


TAKING IT TO THE STREETS...SAFE SLEEP PRACTICE IN THE HOSPITAL: A SUCCESSFUL EBP QI PROJECT

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AWHONN 2015 Best
Evidenced Based
Quality Improvement
Project

Problem Statement

- Infants are dying in Richmond County and in Georgia at rates higher than the United States due to SUID/SIDS/ASSB
 - Due to unsafe sleep environments
 - Preventable deaths
- The AAP updated recommendations in November 2011
 - AAP recommendations are not being followed by parents and caregivers as evidenced by Child Fatality Data obtained

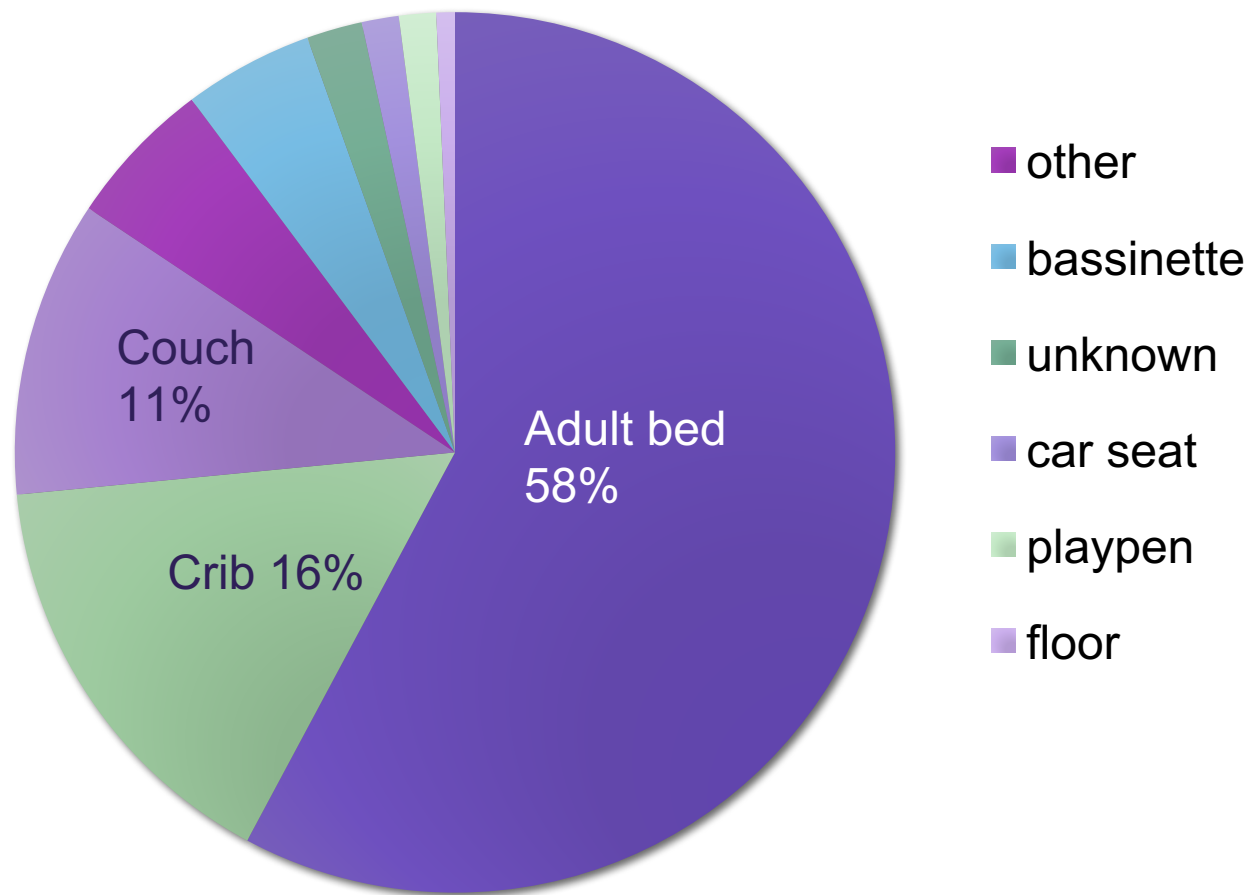
Deaths/100,000 births US, Georgia and Richmond County



Infant Deaths: Richmond County

- Child Fatality Review Committee
- 2009-2013 Infant Deaths
- Due to SUID, SIDS, ASSB
 - 94% sleeping in unsafe sleep environment
 - 68% sleeping in adult bed or on couch
 - 67% smoking in household
 - 87% < 6 months old
 - 74% male

2012 Georgia Sleep-related infant deaths (location at time of death)



2013 Georgia Sleep-related infant death statistics

- 139 deaths
 - 79 found on adult bed or couch (57%) compared to 69% in 2012
 - 57 (72%) sleeping with adult at time of death
 - 47% found on stomach at time of death (39% 2012)
 - 12% non-parental caregivers at time of death (grandparent, other relative or babysitter)
 - 12% caregivers < 20 y/o; 66% 20-29 y/o

