

2018

CPQCC

AT COOL TOPICS IN NEONATOLOGY

**SHINING  
A LIGHT ON  
IMPROVEMENT**

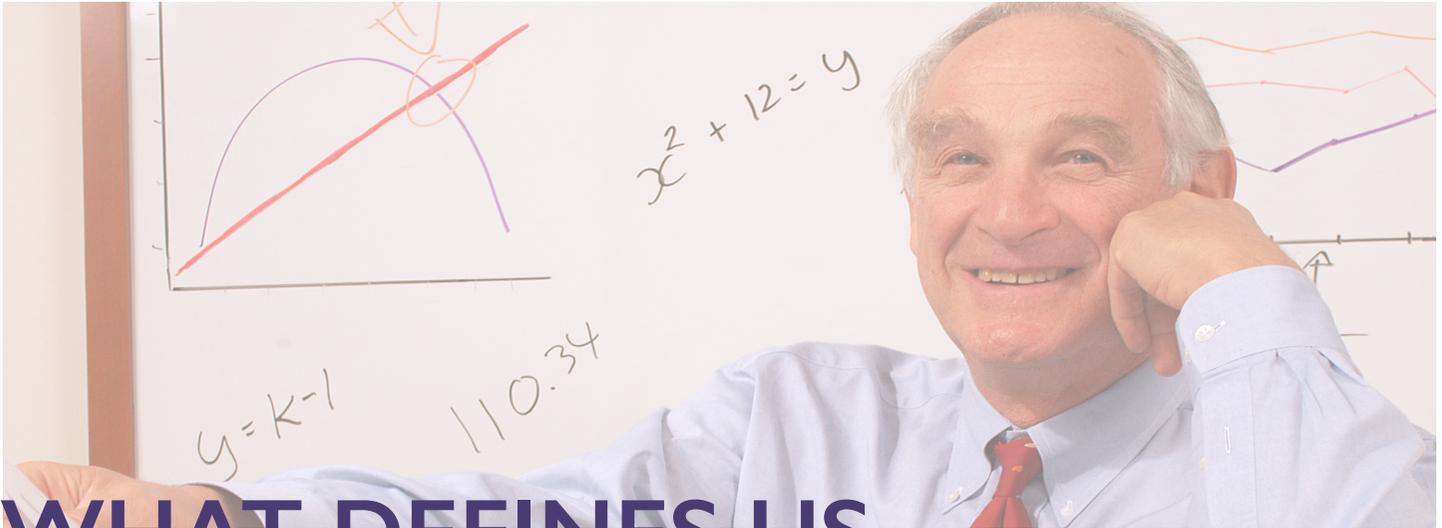
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“ **CPQCC** is a grassroots organization whose success is entirely due to the incredible involvement of our working neonatologists, nurses, respiratory therapists, lactation specialists and the countless other practitioners working to improve perinatal care. ”

*- Dr. Jeffrey B. Gould*





# WHAT DEFINES US

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As we look back over the past 20 years of CPQCC, I am struck by all that we have achieved to improve the health of California's most vulnerable infants. We have increased breastfeeding rates, decreased intraventricular hemorrhage, and made significant strides in reducing morbidity and mortality. Yet what I am most impressed by, and what I see other states trying to emulate, is how we have come together in California, putting aside the divides of private practice versus academic affiliation, small community NICU versus large hospital system, to focus on how we can work together around a common goal.

These accomplishments are thanks in large part to the vision and leadership of the California Association of Neonatologists, which continues to recognize us as their action arm for statewide quality improvement. CPQCC is committed to delivering the critical information that providers need to radically improve neonatal care. This information is not only the data we collect but the careful analysis which shines a light on areas where we can all improve. Fulfilling this mission would not be possible without the work that all of you do. Our organization benefits from over 100 hours of volunteer work a month by practitioners across the state, time dedicated to ensuring that CPQCC continues to develop in innovative ways.

