How to Leverage State Perinatal Quality Collaboratives to Improve Safe Sleep Practices

Munish Gupta, MD MMSc
Marilyn Kacica, MD MPH
Kristen Lawless, MS
Peggy Settle, RN PhD
What are state-based perinatal quality collaboratives? What do they do?

How can state-based perinatal quality collaboratives improve safe sleep practices?

Two examples: Massachusetts and New York
Introductions

- Us

- A few questions for you
What are Perinatal Quality Collaboratives?

Perinatal Quality Collaboratives

State perinatal quality collaboratives (PQCs) are networks of perinatal care providers and public health professionals working to improve pregnancy outcomes for women and newborns by advancing evidence-based clinical practices and processes through continuous quality improvement. PQC members identify care processes that need to be improved and use the best available methods to make changes and improve outcomes. State POCs include key leaders in private, public, and academic health care settings with expertise in evidence-based obstetric and neonatal care and quality improvement.

Many states currently have active collaboratives, and others are in development.

CDC currently funds six states for the State-Based PQCs Cooperative Agreement: California, New York, Ohio, Illinois, Massachusetts, and North Carolina. Funding will enhance the capabilities of PQCs to improve the quality of perinatal care in their states, including efforts to reduce maternal morbidity and mortality, reduce scheduled births without a medical indication, improve breastfeeding rates, and reduce hospital-acquired neonatal infections and neonatal morbidity.
What are Perinatal Quality Collaboratives?

“State perinatal quality collaboratives (PQCs) are networks of perinatal care providers and public health professionals working to improve pregnancy outcomes for women and newborns by advancing evidence-based clinical practices and processes through continuous quality improvement.”

http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PQC.htm

Emphasis added
What are Perinatal Quality Collaboratives?

- Many different structures
- Many different activities
- One common theme: they all work

http://www.cdc.gov/reproductivehealth/MaternalInfantHealth/PQC.htm
PQC Activities (a selection)

- QI Education
- Support Local QI Efforts, Best Practices
- Benchmarking
- Collaborative QI Projects
- Work at the Population Level
- Improve Perinatal Outcomes
PQC Focus Areas

Mother → Birth → Infant

Perinatal Quality Collaboratives
Approaches to PQCs: Two Examples

New York

Massachusetts
New York State Perinatal Quality Collaborative (NYSPQC)

Kristen Lawless, MS
Division of Family Health
New York State Department of Health

July 30, 2015
NYSPQC Mission & Strategy

To provide the best and safest care for women and infants by preventing and minimizing harm through the translation of evidence-based practice guidelines to clinical practice.

This is achieved through collaboration amongst participants and the utilization of quality improvement science.
NYSPQC Initial Focus Areas

• Reducing scheduled deliveries without a medical indication before 39 weeks gestation
• Reducing central line associated blood stream infections in NICUs
• Improving enteral nutrition practices in NICUs
In the Beginning . . .

- No full-time dedicated staff
- Very limited funding
  - State dollars
  - In-kind
- With few resources and minimal incentives, the NYSPQC Project Team was unsure of how many facilities would participate
Initial Partnerships

• National Institute for Children’s Health Quality (NICHQ)
  • Clinical support
  • Quality improvement support

• Regional Perinatal Centers (RPCs)
  • First facilities to participate in all projects
Leadership at All Levels

• Leadership at NYSDOH
  • Executive leadership
  • NYSPQC Project Team

• Clinical leadership
  • NYSPQC Advisory Work Group
  • Obstetrics Expert Work Group
  • Neonatal Expert Work Group
NYSPQC Resources & Activities

• The NYSDOH organized the projects, and were able to provide Collaborative participants with resources such as:
  • Data systems and technical support
  • In-person Learning Sessions
  • Monthly Coaching Call webinars
  • Monthly data collection/submission through web-based portal (NYSDOH HCS)
  • Access to expert faculty, both clinical and quality improvement
  • Access to project website (www.nyspqc.org)
  • Utilization of project e-mail listserv
Engagement & Success

• Almost all Regional Perinatal Centers signed on for all three initial projects

• Provided constant data feedback

• Leaders emerged

• Small successes = big victories
Engagement & Success

% All scheduled deliveries without indication

RPC Collaborative Data Summary
(September 2010 to May 2012)
Engagement & Success
Scheduled Delivery Project - RPC Collaborative Data Summary
(September 2010 to May 2012)

• Scheduled deliveries without medical indication between 36 0/7 and 38 6/7 weeks
  • All scheduled deliveries *decreased* by 81.0%
  • Induction *decreased* by 80.0%
  • C-sections *decreased* by 81.3%
  • Primary C-sections *decreased* by 81.0%
• Documentation of maternal education on the risks and benefits of preterm scheduled delivery *increased* by 56.6%
SPECIAL FEATURE

