**Continuous Quality Improvement Initiatives and Related Medical Therapies**

1. **What percentage of neonatologists could describe the general concept of a Plan-Do-Study-Act (PDSA) cycle?**
2. **How would you describe your NICU related to the adoption of new or advanced therapies? Likert 1-5: Conservative Adopters, to Cutting Edge leaders.**
3. **Did your NICU conduct a formal teaching conference for all to attend?**
4. **Did the nurses, neonatal nurse practitioners, and respiratory therapists feel there was “time to learn practice changes”? Likert 1-5: Not at all, to Virtually always.**
5. **Did the neonatologists feel there was “time to learn practice changes”? Likert 1-5: Not at all, to Virtually always.**
6. **Did your NICU conduct simulations like mock codes and resuscitations?**
7. **Did your NICU have a formal palliative care team or a structured comfort care protocol?**
8. **Was your NICU part of the Vermont Oxford Network NICQ collaborative groups (face-to-face meetings)?**
9. **Was your NICU part of the Vermont Oxford Network iNICQ collaborative groups (internet web based)?**
10. **Were CQI posters placed in your NICU for all to view?**
11. **Did your NICU encourage Kangaroo Care?**
12. **Did your NICU have a donor breast milk program?**
13. **Were there any formal research projects conducted in your NICU?**
14. **Did your NICU post “calendar counts” for all to view, e.g., “93 days since the last blood stream infection”?**
15. **Did your NICU have regular “Discharge Rounds”, a multi-disciplinary meeting to facilitate upcoming transition to home?**
16. **Did your NICU utilize formal feeding guidelines?**
17. **Did parents serve on CQI and advisory committees?**
18. **Did your NICU typically conduct “debriefings”, e.g., succinct multi-disciplinary review of resuscitations?**
19. **Did your NICU use “hand washing spies” or “secret shoppers” as a prevent nosocomial infection audit tool?**
20. **Did your NICU employ a structured “Pain Score” tool for assessing discomfort?**
21. **Did your NICU conduct formal follow-up satisfaction surveys with post-discharge parents?**
22. **Did your NICU use an organized “Central Line Team” to improve percutaneous intravenous central catheter insertion and maintenance?**
23. **Did your NICU transition to computerized order entry and charting for neonatologists and nurses by 2012-2014?**
24. **Did your NICU use standardized “checklists” for various NICU procedures and therapies?**
25. **Did your NICU have a formal neurodevelopmental follow-up clinic?**
26. **What percentage of nurses could describe the general concept of a Plan-Do-Study-Act (PDSA) cycle?**
27. **Did your NICU have a specific CQI “Small Baby or Micro-premie Team”?**
28. **Were CQI projects largely the result of just a few select leaders or were there multiple committees and teams with many NICU staff participating? Likert 1-5: Few, to Many.**
29. **Did your NICU have a specific CQI team “Prevent Chronic Lung Disease”?**
30. **Did your neonatologists conduct a regular “Journal Club” to review important NICU articles?**
31. **Did your neonatologists make regular formal presentations to the NICU staff regarding quality outcomes and Vermont Oxford Network reports?**
32. **How would you describe your NICU and the purchase of new and possibly advanced equipment and technology? Likert 1-5: Conservative Purchasers, to Cutting Edge users of new devices.**
33. **Did your NICU have a “Safety Committee”?**
34. **Did your NICU participate in any formal randomized controlled trial?**
35. **Did your NICU have a “Skin Care and Wound Team”**
36. **Did your NICU have any concerted, organized efforts to reduce unnecessary blood draws and/or painful procedures?**
37. **Did your NICU ever have a CQI project or committee specifically dedicated to facilitating and improving the discharge process?**
38. **Did your NICU use a hyperalimentation (total parenteral nutrition) computer-based calculator?**
39. **Did your NICU have a “Prevent Brain Injury and Intraventricular Hemorrhage Team”**