Literature Review Summary

- Increased compliance with use of safe sleep environments after discharge correlated with:
 - Safe Sleep education prior to discharge
 - Role modeling of a proper sleep environment by staff in the hospital
- Interventions not costly
 - Educating professionals increases their comfort in educating parents
 - Evaluation and update of current practices effective in promoting AAP 2011 recommendations


DNP Project Purpose

- To prevent sleep related infant deaths through updating practice standards
- To educate Nurses, Physicians and Perinatal Unit staff about Safe Sleep Environments to enhance their role in educating new parents and families

1. Evaluation of current safe sleep promotion in hospital

- No Safe Sleep policy or guidelines
- Limited patient education material available
- Review of de-identified *Unit Quality Improvement* aggregate data on infant sleep positions, sleep environments and documentation of parent Safe Sleep education

2. Updating of Safe Sleep Policy/guidelines and patient education materials to incorporate 2011 AAP recommendations



- Results of evaluation presented to Children's Hospital of Georgia Administration Team
- Safe Sleep policy written
- Safe Sleep Patient Education and sleep environment documentation revised
- Patient education material chosen by Patient Advisors

New Safe Sleep Policy

- Babies to sleep alone on their back in crib
- No objects in crib
- Bulb syringe in bassinet drawer
- No cribs elevated unless by MD order
- All parents to have Safe Sleep education before discharge

Patient Advisor 1st and 2nd choices 8th grade reading level

¿Cuál es la apariencia de un ambiente seguro para dormir?
Proteja al bebé del síndrome de muerte súbita del lactante y de otros causas de muerte relacionadas con el sueño.

Safe Sleep For Your Baby

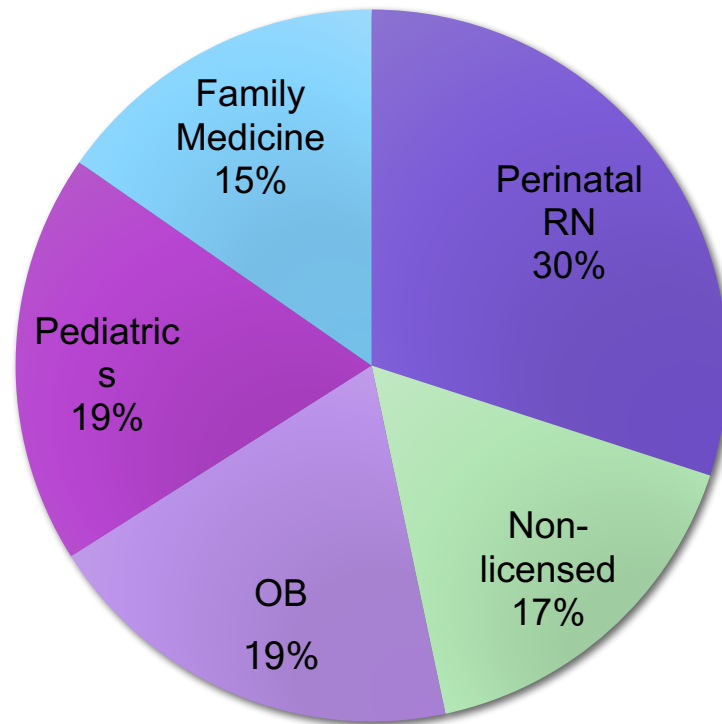
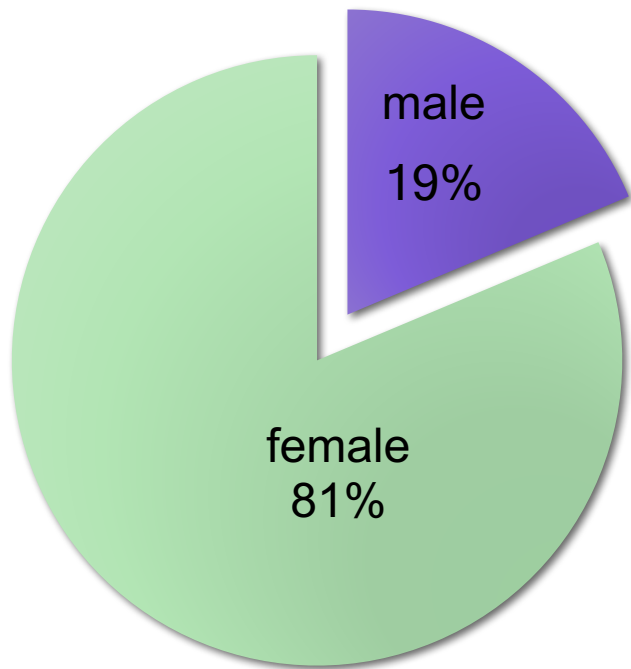
Reduce the Risk of Sudden Infant Death (SIDS) and Other Sleep-Related Deaths