Development of a statewide collaborative to decrease NICU central line-associated bloodstream infections

J Schulman1,2,3, RL Strico1, TP Stevens5, IR Holzman6,7, EP Shields8, RM Angert9, RS SM Naiday9 and L Saiman11, for the New York State Regional Perinatal Centers and the Department of Health

1Department of Pediatrics/Newborn Medicine, Weill Cornell Medical College, Weill Cornell Medical Center, 2Department of Public Health/Outcomes and Effectiveness, Weill Cornell Medical College, Weill Cornell Medics, USA; 3New York Presbyterian Hospital, Weill Cornell Medical Center, New York, NY, USA; 4New York State Bureau of Healthcare-Associated Infections, Albany, NY, USA; 5Division of Neonatology, Department of Pediatrics, Rochester School of Medicine, Rochester, NY, USA; 6Department of Pediatrics, Mt Sinai School of Medicine, 7Department of Obstetrics, Gynecology and Reproductive Science, Mt Sinai School of Medicine, New York, 8Department of Health, Bureau of Women’s Health, Albany, NY, USA; 9Section of Neonatology, Department of Medicine, Einstein College of Medicine, Bronx, NY, USA; 10Division of Neonatology, Department of Pediatrics, New York University School of Medicine, New York, NY, USA and 11Division of Infectious Diseases, Department of Pediatrics, Columbia University College of Physicians and Surgeons, New York, NY, USA

Infection fight at Albany Med reaps rewards

Neonatal Intensive Care Unit marks a full year with no central line infections

By Kathleen F. Crowley

Published 7:36 pm, Wednesday, December 12, 2012

VIEW: LARGER | HIDE

1 of 6

PREV | NEXT
Success Leads to Spread, Additional Partnerships & Collaborations!
Increase in Funding Leads to Project Expansion

- NYSPQC awarded Perinatal Quality Collaborative grant from Centers for Disease Control and Prevention (CDC)
  - Expanded existing obstetric and neonatal projects
  - Added maternal mortality initiative to scope of Collaborative
- Were able to add dedicated staff:
  - Full-time Project Coordinator
  - Full-time Data Analyst
Collaborating for Success

New York State Department of Health
Perinatal Quality Collaborative

NICHQ

New York State Partnership for Patients

march of dimes

ACOG

AMCHP

CMS

Centers for Medicare & Medicaid Services
NYSPQC Current Focus Areas

• Improving identification/management of maternal hemorrhage/hypertension
• Reducing central line associated blood stream infections in NICUs
• Improving enteral nutrition practices in NICUs
• Improving access and utilization of antenatal corticosteroid treatment
• And . . . . .
NYSPQC Safe Sleep Project

• Now adding a focus on improving safe sleep practices to reduce infant mortality!
NeoQIC: A Brief Review

- 2004: initial proposal for statewide NICU collaborative
- DPH, all NICUs, outside consultants – didn’t work
- 2006: renewed interest from NICUs → just start
- All 10 level III NICUs in the state
- Gradually broadening scope of activities
- 2011: Massachusetts Perinatal Quality Collaborative
- 2013: statewide NAS project (40 hospitals)
- 2014: CDC perinatal quality collaborative grant
NeoQIC Activities

- Improve Perinatal Outcomes
  - Support Local QI Efforts, Best Practices
  - Benchmarking
  - Collaborative QI Projects
- QI Education
- Work at the Population Level
Any Late Infection, VLBW Infants
NeoQIC NICUs, 2010-2013, p-chart
BMC NICU

NHSN/DPH CLABSI Reporting: Background and Definitions

- Definitions of CABSIs:
  - Criteria 1: Patient has recognized pathogen cultured from 1 or more blood cultures; and organism is not related to an infection at another site.
  - Criteria 2 and 3: Patient has specific symptoms of infection; and common skin contaminant is cultured from 2 or more blood cultures on separate occasions; and symptoms and organism are not related to an infection at another site.
  - Some recognized pathogens: Staph aureus, enterococcus, Pseudomonas, E. coli, Klebsiella, Candida
  - Some common contaminants: Coag-neg Staph, diptheroids, Strep viridans, propionibacterium, Bacillus (not B. anthracis), micrococcus, etc.
  - Two blood cultures: separate blood draws collected within 2 days of each other
  - BSI rates reported per catheter day—# of catheters present at same time each day
  - Umbilical line days: umbilical catheter present (+/- central catheter)
  - Central line days: central line present (without umbilical line)
  - Utilization rates: line days per patient days
  - All data reported in 5 birthweight categories:
    - <750 g, 751-1000g, 1001-1500g, 1501-2500g, > 2500g

