



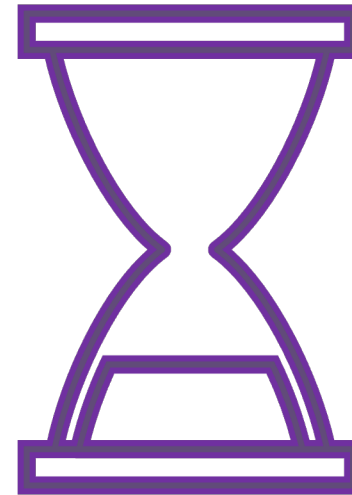
# Introduction to CPQCC and Friends

October 4, 2023

CPQCC

# Welcome!

- We will begin shortly.
- Please review the following slides for important information.
- Introduction to the presenters



# Webinar Logistics



All attendees are muted upon entry.



Please use the Q & A function – we will do our best to answer questions during the webinar.



We welcome your feedback and recommendations for improving future webinars.

# Webinar Logistics

- Attendees will be eligible for contact hours through the Perinatal Advisory Council: Leadership, Advocacy, and Consultation (PAC/LAC) . This webinar series is being jointly provided by CPQCC and PAC/LAC. PAC/LAC is an approved provider by the California Board of Registered Nursing, Provider number CEP 5862.
- If you attend as a team, please create a sign-in sheet and send it to [info@cpqcc.org](mailto:info@cpqcc.org) to be eligible for contact hours/CEU.
- Please complete the survey which will be available immediately following this webinar.
- The slides and webinar recording will be sent out after the webinar and will also be posted on the CPQCC website at <https://www.cpqcc.org/engage/annual-data-training-webinars-2023> .

# Presenters

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**REBECCA ROBINSON, MFA  
CPQCC ADMINISTRATIVE DIRECTOR**



**COURTNEY BREAULT, RN, MS, CPHQ  
ASSOCIATE DIRECTOR OF QUALITY**

# Agenda

| DURATION                     | TOPIC   | PRESENTER           |
|------------------------------|---|---------------------|
| 12:00 – 12:05 PM<br>(5 min)  | Welcome & Introductions   | Communications Team |
| 12:05 – 12:35 PM<br>(30 min) | CPQCC and CCS – Goals and Intentions, Mission<br>NICU Population – Who do We Track and Why?<br>Transport<br>HRIF Population | Rebecca Robinson    |
| 12:35 – 12:45 PM<br>(10 min) | QI Activities   | Courtney Breault    |
| 12:45 – 1:00 PM<br>(30 min)  | What's Next for CPQCC?  | Rebecca Robinson    |
| 1:00 – 1:10PM<br>(10 min)    | Q&A Panel   | Group               |

# Vision Statement

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We are committed to improving the **quality and equity of care**, centering the **voices of lived experience** and collaborating with **families** and with **all interdisciplinary members of the health care team**.

Our vision is to consider both the infant's stay in the NICU and broader health improvement by extending our vision to the **family** and to the **continuum of care** from **pregnancy** through **early childhood**.

# A Bold Vision and Big Promise

1997

To create the nation's first state-wide perinatal quality improvement collaborative: **CPQCC**.

Beginning in 1997, we built a collaborative of 138 NICUs caring for more than 95% of California's NICU infants.



# Stakeholder Value 1997

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## CA Association of Neonatologists (CAN)

- Organized QI as a possibility

## State Maternal and Child Health Branch (MCAH)

- Need for morbidity assessment

## CA Children's Health Services (CCS)

- Need for NICU medical quality assurance

## Pacific Business Group on Health (PBGH)

- Consumer-oriented quality assessment

## Packard/Vermont Oxford Network (VON)

- Statewide application of VON

## 2023 – Statewide CPQCC Family Advisory Council (FAC)

# CPQCC's Organizational Philosophy

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- Quality improvement is a worthwhile activity
- Team-oriented approach, listening to **front line staff and families**
- Maximize value for **families**, member NICUs, **front line staff**, and **community** as well as traditional stakeholders

# Strategic Initiatives: Three Pillars

NICU INFANTS AND FAMILIES

**PILLAR ONE:**  
Vital Voices

Elevating the voices of families  
and all members of the  
healthcare team

**PILLAR TWO:**  
Pregnancy to Pre-K

Improving quality along the  
continuum of care

**PILLAR THREE:**  
Equitable Foundations

Ensuring equity as the bedrock  
of perinatal care

QUALITY IMPROVEMENT

# Continuum of care structure – unique to California!

Neonatal  
Transport  
Data



All Baby Data  
High Risk Data  
Maternal Exposures



CMQCC Data

RPPC Data

HRIF Data

# By the numbers



500K

BIRTHS

CMQCC



100K/17K

NICU/HIGH  
RISK  
ADMITS

CPQCC/CMQCC



140/220

NICUs/BIRTH  
HOSPITALS

CPeTS



7K

ACUTE  
NEONATAL  
TRANSPORTS



9K

HIGH-RISK  
INFANTS  
REGISTERED

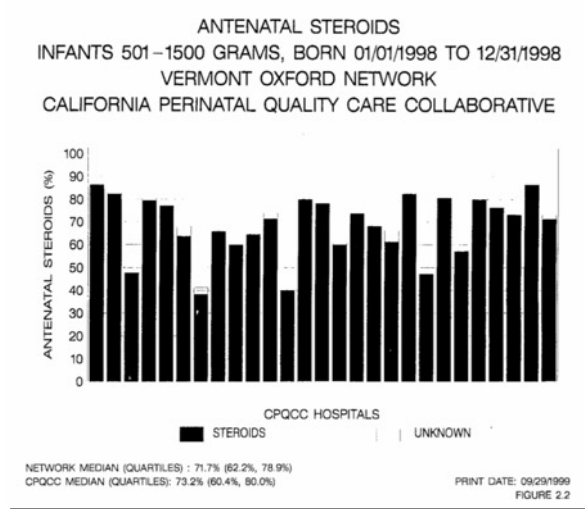
HRIF

# CPQCC Database Quality

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- Range and logic checks
- Data sharing between NICUs for transported infants
- Audit for excessive missing data
- Annual data training sessions
- Data Committee Advisory Group (DCAG)
- Optional tracking of substance exposed infants, Family Centered Care measures

# CPQCC's NICU Database Development



1998 VON < 1500 Grams

2000 High risk > 1500 Grams

2007 Real Time Reporting + Neonatal Transport

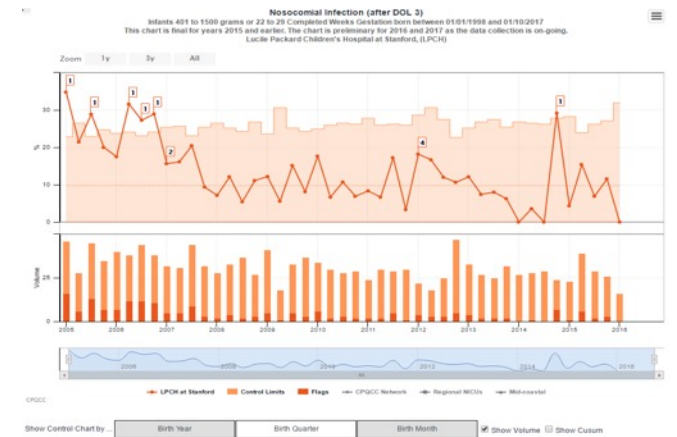
2008 Infants linked across NICUs

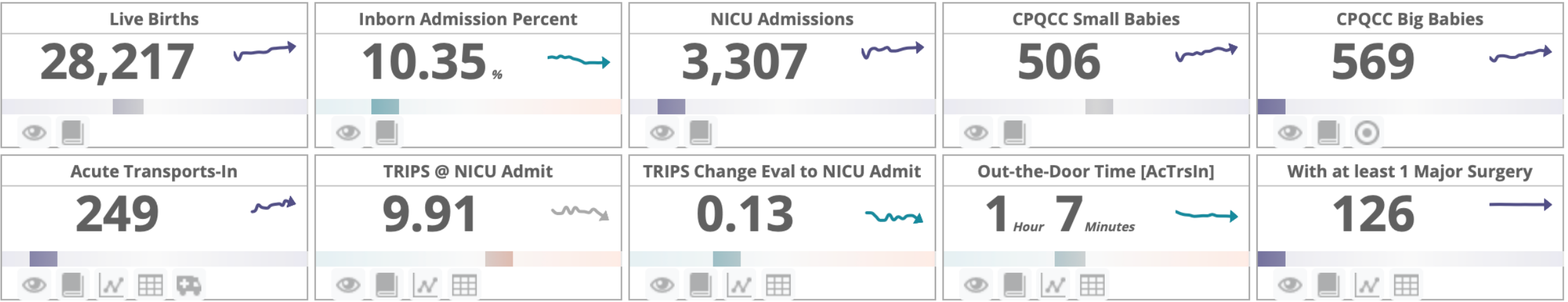
2009 Statewide High-Risk Follow-up till age 3

2013 NICU based Follow-up reports

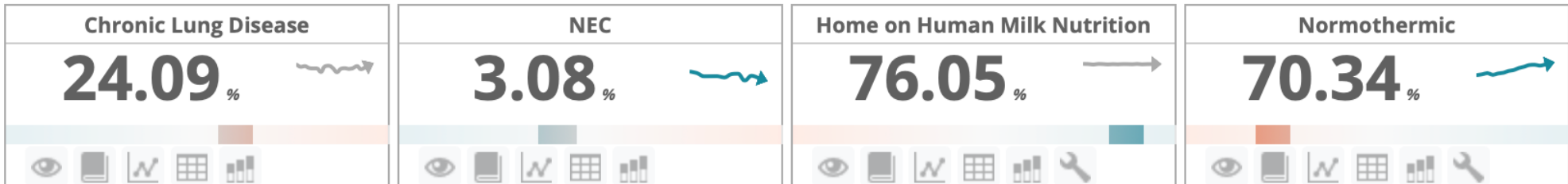
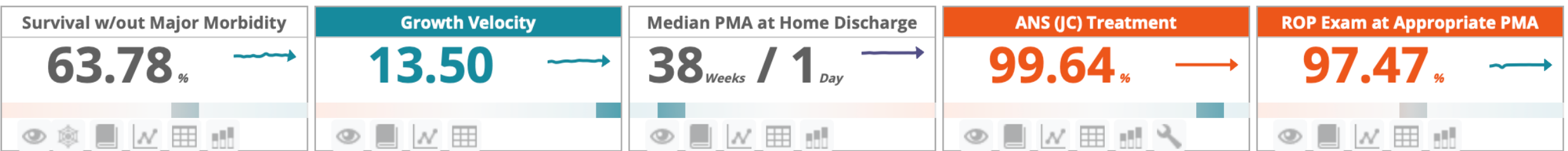
2017 Real-Time Control Charts