The devotion of this statewide community to improving the care and outcomes of our smallest babies is inspiring. Today, almost every state across the United States has formed a Perinatal Quality Collaborative, many of which are modeled after our experience. Thank you all for everything you have done to pave this path and to transform the lives of infants across California.

Sincerely,

**Jeffrey B. Gould, MD, MPH**  
**Principal Investigator and Co-Founder**  
**California Perinatal Quality Care Collaborative (CPQCC)**

# WHAT ARE WE LEARNING FROM COLLABORATIVE QUALITY IMPROVEMENT?

AN INTERVIEW WITH SHARON GALVIS, RN, CNNP, CEDARS-SINAI MEDICAL CENTER

We recently spoke with Sharon Galvis, a RN and Certified Neonatal Nurse Practitioner (CNNP) at Cedars-Sinai Medical Center and a participant in CPQCC's Optimizing Length of Separation in the NICU QI Collaborative to answer that question. The Collaborative, which ran from July 2013-December 2014, aimed to decrease the median post-menstrual age at discharge for all eligible infants by three days through a standardized approach to feeding, discharge planning, and apnea/bradycardia management. By the end of the 18-month Collaborative (12 months of active work followed by six months of sustainability), the 24 participating sites had decreased length of stay from 56 to 48 days and post-menstrual age at discharge from 37.2 weeks to 36.5 weeks. Three important lessons on the value of QI Collaboratives for participating sites emerged from the discussion.

## EVIDENCE IS EVERYTHING

*"There are all of these 'wow' moments where you learn what the evidence base is behind all of these guidelines and you really understand why it is you're doing what you're doing."*

One of the most valuable aspects of the CPQCC QI Collaborative experience, according to Galvis,

is access to a panel of subject matter experts. The expert panel provides the foundation for the entire Collaborative by providing a robust evidence base for all of its activities. Not only did Galvis find this evidence base useful in informing her own understanding of the factors that contribute to an optimal length of stay for NICU patients, it was also critical in helping her team get buy-in from hospital leadership.

## ENCOURAGE A TRULY COLLABORATIVE EXPERIENCE

*"Learning how other members of the Collaborative were experiencing success [was motivating]. We adopted some of the [other sites'] practices and they adopted [some of ours]."*

While the expert panel lays the foundation for the Collaborative, it is the advice and ideas from peers at other centers that shape sites' improvement efforts. This community of learning allows sites to borrow and adapt tools to work within their own settings. Teams also submit their data on various metrics to an extranet managed by CPQCC. Says Galvis, the process of regularly coming together to share their experience with other sites during monthly webcasts and face-to-face learning sessions allowed

her team to benefit from a variety of strategies for improving care and "sustaining the gains."

## STAY FOCUSED ON THE GOAL

*"[Participating in] the Collaborative really helped us identify our goals and what we really needed to do to reduce length of stay."*

Having regular meetings throughout a quality improvement project can help teams focus on their goals and ensure that their efforts are contributing to improved outcomes. Participating in a Collaborative provides sites with a baseline against which to continually compare their outcomes and ensure that progress is being made. As part of the Optimizing Length of Separation in the NICU Collaborative, sites were required to submit slides which tracked their progress, an exercise which Galvis found particularly helpful in clarifying which of their goals were most important and what they needed to focus on to achieve those goals.

As CPQCC ramps up its QI offerings for 2018 (see pages 5-6 for details), reflecting back on these lessons learned reminds us of the value of a collaborative improvement approach in facilitating rapid gains in perinatal care through harnessing multiple teams around a common goal.



# ANTIBIOTIC STEWARDSHIP

“Joining a Collaborative is always helpful. If there is a goal that [our] NICU wants to achieve and we are facing resistance from physicians, the administration, or the nursing staff, it shows them that [there is] a group [of other NICUs with the same goal], so it [becomes] easier to convince those people [who are reluctant].”