2012 NHSN Changes

- In 2012, NHSN will no longer track umbilical and central line days separately—all will count as central line days
- NeoQIC proposal: continue tracking separately in MA through custom field

Massachusetts DPH CLABSI Data Reports

- Data reported to DPH from hospitals since July 2008 (MGH since Jan 2009)
- Public report released April 2010, next planned early 2012, then bi-annually
- Following graphs report all CABSIs over total line days
Improvements

- Local NICU-specific changes
- Statewide changes (checklists)
Other NeoQIC Activities

• Increasing partnerships with DPH, state agencies
• Close collaboration with MPQC
• Statewide project on NAS (level I, II and III centers)
• New project on human milk in VLBW infants
• Several projects focused on Early Intervention
Questions about PQCs in General?
PQCs and Safe Sleep

- Why hospital-based safe sleep practices matter
  - Slides courtesy of NICHQ and Susan Hwang
- Massachusetts safe sleep project
- NY safe sleep project
By July 2016, reduce infant sleep-related deaths by improving safe sleep practices so that states:

1. Decrease sleep-related SUID mortality rate by 10% relative to the State baseline;
2. Increase % infants placed on backs for sleep by 10% or more relative to the State baseline;
3. Increase the % of infants placed to sleep in a safe sleep environment by 10% or more relative to the State baseline;
4. Increase the % of infants sleeping alone by 10% or more relative to the State baseline;
5. Reduce relative disparities between white and non-Hispanic Black and American Indian/Alaska natives for SUID by 10% or more

Health care professionals understand, endorse and model safe sleep practices

Infant caregivers understand, accept and are prepared and empowered to implement safe sleep practices

Engage and activate caregivers, community and government to support safe sleep

Policies support/facilitate safe sleep practices

Leverage success stories

Medical and nursing staff model safe sleep practices in hospital before discharge

Standardized education and training for health professionals on current AAP guidelines for infant safe sleep, including promoting breastfeeding in a safe sleep environment

Train and support healthcare professionals in using engagement techniques (e.g., motivational interviewing, teach back, etc.)

Reduce barriers and provide families with needed supports to keep infants safe within the context of their daily realities

Parents offered teachback and provided written materials on safe sleep at pre-natal visits and classes, hospital discharge, lactation consultations, the post-partum visit, and newborn well child visits

Education includes skill building, explains rationale behind recommendations and addresses misconceptions and caregiver concerns on safe sleep

Utilize a harm reduction message on safe sleep

Safe sleep messaging and teachback (including promoting breastfeeding in a safe sleep environment) promoted through all state agencies and programs that interact with pregnant women and families such as home visiting, WIC, injury prevention, substance abuse, child welfare, breastfeeding promotion, immunization, housing assistance

Safe sleep behavior is understood and championed by trusted individuals and groups who are influential in the lives of mothers, fathers, grandparents and other infant caregivers

Develop and implement culturally congruent education materials, social marketing messages and communication strategies on safe sleep

Reinforced safe sleep messaging in community settings such as grocery stores, child care centers, churches, community health centers and in media, retail and manufacturing exposures

Utilize data to identify outliers

Activate champions within the systems

State child care and welfare licensing regulations include requirements on safe sleep policies and training

Leverage Medicaid to facilitate safe sleep

Federal and state policies and regulations facilitate safe sleep

Hospital policy consistent with AAP guidelines and addresses the need for consistent parent education and staff training/behavior modeling

Utilize standardized policies, practices and reporting for infant deaths

Standardized policies, practices and reporting for infant deaths

Leverage Medicaid to facilitate safe sleep

Federal and state policies and regulations facilitate safe sleep

Hospital policy consistent with AAP guidelines and addresses the need for consistent parent education and staff training/behavior modeling

Utilize data to identify outliers

Activate champions within the systems
Safe Sleep is Important

14.2% of all infant deaths in the United States (2011) are attributed to sudden unexpected infant death (SUID) related to unsafe sleep practices.