**Staffing Models**

1. **Did your NICU employ neonatal nurse practitioners to round, write orders, and chart on VLBW infants? Likert 1-5: No, to All infants.**
2. **Did your NICU have a dedicated 24 hour resuscitation team or “R Team” for premature infants?**
3. **What was your typical average infant to nurse staffing ratio for Level 3 type babies – 1:1, 2:1, 3:1, or 4:1?**
4. **What was your typical average infant to nurse staffing ratio for Level 2 type babies – 1:1, 2:1, 3:1, 4:1, or 5:1?**
5. **How many infants total (all birth weights) did a neonatologist typically round on daily?**
6. **Was your NICU characterized by high or problematic turnover of nurses? Neonatologists? Neonatal nurse practitioners?**
7. **Did Pediatric or Family Medicine residents (trainees) regularly round on premature infants?**
8. **Did your NICU utilize “primary nursing”, a formal staffing policy to enhance nursing continuity of care with VLBW infants and families?**
9. **Was it common for the same neonatologist to round on the same group of VLBW infants 5-7 days or more?**
10. **Did your NICU utilize a formal “discharge coordinator” to facilitate transition to home?**
11. **Did your NICU have its’ own dedicated pediatric surgeon(s)?**
12. **Did your NICU have trained volunteer “cuddlers” to hold and comfort infants regularly?**
13. **Did your NICU have its’ own dedicated dietician(s)?**
14. **Did your NICU have its’ own dedicated lactation specialist(s)?**
15. **Did your NICU’s medical director regularly round on premature babies at least 5-7 days per month?**
16. **Did your NICU have respiratory therapists dedicated to the NICU only, i.e., they did not float out to a pediatric or adult unit during the same shift?**
17. **Did the neonatologists work 24 hour shifts so that a different physician rounded the next morning?**
18. **Was there more than one neonatology group that rounded in your NICU?**
19. **In the first 14 days of life, how many neonatologists would typically round on a given VLBW infant?**
20. **Were your neonatologists in-house for night call?**
21. **What is the male to female ratio of your neonatologists 2012 to 2014?**
22. **How many nurse managers (head nurse) have you had?**

**NICU Physical Structure**

1. **Was it convenient for NICU staff to park their car at the hospital reasonably near the NICU?**
2. **What percentage of your NICU infants were in single family rooms by 2012 to 2014?**
3. **Were there windows to view the outdoors in most patient care areas in your NICU?**
4. **Did your NICU undergo a hospital move or major remodel?**
5. **Did your NICU have boarding rooms or apartments for parents?**
6. **Did your NICU have a reasonably sized and equipped break room or lunch room for nurses?**
7. **Was your NICU part of a children’s hospital or a hospital with an onsite defined children’s ward?**
8. **Did the neonatologists generally dictate or transcribe their daily notes in a separate private room?**