SAFE TO SLEEP

3. Provide educational sessions to Nursing and Medical Staff

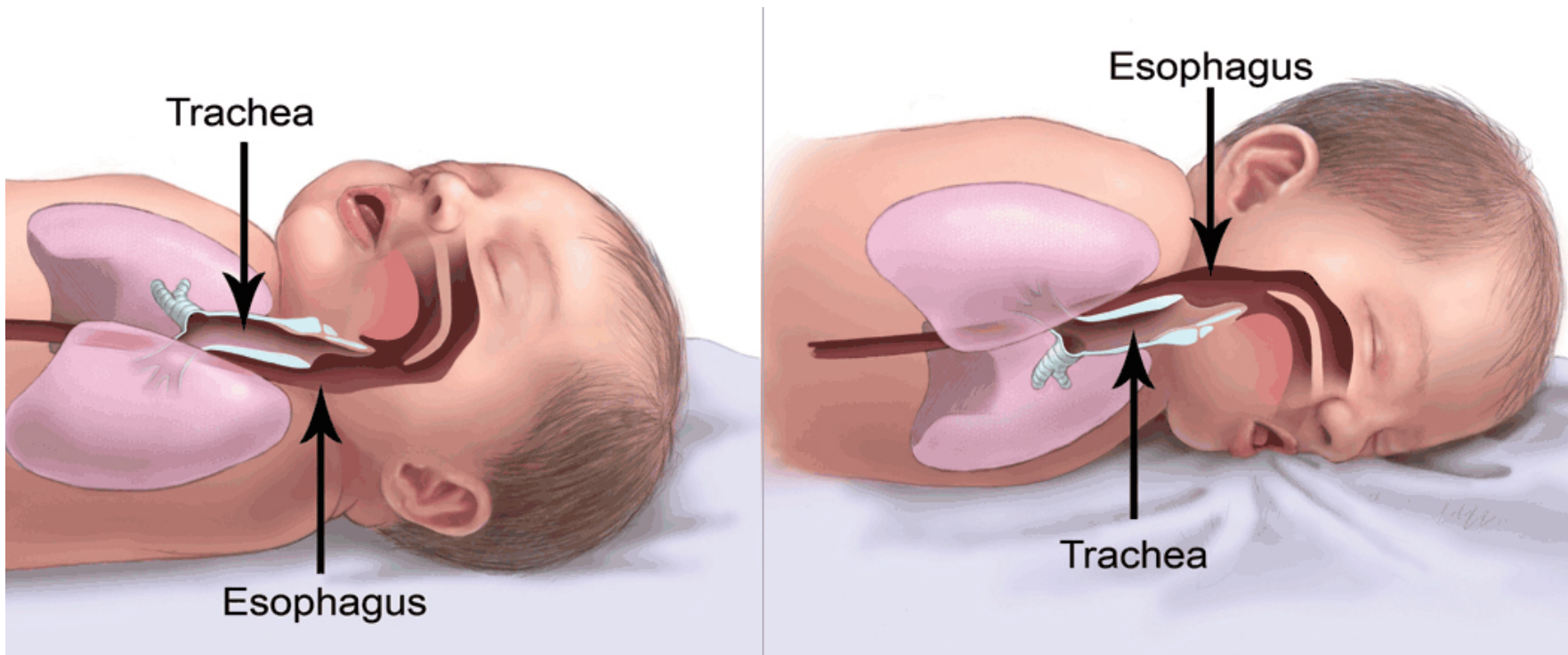
- Improve knowledge of current AAP recommendations and rationale for a safe sleep environment
- Promote consistent **role modeling** of and **education** about a safe sleep environment for the parents and families of well newborns while in the hospital after birth
- Over 150 persons educated in 20 minute sessions over 3 month period

Demographics of Educational Session Participants



EDUCATIONAL SESSION (SAMPLES)

Risk of choking and aspiration NOT increased with supine sleep



Esophagus on top of trachea when prone making it EASIER for child to aspirate

- Image courtesy of the Safe to Sleep® campaign, for educational purposes only; Eunice Kennedy Shriver National Institute of Child Health and Human Development, <http://safetosleep.nichd.nih.gov>; Safe to Sleep® is a registered trademark of the U.S. Department of Health and Human Services

But my baby sleeps better on its stomach....

- Yes...due to decreased arousal on stomach from rebreathing expired gases
- Decreased cerebral oxygenation
- Overheating occurs more on stomach
- Waking every 3-4 hours is normal
- Ability of baby to arouse easily in sleep is a protective mechanism

Room sharing without bed sharing

- Have infants crib or bassinet in same room as the parents
- No sleeping with twin in bed.
- Sleeping in an adult bed increases risks of entrapment and suffocation by bedding or by other persons (adults, siblings, pets)