SUID Disparities in the US

Figure 1. Infants Usually Placed to Sleep on Their Backs, by Maternal Race/Ethnicity, 2011*

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent of Women Delivering Live Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>74.0</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>80.0</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>53.9</td>
</tr>
<tr>
<td>Hispanic</td>
<td>66.0</td>
</tr>
<tr>
<td>Non-Hispanic American Indian/Alaska Native</td>
<td>78.4</td>
</tr>
<tr>
<td>Non-Hispanic Asian</td>
<td>76.6</td>
</tr>
<tr>
<td>Non-Hispanic Native Hawaiian/Other Pacific Islander</td>
<td>75.8</td>
</tr>
<tr>
<td>Non-Hispanic Multiple Races</td>
<td>72.5</td>
</tr>
</tbody>
</table>

Contribution of Preterm Birth to U.S. Infant Mortality


**Births**
- <32: 9%
- 32-33: 87%
- 34-36: 0%
- ≥37: 0%

**Infant Deaths**
- <32: 32%
- 32-33: 10%
- 34-36: 54%
- ≥37: 0%

National Center for Health Statistics, linked birth/infant death data set
### TABLE 1. Rate and adjusted odds ratio of sudden infant death syndrome deaths for maternal and infant characteristics

<table>
<thead>
<tr>
<th>Fetal growth</th>
<th>Rate/1000</th>
<th>Adjusted odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>live births (95% confidence interval)</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Fetal growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small for gestational age</td>
<td>1500</td>
<td>1.41</td>
</tr>
<tr>
<td>Appropriate for gestational age</td>
<td>5978</td>
<td>0.67</td>
</tr>
<tr>
<td>Large for gestational age</td>
<td>511</td>
<td>0.46</td>
</tr>
<tr>
<td>Gestational age categories (weeks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22–27</td>
<td>118</td>
<td>2.05</td>
</tr>
<tr>
<td>28–32</td>
<td>360</td>
<td>2.14</td>
</tr>
<tr>
<td>33–35</td>
<td>691</td>
<td>1.49</td>
</tr>
<tr>
<td>36–37</td>
<td>1232</td>
<td>0.97</td>
</tr>
<tr>
<td>38–39</td>
<td>2781</td>
<td>0.63</td>
</tr>
<tr>
<td>40–41</td>
<td>2211</td>
<td>0.56</td>
</tr>
<tr>
<td>42–44</td>
<td>596</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Table 3: Supine Sleep Position by Gestational Age

<table>
<thead>
<tr>
<th>Gestational Age</th>
<th>Weighted Prevalence</th>
<th>95% CI</th>
<th>Unadjusted PR</th>
<th>95% CI</th>
<th>Adjusted PR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤27 weeks</td>
<td>59.7</td>
<td>57.1 – 62.2</td>
<td>0.89</td>
<td>0.86 – 0.93</td>
<td>0.97</td>
<td>0.93 – 1.01</td>
</tr>
<tr>
<td>28-33 weeks</td>
<td>63.7</td>
<td>62.7 – 64.7</td>
<td>0.95</td>
<td>0.94 – 0.97</td>
<td>0.98</td>
<td>0.97 – 1.00</td>
</tr>
<tr>
<td>34-36 weeks</td>
<td>63.6</td>
<td>62.7 – 64.4</td>
<td>0.95</td>
<td>0.94 – 0.97</td>
<td>0.96</td>
<td>0.95 – 0.98</td>
</tr>
<tr>
<td>37-42 weeks</td>
<td>66.8</td>
<td>66.5 – 67.0</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

$^\$ Adjusted for the following: maternal age, education, race/Hispanic ethnicity, marital status, previous live birth, insurance status before pregnancy, method of delivery, and plurality.

PRAMS Data, 35 states, 2000 to 2011

For medically stable preterm infants, supine sleep positioning is recommended by 32 weeks.
Integrating “Back to Sleep” Recommendations Into Neonatal ICU Practice

abstract

**BACKGROUND AND OBJECTIVES:** The American Academy of Pediatrics stresses that NICUs should endorse and model the sudden infant deaths syndrome risk-reduction recommendations significantly before anticipated discharge of the infant. Medical personnel are critical role models for parents, and the way they position infants in the hospital strongly influences parental practices at home. The aims of this project were to increase the percentage of infants following safe sleep practices in the NICU before discharge and to determine if improving compliance with these practices would influence parent behavior at home.

**METHODS:** An algorithm detailing when to start safe sleep practices, a “Back to Sleep” crib card, educational programs for nurses and parents, a crib audit tool, and postdischarge telephone reminders were developed as quality improvement intervention strategies.

**RESULTS:** NICU compliance with supine positioning increased from 39% to 83% \( (P < .001) \), provision of a firm sleeping surface increased from 5% to 96% \( (P < .001) \), and the removal of soft objects from the bed improved from 45% to 75% \( (P = .001) \). Through the use of a postdischarge telephone survey, parental compliance with safe sleep practices was noted to improve from 23% to 82% \( (P < .001) \).