2021 All Admits Focusboard

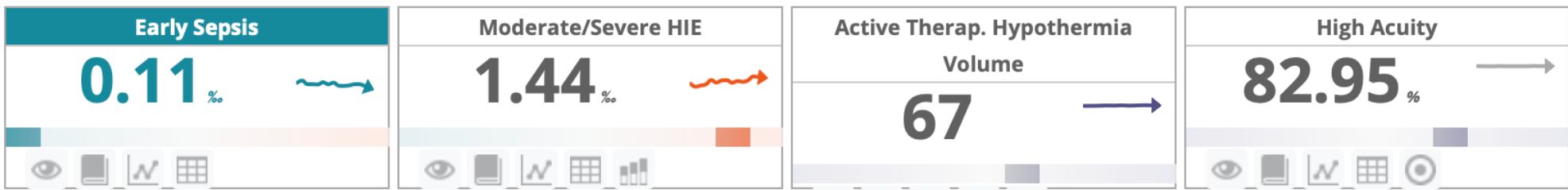




*VON Small Babies*



*Big Babies*





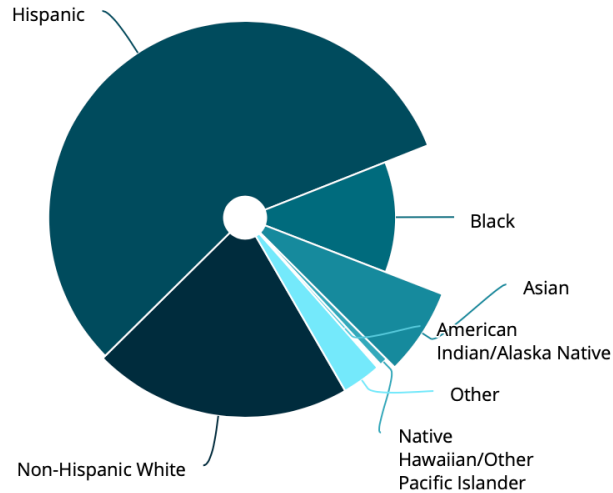
# CPOCC EQUITY DASHBOARD

Health Equity Dashboard as of Sep 17, 2020 at 04:36

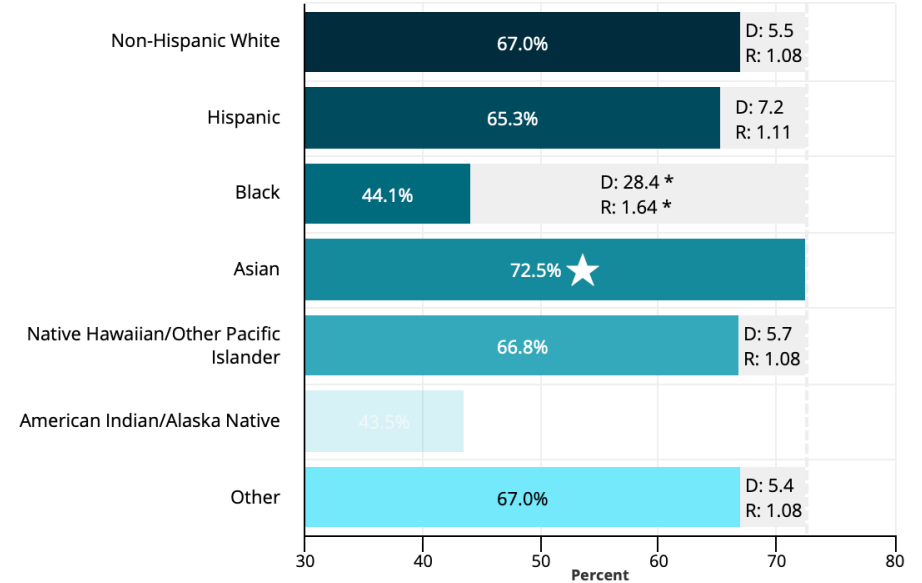
Safety Net Hospitals

2015 - 2019

**Race/Ethnicity Distribution for all VON Small Babies**  
Radii proportional to % with Human Milk Nutrition



**Human Milk Nutrition by Race/Ethnicity**



Minimal Intub Vent

Black: 64.4%

Other: 52.9%

NIV when 1-Min AP>6

Black: 79.7%

Other: 61.2%

Cranial US by DOL28

Am Indian/Alaska Nat: 98.5%

Nat Haw/Other Pac Isl: 86.6%

Eye Exam

Asian: 98.2%

Other: 95.4%

**Human Milk Nutrition**

Asian: 72.5%

Black: 44.1%

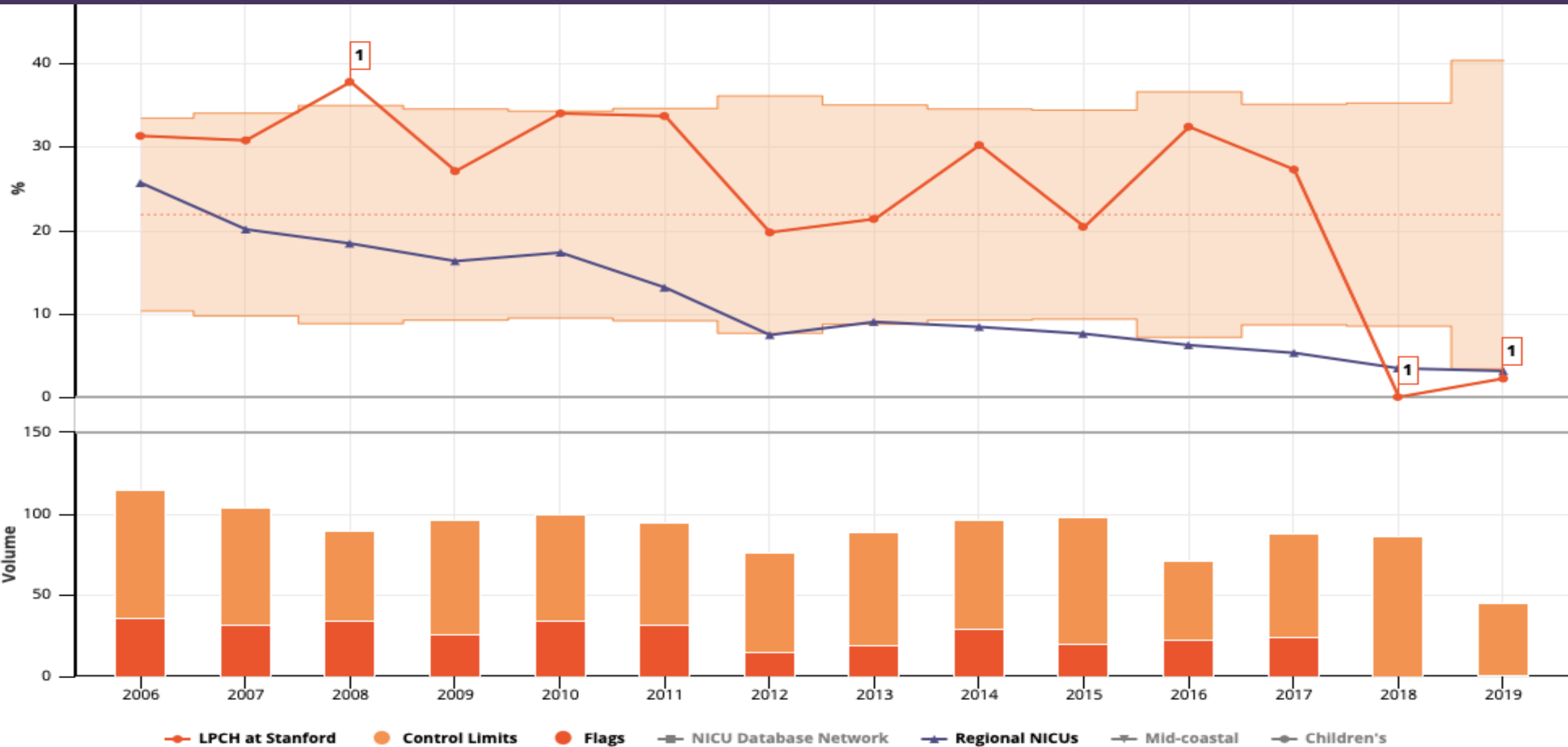
Timely HRIF Referral

Asian: 83.7%

Other: 62.7%



# CPQCC SPC CHARTS



# All NICU Admissions Database 2023

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1

## CPQCC/VON Data Set

CPQCC/VON high-risk infants comprise 30% CA NICU admissions.

2

## QI for other 70%?

CCS requests minimal data collection for low acuity babies – in CPQCC All NICU Admissions database.

3

## Diagnoses and Data

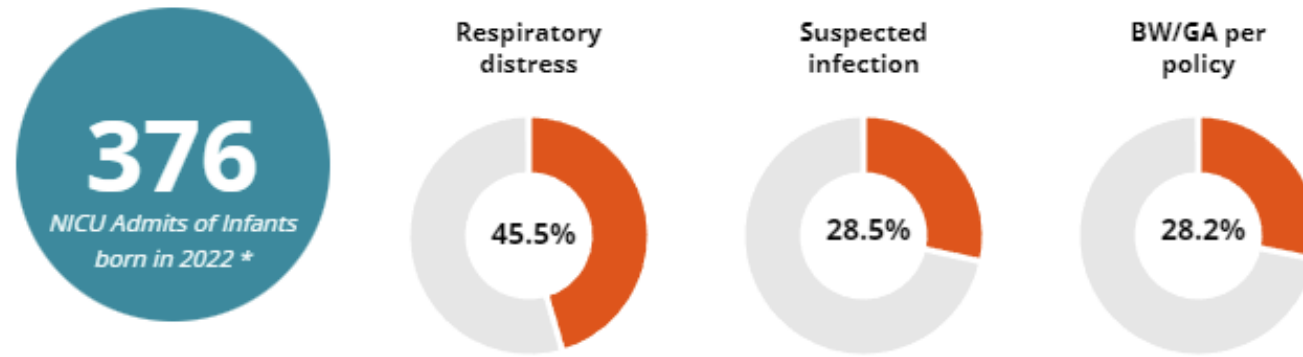
For both high and low risk infants, we can quantify discharge diagnosis info in terms of number, ranking, average length of stay, total work days.

4

## CCS Report

CPQCC can submit data on low acuity infants as part of new CCS reporting mandate.

### Top 3 Problems during NICU Stay



The All NICU Admits DB for Demo Center used for this focusboard includes birth dates through 12/31/2021.

\* New and continuing care NICU admits included.

Explore charts of inborn or lower acuity inborn NICU admits over time ... [Go](#)

Explore charts of inborn or lower acuity inborn NICU admits by birth year ... [Go](#)

Explore heat maps of admit reasons by birth weight or gestational age, source, acuity and birth year ... [Go](#)

Explore daily occupancy charts ... [Go](#)

Explore summary tables of admit reasons or of problems during the NICU stay for NICU admits by source, acuity and year of birth ... [Go](#)

Explore summary tables of NICU admits by source, acuity, birth weight and year of birth ... [Go](#)

Explore summary tables of NICU admits by source, acuity, gestational age and year of birth ... [Go](#)

# ANAD Reporting

Admission Reasons ▼ 2022 ▼ Lower Acuity Inborn NICU Admits ▼ Demo Center (N=183) All Participating NICUs (N=7,458) ▼

| Admission Reason  | N  | %    | N w/ LOS | Mean LOS | Min LOS | Max LOS | Mean N | %    | Mean N w/ LOS | Mean LOS | Min LOS | Max LOS |
|---|----|------|----------|----------|---------|---------|--------|------|---------------|----------|---------|---------|
| Suspected infection                                     | 62 | 33.9 | 59       | 7.8      | 1       | 30      | 23     | 28.6 | 21.4          | 9.2      | 1       | 73      |
| Respiratory distress                                    | 59 | 32.2 | 57       | 7.9      | 1       | 30      | 32.1   | 40.1 | 30            | 9.5      | 1       | 117     |
| Hypoglycemia  | 40 | 21.9 | 39       | 7.8      | 1       | 30      | 11.8   | 14.7 | 11.1          | 8.4      | 1       | 71      |
| BW/GA per policy  | 36 | 19.7 | 31       | 15.7     | 2       | 30      | 25.3   | 31.5 | 22.3          | 14.9     | 1       | 117     |
| Hyperbilirubinemia                                      | 14 | 7.7  | 14       | 6.0      | 2       | 13      | 4.1    | 5.1  | 4             | 6.7      | 1       | 74      |
| Feeding difficulties                                    | 12 | 6.6  | 12       | 10.6     | 2       | 27      | 6.2    | 7.7  | 5.9           | 11.2     | 1       | 61      |
| Cardiac event   | 10 | 5.5  | 10       | 3.4      | 1       | 6       | 2.4    | 3.0  | 2.3           | 6.8      | 1       | 46      |
| Apnea/cyanotic event                                    | 6  | 3.3  | 6        | 13.7     | 2       | 30      | 2.5    | 3.1  | 2.4           | 9.6      | 1       | 62      |
| Neonatal abstinence syndrome, exposure to drugs/alcohol | 6  | 3.3  | 6        | 8.8      | 2       | 23      | 3.1    | 3.8  | 2.9           | 13.8     | 1       | 74      |
| Small for gestational age                               | 6  | 3.3  | 6        | 7.3      | 2       | 16      | 4.6    | 5.7  | 4.3           | 11.5     | 1       | 73      |
| Dysmorphic/chromosomal anomaly                          | 5  | 2.7  | 5        | 4.6      | 2       | 11      | 2.1    | 2.7  | 1.9           | 9.2      | 1       | 44      |
| Perinatal transitional monitoring                       | 5  | 2.7  | 5        | 4.4      | 1       | 9       | 1.9    | 2.4  | 1.9           | 5.0      | 1       | 39      |
| Neurological/seizure                                    | 5  | 2.7  | 5        | 3.2      | 1       | 5       | 1.1    | 1.4  | 1             | 5.5      | 1       | 36      |
| Temperature instability                                 | 1  | 0.5  | 1        | 30.0     | 30      | 30      | 1.8    | 2.3  | 1.8           | 6.6      | 1       | 39      |
| Transport-In for insurance reasons                      | 0  |      | 0        |          |         |         | 0      |      | 0             |          |         |         |
| Transport-In for bed availability reasons               | 0  |      | 0        |          |         |         | 0      | 0.1  | 0             | 3.0      | 3       | 3       |
| Other   | 45 | 24.6 | 43       | 8.5      | 1       | 46      | 13.4   | 16.7 | 12.3          | 7.9      | 1       | 100     |

