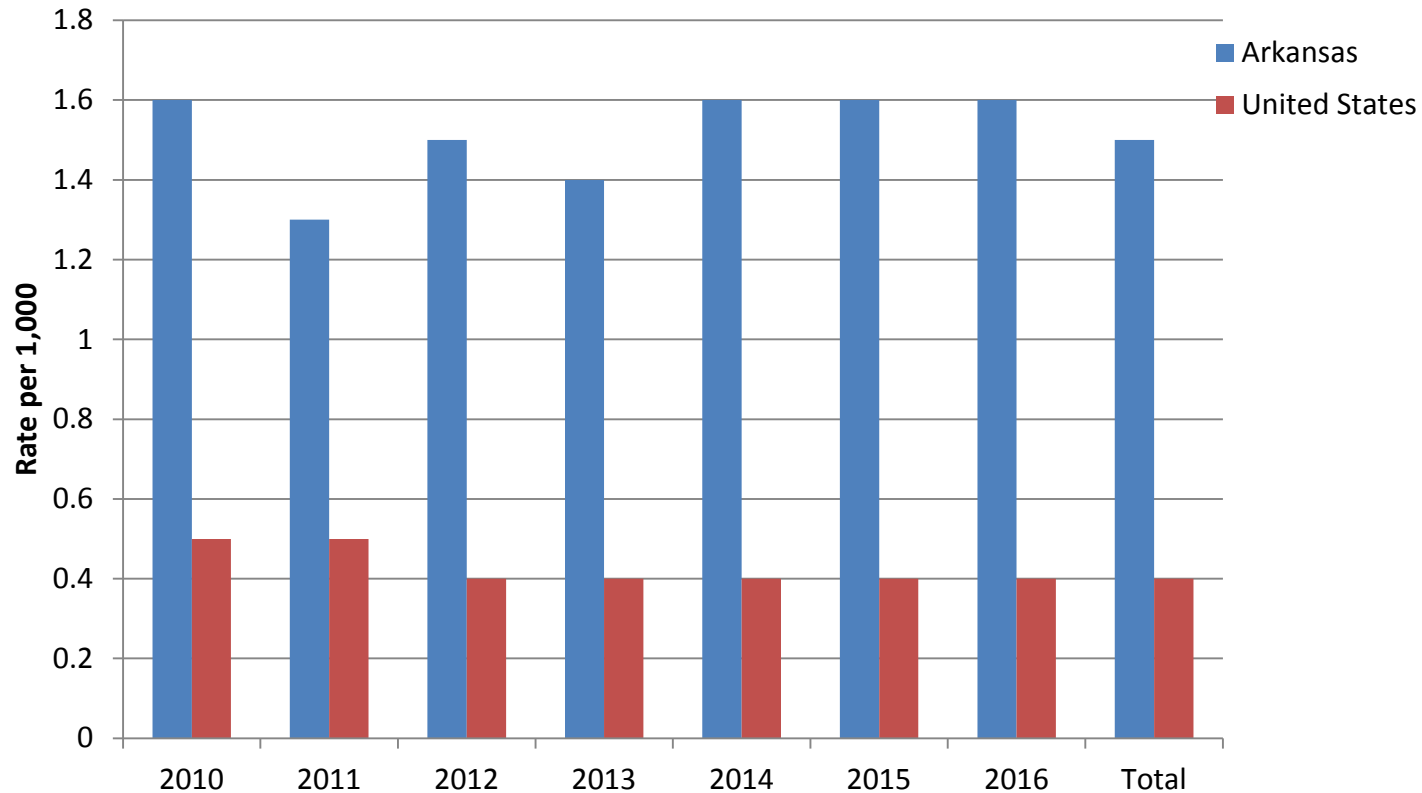


Infant Mortality, 2010-2016, Arkansas vs. United States

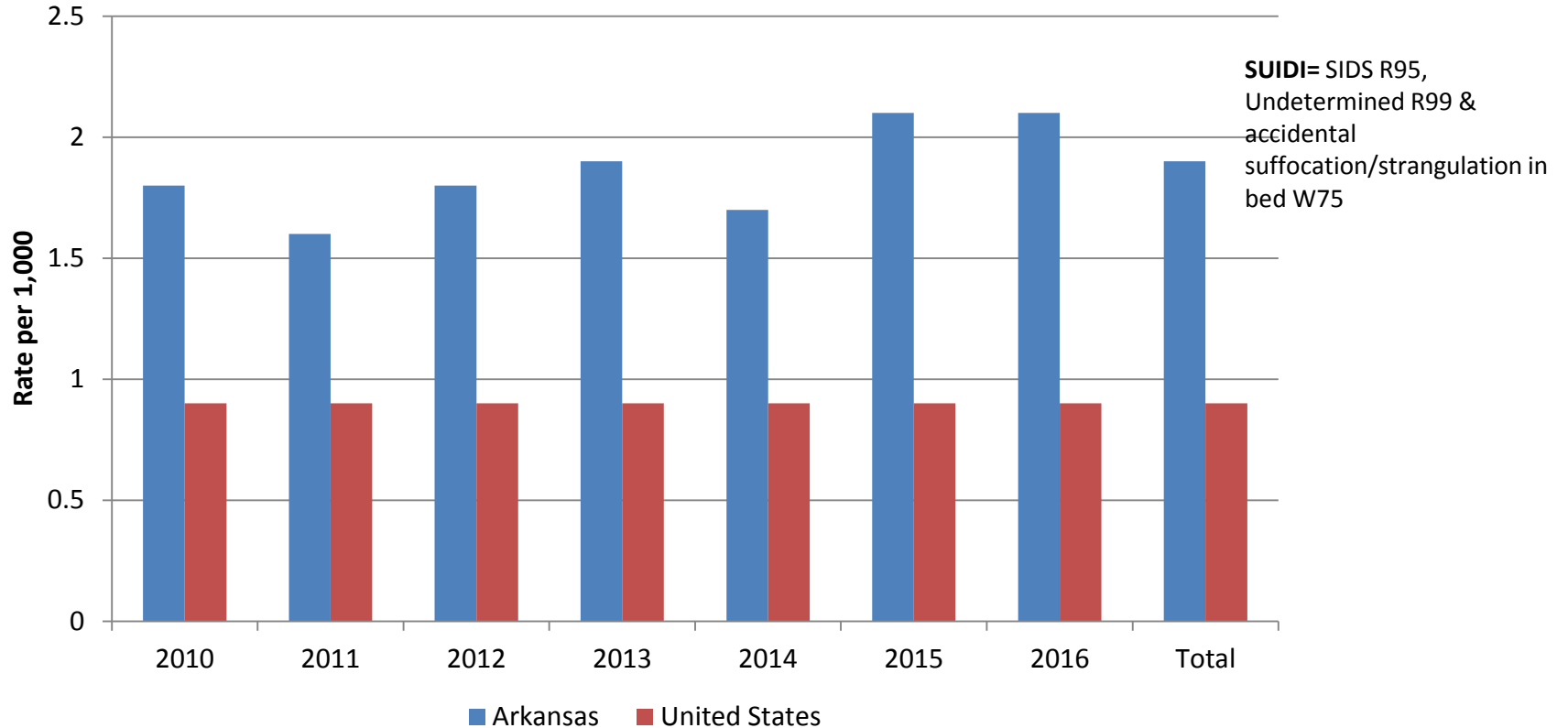


Source: Wonder Database, Centers for Disease Control and Prevention, National Center for Health Statistics, 2017

SIDS Related Deaths, 2010-2016, Arkansas vs. United States

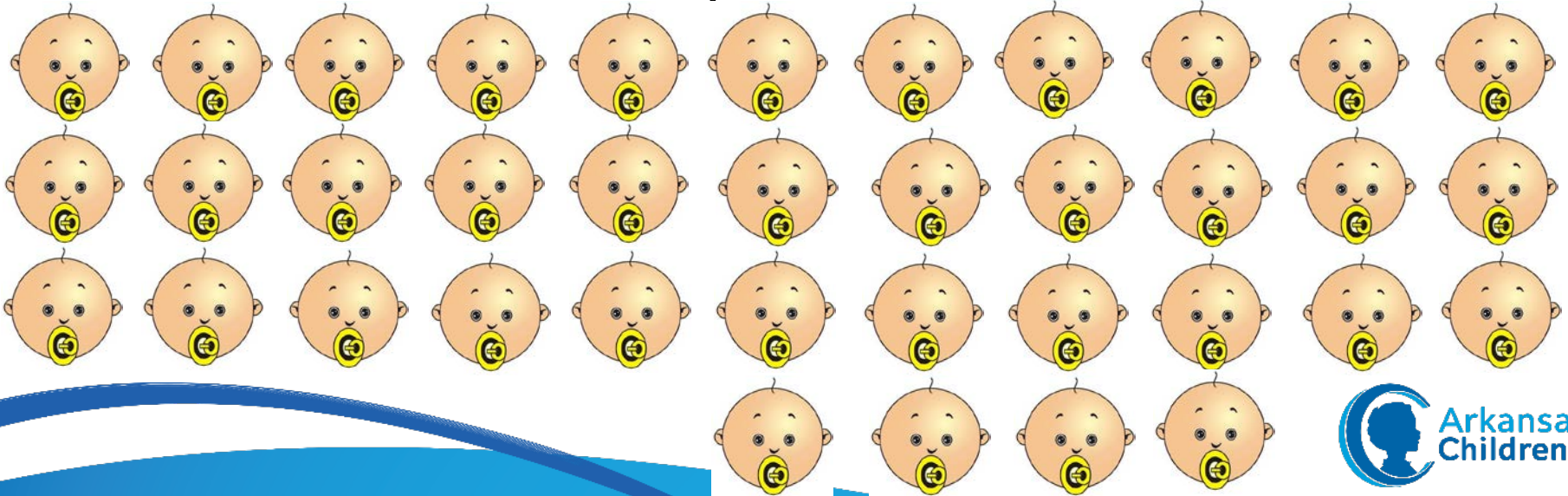


SUID Related Deaths, 2010-2016, Arkansas vs. United States



Impact of Matching National Rate of SUID Related Death

- AR SUID-related death rate is twice as high than the US
- Save 37-42 babies each year if AR rate = US rate



Safe Sleep Key Messages

- Back is safest
- Every sleep time counts
- Sleep surface and environment matters