**CONCLUSIONS:** Multifactorial interventions improved compliance with safe sleep practices in the NICU and at home. *Pediatrics* 2013;131:e1264–e1270

**AUTHORS:** Polina Gelfer, MD, Ricci Cameron, BSN, RNC-NIC; Kathy Masters, Six Sigma Master Black Belt; and Kathleen A. Kennedy, MD, MPH

**AFFILIATION:** Division of Neonatal-Perinatal Medicine, University of Texas Medical School, Houston, Texas; and Neonatal ICU, and Quality Improvement and Leadership Academy, Memorial Hermann Hospital, Houston, Texas

**KEY WORDS**
sudden infant death syndrome, safe sleep practice, premature infant, quality improvement

**ABBREVIATIONS**
AAP—American Academy of Pediatrics
CMHH—Children’s Memorial Hermann Hospital
SIDS—sudden infant death syndrome
SSP—safe sleep practices

Dr Gelfer conceptualized and designed the project, designed the data collection instruments, coordinated and supervised data collection, drafted the initial manuscript, and approved the final manuscript as submitted; Ms Cameron conceptualized and designed the project, participated in designing the data collection instruments, reviewed and revised the manuscript, and approved the final manuscript as submitted; Ms Masters conceptualized and designed the project, carried out the initial analyses, reviewed and revised the manuscript, and approved the final manuscript as submitted; and Dr Kennedy conceptualized and designed the project, carried out the final analyses, reviewed and revised the manuscript, and approved the final manuscript as submitted.

doi:10.1542/peds.2012-1857

Accepted for publication Nov 7, 2012
Why PQC-based Safe Sleep Projects?

- Hospitals can be critical touchpoint for modeling safe sleep practices and providing parent education.
- Preterm infants are at particular risk for sleep-related infant mortality and lower rates of safe sleep positioning after discharge.
- PQCs can use established collaborative QI methods, including sharing of best practices and benchmarking, to improve care.
Massachusetts NICU
Safe Sleep Collaborative

Peggy Settle RN, PhD
(Susan Hwang MD, MPH)
NeoQIC NICU Safe Sleep Project

• Initially launched at South Shore Hospital
• Expanded to St. Elizabeth’s, Mass General Hospital
• Numerous other hospitals also working on safe sleep
• 2015: statewide collaborative project launched, with all 10 level III NICUs participating
Massachusetts NICU Safe Sleep Collaborative

**Primary Aims**

- **Overall Project Goal**
  Through improved practices in the NICU, increase the use of safe sleep practices (SSP) among high-risk infants discharged from Massachusetts NICUs.

- **Primary Drivers**
  - Lack of clarity regarding which NICU infants are eligible for SSP vs NTP.
  - Difficulty being aware that any given NICU infant is SSP eligible.
  - Inadequate attention to SSP as part of daily NICU practice.

- **Secondary Drivers**
  - Lack of hospital policies on SSP for NICU infants.
  - Multiple factors determine SSP eligibility, and these factors change over time.

- **Potential Change Concepts**
  - Share existing hospital policies and guidelines on SSP among all MA NICUs.
  - Promote use of crib cards at every NICU bedside that can easily identify infant as suitable for NTP or SSP.
  - Share tools that can be used to make SSP review part of daily rounds.

**Outcome Measures**

- **Percent of eligible infants in MA NICU's engaging in each** as well as all of the safe sleep practices as measured by weekly audit.
- **Process measures**: Percent of cribs with crib card with appropriate designation on weekly audits.

**Balancing Measures**

- **Length of stay**
- **Prevalence of reflux**
- **Prevalence of apnea, bradycardia, and/or desaturations**
- **Prevalence of positional plagiocephaly**

**Secondary Drivers**

- **Lack of parent education in advance of infant discharge from NICU**
  - Documentation of parent education by nursing staff member when infant is deemed eligible for SSP.
  - Documentation of parent education of SSP as part of discharge preparation checklist.
  - Prevalence of engagement in SSP by parents after hospital discharge (if follow-up data can be obtained).

**Abbreviations**

- **SSP**: safe sleep practices
- **NTP**: NICU therapeutic positioning

---

DRAFT - June 3, 2015
Identifying Infants eligible for Safe Sleep

Is the infant ≥ 1800 grams or ≥ 34 0/7 weeks?

YES

Does the infant have any medical conditions precluding SSP? (Phototherapy, scalp IV/central lines, intubated etc)

YES

NICU Therapeutic Positioning (NTP)

NO

NO

Does the infant have respiratory symptoms (tachypnea, retractions, grunting) and/or oxygen dependency?

For infants with BPD who will be discharged on oxygen therapy, consider transition to SSP 2 weeks prior to discharge.

YES

NTP

NO

Is the infant in an open crib?