Admission Reasons ▾

2022 ▾

Lower Acuity Inborn NICU Admits ▾

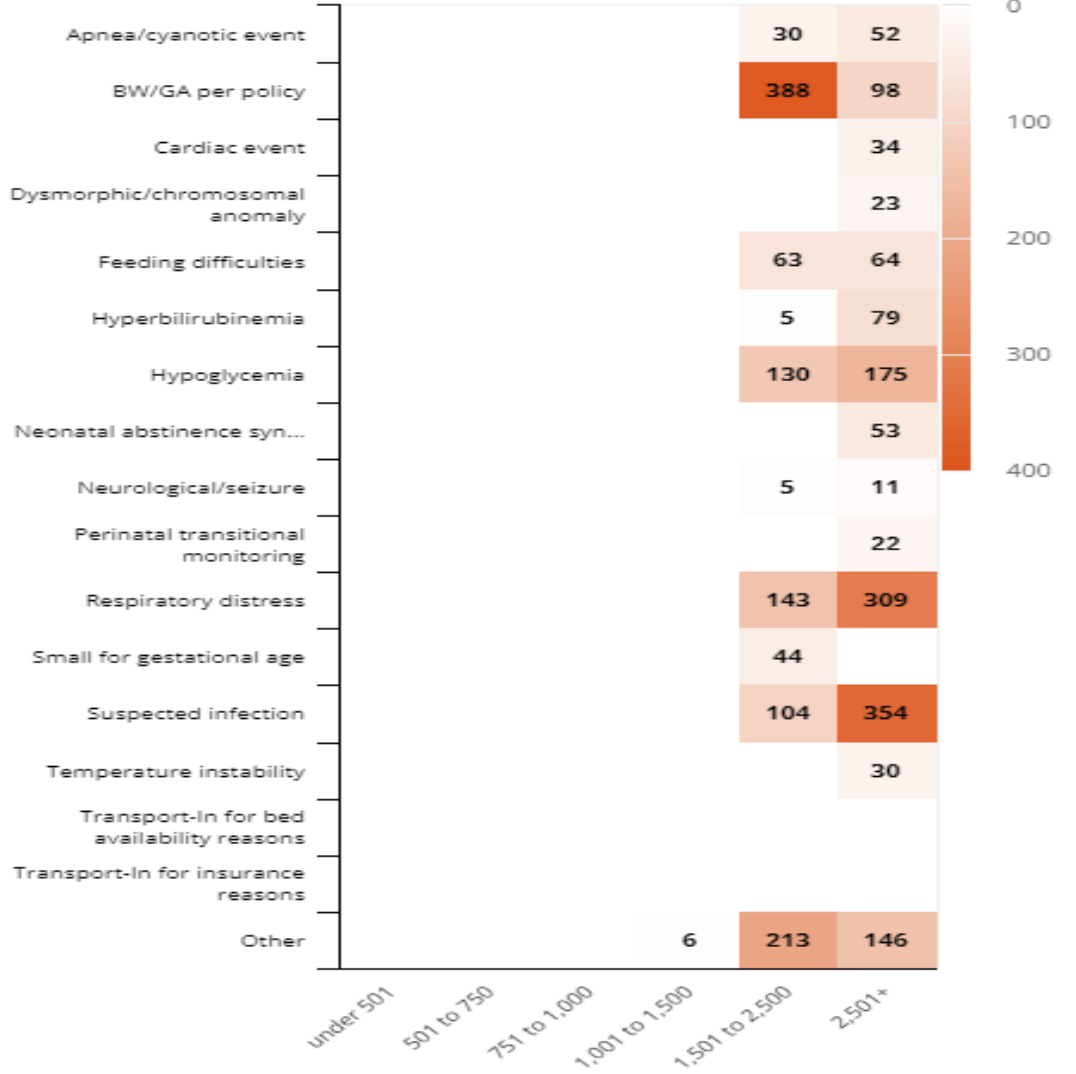
Total NICU Days ▾

By Birth Weight ▾

All Participating NICUs ▾

**Total NICU Days for Lower Acuity Inborn NICU Admits, 2022**

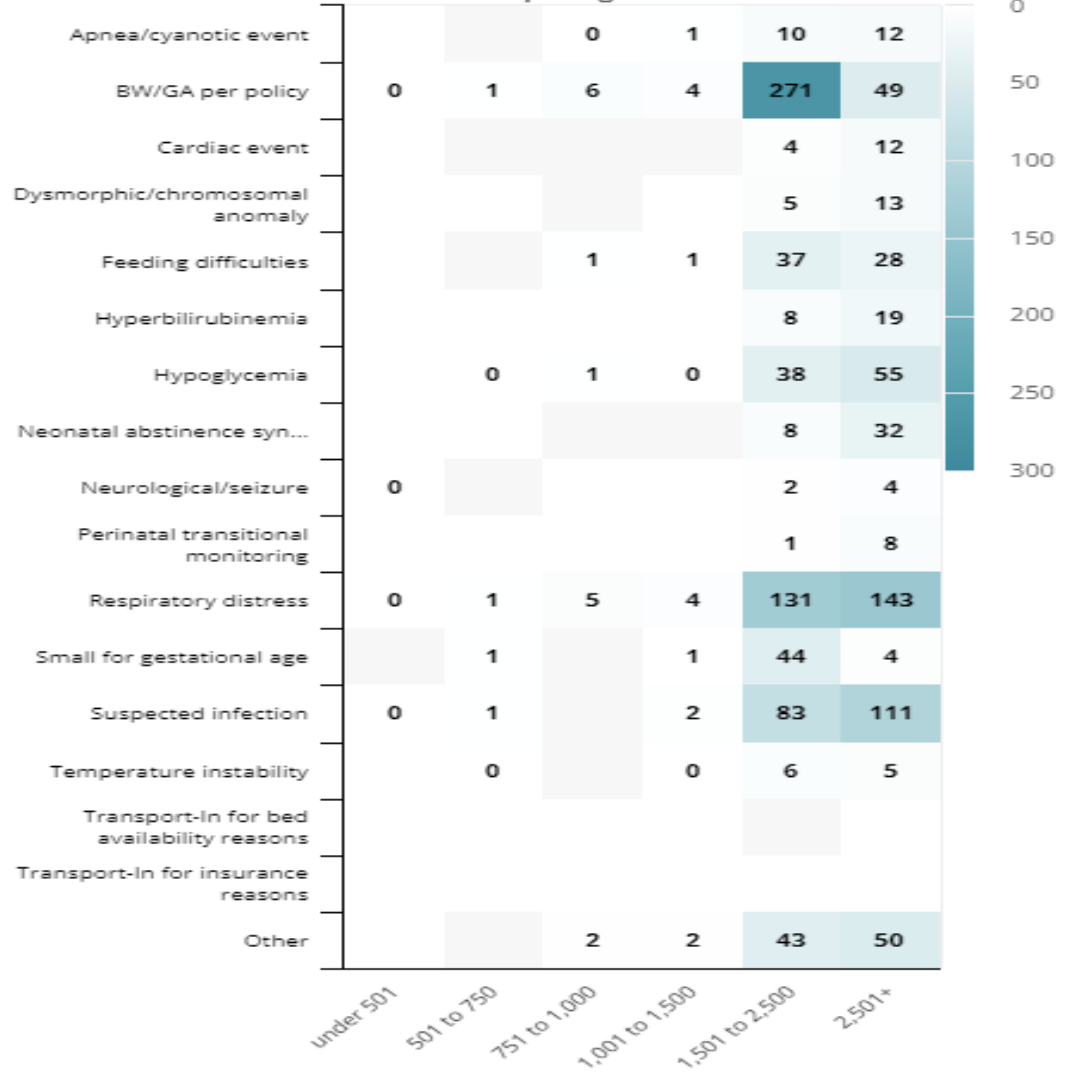
**Demo Center**



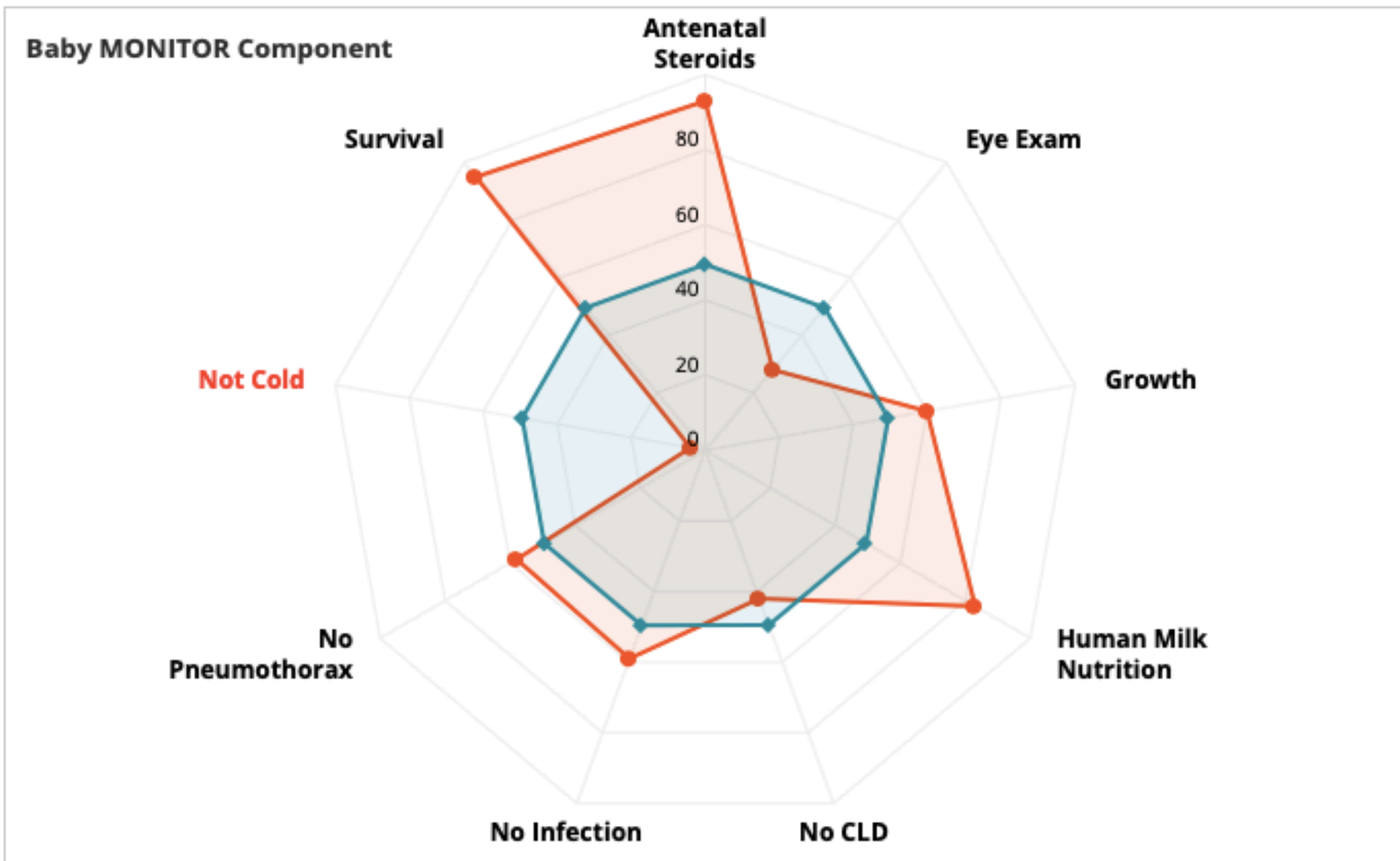
CPQCC

**Mean Total NICU Days for Lower Acuity Inborn NICU Admits, 2022**

**All Participating NICUs**



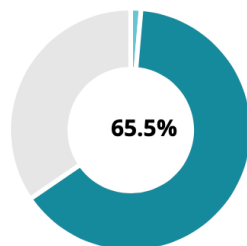
CPQCC



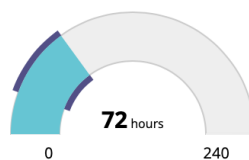
# Focusboards: Family Centered Care

Family Centered Care (FCC) Focusboard, Demo Center, Birth Year 2021 or Later as of Sep 27, 2023 at 06:07 [Tour](#)

Priming with Oral Colostrum at this NICU



Percent with Oral Colostrum



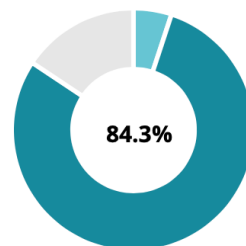
Median Hours to Oral Colostrum

The practice of priming with oral colostrum confers benefits to VLBW infants and signals NICU culture and commitment to use of mother's milk for nutrition.

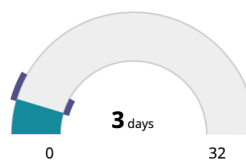
The percent and median shown are based on all inborn infants who were hospitalized at your hospital for at least 48 hours, who did not have anomalies affecting the ability to prime with oral colostrum, and who were not exposed to maternal substance use during fetal life.

Explore this topic ... [Go](#)

Skin-to-Skin at this NICU



Percent with Skin-To-Skin



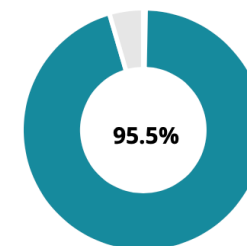
Median Days to Skin-To-Skin

Skin-to-skin care is protective against a variety of adverse neonatal outcomes. SKS requires holding of the infant by a family member. Positive touch is not counted. Infants that are transferred are included.

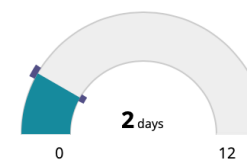
The percent and median shown are based on all inborn infants, who were hospitalized at your hospital for at least 5 days, and who did not have anomalies affecting the ability to provide skin-to-skin admitted to your NICU, and who never experienced high frequency ventilation.