**Culture, Social, and Cognitive Features**

1. **How would you describe the overall atmosphere of “team work” in your NICU by 2012 to 2014? Likert 1-5: Very little, to Much cooperation and supportive actions were characteristic.**
2. **How would you characterize the day-to-day work expectations for your nurses? Likert 1-5: Get the immediate bedside care done only, to Immediate bedside care and long term problem solving were important as the nurses were encouraged to figure out how to do their job better.**
3. **How would you characterize the day-to-day work expectations of your neonatologists? Likert 1-5: Get the immediate bedside care and rounding done only, to Bedside rounding and long term problem solving were important as the physicians were encouraged to figure out how to do their job better.**
4. **Was there a “Parent Room” or “Family Resource Library” within your NICU?**
5. **Was there a shared perception that your NICU was positively affected by the relocation or retirement of a particular NICU staff member, provider, or administrator?**
6. **How would you assess the overall work-related morale by 2012-2014 in your neonatologists, nurses, and neonatal nurse practitioners? Likert 1-5: Very poor, to Very positive and quite high.**
7. **Did your NICU regularly have celebrations like “NICU Employee of the Month” or special recognition ceremonies?**
8. **Did your NICU have a yearly “Premie Reunion Party” or similar celebration?**
9. **Did parents regularly participate in multidisciplinary bedside rounds?**
10. **Did your NICU provide food vouchers to parents?**
11. **Did your NICU have daily or at least frequent multidisciplinary bedside rounds?**
12. **Did the NICU staff have the general impression that the neonatologists valued each other and liked working together? Likert 1-5: No and there was obvious discord, to the** Neonatologists **genuinely liked each other.**
13. **Were siblings permitted to visit in your NICU?**
14. **Did your NICU conduct a daily morning or shift change “huddle” to briefly go over the census and potential admissions?**
15. **Did any of your hospital administrators regularly attend bedside rounds or conferences in your NICU?**
16. **Did commercial infant formula representatives come into your NICU on a regular basis?**
17. **Did the NICU staff have the general impression that premature infants were sent home too soon?**
18. **Did your NICU have designated “Quiet Times”, periods where no examinations were permitted of the infant?**
19. **Were there formal supportive programs in your NICU to avoid fatigue or “burnout”?**
20. **Was there a shared perception that your NICU was adversely affected by the relocation or retirement of a particular NICU staff member, provider, or administrator?**
21. **Did your nurses typically call the neonatologists by their first name while speaking with them in the NICU? Likert 1-5: Never, to Always.**
22. **Was there a significant perception of nurse cliques, or groups of nurses who preferred to work together in your NICU? Likert 1-5 – No, to Problematic issue.**
23. **What was the “sense of humor” of your NICU? Likert 1-5: Not much humor or laughter, to Plenty of good natured humor.**
24. **Where did the staff think “good ideas” came from in your NICU? Likert 1-5: Mainly a few neonatologists, to Just about anyone who worked in the NICU.**
25. **Was there a sense of routine punishment or disciplinary action for NICU staff who made mistakes related to patient care? Likert 1-5: Yes, to Mistakes were viewed in our NICU as a chance to improve.**
26. **Did the NICU staff have the impression that “Good ideas will rise to the top and it is safe making suggestions”? Likert 1-5: No, to We fostered a culture of cooperation and problem solving.**
27. **Did your NICU nurses perceive a hierarchy among neonatologists, i.e., some physicians were viewed as “better” or “more skilled” than others? Likert 1-5: Definitely, to Not at all.**
28. **Did your neonatologists perceive a hierarchy among the NICU nurses, i.e., some nurses were viewed as “better” or “more skilled” than others? Likert 1-5: Definitely, to Not at all.**
29. **Was there ever a prominent and sustained perception in your NICU of noticeable financial constraints or budget cuts? Likert 1-5: Severe cuts, to Virtually none.**
30. **How would an unbiased observer who spent time in your NICU watching the dialogue between the neonatologists and the staff rate the overall quality of the communication? Likert 1-5: Often unprofessional and disrespectful, to Always professional and respectful.**

**Sham Questions**

1. **Is your NICU within one mile of a major freeway?**
2. **Did your hospital have an onsite coffee bar, e.g., Starbucks?**
3. **Was your hospital cafeteria open 24 hours a day?**
4. **Does your city have a major professional sports team?**

**Green – Survey answer was similar, significantly more common, and positively correlated with composite morbidity reduction in the high proficiency Group A NICUs as compared to the lower proficiency Group B and Group C NICUs.**

**Dark Blue – Survey answer was similar, significantly more common, and negatively correlated with composite morbidity reduction in the high proficiency Group A NICUs as compared to the lower proficiency Group B and Group C NICUs.**

**Red – Clear majority of Group A, Group B, and Group C NICU answers were similar, generally answering affirmatively to the inquiry.**

**Blue – Clear majority of Group A, Group B, and Group C NICU answers were similar, generally answering no to the inquiry.**

**Purple – No discernable pattern of answers (affirmative or no), comparing Group A, Group B, and Group C NICUs.**