YES

Initiate SSP

NO

NO

Remove Z-flo, toys, and other unnecessary objects from isolette.
NICU Safe Sleep Practice (SSP) Bedside Audit

Date: ____________________

Circle one:  Day Shift  Night Shift

Does this infant meet eligibility for safe sleep positioning?  Yes  No

If NO, reason for ineligibility, circle 1 or more: <1500 gms/<32 wks  Not in crib  Illness

If infant is eligible for SSP, circle one of the following:

Positioned supine (on back):  Yes  No
Flat position (head of bed not inclined up):  Yes  No
Crib is empty of positioning devices:  Yes  No
Crib is empty of soft objects such as dolls, fluffy blankets:  Yes  No

Is the infant compliant with SSP (answered “yes” to all of the above)?  Yes  No
Infant Therapeutic Positioning

- While your infant is hospitalized, he/she may be placed in positions other than the American Academy of Pediatrics “Safe to Sleep” Guidelines due to medical reasons. Sleep positions may include:
  - Stomach
  - Side-lying
  - Elevated head of bed
- Developmental positioning aids and/or blanket rolls may also be used for medical purposes.

*Therapeutic positioning is NOT recommended or safe for your infant.
*Your infant will be introduced to Safe Sleep Practices when it is medically safe to do so.

“Safe to Sleep” Practices

The American Academy of Pediatrics Safe Sleep Practices include:

- Back to Sleep
- Use a firm flat mattress in a crib or bassinet
- No sleeping in carseats, swings, or other positioning devices
- No loose bedding, blankets or soft objects in crib
- No bumpers, pillows, or stuffed toys in the crib
- Do not overheat infants
- No co-sleeping in bed, sofa, or other areas

*For more information from the American Academy of Pediatrics on how parents can create a safe sleep environment for their infants, please read the provided pamphlet and attend the NICU/SCN Discharge Class.*
MGHfC- Education

• Staff education:
  – NICHD in-service
    • [www.nichd.nih.gov/cbt/sids/nursecourse.aspx](http://www.nichd.nih.gov/cbt/sids/nursecourse.aspx)
  – Journal Club

• Parent education:
  – Reasons for ‘therapeutic positioning’
  – Safe sleep practices as approaching discharge
  – Documentation of teaching
A Parent’s Guide to a Safe Sleep Environment

Congratulations on the birth of your baby. Following safe sleep guidelines will help to ensure the safety of your baby in the hospital and at home.

Tragically, sudden infant death syndrome (SIDS) is the most common cause of death in infants between 1 month and 1 year of age. Around 4500 babies die in the United States each year because of sudden unexpected infant deaths. Not all sudden unexpected infant deaths are SIDS; some of these deaths are accidental suffocation. There are many things that can be done by yourself and by others caring for your baby to reduce the risk of these things happening to your baby.

Top-10 things to promote a safe sleep environment are as follows (Figure 1):

1. Always place your baby on the back at bedtime and at nap time.
   • Using the back position, the number of babies dying of SIDS has been cut in half, from more than 4000 to 2220 each year.
   • Do not use the side position for sleeping babies. You should not be afraid of your baby aspirating (getting milk in the lungs) because when a baby spits up while sleeping on its back, most of the milk will roll out of the mouth. The windpipe (or trachea) is on top of the esophagus (or feeding tube) and gravity will keep the milk away from the airway.

   • Position your baby in the “Feet to Foot” position. Have your baby’s feet touch the bottom of the bed.
MGHfC- PDSA Example – Bed Sharing

• Create dialogue with parents
• Room sharing without bed-sharing
• If bed-sharing is planned, avoid bed sharing:
  – When mother smokes or takes sedatives
  – When infant is less than 3 months of age
  – With multiple people
  – With excessive tiredness
  – On soft surfaces or soft bedding
Pilot Results: SSH

PRE

597 cases/ 307 Eligible (51.4%)/ 299 Completed Surveys (97.3%)

Hwang, O’Sullivan, Fitzgerald, Melvin, Gorman, Fiascone, J Perinatol, 2015
Statewide Project

- 10 level III NICUs participating
- Sharing of tools and resources
- Uniform definition for eligibility for safe sleep
- Weekly audit of all NICU infants
- Data sharing
- Monthly comparative progress reports
- Twice-yearly summits
- Future: extend to level I and level II nurseries
Tools Available

• Project overview
• Key driver diagram
• Safe sleep eligibility diagram
• Crib cards
• Data audit form

Contacts:
• Peggy Settle: msettle@partners.org
• Munish Gupta: mgupta@bidmc.harvard.edu
NYSPQC Safe Sleep Project