Explore this topic ... [Go](#)

Social Worker Visit at this NICU



Percent with Social Worker Visit



Median Days to First Social Worker Visit

Timely social worker assessment is critical to identifying psychosocial and material needs of NICU families and to connect families to appropriate supportive services. Timely social worker contact, within 2 days of NICU admission, is also mandated by CCS regulations in California. The goal of this measure is to examine whether the needs of families are being assessed in a timely manner and to identify opportunities for improvement.

The percent and median shown are based on all inborn and outborn infants who were hospitalized for at least 3 days.

Explore this topic ... [Go](#)



# What about our 7000 high risk neonatal transports?

## 2007



### CORE CPETS ACUTE INTER-FACILITY- NEONATAL TRANSPORT FORM

| REFERRAL  |      |      |
|---|------|------|
| C.1 Transport type <input type="checkbox"/> Requested Delivery Attendance <input type="checkbox"/> Emergent <input type="checkbox"/> Urgent <input type="checkbox"/> Scheduled <input type="checkbox"/> Other |      |      |
| C.2 Indication <input type="checkbox"/> Medical Services <input type="checkbox"/> Surgery <input type="checkbox"/> Insurance <input type="checkbox"/> Bed Availability  |      |      |
| PATIENT IDENTIFICATION/HISTORY:   |      |      |
| C.3 Birth weight ___ ___ ___ grams    C.4 Gestational Age ___ weeks ___ days    C.5 <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown                            |      |      |
| C.6 Prenatally Diagnosed Congenital Anomalies <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Describe:   |      |      |
| C.7 Maternal Gravida                      C. 8 Steroids <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown   |      |      |
| C.9 Surfactant Given <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Delivery Room <input type="checkbox"/> Nursery                        |      |      |
| TIME SEQUENCE   | Date | Time |
| C.10 Maternal Admission to Perinatal Unit or Labor & Delivery   |      | at   |
| C.11 Last Antenatal Steroid Administration (last dose)  |      | at   |
| C.12 Infant Birth   |      | at   |
| C.13 Surfactant (first dose)  |      | at   |
| C.14 Referral (and Referring Hospital Evaluation)   |      | at   |
| C.15 Acceptance   |      | at   |
| C.16 Transport Team Departure from Transport Team Office/NICU for Referring Hospital  |      | at   |
| C.17 Arrival of Team at Referring Hospital/Patient Bedside and Initial Transport Evaluation   |      | at   |
| C.18 Initial Transport Team Evaluation  |      | at   |
| C.19 Arrival at Receiving NICU and Initial Evaluation   |      | at   |

# California Perinatal Transport System (CPeTS)

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- **Underutilization of maternal transport**
  - Percentage of births that were transferred
- **Delayed decision to transport infant**
  - Birth to initiation of transport interval
- **Difficult to obtain transport**
  - Initiation of transport to acceptance interval
- **Too long a wait for the team to arrive**
  - Acceptance to out the door time
- **Team competency not always optimal**
  - Arrival to completion change in clinical status



# HRIF Visits: Number and Timing



- Provides for 3 “standard” or core visits
  - #1 – 4 - 8 months
  - #2 – 12 - 16 months
  - #3 – 18 - 36 months
  - Additional visits covered by CCS as determined to be needed by HRIF team
- There is **no financial eligibility requirement** for HRIF services if the patient is medically-eligible.
- HRIF Health Equity Dashboard
- COVID tele-medicine protocols
- COVID Family Impact Study

## BACKGROUND

- Little is known about resource use among extremely premature infants in the early months after discharge
- Understanding post-discharge functional and medical outcomes including service utilization can aid in appropriately counseling families and caring for these infants after discharge

## AIM

- Among infants born 22+0 to 25+6/7 weeks in California between 2010-2017 and attending the 1<sup>st</sup> HRIF visit, examine medical and functional outcomes, medical service (MS) and special service (SS) use after discharge

## METHODS

- Retrospective analysis of population-based cohort
- Linked California Perinatal Quality Care Collaborative (CPQCC) and CPQCC-California Children's Services HRIF databases include >95% of VLBW infants and contain longitudinal data from NICU admission to HRIF visits
- Evaluated rates of hospitalization, surgeries, medications, equipment, MS and SS use and referrals at the first HRIF visit
- Multivariable logistic regression used to examine factors associated with receiving 2+ MS and 1+ SS
  - Final model included variables found to be significant in univariate analyses and individual models that evaluated maternal factors and infant factors (variables included in the final model are shown)

## RESULTS

- 5284/9213 survived to discharge home
  - 3941/5284 received a HRIF visit by 12mo corrected age
- Earlier GA infants had greater use of medications, equipment (Fig 1), MS and SS use and referral (Table 1)
- Maternal, infant and NICU characteristics were associated with high medical service (Table 2) and special service use (Table 3)

## CONCLUSIONS

- Extraordinarily premature infants have substantial medical and resource use after discharge
- Increased MS and SS utilization were associated with maternal and sociodemographic factors, in addition to expected clinical factors
- Early functional and service use information is extremely valuable to parents and underscores the need for NICU providers to appropriately prepare and refer families

## RESULTS

**TABLE 1. RATES OF MEDICAL AND SPECIAL SERVICES USE AND REFERRALS**

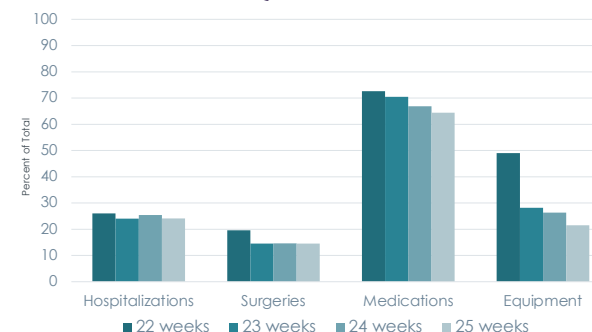
|  | 22 weeks EGA (N=51) | 23 weeks EGA (N=532) | 24 weeks EGA (N=1470) | 25 weeks EGA (N=1888) |
|--|---------------------|----------------------|-----------------------|-----------------------|
| <b>Receiving medical services*</b>                     |                     |                      |                       |                       |
| None   | 8 (15.7%)           | 79 (14.9%)           | 299 (20.3%)           | 437 (23.2%)           |
| 1  | 10 (19.6%)          | 100 (18.8%)          | 351 (23.9%)           | 523 (27.7%)           |
| <b>2+</b>  | <b>33 (64.7%)</b>   | <b>353 (66.4%)</b>   | <b>820 (55.8%)</b>    | <b>928 (49.2%)</b>    |
| <b>Receiving special services*</b>                     |                     |                      |                       |                       |
| None   | 19 (37.3%)          | 221 (41.5%)          | 671 (45.7%)           | 933 (49.4%)           |
| 1+   | <b>32 (62.8%)</b>   | <b>311 (58.5%)</b>   | <b>799 (54.4%)</b>    | <b>955 (50.6%)</b>    |
| <b>Referral made to medical services at HRIF visit</b> |                     |                      |                       |                       |
| Yes  | <b>13 (27.5%)</b>   | <b>83 (15.6%)</b>    | <b>189 (12.9%)</b>    | <b>235 (12.5%)</b>    |
| No   | 37 (72.6%)          | 449 (84.4%)          | 1281 (87.1%)          | 1653 (87.5%)          |
| <b>Referral made to special services at HRIF visit</b> |                     |                      |                       |                       |
| Yes  | <b>24 (47.1%)</b>   | <b>194 (36.5%)</b>   | <b>518 (35.2%)</b>    | <b>609 (32.3%)</b>    |
| No   | 27 (52.9%)          | 338 (63.5%)          | 952 (64.8%)           | 1279 (67.7%)          |

\*Medical services include any medical subspecialty (e.g. Cardiology, Ophthalmology, Pulmonology, Neurology). Special services include services for development, occupational therapy, physical therapy, speech, hearing, behavior, feeding, nutrition, nursing, social work.

**TABLE 2. ASSOCIATION OF FACTORS WITH RECEIVING 2+ MEDICAL SERVICES BY THE FIRST HRIF VISIT**

|  | Number of Medical Services |                         |                          |
|--|----------------------------|-------------------------|--------------------------|
|  | 1 or fewer (N=1807)        | 2 or more (N=2134)      | Adjusted OR (95% CI)     |
| <b>Maternal/Sociodemographic Characteristics</b> |                            |                         |                          |
| Maternal race                                    |                            |                         |                          |
| Non-hispanic white                               | 367/1797 (20.4%)           | 486/2126 (22.9%)        | ref                      |
| Hispanic white                                   | 927/1797 (51.6%)           | 1004/2126 (47.2%)       | 0.91 (0.75, 1.10)        |
| <b>Black</b>                                     | <b>295/1797 (16.4%)</b>    | <b>289/2126 (13.6%)</b> | <b>0.75 (0.59, 0.96)</b> |
| Asian/Pacific Islander                           | 176/1797 (9.8%)            | 292/2126 (13.7%)        | 1.14 (0.88, 1.47)        |
| Other  | 32/1797 (1.8%)             | 55/2126 (2.6%)          | 1.32 (0.78, 2.22)        |
| Maternal age                                     |                            |                         |                          |
| <20 years  | 142/1806 (7.9%)            | 97/2131 (4.6%)          | <b>0.58 (0.42, 0.80)</b> |
| 20-29  | 771/1806 (42.7%)           | 935/2131 (43.9%)        | ref                      |
| 30-39  | 790/1806 (43.7%)           | 974/2131 (45.7%)        | 0.91 (0.78, 1.06)        |
| >40  | 103/1806 (5.7%)            | 125/2131 (5.9%)         | 0.83 (0.61, 1.14)        |
| Maternal education                               |                            |                         |                          |
| Less than high school                            | 387/1708 (22.7%)           | 345/2027 (17.0%)        | 0.84 (0.70, 1.02)        |
| High school/GED or some college                  | 907/1708 (53.1%)           | 1030/2027 (50.8%)       | ref                      |
| <b>College or graduate degree</b>                | <b>395/1708 (23.1%)</b>    | <b>635/2027 (31.3%)</b> | <b>1.33 (1.11, 1.60)</b> |
| Unknown  | 19/1708 (1.1%)             | 17/2027 (0.8%)          | 0.61 (0.29, 1.28)        |
| Caregiver concern                                |                            |                         |                          |
| Yes  | 587/1800 (32.6%)           | 969/2119 (45.7%)        | <b>1.61 (1.41, 1.89)</b> |
| No   | 1213/1800 (67.4%)          | 1150/2119 (54.3%)       | ref                      |
| <b>Infant/Clinical Characteristics</b>           |                            |                         |                          |
| Sex  |                            |                         |                          |
| Female   | 948/1807 (52.5%)           | 957/2134 (44.9%)        | <b>0.77 (0.67, 0.89)</b> |
| Male   | 859/1807 (47.5%)           | 1177/2134 (55.2%)       | ref                      |
| Major morbidity                                  |                            |                         |                          |
| Yes  | 1116/1807 (61.8%)          | 1555/2134 (72.9%)       | <b>1.54 (1.32, 1.79)</b> |
| No   | 691/1807 (38.2%)           | 579/2134 (27.1%)        | ref                      |
| Any surgery during NICU stay                     |                            |                         |                          |
| Yes  | 796/1804 (44.1%)           | 1350/2130 (63.4%)       | <b>1.69 (1.47, 1.96)</b> |
| No   | 1008/1804 (55.9%)          | 780/2130 (36.6%)        | ref                      |
| <b>Discharging NICU Characteristics</b>          |                            |                         |                          |
| CCS level  |                            |                         |                          |
| Regional   | 631/1764 (35.8%)           | 1214/2063 (58.9%)       | ref                      |
| <b>Community</b>                                 | <b>1118/1764 (63.4%)</b>   | <b>842/2063 (40.8%)</b> | <b>0.40 (0.35, 0.47)</b> |
| Intermediate/Non-CCS                             | 15/1764 (0.9%)             | 7/2063 (0.3%)           | <b>0.23 (0.09, 0.63)</b> |

**FIGURE 1. RATES OF HOSPITALIZATIONS, SURGERIES, MEDICATION AND EQUIPMENT USE**



\*Medications included anti-reflux, bronchodilators, dietary supplements, oxygen, syngas, diuretics, steroids, other. Equipment included supplies for enteral feeding, tracheostomy or ventilator, ostomy, nebulizers, other.