Recommendations

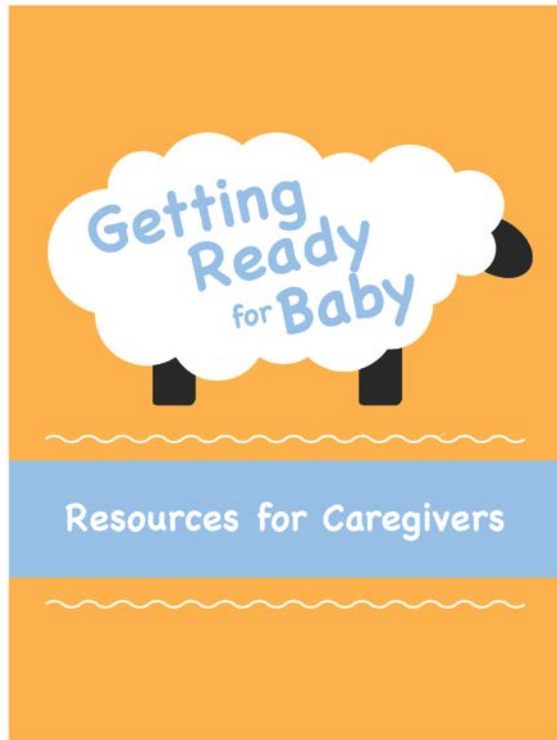
- Sleep on back until 1st birthday
- Use firm sleep surface
- Room share, not bed share
- No soft objects, loose bedding
- Offer pacifier at nap time and bedtime
- Avoid overheating

Recommendations

- No smoking during pregnancy and after birth
- No alcohol or illicit drugs during pregnancy
- Breastfeed
- Well-child visits
- Tummy time every day

Cautions

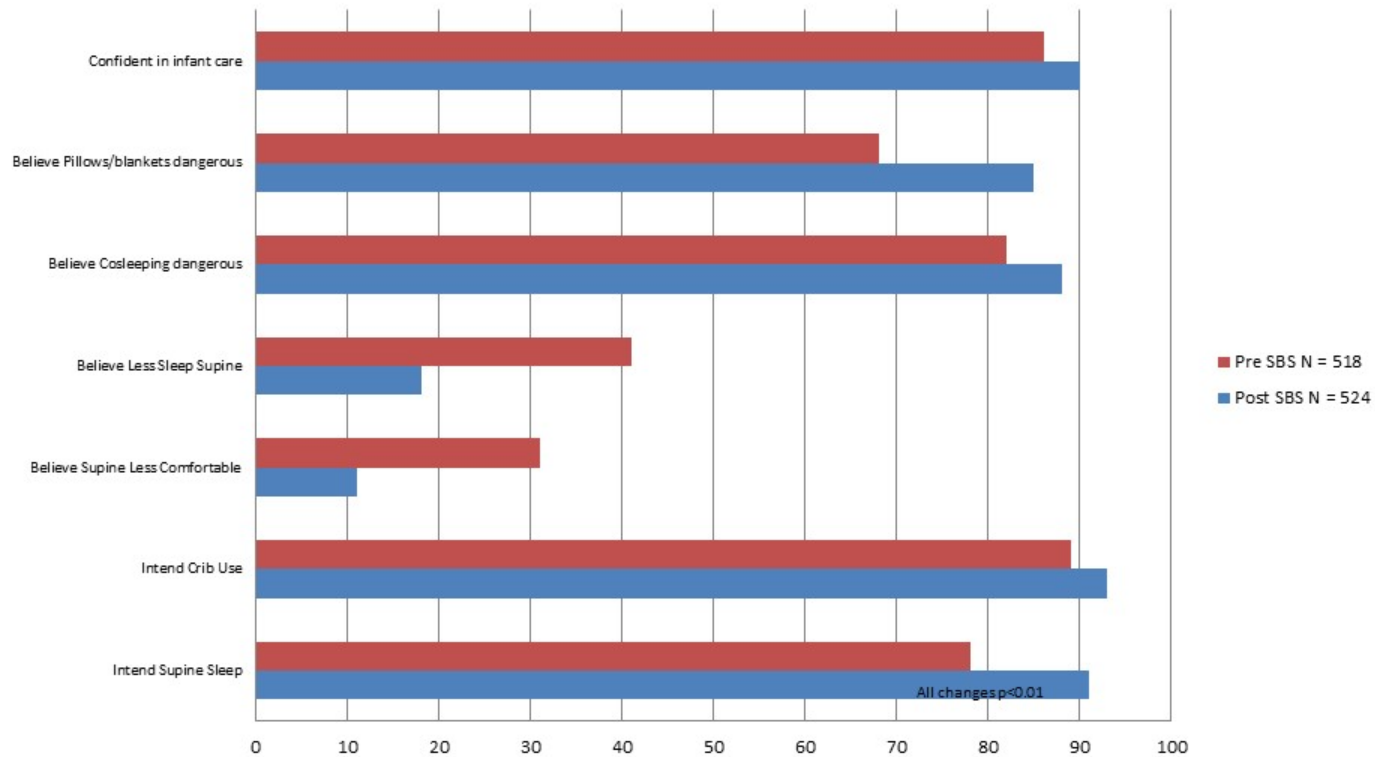
- Products that claim to reduce risk of SIDS have not been tested.
- Don't rely on home heart or breathing monitors.
- No studies have been conducted on bedside or in-bed sleepers.