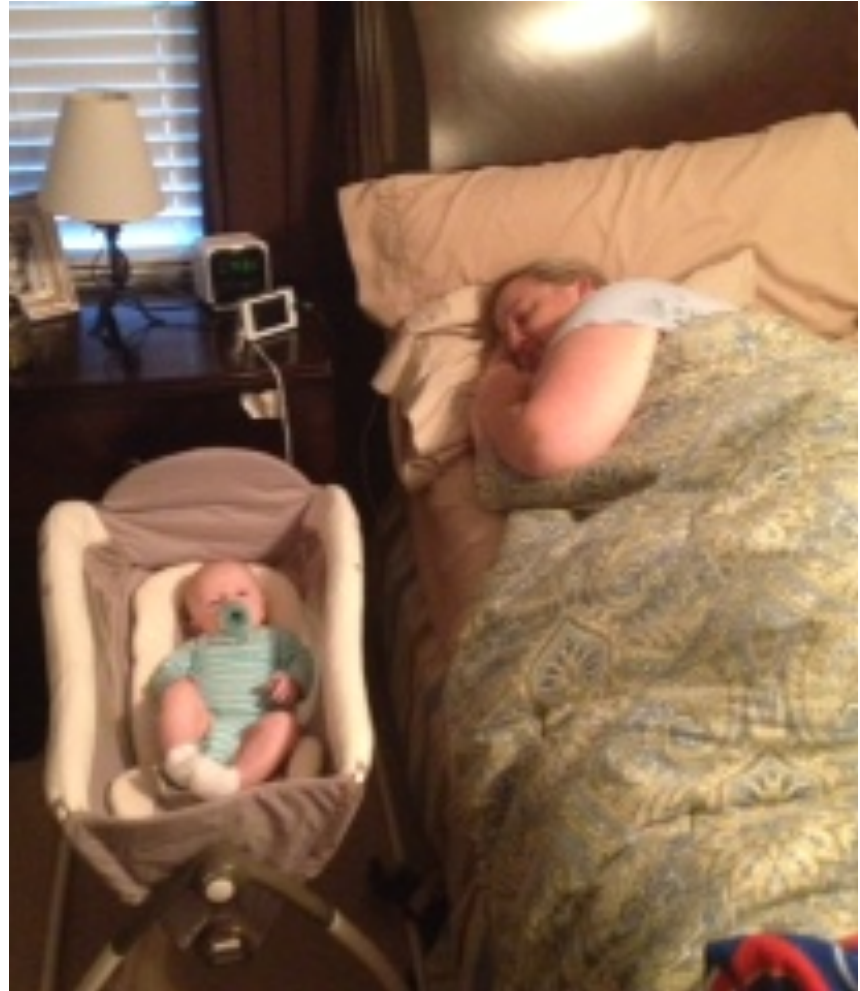


Photo courtesy of Andrea, Damon and Owen Putzier

Avoid smoke exposure during pregnancy and after birth

- Infants bed sharing with a smoker greatly increases risk of death
- Risks also include:
 - secondhand smoke during pregnancy
 - third hand smoke lingering in hair, fabric, clothing, cars, furniture
- If people must smoke around baby, they need to change clothes before handling baby again



Consider offering a pacifier

- Pacifiers have shown to be protective against SIDS
- Offer a pacifier but do not force it, nor reinsert it when it falls out
- Wait until baby is at least 4 weeks old if you are breastfeeding



#16 Health Care Professionals

- Health care professionals, staff in Newborn Nurseries and NICU's and child care providers should endorse the SIDS risk reduction recommendations from birth
 - Newborn Nursery staff should model the AAP recommendations at birth and well before discharge
 - All health care professionals should receive education on safe infant sleep

#17 Media and Marketing

- Should follow safe sleep guidelines in their messaging and advertising



Not this.....



- Pacifiers should not be attached to a string or a stuffed animal
- They look cute but.....

Photo courtesy of Katie Pritchard and Cole

WHAT NOT TO DO

Do not elevate head of crib

HOSPITAL
BASSINET
HIRE







No evidence that “safe for bed-sharing”
devices work



#10: Avoid overheating

- Overheated babies at increased risk of death
- Infant's chest should not feel hot
- Do not over bundle
- Keep room temperature comfortable for adult



Unaccustomed prone sleeping

- Baby usually placed to sleep supine has 18x increased risk of death when placed to sleep prone
- Many stories where babies who have slept on their back since birth died of SIDS during their first week of day care (stress? parental separation? and placed prone)

Educational Survey : Sample (pre/post educational presentation)