– Participant in Antibiotic Stewardship Collaborative

Eighteen months of intensive work came to a close on December 14, 2017, at the fourth and final learning session of CPQCC’s Antibiotic Stewardship QI Collaborative. During the course of the project, 28 NICUs across California came together to reduce antibiotic utilization rates through the application of a bundle of proven best practices that included:

- Ensuring timely and appropriate initiation of antibiotics by using a standardized process to promptly identify patients that need them and to obtain cultures before administering them
- Encouraging appropriate cessation or de-escalation of antibiotics through initiation of a routine “Antibiotic Time Out” between 48-72 hours after cultures are obtained
- Establishing real-time monitoring and measurement systems to ensure that antibiotic usage data are transparent and are used to guide clinical decisions
- Promoting a culture of optimal antibiotic use by a.) developing local, evidence-based guidelines for management of neonates with suspected early-onset sepsis and b.) convening a multidisciplinary group to perform periodic formal analyses of opportunities for antibiotic usage

Sites tracked both an outcome measure, the NICU’s **Antibiotic Utilization Rate (AUR)**, and the following process measures:

- **Appropriate cultures obtained prior to starting antibiotics**
- **Compliance with antibiotic “time-outs”**
- **Compliance with local early-onset sepsis guidelines**
- **Compliance with antibiotic usage reviews**

Sites also tracked two balancing measures, **premature discontinuation of antibiotics**, measured by tracking the number of eligible babies previously started on antibiotics, at less than 72 hours of life, who required a restart within seven days of discontinuation during the same hospital stay, and **the number of babies readmitted for premature discontinuation**.

Data on more than 7,000 patients were entered over the course of the 18-month Collaborative and early results show a statistically significant reduction in the AUR across the participating hospitals. While a thorough analysis of the data is still underway, preliminary findings indicate that the group eliminated roughly 19,500 “antibiotic days” across California – decreasing not only the cost of health care provided in the NICU, but more importantly, the risk of antibiotic resistance and adverse drug events in the babies that they care for.





## SIMULATING SUCCESS

35%

OF VERY LOW BIRTH WEIGHT BABIES  
IN CALIFORNIA ARE AFFLICTED WITH  
BRONCHOPULMONARY DYSPLASIA



BPD CAN  
SUBSTANTIALLY  
DRIVE UP THE COST  
OF CARE

In Spring/Summer 2018, CPQCC will be launching **Simulating Success**, a two-year project designed to help NICUs implement an on-site, simulation-based, neonatal resuscitation program that aims to optimize team performance and bring about a reduction in neonatal morbidities - such as BPD and hypoxic-ischemic encephalopathy - and their associated costs.

The project looks to improve the safety, efficiency, and effectiveness of neonatal resuscitations through rigorous training and objective assessment, using an innovative model of simulation-based learning developed by the Center for Advanced Pediatric & Perinatal Education (CAPE) at Stanford, an international leader in obstetric and neonatal simulation-based training. Participating sites will undergo a train-the-trainer program - designed to help them conduct and debrief their own simulated clinical scenarios - and receive standardized equipment and ongoing guidance and support from experts at CAPE. In addition, participants benefit from being a part of a “community of learning” through which results, insights, and strategies are shared across all sites.

### PROJECT GOALS



OPTIMIZE NEONATAL  
RESUSCITATION TEAM  
PERFORMANCE



BUILD AND SUSTAIN A SUCCESSFUL  
IN SITU SIMULATION TRAINING  
PROGRAM



IMPROVE CLINICAL  
OUTCOMES FOR TERM AND  
PRETERM NEONATES



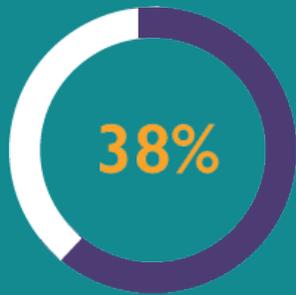
LEARN CRITICAL SKILLS TO  
DEBRIEF SIMULATED AND  
REAL CLINICAL SCENARIOS

NEED MORE INFORMATION OR INTERESTED IN PARTICIPATING?