• Focus on improving safe sleep practices to reduce infant mortality
• This will be achieved by:
  • Collaborating across hospital teams to share and learn;
  • Implementing policies to support/facilitate safe sleep practices;
  • Educating health care professionals so they understand, actively endorse and model safe sleep practices; and
  • Providing infant caregivers education and opportunities so they have the knowledge, skills and self-efficacy to practice safe sleep for every sleep.
NYSPQC Safe Sleep Project

- Currently in the process of recruiting all NYS Regional Perinatal Centers, Level I, II and III birthing facilities (126 hospitals)

- Project is expected to kick-off in September and last approximately 12 months
Project Recruitment

• Recruitment Package sent to RPCs and RPC-affiliate hospitals
  • Overview of learning collaborative
  • IHI Model for Improvement methodology
  • Project aim, measures, data collection tools

• Informational Calls
  • Overview of project
  • Facilities can ask questions
Project Recruitment

• Survey of current hospital safe sleep policies and practices
  • Sent to all birthing hospitals in July 2015 to collect baseline information
  • Will reissue survey at end of project to assess changes made, project impact
Lessons Learned from Previous Projects

• Potential participants may be skeptical
  • Feel they don’t need improvement
  • Lack time and/or resources

• Participants who were skeptical at first tend to become very engaged over time
Lessons Learned from Previous Projects

• Engagement
  • Highlight “what’s in it for them”
  • Data will often speak for itself
  • Present rates compared to peers
  • Want to participate if other facilities are participating
• There is always room for improvement
NYSPQC Safe Sleep Project: Major Activities

• In-person Learning Sessions;
• Monthly Coaching Call webinars;
• Monthly data collection/submission through web-based portal (NYSDOH HCS);
• Access to expert faculty, both clinical and quality improvement;
• Access to project website (www.nyspqc.org);
• Utilization of project e-mail listserv.
NYSPQC Safe Sleep Project: Participant Form

Please complete one Participant Form per hospital and return it electronically, either by e-mail or fax, to Kristen Lawless at NYSPQC@health.ny.gov, by July 31, 2015.

If you have questions about the project or this form, please contact Kristen Lawless at the e-mail address above, or by calling (518) 473-9883.

1. Hospital Information

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street</th>
<th>City</th>
<th>Zip</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regional Perinatal Center affiliation: ____________________________________________

2. Team Information (Individuals may play more than one role.)

Senior Leadership

________________________

Chief of Pediatrics or Neonatology

<table>
<thead>
<tr>
<th>Name</th>
<th>Credentials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Email</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Director of Nursing

<table>
<thead>
<tr>
<th>Name</th>
<th>Credentials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NYSPQC Safe Sleep Project: Hospital Team Members

- **Senior Leadership**
  - Chief of Pediatrics or Neonatology
  - Director of Nursing
- **Improvement Team**
  - Quality Improvement Lead/Designee
  - Physician Lead from Pediatrics or Neonatology
  - Nurse Manager Lead for Nursery, Mother Baby Unit or NICU
  - Staff Nurse from L&D, Postpartum or other unit where infants reside even if only for brief periods of time
- **Primary Contacts**
  - Team coordination and primary contact with DOH
  - Data Coordinator
## NYSPQC Safe Sleep Project: Draft Data Collection Strategy

<table>
<thead>
<tr>
<th>Measure</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Data Collection</th>
<th>Data Collection Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation of Safe Sleep Education</td>
<td>Number of medical records reviewed for either mothers or infants discharged home following birth hospitalization with documentation of safe sleep education</td>
<td>Number of medical records reviewed for either mothers or infants discharged home following birth hospitalization</td>
<td>Each month the medical records of mothers or infants that were discharged the previous month are checked for documentation of safe sleep education</td>
<td>Documentation of Safe Sleep Education Form and Log</td>
</tr>
<tr>
<td>Hospital Safe Sleep Practices</td>
<td>Number of infants without medical contraindication sleeping or wake and unattended with safe sleep practices</td>
<td>Number of infants sampled</td>
<td>Each month sample at least 20 infants from the NICU, nursery and/or rooming-in using the crib check tool.</td>
<td>Crib Check Tool</td>
</tr>
<tr>
<td>Safe Sleep Knowledge</td>
<td>Number of caregivers that checked understanding of alone, on back, in crib</td>
<td>Number Caregivers Surveyed</td>
<td>Each month a sample of 20 caregivers will be surveyed to check for understanding of safe sleep education</td>
<td>Caregiver Survey</td>
</tr>
</tbody>
</table>
NYSPQC Safe Sleep Project: Draft Data Collection Strategy

• Data collection tools:
  • Safe Sleep Education Form
  • Crib Check Tool
  • Caregiver Survey
NYSPQC Safe Sleep Project: Draft Documentation of Safe Sleep Education Form

**Instructions:** Each month, review medical records of mothers or infants for documentation of safe sleep education for those discharged home during the month.