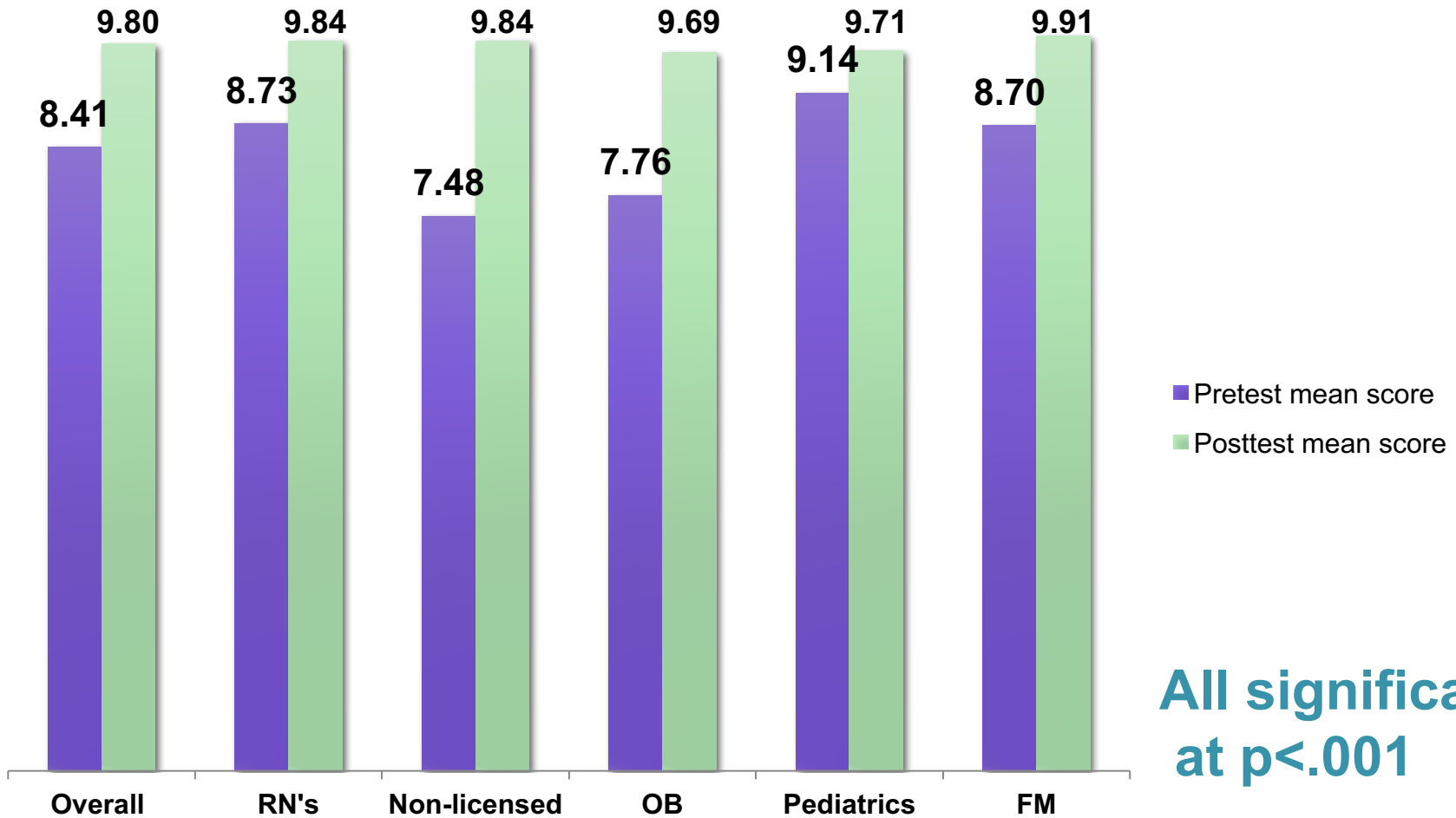
1. Do you believe that sleeping on the stomach (or side) places healthy babies at risk for SIDS and sleep related deaths? Yes Maybe No