Safety Baby Showers are a health educational program tailored for expectant mothers. Shower “gifts” may included:

- smoke detector
- water thermometer
- sleep sack
- portable play yards that can also be used as a safe sleep surface
- educational DVD on infant crying and coping strategies for the parent
- car seat for all children in the family
- refrigerator magnet for poison control
- Informational booklet for additional information and resources

Pilot Data



Validation of Parent Interview

- Children's University Group (Aitken, PI)
- Compare parent survey responses to observational assessment, including doll simulation
- 72 families believed to be at high risk for non-compliance

Results

Survey

- 39% supine every time
- 86% cribs with firm mattress
- 40% co-sleeping some of time

Observation

- 73% demonstrated with doll
- 60% cribs observed
- 37% used adult bed

Grandmother and Infant Safety

- Children's University Group (Aitken, PI)
- Survey: practice, attitudes, and belief around safe sleep
- 239 completed survey

Results

- Grandmothers do not universally practice safe sleep
- Only 45% place infant on back for sleep
- 5 times more likely to practice safe sleep if myths dispelled

Central Hypotheses



NICHD 5R01HD076702-01

Aitken, PI

H₁) Teen mothers exposed to an intensive educational intervention will be more likely than controls to appropriately adopt supine position and appropriate sleep environment with their infants

H₂) Because teen mothers will model their choice of infant sleep position and environment on behavior of their mothers or other significant female senior care givers (SCG), they will be more likely to use safe sleep practices when they and their SCGs also participate in tailored education about safe sleep



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Grandmothers' Perceptions:

1. Susceptibility to sleep-related infant death
2. Barriers to supine infant sleep position and appropriate sleep environment
(Health Belief Model)

Grandmothers' Beliefs:

1. Supine infant sleep position and appropriate environment can prevent infant death
2. Influence on teen mothers' behaviors regarding infant sleep
(Theory of Reasoned Action)

Grandmothers' Self-efficacy:

1. Promotion of desired infant sleep practices
2. Modeling of desired infant sleep practices
(Health Belief Model)

Grandmothers' Intentions:

1. Compliance with recommended sleep surface and environment
2. Accurate advice to teen mothers

Grandmothers' Behaviors:

1. Modifications to sleep environment
2. Consistent use of supine infant sleep position
3. Constructive feedback to teen mothers

Teen Mothers' Perceptions:

1. Susceptibility to sleep-related infant death
2. Barriers to supine infant sleep position and appropriate sleep environment
(Health Belief Model)

Teen Mothers' Beliefs:

1. Grandmothers' desire appropriate infant sleep position and environment

Teen Mothers' Intentions**Teen Mothers' Behaviors****Teen**

Who Can Participate



- Up to 400 pregnant teenage girls under age 20
- Each teen will choose a female support person age 30 or older to be in the study with her
- Teens must be between 13-28 weeks (4 months – 7 months) of pregnancy
- Pregnant with first child
- Live in Jefferson, Lonoke, Faulkner, Saline, White or Pulaski County

GIFTSS Research Study Activities

Before baby is born

After baby is born

Baseline Survey (First Survey)

Teen: \$25 Gift Card

Support Person:
\$25 Gift Card

Safety Baby Shower **or** Written Materials

Teen: Gifts valued
at \$50

Support Person:
\$25 Gift Card

Car Seat Check-up and Survey

Teen: Infant car
seat valued at \$75

Support Person:
\$25 Gift Card

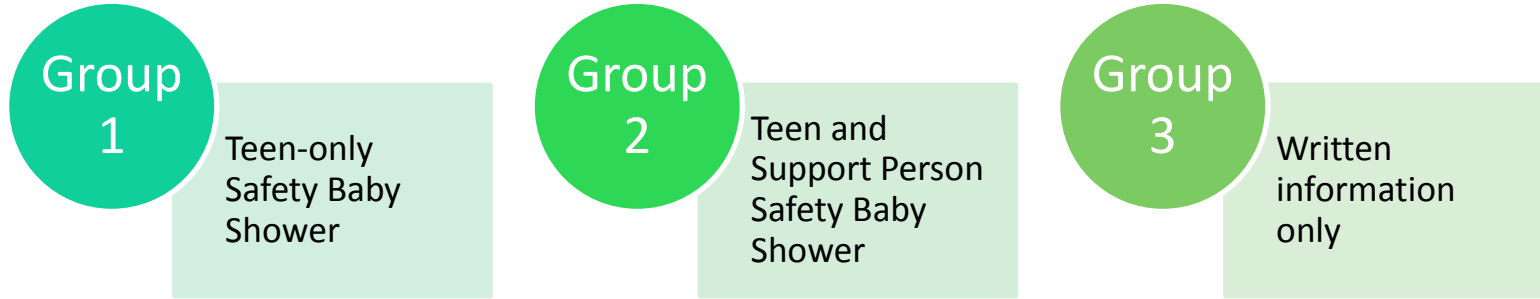
Home Visit

Teen: Gifts valued
at \$60

Support Person:
\$50 in Gift Cards



Not everyone gets a shower



Before Birth

After Birth

Group
1

Interest Session

Teen-Only Safety
Baby Shower

**Car Seat
Education**
2 weeks after
SBS – 2 weeks
before due date

**Home Visit + SP
Gift from Safety
Baby Shower**
2 weeks – 3
months after
baby is born

Group
2

Interest Session

Teen & Support
Person Safety
Baby Shower

**Car Seat
Education**
2 weeks after
SBS – 2 weeks
before due date

Home Visit
2 weeks – 3
months after
baby is born

Group
3

Interest Session

No Safety Baby
Shower

**Car Seat
Education**
Receive written
safety
information

**Home Visit +
Gifts from Safety
Baby Shower** 2
weeks – 3
months after
baby is born

GIFTSS Incentives



Teen Mom:

- ✓ Gifts valued at \$195
- ✓ \$25 Walmart Gift Card

Support Person:

- ✓ \$125 Walmart Gift Cards

Data Collection

Stage	Construct
Enrollment	Demographics
Baseline Assessment	Parenting Attachment Family Cohesion Mental Health Injury KABI
Interim	Repeat all scales except Mental Health
Post-partum Home Visit	Repeat all scales Observation Car seat assessment

Recruitment and Enrollment

- 342 referred, 47% eligible
- 37% enrolled (121)
- 36% loss rate
 - 26% don't attend activities, 10% have babies early
- 53% completed study to date (65)

Field Assessment of a Safe Sleep Instrument Using Smart Phone Technology

- Children's University Group (Nabaweesi, PI)
- 2 studies
- Determine if survey response or photos are adequate proxies for gold standard of observation of desired behavior

Results

- Study 1-observation vs. report
 - 78 completed both report and observation
 - Acceptable concordance for position, surface, and soft objects
 - Concluded: report is acceptable substitute
- Study 2-observation vs. report vs. photo
 - 36 completed report, observation and picture validation (9 sent additional pictures)
 - Concordance for position, surface and soft objects; no concordance for room or other hazards
 - Data analysis still ongoing

Improving Hospital Policies

2013

A task force was convened with nurseries from UAMS and ACH

Tool kit developed and implemented at ACH and UAMS

2014

ACH and UAMS submitted applications to Cribs for Kids to become a Certified National Safe Sleep Leader

Evaluated as a Quality Improvement Project (Rowe et. al., 2015)

2015

ACH and UAMS awarded Cribs for Kids certification as national safe sleep leaders

COIIN collaborative effort began at the ADH

Improving Hospital Policies (cont.)

2016

Electronic survey distributed to all birthing hospitals by the AR Hospital Association (27/40 birthing hospitals responded- 67.5% response rate)

Site visits to all birthing hospitals to provide safe sleep tool kit and encourage them to become safe sleep certified

2017

Conducted follow-up visits with birthing hospitals to assist with certification
Implemented updated safe sleep policy at ACH



COIIN Certification Outcomes

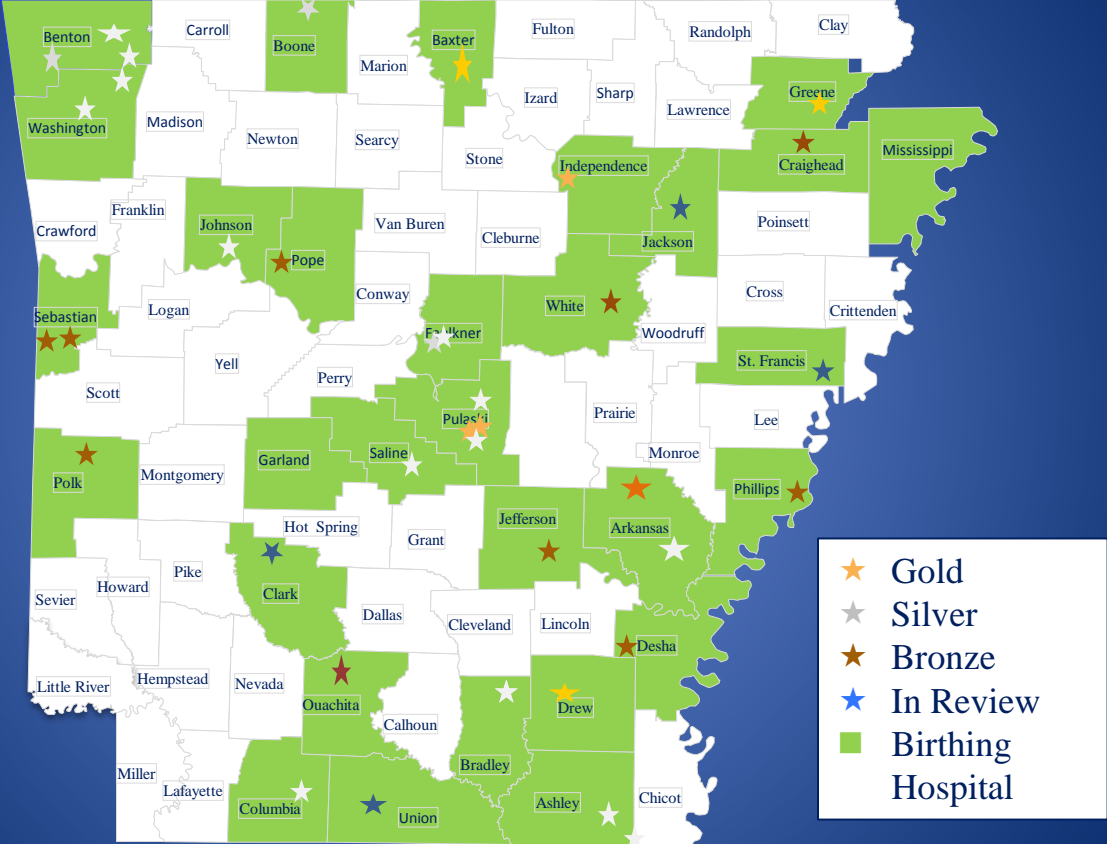
COIIN Goals

- Visit 40 birthing hospitals
- Certify 50% of birthing hospitals through Cribs for Kids