**TABLE 3. ASSOCIATION OF FACTORS WITH RECEIVING 1+ SPECIAL SERVICES BY THE FIRST HRIF VISIT**

|  | Number of Special Services |                          |                          |
|--|----------------------------|--------------------------|--------------------------|
|  | None (N=1844)              | 1 or more (N=2097)       | Adjusted OR (95% CI)     |
| <b>Maternal/Sociodemographic Characteristics</b> |                            |                          |                          |
| Primary language                                 |                            |                          |                          |
| English  | 1370/1834 (74.7%)          | 1544/2091 (73.8%)        | 0.92 (0.71, 1.20)        |
| Spanish  | 342/1834 (18.7%)           | 396/2091 (18.9%)         | 1.18 (0.87, 1.60)        |
| Other  | 122/1834 (6.7%)            | 151/2091 (7.2%)          | ref                      |
| Maternal education                               |                            |                          |                          |
| <b>Less than high school</b>                     | <b>382/1743 (21.9%)</b>    | <b>350/1992 (17.6%)</b>  | <b>0.81 (0.67, 0.98)</b> |
| High school/GED or some college                  | 942/1743 (54.0%)           | 995/1992 (50.0%)         | ref                      |
| <b>College or graduate degree</b>                | <b>401/1743 (23.0%)</b>    | <b>629/1992 (31.6%)</b>  | <b>1.42 (1.21, 1.67)</b> |
| Unknown  | 18/1743 (1.0%)             | 18/1992 (0.9%)           | 1.07 (0.50, 2.29)        |
| Caregiver concern                                |                            |                          |                          |
| Yes  | 596/1827 (32.6%)           | 960/2092 (45.9%)         | <b>1.69 (1.47, 1.96)</b> |
| No   | 1231/1827 (67.4%)          | 1132/2092 (54.1%)        | ref                      |
| <b>Infant/Clinical Characteristics</b>           |                            |                          |                          |
| Multiple birth                                   |                            |                          |                          |
| Yes  | 368/1844 (20.0%)           | 512/2097 (24.4%)         | <b>1.22 (1.03, 1.22)</b> |
| No   | 1476/1844 (80.0%)          | 1585/2097 (75.6%)        | ref                      |
| Major morbidity                                  |                            |                          |                          |
| Yes  | 1200/1844 (65.1%)          | 1471/2097 (70.2%)        | <b>1.18 (1.02, 1.37)</b> |
| No   | 644/1844 (34.9%)           | 626/2097 (29.8%)         | ref                      |
| Any surgery during NICU stay                     |                            |                          |                          |
| Yes  | 933/1841 (50.7%)           | 1213/2093 (58.0%)        | <b>1.23 (1.08, 1.43)</b> |
| No   | 908/1841 (49.3%)           | 880/2093 (42.0%)         | ref                      |
| <b>Discharging NICU Characteristics</b>          |                            |                          |                          |
| CCS level  |                            |                          |                          |
| Regional   | 909/1802 (50.4%)           | 936/2025 (46.2%)         | ref                      |
| <b>Community</b>                                 | <b>883/1802 (49.0%)</b>    | <b>1077/2025 (53.2%)</b> | <b>1.28 (1.11, 1.47)</b> |
| Intermediate/Non-CCS                             | 10/1802 (0.6%)             | 12/2025 (0.6%)           | 1.18 (0.48, 2.90)        |

SR Hintz<sup>1,2</sup> T Lu<sup>1,2</sup> EE Gray<sup>1,2</sup> MA Jocson<sup>3</sup> for the CPQCC CCS HRIF Health Equity and Telehealth Guidance Work Groups

<sup>1</sup>Pediatrics, Stanford University School of Medicine; <sup>2</sup>California Perinatal Quality Care Collaborative (CPQCC); <sup>3</sup>California Department of Health Care Services

## Background

- The COVID pandemic has required rapid adaptations to healthcare delivery.
- HRIF visits have traditionally been in-person, but the pandemic has required expanded approaches.
- Telehealth uptake and factors associated with utilization across a statewide HRIF system in the first months of COVID have not been described.

## Objectives

In the California statewide HRIF network, we 1) explored clinic and regional differences in telehealth deployment, and 2) characterized sociodemographic and program-level disparities associated with HRIF visit by telehealth during the first 10 months of the COVID pandemic.

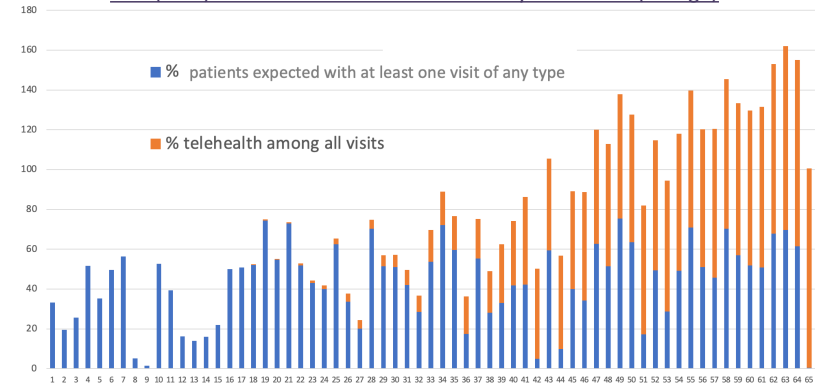
## Methods

- The CPQCC is a network of 140+ NICUs, that partners with the California Children's Services (CCS) to lead an integrated, statewide system of HRIF clinics.
- Eligible infants are referred to HRIF at NICU discharge for HRIF visits through 3 years (extended to 42 months due to COVID).
- Queries were added to HRIF data collection in March 2020 to determine if visit was in-person or via telehealth.
- We analyzed HRIF visits completed 4/1/2020 - 1/31/2021 to evaluate HRIF clinic and regional telehealth uptake.
- Multivariable logistic regression was used to examine factors associated with receiving a telehealth.

## Results

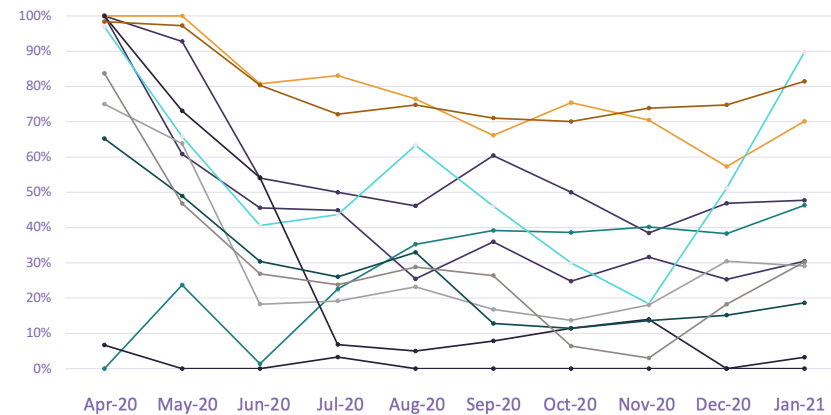
- Of 10,188 HRIF visits during the study period, 4274 (41.9%) were by telehealth.
- HRIF clinics varied broadly in use of telehealth [Fig 1].
- There was substantial regional variation in % of all HRIF visits done by telehealth [Fig 2].
- Multivariable analysis demonstrated factors independently associated with receiving telehealth visit [Table].

**Figure 1.** Proportion of patients expected by individual HRIF sites with at least one visit (blue) and % of all visits at site done by telehealth (orange)



Data presented as stacked bar chart. Thus, total may be greater than 100%.

**Figure 2.** Proportion of all HRIF visits in California regions done by telehealth by month



**Table.** Results of multivariable logistic regression analysis for receiving a telehealth visit among those with any HRIF visits 4/1/2020 to 1/31/2021

| Variable                           |  | Adjusted OR (95% CI) for telehealth visit |                              |          |
|------------------------------------|--|---|------------------------------|----------|
|                                    |  | OR  | 95% CI                       | p-value  |
| Estimated gestational age at birth | < = 26 weeks                                 | 0.74                                      | (0.64, 0.86)                 | <0.0001  |
|                                    | 27 – 30 weeks                                | 0.83                                      | (0.75, 0.92)                 |          |
|                                    | > = 31 weeks                                 | Reference                                 |                              |          |
| Maternal race                      | Black  | 1.23                                      | (1.02, 1.48)                 | <0.0001  |
|                                    | Hispanic                                     | 0.81                                      | (0.72, 0.92)                 |          |
|                                    | White  | Reference                                 |                              |          |
|                                    | Asian<br>Native American, Other              | 1.4<br>0.9                                | (1.19, 1.64)<br>(0.69, 1.17) |          |
| Caregiver education                | Less than high school                        | 1.32                                      | (1.05, 1.66)                 | 0.00002  |
|                                    | College degree or Graduate degree            | 1.11                                      | (0.95, 1.28)                 |          |
|                                    | Unknown or Other                             | 1.33                                      | (1.16, 1.52)                 |          |
|                                    | High school GED or Some college              | Reference                                 |                              |          |
| Caregiver employment               | Full-time                                    | Reference                                 |                              | <0.0001  |
|                                    | Part time, temporary                         | 1.3                                       | (1.05, 1.61)                 |          |
|                                    | Not currently employed                       | 1.28                                      | (1.11, 1.48)                 |          |
|                                    | Unknown                                      | 1.82                                      | (1.58, 2.11)                 |          |
| Home arrangement                   | Both parents                                 | 0.81                                      | (0.73, 0.9)                  | 0.0002   |
|                                    | Single Parent                                | Reference                                 |                              |          |
|                                    | Others or relatives                          | 0.97                                      | (0.54, 1.75)                 |          |
|                                    | Foster/ adopted                              | 0.66                                      | (0.48, 0.91)                 |          |
| Distance to HRIF Clinic            | 1 <sup>st</sup> quartile (shortest distance) | Reference                                 |                              | <0.0001  |
|                                    | 2 <sup>nd</sup> quartile                     | 0.75                                      | (0.65, 0.87)                 |          |
|                                    | 3 <sup>rd</sup> quartile                     | 1.18                                      | (1.03, 1.36)                 |          |
|                                    | 4 <sup>th</sup> quartile                     | 2.0                                       | (1.74, 2.31)                 |          |
| HRIF clinic volume                 | 1 <sup>st</sup> quartile                     | 0.54                                      | (0.38, 0.76)                 | <0.0001  |
|                                    | 2 <sup>nd</sup> quartile                     | 0.43                                      | (0.36, 0.51)                 |          |
|                                    | 3 <sup>rd</sup> quartile                     | 0.59                                      | (0.52, 0.67)                 |          |
|                                    | 4 <sup>th</sup> quartile (highest volume)    | Reference                                 |                              |          |
| Insurance type                     | HMO/PPO - without-CCS                        | 2.25                                      | (1.72, 2.95)                 | < 0.0001 |
|                                    | HMO/PPO - with CCS                           | Reference                                 |                              |          |
|                                    | CCS or MediCal only                          | 1.37                                      | (1.04, 1.8)                  |          |
|                                    | OTHER including self pay                     | 3.03                                      | (2.13, 4.31)                 |          |

## Conclusions

- This statewide analysis demonstrated heterogeneity of telehealth use during the first months of COVID. Multiple factors were independently associated with receiving a telehealth visit.
- Findings may be reflective of early challenges in launching telehealth, concerns about care and service with telehealth visits, and differing timelines to reinstating in-person visits.
- CPQCC-CCS HRIF has developed telehealth guidance and expanded telehealth-validated instrument options [cpqcc.org](https://cpqcc.org) → Follow-Up → HRIF Data Resources

# HRIF Health Equity Dashboard (new!)

## Health Equity Dashboard

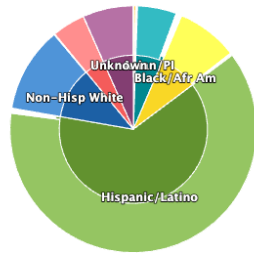
HRIF Program Camp Halfblood Hospital - ZCEZKM - UPF

Factors: Race/Ethnicity Birth Years: 2011 - 2015 BW or GA: All

SV 1 SV 2 SV 3

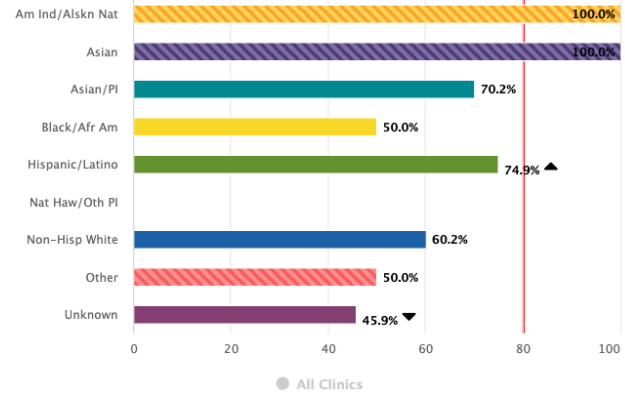
### Race/Ethnicity Distribution

Total Registered: 921  
Total Expected: 903

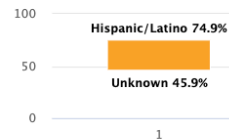


Am Ind/Alskn Nat Asian Asian/PI  
Black/Afr Am Hispanic/Latino Nat Haw/Oth PI  
Non-Hisp White Other Unknown