2. The risk of a baby choking and aspirating is greater when they sleep on their back. Yes Maybe No

3. Being around people who smoke outside (not around the baby) increases an infant's risk of death.
Yes Maybe No

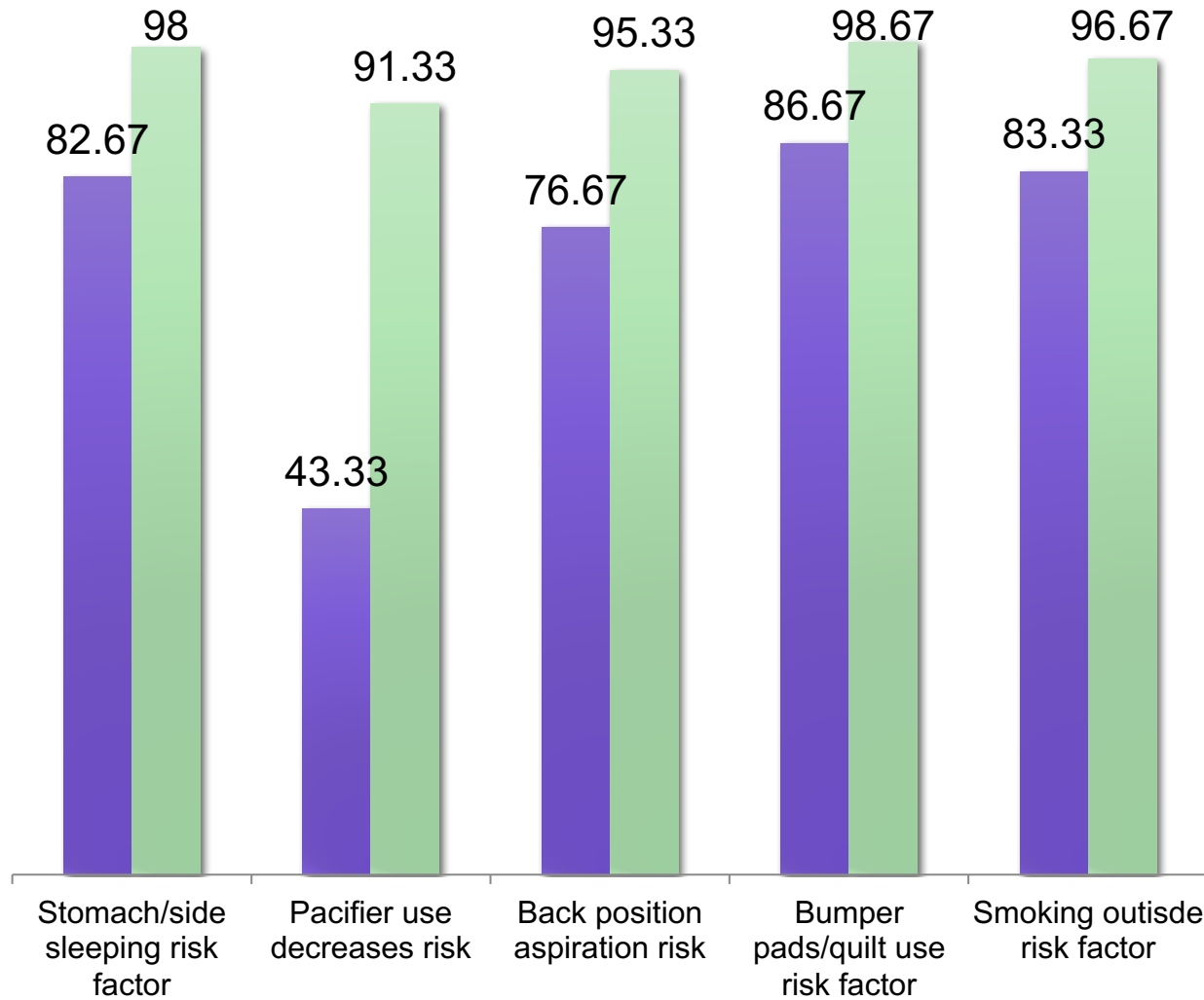
Results: Educational Survey

Mean Scores (range 1-10)



All significant
at $p < .001$

Results: Educational Survey



■ Pretest % correct
■ Posttest % correct

All significant
at $p < .001$

4. Evaluation of Safe Sleep practice standards after the Education Sessions

- Review of new *Unit Quality Improvement* data on infant sleep positions, sleep environments and documentation of parent education about Infant Safe Sleep practices.
- Statistical analysis of pre and post educational session and *Unit Quality Improvement Data*.

Results: Chart Audits of documentation of Safe Sleep Patient Education

Education N = 82	Pre- implementation	Post- implementation	P value
Sleep position	69	82	
Avoid smoke	28	79	<.001
Room sharing not bed sharing	14	79	<.001
Firm crib mattress	0	81	***
No objects in crib	0	81	***
Pacifier education	0	79	***
Avoid overheating	0	78	***

*** significant but no p value since 0 starting number***

Results: Chart Audits of documentation of a Safe Sleep Environment

N = 82	Pre-implementation	Post-implementation	P value
Safe Sleep position	25	55	<.001
Safe Sleep environment	0	82	***
Discharge Safe Sleep Education	23	31	.002

significant but no p value since 0 one of the numbers

Results: Crib Observations

	Pre- implementati on (n=70)	Post- implementati on (n=81)	P value
Babies sleeping in a safe sleeping position	45 (64.3%)	76 (94%)	.002
	Mean Pre- implementati on (n=116)	Mean Post- implementati on (n=116)	P value
# of objects in crib	2.9	.39	<.001

Results: Crib Observations

# cribs with specific object N= 116	# Pre-implementation	# Post-implementation	P value
Bulb syringe	87	4	<.001
Pacifier	50	11	<.001
Hat	15	3	.008
Hospital blankets	35	1	<.001
Footprint sheet	13	2	.007
Thick blankets	10	2	.022

Summary of Interventions

- **Education** of all Perinatal Unit Staff and Pediatric, OB and Family Medicine Physicians (May-June 2014)
- New **Patient Education** Materials (June 2014)
- Implementation of **Infant Safe Sleep Policy** for the Perinatal Unit (July 2014)
- **Education** of new interns in Peds, OB and FM (July 2014)
- Improved **documentation** options for Nursing (July 2014)

Implications for Healthcare Professionals

- Safe Sleep interventions will save lives
- Interventions are simple and inexpensive.
- Role modeling of newborn sleeping alone, on the back, in a crib easily integrated into care 24/7 by nurses, MD's and non-licensed staff
- The public trusts nurses and listen to what nurses have to say.
- Particular attention and future research needs to concentrate on high-risk groups: African-Americans, Native Indians, Native Alaskans
- Following County, State, National Statistics can provide feedback on progress and trends.