<table>
<thead>
<tr>
<th>Month and Year of Discharge:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Number of medical records reviewed for either mothers or infants discharged home following birth hospitalization <strong>with</strong> documentation of safe sleep education</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Denominator</th>
<th>Number of medical records reviewed for either mothers or infants discharged home following birth hospitalization</th>
</tr>
</thead>
</table>
NYSPQC Safe Sleep Project: Draft Crib Check Tool

**Instructions:** Each month, review the cribs of at least 20 infants without medical contraindications for safe sleep. Check only those infants who are either asleep or awake and unattended. **Infants who are awake and attended should not be surveyed.**

<table>
<thead>
<tr>
<th>Month: ___________</th>
<th>Year: ___________</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Unit: (i.e., NICU, Step Down, Well Baby, Rooming-in, etc.)</th>
<th>A. Infant Sleeping</th>
<th>B. Infant Awake &amp; Unattended</th>
<th>C. Sleeping in Crib</th>
<th>D. Head of Crib Flat</th>
<th>E. Infant Positioned Supine</th>
<th>F. Crib Free of Objects</th>
<th>G. Infant in Sleep Sack / Safe Clothing</th>
<th>Initials of Reviewer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Y or N</strong></td>
<td><strong>Y or N</strong></td>
<td><strong>Y or N</strong></td>
<td><strong>Y or N</strong></td>
<td><strong>Y or N</strong></td>
<td><strong>Y or N</strong></td>
<td><strong>Y or N</strong></td>
<td><strong>Y or N</strong></td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NYSPQC Safe Sleep Project: Draft Caregiver Survey

1. Where the baby being discharged from:
   - [ ] Well Baby Nursery
   - [ ] Rooming-in mother’s room
   - [ ] Step Down Unit
   - [ ] Neonatal Intensive Care (NICU)
   - [ ] Other, please specify: ______________________

2. Who is completing the survey:
   - [ ] Parent/Guardian
   - [ ] Staff Member

3. Date of Safe Sleep Education: ______________

4. Date of Survey: ______________

5. Caregiver’s Race (Please Select All that Apply):
   - [ ] White/Caucasian
   - [ ] Black or African American
   - [ ] American Indian or Alaska Native
   - [ ] Asian or Pacific Islander
   - [ ] Other

6. Caregiver’s Ethnicity:
   - [ ] Hispanic
   - [ ] Not Hispanic

7. Caregiver’s Insurance Status:
   - [ ] Private health insurance
   - [ ] Medicaid or other public insurance
   - [ ] TRICARE or other military health care
   - [ ] No health insurance
   - [ ] Other, please specify: ______________________
NYSPQC Safe Sleep Project: Draft Caregiver Survey

8. Caregiver’s Relation to Infant:
   - Mother
   - Father
   - Grandparent
   - Aunt/Uncle
   - Foster Parent
   - Other, please specify: ____________________________

9. Caregiver’s Age: _____

10. Caregiver’s Highest Level of Education:
    - Less than high school
    - High school graduate
    - More than high school

Caregiver Safe Sleep Knowledge
11. During the infant’s hospital stay did you receive information on how to put your baby to sleep?
    - Yes
    - No
    - I don’t know

12. How do you think you should put your baby to sleep? (check all that apply)
    - Alone (not in bed with adults or other children)
    - On his/her back
    - In a crib, bassinet or portable crib (pack and play)
    - Without items in the crib (blanket, toys, bumpers, pillows, sleep positioners)
    - I don’t know

13. Are there things that would keep you from practicing safe sleep? (check all that apply)
    - No, I plan to do it
    - I don’t have a crib, bassinet or portable crib (pack and play)
    - I don’t have room in the home for a crib, bassinet or portable crib
    - I don’t think that it is important
    - I don’t believe in it
    - I believe in a family bed
    - I need more information
    - Other, please specify: ____________________________________________
NYSPQC Safe Sleep Project Team at the NYSDOH

- Marilyn Kacica, MD, MPH
- Susan Slade
- Chris Kus, MD, MPH
- Kristen Lawless
- Wendy Pulver
- Eileen Shields
- Kuangnan Xiong, PhD

- Lusine Ghazaryan, MD, MPH
- Kathy Harris
- Mari Sepowski
- Amanda Roy
- Mayleen Rivera
Contact

New York State Perinatal Quality Collaborative
Empire State Plaza
Corning Tower, Room 984
Albany, NY 12237

Ph: 518/473-9883
F: 518/474-1420
NYSPQC@health.ny.gov
www.nyspqc.org