### Follow up Rate by Race/Ethnicity

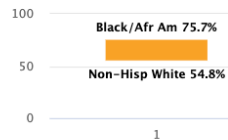


### Follow up Rate



Select

### Early Intervention



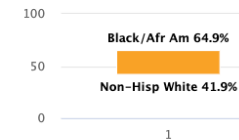
Select

### Medical Services



Select

### Special Services



Select

# Continuum of care structure – unique to California!

Neonatal  
Transport  
Data



All Baby Data  
High Risk Data



CMQCC Data

RPPC Data

HRIF Data



# CMQCC Team



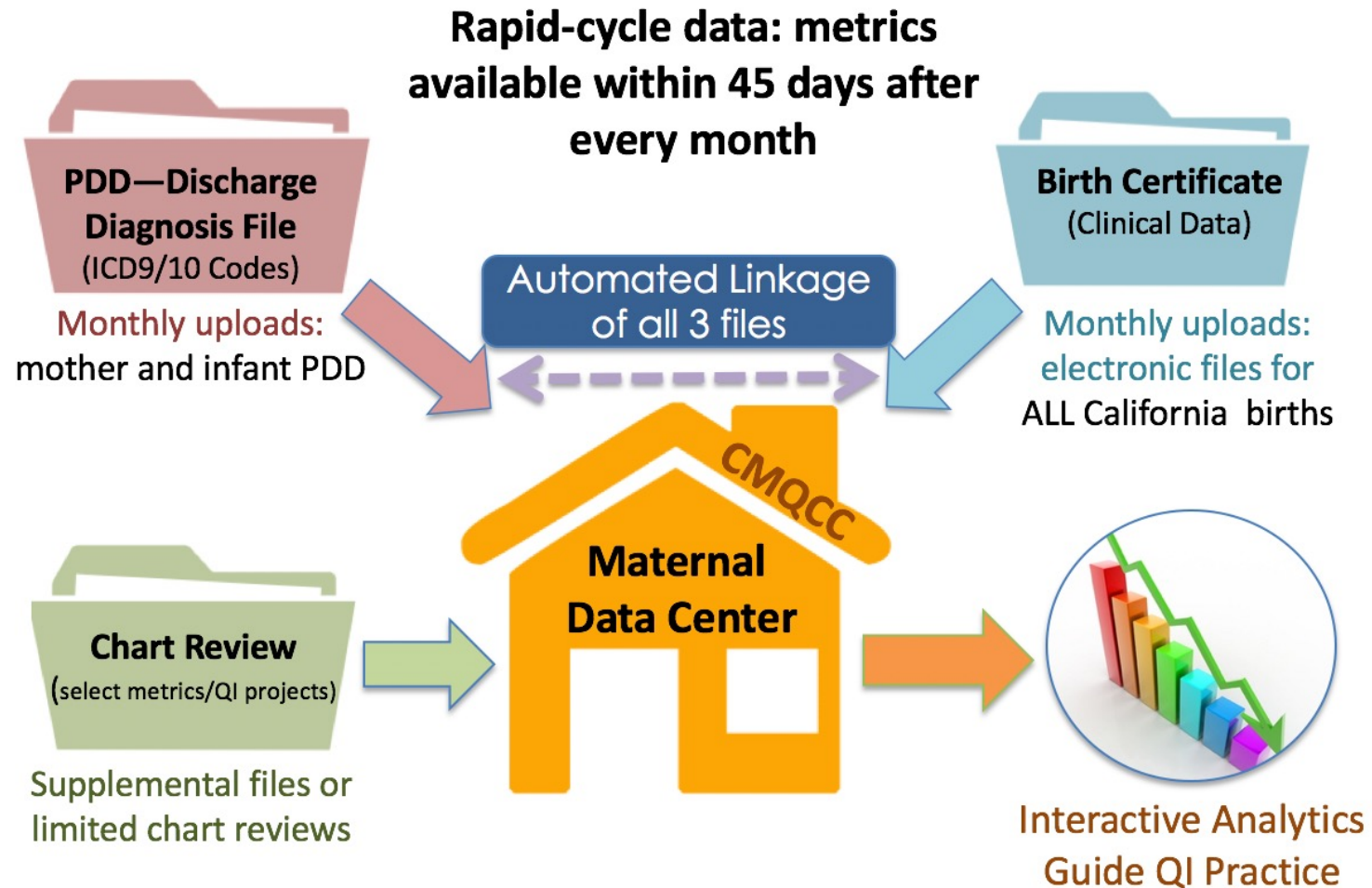
# California Maternal Quality Care Collaborative (CMQCC)

---

**Mission:** End preventable morbidity, mortality and racial disparities in California maternity care.

- Research and maternal mortality review data, recommendations.
- Quality improvement toolkits and collaboratives.
- Innovative Maternal Data Center.

# CMQCC Maternal Data Center

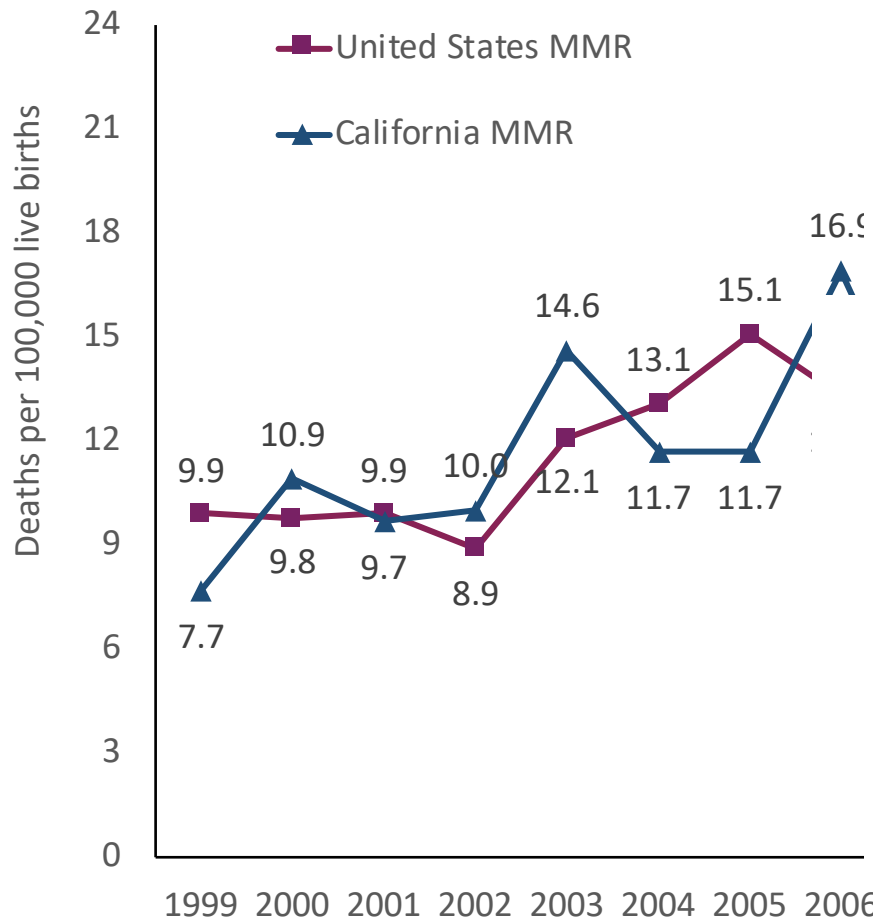


Links over 1,000,000 mother/baby records each year!

# CMQCC Quality Improvement Activities

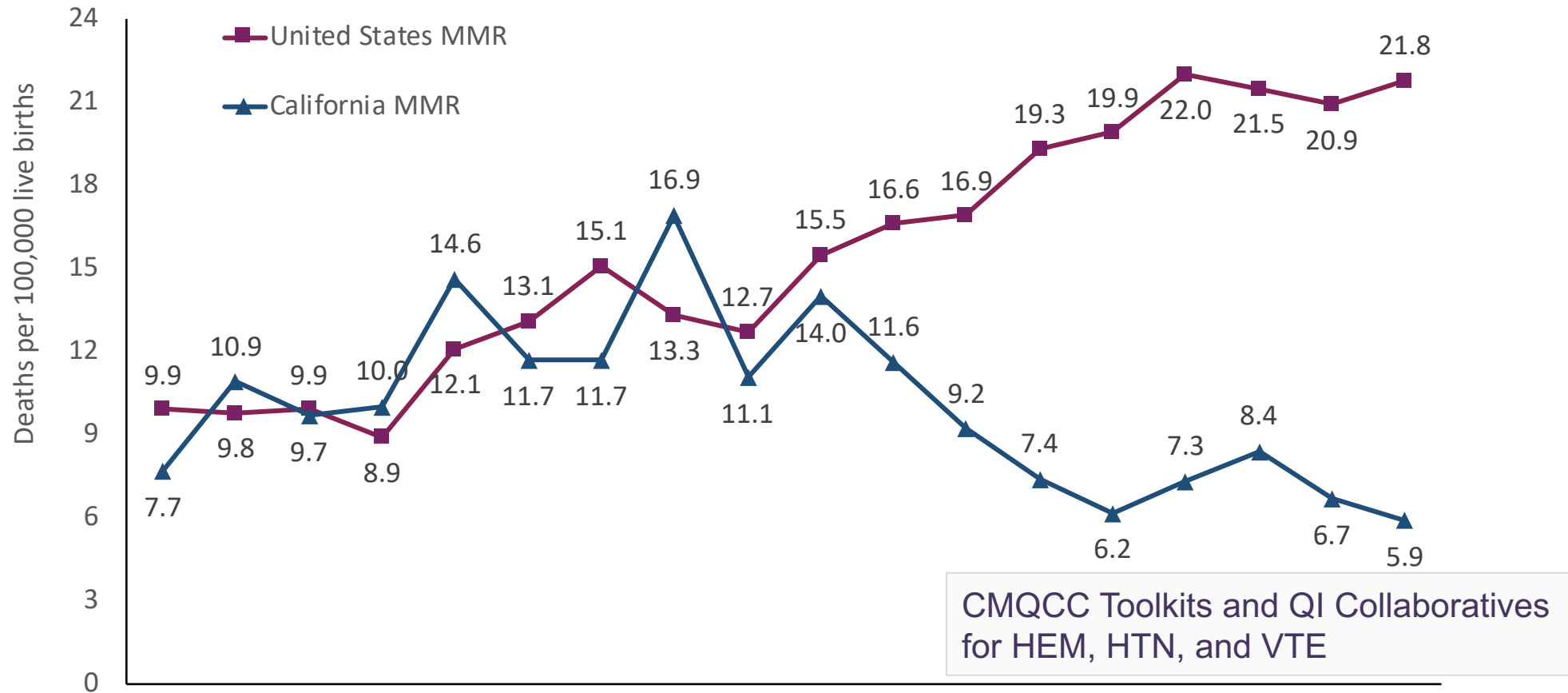
| Year | QI Toolkits   | Years   | QI Collaboratives  |
|------|---|---------|--|
| 2010 | Eliminating Early Elective Deliveries                                       | 2009-10 | CMQCC <b>Hemorrhage</b> QI collaboratives I and II   |
| 2010 | Obstetric Hemorrhage  | 2010-11 | CMQCC/CDPH <b>Preeclampsia</b> Task Force and QI collaborative   |
| 2014 | Preeclampsia  | 2011-14 | HEN/CMQCC/CHA-HQI QI collaborative focused on <b>hemorrhage and preeclampsia</b>   |
| 2015 | Obstetric Hemorrhage (2 <sup>nd</sup> Ed)                                   | 2015-16 | CMQCC/Merck for Mothers QI collaborative for <b>hemorrhage and hypertension</b> severe morbidity                                   |
| 2016 | Reducing Primary Cesarean Birth (CHCF funded)                               | 2016-19 | CMQCC QI collaboratives (3 cohorts) for Supporting Vaginal Birth and <b>Reducing Primary Cesarean Delivery</b>                     |
| 2017 | Cardiovascular Disease  | 2018--  | CMQCC QI Academies (new multi-hospital cohort every 6 months: <b>QI science</b> “work-study”)                                      |
| 2018 | Venous Thromboembolism  | 2019--  | <b>CMQCC/CPQCC/HMA</b> QI collaboratives (3 cohorts) for Mothers and Babies with Substance Use Disorder (focus on <b>Opioids</b> ) |
| 2019 | Maternal Sepsis (CMQCC funded)  | 2019--  | CMQCC <b>Birth Equity</b> QI collaborative (Pilot)   |
| 2020 | Mother-Baby Substance Use (CA DHCS funded) – <b>joint with CPQCC</b>        | 2021    | Hypertensive Disorders of Pregnancy Task Force   |
| 2020 | Birth Equity (CHCF funded)  | 2022    | Critical Access Group (CAH)  |
| 2021 | Improving Health Care Response to Hypertensive Disorders of Pregnancy (HDP) |         |  |
| 2022 | Low-Dose Aspirin Partnership Campaign Pilot                                 |         |  |

# Figure 1: Maternal Mortality Ratio in U.S. and California, 1999-2016



Maternal mortality ratio (MMR) = Number of maternal deaths per 100,000 live births, up to 42 days after the end of pregnancy. Maternal deaths in California were identified using ICD-10 cause of death classification for obstetric deaths (codes A34, O00-O95, O98-O99) from the California death certificate data (1999-2013) and the California pregnancy status errata file (2014-2016). Data on U.S. maternal deaths are published by the National Center for Health Statistics and found in the CDC WONDER Database for years 2008 or later (accessed at <http://wonder.cdc.gov> on February 25, 2020).