Child Care considerations

- Non-parental caregivers care for 2/3 of infants less than 12 months of age while mothers work or are at school
- Babies are placed into child care at 6-12 weeks when they are most vulnerable to SIDS
- Most states have laws regulating infants being put on their back to sleep and making Safe Sleep education mandatory for Child Care providers
- Unaccustomed prone sleeping connected with increased risk of sleep-related deaths

DEATH SCENE INVESTIGATION PHOTOS

Dolls used to recreate where baby was found

Gary Freed, MD
Children's Healthcare of Atlanta
Georgia Safe Sleep Coalition

Crib with bumper pads, quilts, pillows



Baby found face down on pillow



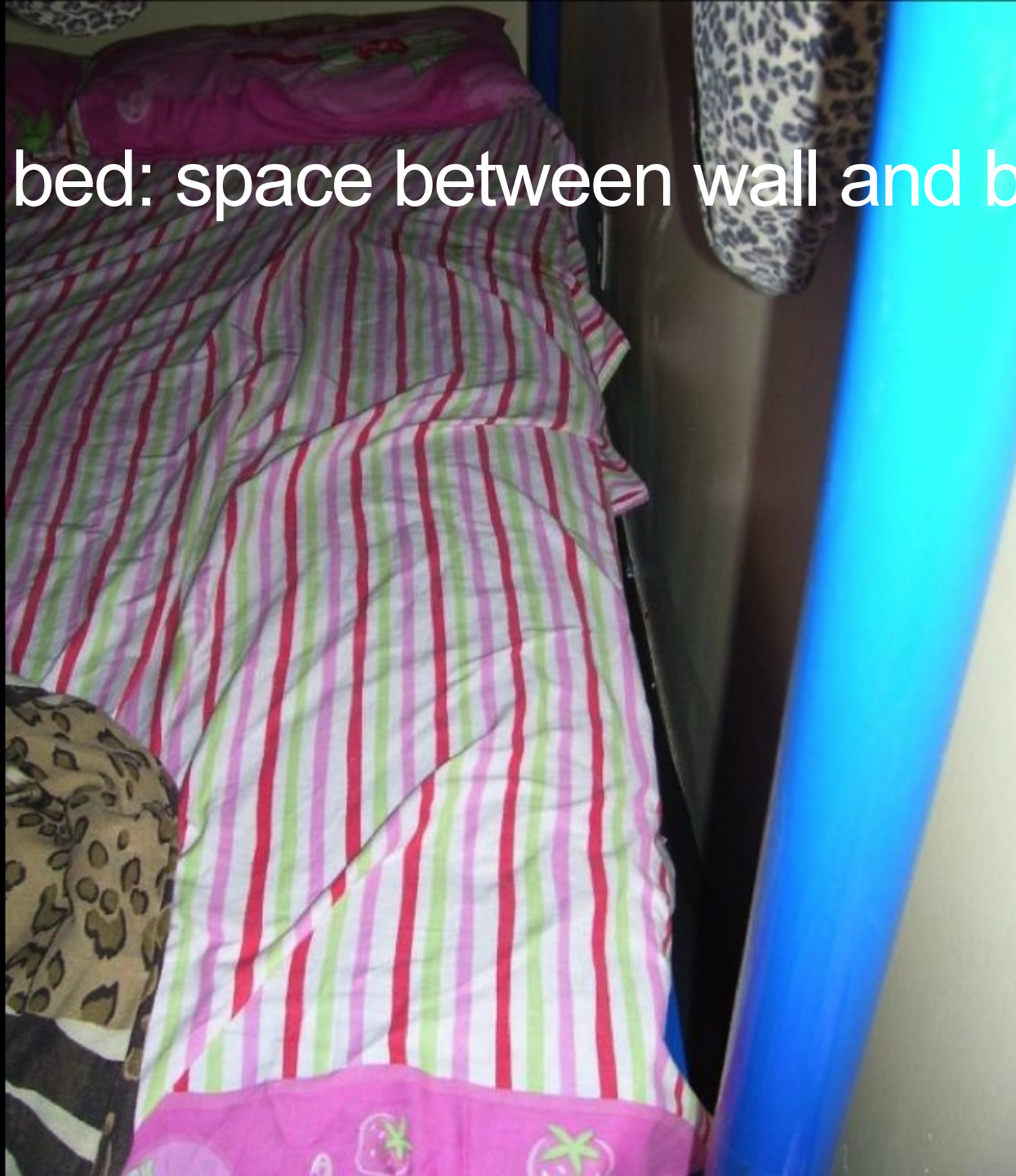
Crib with bumper pads, quilt, pillow, blanket and stuffed animal



Baby found face down on pillow



Adult bed: space between wall and bed



Infant wedged between wall and bed



Pillows and blanket used to “hold” baby in place



Baby found wedged between mattress and headboard



References

- American Academy of Pediatrics (2012) A parent's guide to safe sleep [Fact Sheet]. Retrieved from <http://www.healthychildcare.org/pdf/SIDSparentsafesleep.pdf>
- American Academy of Pediatrics Task Force on Sudden Infant Death Syndrome. (2011). SIDS and other sleep-related infant deaths: Expansion of recommendations for a safe infant sleeping environment. *Pediatrics*, 128, 1030-1039. <http://dx.doi.org/10.1542/peds.2011-2284>
- American Academy of *Pediatrics* Task Force on Sudden Infant Death Syndrome. (2011). Technical report: SIDS and other sleep-related infant deaths: Expansion of recommendations for a safe infant sleeping environment. *Pediatrics*, 128, e1341-e1367. <http://dx.doi.org/10.1542/peds.2011-2285>
- Burd, L., Peterson, M., Cedar Face, G., Cedar Face, F., Shervold, D., & King, M. G. (2007). Efficacy of a SIDS risk factor education methodology at a Native American and Caucasian site. *Maternal Child Health Journal*, 11, 365-371. <http://dx.doi.org/10.1007/s10995-007-0182-7>
- Dearholt, S. L., & Dang, D. (2012). *Johns Hopkins Evidenced Based Practice Model and Guidelines* (2nd ed.). Indianapolis, Indiana: Sigma Theta Tau International.
- D'Halluin, A. R., Roussey, M., Branger, B., Venisse, A., & Pladys, P. (2011). Formative evaluation to improve prevention of sudden infant death syndrome (SIDS): a prospective study. *Acta Paediatrica*, 100, e147-e151. <http://dx.doi.org/10.1111/j.1651-2227.2011.02331.x>