Results

- Visited 40 birthing hospitals
- 78% of birthing hospitals & ACH achieved Cribs for Kids certification
- 4 currently in review
- 5 currently in planning process

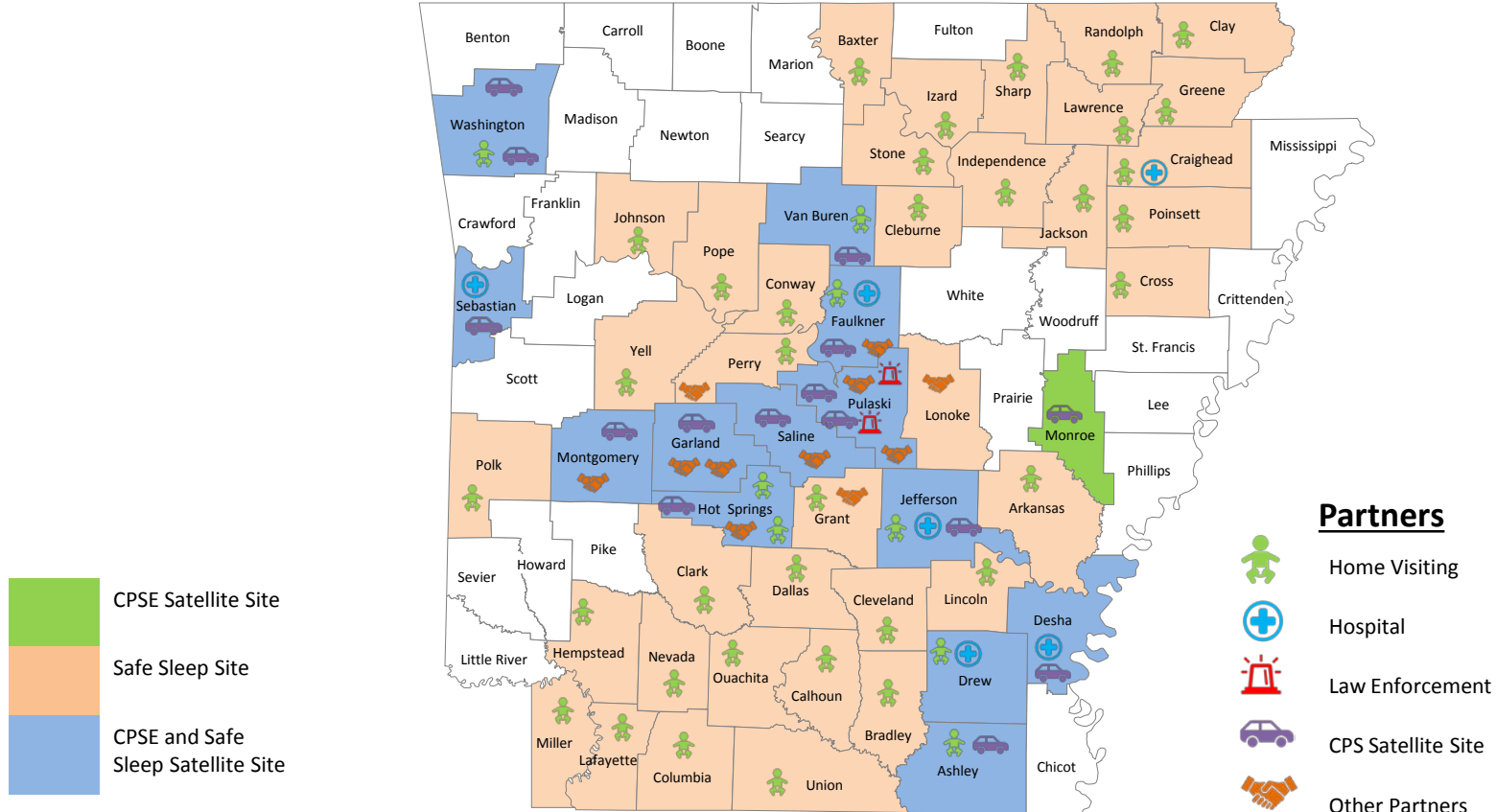
Arkansas Safe Sleep Certifications








CPSE and Safe Sleep Fitting Stations

- Began with IPC Fitting Station in 2015
- Expanded in 2016 to CPSE Satellite Sites
- Also expanded the safe sleep services to 5 additional sites (home visiting programs)

Satellite Sites



Partners

-  Home Visiting
-  Hospital
-  Law Enforcement
-  CPS Satellite Site
-  Other Partners

Infant and Child Death Review

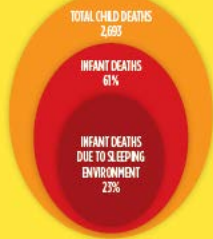
Approaches Used

- Awareness campaign
 - Kick off event
 - Brochure/door hanger/posters
 - Billboard/transport ads
 - Social Media/radio
- Evaluated with pre/post survey

Outcomes

- Governor proclamation
- 21,500 pieces print material
- 19 billboards & public transport ads in 4 regions
- 11 stations in 4 regions ran radio PSA

TOTAL PEDIATRIC DEATHS IN ARKANSAS
2010 - 2016, BIRTH TO 17 YEARS OLD



3 OUT OF 5 CHILD DEATHS IN ARKANSAS HAPPEN BEFORE THE CHILD'S 1ST BIRTHDAY

Sources: Arkansas Infant and Child Death Review Program/Arkansas Department of Health, Vital Statistics, Baby Backs, ages 18th - 17 years old, 2010 - 2016



ABC Website
archildrens.org/AloneBackCrib
Cribs 4 Kids
cribsfor4kids.org
NCHD
nchd.nih.gov/Pages/index.aspx



Alone. On their Back. In their Crib.