# Figure 1: Maternal Mortality Ratio in U.S. and California, 1999-2016



CMQCC Toolkits and QI Collaboratives for HEM, HTN, and VTE

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

Maternal mortality ratio (MMR) = Number of maternal deaths per 100,000 live births, up to 42 days after the end of pregnancy. Maternal deaths in California were identified using ICD-10 cause of death classification for obstetric deaths (codes A34, O00-O95, O98-O99) from the California death certificate data (1999-2013) and the California pregnancy status errata file (2014-2016). Data on U.S. maternal deaths are published by the National Center for Health Statistics and found in the CDC WONDER Database for years 2008 or later (accessed at <http://wonder.cdc.gov> on February 25, 2020).

**Lots of activity but has it made a  
difference?**

*Improving the Quality and Equity  
of Care for California's Most Vulnerable  
Infants & Their Families*

21%

Reduction in mortality for  
very low birth  
weight infants

99%

Referral of very low birth  
weight infants for follow-  
up care

77%

Reduction in hypothermic  
admissions of very low  
birth weight infants

49%

Decrease in the rate of  
healthcare-associated  
infections



# NICU Level Improvement Impact 2008-2017

Member hospitals  
reduced mortality  
rates for VLBW  
infants by

15%

An additional

9%

of babies were discharged  
without major morbidities  
like severe ROP, NEC, CLD,  
and severe IVH

And the rate of  
Necrotizing  
enterocolitis (NEC)  
decreased by

45%

Lee, Liu, Profit, Hintz, Gould.  
J Perinatol. 2020 Jul;146(1):e20193865

# NICU Level Improvement Impact

2008-2017

Member hospitals  
reduced severe  
intraventricular  
hemorrhage by

19%

36%

fewer infants with severe  
retinopathy of prematurity  
(ROP) or ROP surgery

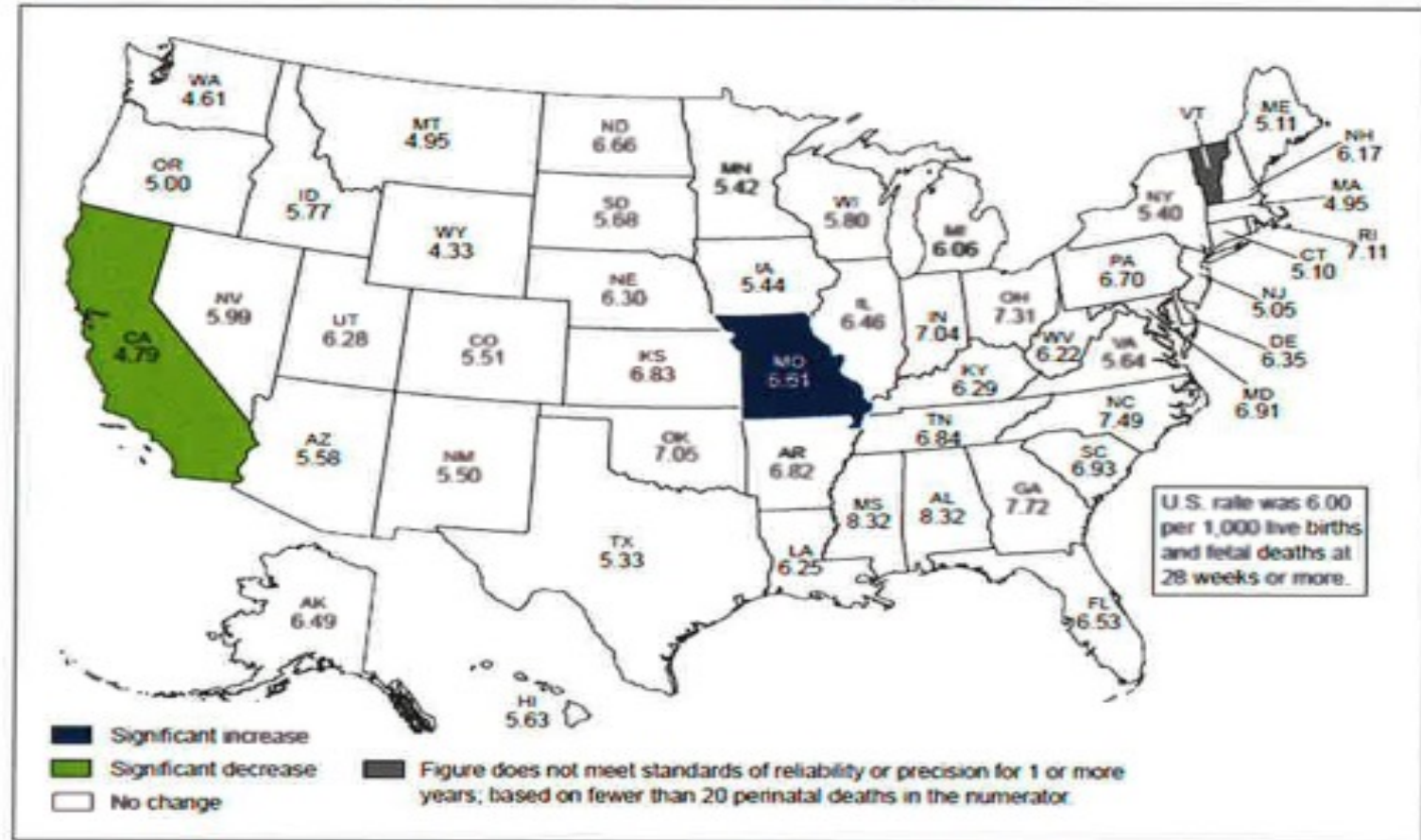
The rate of  
nosocomial  
infection declined  
by

44%

# Our Impact

CDC report shows California as the *only state to significantly decrease perinatal mortality* between 2014 to 2016.

Figure 4. Perinatal mortality rates by state for 2016 and change in 2016 compared with 2014



NOTES: Rate per 1,000 live births and fetal deaths at 28 weeks or more. Significant increase or decrease at  $p < 0.05$ . Access data table for Figure 4 at [https://www.cdc.gov/nchs/data/databriefs/db316\\_table.pdf#4](https://www.cdc.gov/nchs/data/databriefs/db316_table.pdf#4). SOURCE: NCHS, National Vital Statistics System.