References

- Georgia Office of Child Advocate (2014) Georgia Child Fatality Review Panel Annual Report Calendar Year 2012. Atlanta, GA: author.
- Hooper, V. D., Chard, R., Clifford, T., Fetzer, S., Fossum, S., Godden, B., ... Wilson, L. (2010). ASPAN's Evidence-based clinical practice guideline for the promotion of perioperative normothermia: Second edition. *Journal of Perianesthesia Nursing*, 25, 345-365. <http://dx.doi.org/10.1016/j.jopan.2010.10.006>
- Issler, R. M., Marostica, P. J., & Giugliani, E. R. (2009). Infant sleep position: A randomized clinical trial of an educational intervention in the maternity ward in Porto Alegre, Brazil. *BIRTH*, 36(2), 115-121. Retrieved from <http://onlinelibrary.wiley.com.ezproxy.georgiahealth.edu/store/10.1111/j.1523-536X.2009.00308.x/asset/j.1523-536X.2009.00308.x.pdf?v=1&t=hodcoudt&s=56dd16a4833de8cb7a52700759175dbb5464d0ee>
- Mason, B., Ahlers-Schmidt, C. R., & Schunn, C. (2013). Improving safe sleep environments for well newborns in the hospital setting. *Clinical Pediatrics*, 52, 969-975. <http://dx.doi.org/10.1177/0009922813495954>
- Moon, R. Y., Calabrese, T., & Aird, L. (2008). Reducing the risk of sudden infant death syndrome in childcare and changing provider practices: Lessons learned from a demonstration project. *Pediatrics*, 122, 788-798. <http://dx.doi.org/10.1542/peds.2007-3010>
- Moon, R. Y., Oden, R. P., & Grady, K. C. (2004). Back to sleep: An educational intervention with Women, Infants and Children program clients. *Pediatrics*, 113, 542-547. Retrieved from <http://pediatrics.aappublications.org/content/113/542.full.html>

References

- Price, S. K., Hillman, L., Gardner, P., Schenk, K., & Warren, C. (2008). Changing hospital newborn nursery practice: Results form a statewide “Back to Sleep” nurses training program. *Maternal Child Health Journal*, 12, 363-371. <http://dx.doi.org/10.1007/s10995-007-0243-y>
- Rasinski, K. A., Kuby, A., Bzdusek, S. A., Silvestri, J. K., & Weese-Meyer, D. E. (2003). Effect of a sudden infant death syndrome risk reduction education program on risk factor compliance and information sources in primarily black urban communities. *Pediatrics*, 111(4), e347-e354. [http://dx.doi.org/Retrieved from](http://dx.doi.org/)
- Shaefer, S. J., Herman, S. E., Frank, S. J., Adkins, M., & Terhar, M. (2010). Translating infant safe sleep evidence into nursing practice. *JOGNN*, 39, 618-626. <http://dx.doi.org/10.1111/j.1552-6909.2010.01194.x>
- Stastny, P. F., Ichinose, T. Y., Thayer, S. D., Olson, R. J., & Keens, T. G. (2004). Infant sleep positioning by nursery staff and mothers in newborn hospital nurseries. *Nursing Research*, 53(2), 122-129. Retrieved from http://ovidsp.uk.ovid.com.ezproxy.georgiahealth.edu/sp-3.10.0b/ovidweb.cgi?WebLinkFrameset=1&S=OPCCPDEJLIHFOGJOFNNKOECPAHAA00&returnUrl=ovidweb.cgi%3f%26Full%2bText%3dL%257cS.sh.18.19.22.25.29%257c0%257c00006199-200403000-00008%26S%3dOPCCPDEJLIHFOGJOFNNKOECPAHAA00&directlink=http%3a%2f%2fgraphi cs.uk.ovid.com%2fovftpdfs%2fPDHFFNCGOEJOLI00%2ffs046%2fovft%2flive%2fgv023%2f00006199%2f00006199-200403000-00008.pdf&filename=Infant+Sleep+Positioning+by+Nursery+Staff+and+Mothers+in+Newborn+Hospital+Nurseries.&pdf_key=PDHFFNCGOEJOLI00&pdf_index=/fs046/ovft/live/gv023/00006199/0006199-200403000-00008&D=ovft
- University of Kansas Work Group for Community Health and Development (2013) Chapter 2, Section 1: Developing a Logic Model or Theory of Change. Retrieved from <http://ctb.ku.edu/en/table-of-contents/overview/models-for-community-health-and->