Alone. On their Back. In their Crib.

archildrens.org/AloneBackCrib



Alone. On their Back. In their Crib.

Visit www.archildrens.org/AloneBackCrib

PUT BABY ON ITS BACK TO SLEEP, INCLUDING NAPS

PLACE NOTHING BUT BABY IN THE CRIB, BASSINETTE OR PAC-N-PLAY

DO NOT PUT BABIES TO SLEEP IN AN ADULT BED EITHER ALONE OR WITH OTHERS

NO SMOKING ALLOWED



Alone.



On their Back.



In their Crib.

- Use the crib. Remove and adjust and never bedding like pillows, blankets, stuffed animals and bumper pads. These can suffocate or strangulate your baby.
- Reduce sleep apnea. Sleeping with your baby increases the risk of dying from sudden infant death syndrome (SIDS).
- Room share. It's better for sleep in the same room as your baby (room-sharing) but NOT in the same bed.



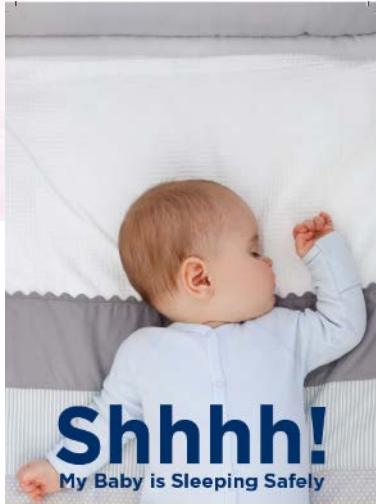
Alone. On their Back. In their Crib.

- Back to sleep. Always place your baby on its back for both nighttime sleep and naps.
- Tummy to sleep. Support tummy time while awake, helps your baby develop motor skills.

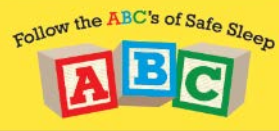
- Safe. A safely approved crib, bassinet or pack-n-play is the safest place for your baby to sleep.
- Firm. Use a firm mattress and fitted sheet in your crib, bassinet, or pack-n-play.

MORE KEY TIPS FOR A HEALTHY, HAPPY BABY

- Breast is best. Breastfeeding decreases a newborn's risk of SIDS and death.
- Smoking is bad. Second-hand smoke increases the risk of SIDS and death. Do not smoke anywhere in your home.
- Pediatrician. Pediatricians can reduce the chance of SIDS and death. Do not smoke in your home.
- Not too bright. Dress your baby in bright clothing, such as an onesie or pajamas.



Shhhhh!
My Baby is Sleeping Safely



Follow the ABC's of Safe Sleep



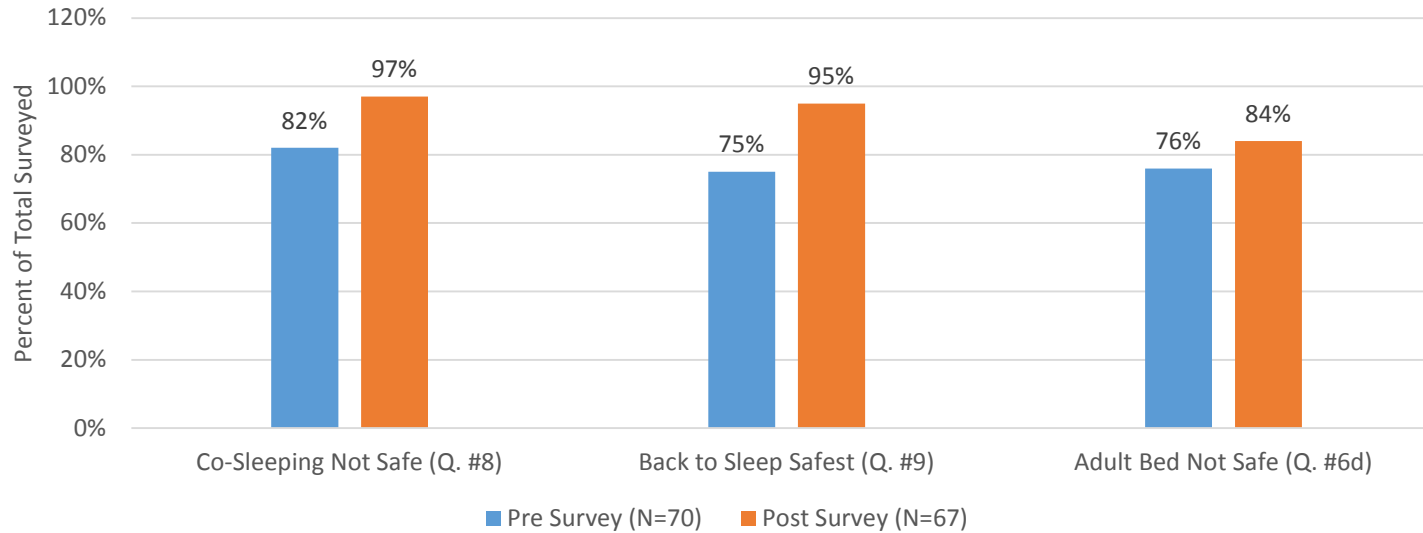
Alone. On their Back. In their Crib.