EMAIL JANINE BERGIN AT [JMBERGIN@STANFORD.EDU](mailto:jmbergin@stanford.edu).



# GROW, BABIES, GROW!



OF CALIFORNIA'S  
VLBW BABIES  
38% FALL  $\geq$  1  
STANDARD  
DEVIATION BELOW  
THEIR INITIAL  
BIRTH WEIGHT  
PARAMETERS  
BY THE TIME OF  
DISCHARGE FROM  
THE NICU.



OF THE MOST  
VULNERABLE  
BABIES, BORN  
WEIGHING LESS  
THAN 1,000 GRAMS,  
> 50% EXPERIENCE  
THIS SAME  
SUB-OPTIMAL  
GROWTH.

Growth is one of the most critical and modifiable factors for long-term neurodevelopment and health, yet malnutrition remains very common in the NICU. Human milk exclusivity, though the gold standard, is not universally practiced, with some hospitals reporting rates as low as 25%. A concerted effort to address growth and nutrition at this vital stage of development may have a profound impact on the quality of life for newborns in later years.

To tackle this pressing issue, CPQCC will launch **its sixth IHI-style Quality Improvement Collaborative** in September 2018, aimed at helping NICUs optimize growth and nutrition of all newborns and reduce growth failure at discharge.

Participants in **Grow, Babies, Grow** will:

- Have access to an evidence-based change package for growth optimization
- Participate in a “community of learning” through which they will learn from other participating sites by sharing lessons, materials, data, and strategy
- Be able to securely benchmark, track and compare data between their site and other participating sites
- Receive regular support from a well-respected multidisciplinary Expert Panel to implement best practices
- Obtain credit for participating Neonatologists toward the American Board of Pediatrics (ABP) Maintenance of Certification (MOC) Part 4 Program

**REGISTRATION OPENS ON TUES, MARCH 6<sup>TH</sup>!**

EMAIL COURTNEY NISBET AT [COURTNEY@CPQCC.ORG](mailto:COURTNEY@CPQCC.ORG) TO SIGN UP.



## DISPARATE CARE IN THE NICU

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**“I see this all the time...the way we treat black moms is definitely different than how we treat white moms. And age plays a factor too – young moms are judged very unfairly. One black mom was judged very harshly for being late for a feeding even though she had a long and challenging transit ride to get to the hospital. A white mother who was late on the same day was greeted with sympathy.”**

*– Family advocate regarding family identified as black or African American*

A study of 324 narrative accounts of disparate care witnessed by family advocates and clinicians in the NICU reveals that vulnerable populations may be subject to disparate treatment as they engage with healthcare providers in the NICU. Disparate treatment as recounted by those surveyed was almost always targeted at families and not the infants themselves, suggesting the need for more equitable family-centered care.

The study, accepted for publication in the *Journal of Perinatology*, was led by Dr. Krista Sigurdson, a postdoctoral research fellow at

the Perinatal Epidemiology and Health Outcomes Research Unit at Stanford University, and builds upon previous research on racial/ethnic disparities in the NICU conducted by Dr. Jochen Profit, Chief Scientific Officer and Director of Perinatal Systems Research for CPQCC, published in the journal *Pediatrics* in August 2017.