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Pre-Post Survey Results

Selected Results of ICDR Safe Sleep Pre and Post Survey



Safety Zone

- By referral for ACH patients
- Needs assessment and one on one education
- Replica of sleep environment for modeling
- Product distribution



NICU Showers

- Safe Sleep
- Crying Baby/ Period of Purple Crying
- Home Safety
- No CPS



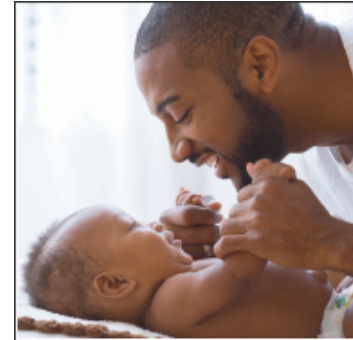
Paternal Perceptions of Infant Safe Sleep

- CJ Foundation for SIDS (Aitken, PI)
- Campaigns generally focus on maternal compliance
- Men contribute to intermittent sleep
- Lack of literature and messaging on nap sleep



Focus Group Format

- Health Belief Model framed development of the moderator guide
- Focus group session components
 - Participant demonstration of infant sleep environment
 - Discussion of infant sleep safety knowledge, susceptibility, severity
 - Moderator facilitation of sleep environment photos
 - Discussion of participant suggestions for outreach messaging for males and cues to action



Dialogue with Dads
About Safe Sleep

**Give us your take
on infant sleep**

RESEARCH STUDY GUIDELINES:

- Dads or male caregivers 18 years of age or older
- Child between 2 and 12 months old
- Provide direct care for the infant (e.g. feeding, changing diapers, etc.)
- Willing to share your thoughts and opinions
- Gift cards for participation



Research Institute

FOR MORE INFORMATION:

(541) 364-3400
Paternal Perception of
Infant Safe Sleep,
Principal Investigator:
Mary E. Walton, MD

Participants

Demographics

- 10 focus groups, 46 participants
- 65% father/stepfather, 21% other family; 14% friend
- 67% African American, 33% Caucasian
- Ages:
 - 33% 18-29 years
 - 51% 30-49 years
 - 15% 50 years or older

Caregiving Roles

- Both stay-at-home and working fathers
- Majority provided some infant care
- Responsibility in infant sleep
 - Most night sleep
 - Most middle of night relief
 - Not all responsible for day sleep

Demonstration of Infant Sleep

- Most demonstrated back to sleep
- Most used appropriate surface for night sleep
- Frequent co-sleeping reported
- Soft items used for perceived comfort
- Rarely used pacifier
- Poor sleep hygiene reported
- Day sleep reported to be place of convenience

Attitude and Beliefs

- Lack of perceived susceptibility to sleep-related deaths
- Attempts to mitigate risk of injury common
- Frequent expressions of myths and home remedies

“I think it’s hokum...I think a very minute small percentage of babies have been harmed by these crib bumpers it just wild spread across the nation.”

“...we gonna let God take course.”

“A crib is not a good idea...it doesn’t bring a close relationship with the child and mom and dad.”



Co-Sleeping

“We kinda decided to go with the co-sleep because we [me & wife] don’t move when we sleep, when we pass out we kinda wake up in the same position, ... so, it’s never been an issue as to we’re scared of rolling over on the child...and she’ll sleep in between my arms, so this kinda would be the cradle.”

“I just feel better if you have them in bed with Daddy than the crib.”

“...kids be climbing on the crib, heads getting stuck between the bars...so we just cut all through that.”



Knowledge

- Most had a little basic knowledge
 - Position
 - Location/sleep surface
 - Appropriate dress
- Most lacked knowledge
 - Soft objects, soft surfaces, and co-sleeping risks
 - Science behind recommendations



Barriers to Safe Sleep

- Outside influencers
- Conflicting messages
- Lack of knowledge
 - scope of the problem
 - mechanics of injuries
 - evidence behind recommendations
- Situational/convenience
- Financial constraints implied

“...my momma...had her just layin’ on the couch with a pillow under her head.”

“It’s really hard to change once you’ve parented one kid through.”

“It’s constantly like you’re winging it...it’s not always really clear, different things we read will say different things.”



Future Messaging: Content/Tone

- Real men, caring dads, involved from birth
- Statistics, factual, brief
- Appeal to emotions
- Visuals and testimonials

“...play towards that new found sense of pride and responsibility protecting the home front.”

“This is your little one and you’re the dad...you’ve got to make sure this house is protected.

“I can tell you one thing I don’t wanna see...I don’t wanna see things where dad’s an idiot; a bumbling idiot.”

Conclusions

- Messages must respond to generational and cultural beliefs
- Messages must be tailored to the audience
- Messages must be reinforced and consistent
- Take advantage of opportunities
- Empower others to promote the message

IPC Safe Sleep Team

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