Sigurdson points to three different types of disparate care: neglectful care, judgmental care, and care that fails to address the systemic barriers experienced by some families in the NICU. Neglectful care was defined as NICU staff paying less attention to certain families, due to staff perception of these families as being difficult or having unrealistically high needs, and manifested through a lack of adequate updates, education, or resources (e.g. translation services, breastfeeding support, etc.) for these families when providing them required additional time or staff. Judgmental care, as evidenced in the story at the beginning of this article, was seen as staff judging the circumstances or behaviors of families more harshly as a result of their race/ethnicity, socioeconomic status, or history of drug use. Systemic barriers to care, which accounted for nearly half of the disparity accounts, encompassed all manner of barriers that families experienced to being fully present in the NICU and/or able to engage in the care of their infants in the ways in which staff expected. These included transportation challenges, employment demands, and cultural factors, among others. The study identified several intersecting dimensions of difference that participants used



to explain why a family received suboptimal care, such as race, ethnicity, culture, disability, drug use, etc. However, language barriers appeared as one of the most frequent cross-cutting factors.

Building upon previous research by the CPQCC team which found considerable variation in the quality of care received by non-white infants across California, these findings point to a critical need for more attentive and respectful family-centered care for all NICU families. Moreover, this study suggests a need to keep our vision broad on what constitutes a NICU family (e.g. LGBTQ, multi-generational, immigrant, multicultural, single-parent, and differing socio-economic circumstances) and to enthusiastically improve care for all types of families.

Following publication of the study, CPQCC will circulate suggestions intended to inspire units to develop an institutional action plan to address the provision of more equitable family-centered care, examples of which can be found in the accompanying text box. Rather than being seen as a definitive list of “must-dos,” these suggestions are intended to generate conversation within and among NICUs on how to recognize and address disparate care within their NICU. In addition, CPQCC has begun developing a set of measures of family-centered care to allow NICUs to better assess the extent to which families are integrated into the care of their infants. Dr. Krista Sigurdson was recently awarded additional funding to conduct qualitative interviews and focus groups with former NICU families about their experiences of care and solicit feedback on the family-centered care measures under development.

## SUGGESTIONS FOR IMPROVING FAMILY-CENTERED CARE FOR DIVERSE FAMILIES

- 1. Signal importance of family-centered-care. Provide multi-lingual signage welcoming all families as partners in care. For example:**  
*“NICU families, we welcome you as partners in your child’s care at ALL times.”*
- 2. Develop targeted multi-lingual and culturally appropriate education and support for families on the health benefits of breastfeeding for mothers and preterm babies.**
- 3. Provide support for transportation, parking, and food for vulnerable families and space or resources for siblings.**

*CPQCC will continue to release suggested actions over the coming weeks and months. We give our sincere thanks to our Racial Disparities Dashboard Advisory Board for their ongoing contribution to this list.*

# HIGH RISK INFANT FOLLOW-UP

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## PRIMARY DATA FILE EXPORT

Starting in Summer 2018, the High Risk Infant Follow-Up (HRIF) Program will be offering a new feature that allows members to download a file containing all or a subset of the HRIF data they have entered. This new feature matches one available for CPQCC NICU data, allowing members to:

- 1 Obtain secure files for each finalized birth cohort year (currently 2010 - 2014)
- 2 Analyze their center's aggregated patient-level data on their own systems
- 3 Improve data quality and guide HRIF quality improvement efforts

# BY THE NUMBERS

## CPQCC

Between 2006 - 2015  
member hospitals reduced  
mortality rates for  
VLBW infants by

**21%**

An additional

**16.6%**

of babies were discharged  
without major morbidities like

severe ROP, NEC, CLD,  
and severe IVH

and the rate of  
health care-associated  
infections decreased by

**49%**

a total of

**453**

fewer cases.

## HRIF

For birth years 2010 - 2013  
an average of

**7,300**

high risk infants were  
registered annually

**50%**

of these babies had a  
birth weight of

**1,500** grams or less

These infants are eligible for

**3**

standard visits at

4 - 8 mos

12 - 16 mos

18 - 36 mos

as well as additional visits as  
determined by the HRIF team.

**46,500**

HRIF visits were conducted  
for birth years 2010 - 2013

[www.cpqcc.org](http://www.cpqcc.org)

## california perinatal quality care collaborative

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