# CPQCC Team

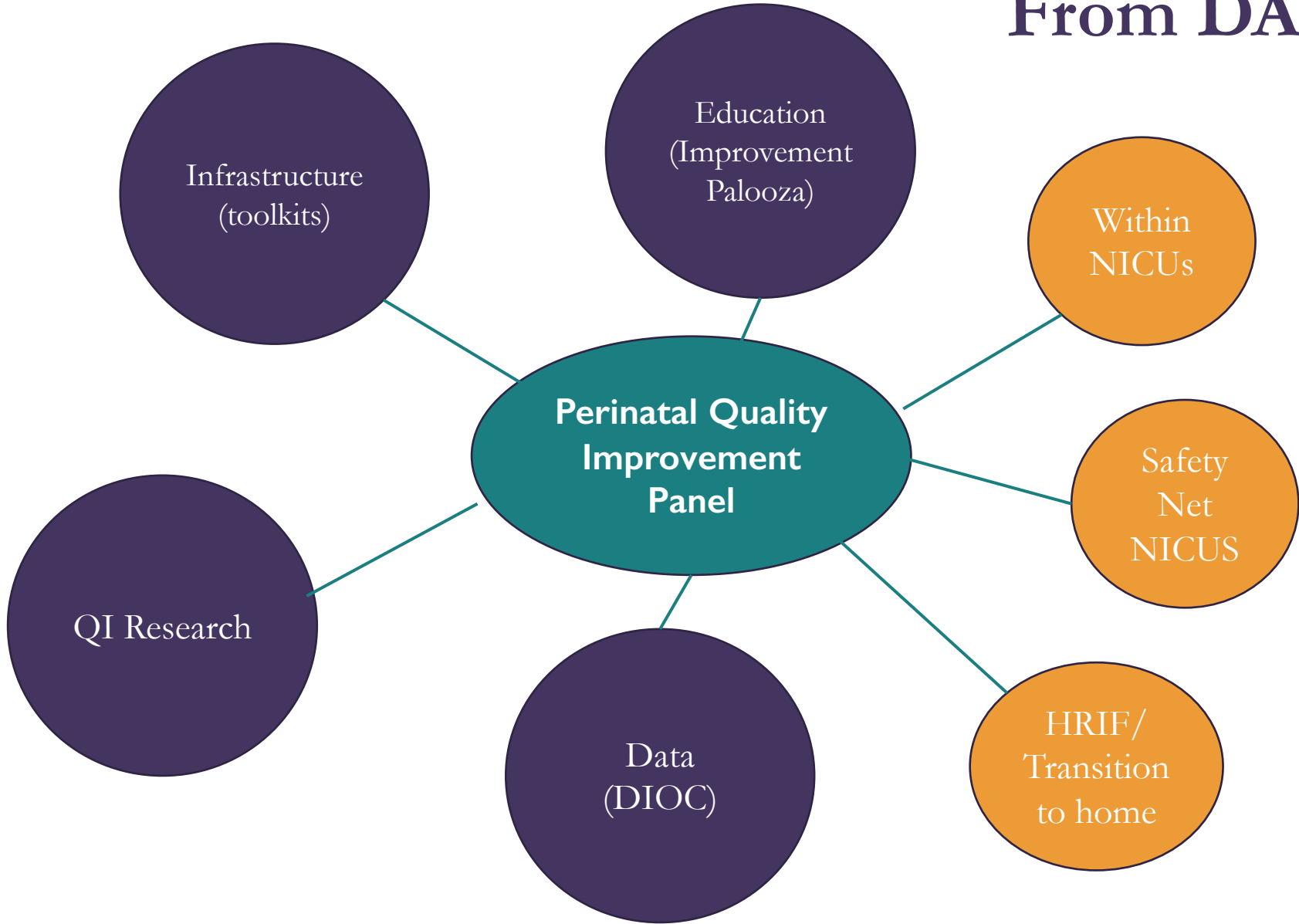


# Perinatal Quality Improvement Panel (PQIP)

Courtney Breault,  
MS, RN, CPHQ

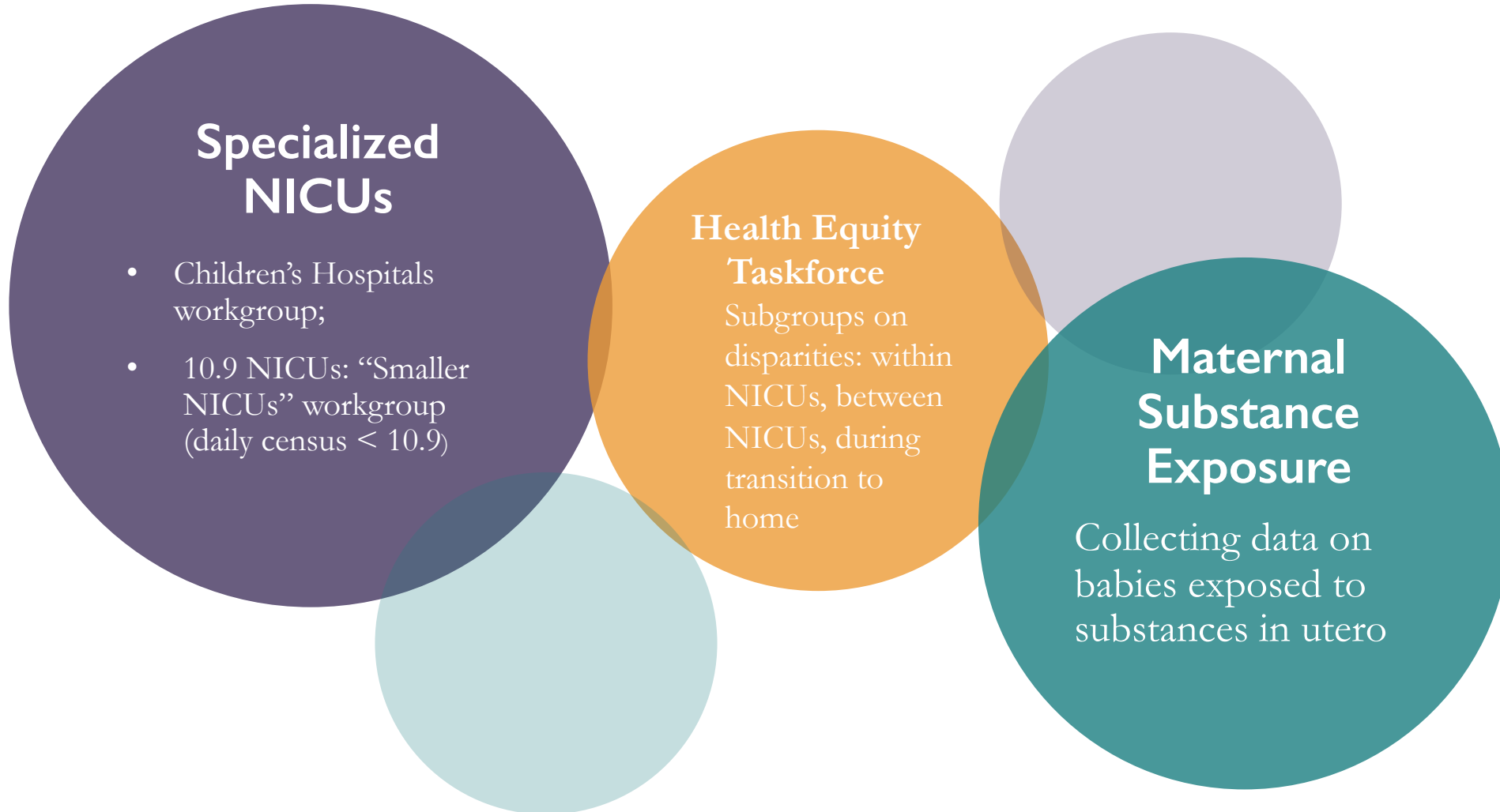


# From DATA to Action



Health Equity

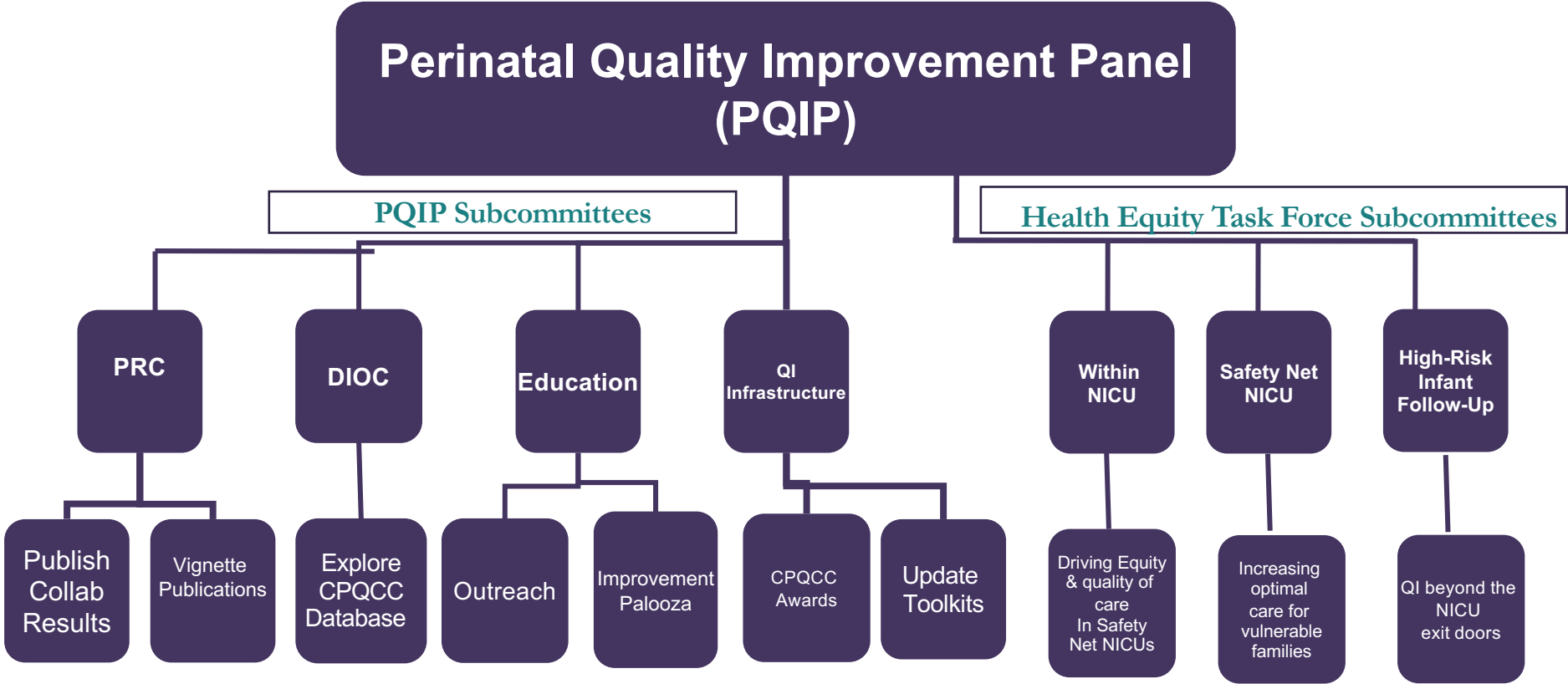
# Member-Led Workgroups



# PQIP Structure

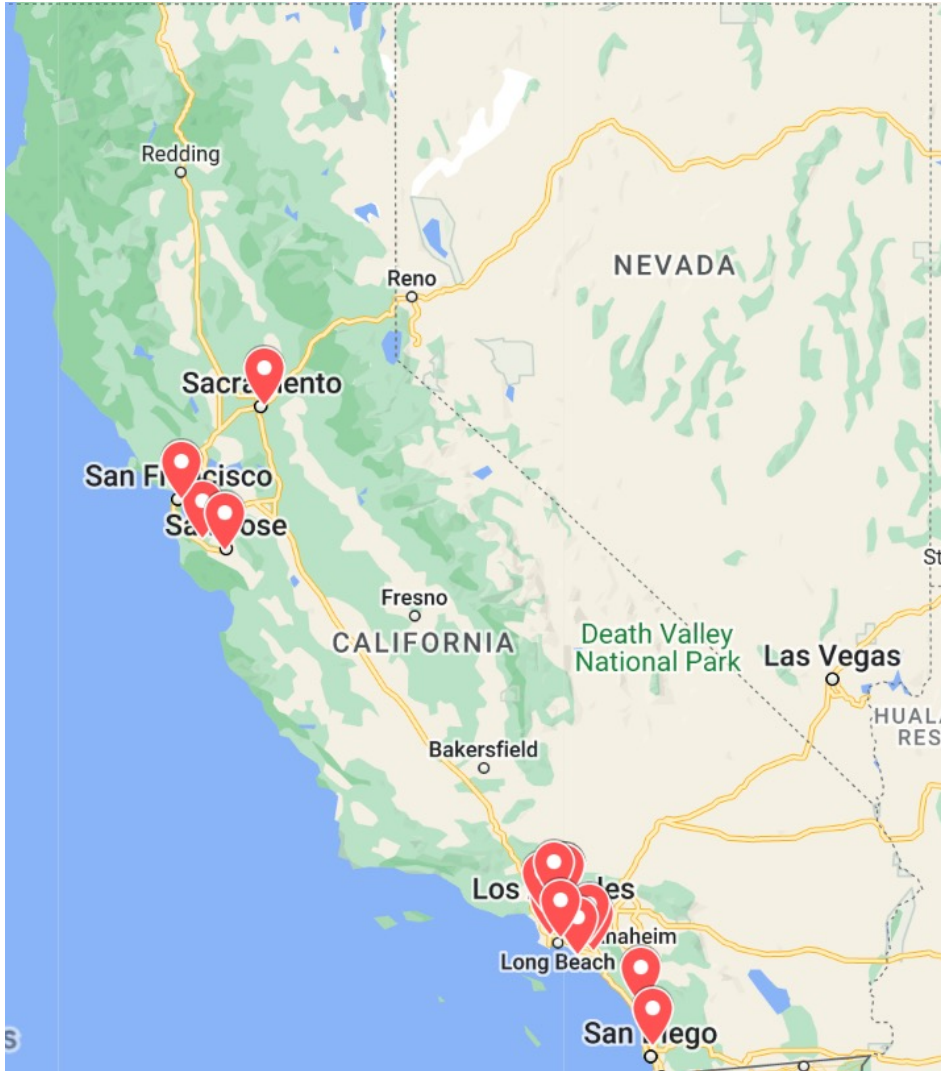
12 meetings per year  
4 face-to-face meetings and monthly Zooms

**PQIP Chair**  
Courtney Breault, MS, RN Associate Director of Quality





# Perinatal Quality Improvement Panel (PQIP)



## 23 PQIP members

|             |              |
|-------------|--------------|
| Irfan       | Ahmad        |
| Lisa        | Bain         |
| David       | Braun        |
| Malathi     | Balasundaram |
| Jennifer    | Canvasser    |
| Priya       | Jegatheesan  |
| Ashwini     | Lakshmanan   |
| Maria A. L. | Jocson       |
| Michel      | Mikhael      |
| Mindy       | Morris       |
| Guadalupe   | Padilla-Robb |
| Kurlen      | Payton       |
| Pedro       | Paz          |
| William     | Rhine,       |
| Elizabeth   | Rogers       |
| Joseph      | Schulman     |
| Rachelle    | Sey          |
| Aida        | Simonian     |
| Tony        | Soliman      |

## CPQCC Faculty

|         |        |
|---------|--------|
| Jeffrey | Gould  |
| Henry   | Lee    |
| Jochen  | Profit |
| Susan   | Hintz  |

CPQCC QI  
Collaboratives



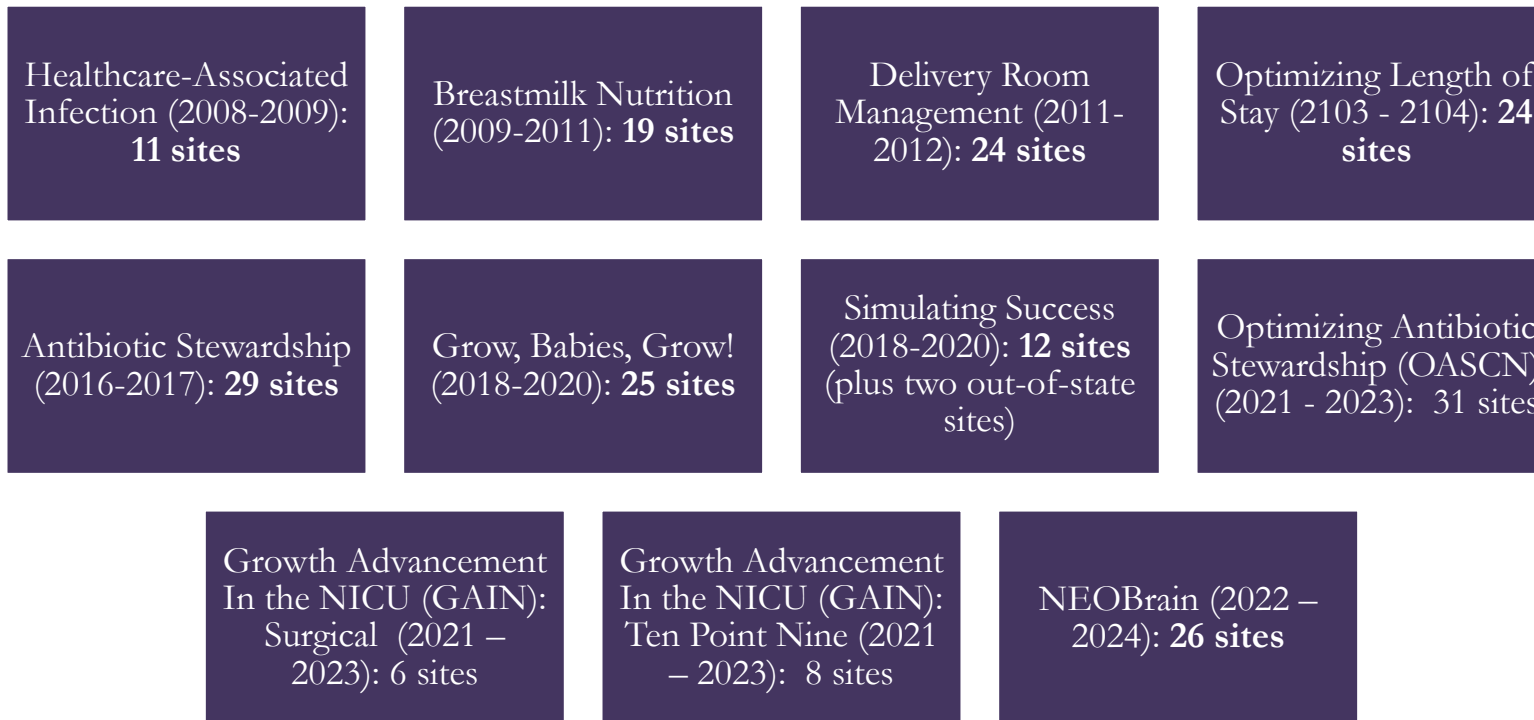
# CPQCC QI Collaboratives

- Designed to help NICUs improve specific areas of care using evidence-based practices.
- We offer large, multi-site "collaborative" projects as well as smaller, more targeted approaches
- Quality improvement collaboratives are open to all CPQCC member hospitals.
- CPQCC leverages the Institute for Healthcare Improvement (IHI) Model for quality improvement.

## QI Collaborative Goals:

1. Build practical improvement capacity based on the science of improvement into every CPQCC NICU, healthcare executive, and clinician
2. Drive innovation to dramatically improve performance at all levels of the health care system.

# CPQCC Collaboratives Over the Past 15 Years



# CPQCC QI COLLABORATIVES

## 15 Years of Improvement

### Healthcare-Associated Infections

February 2008 to January 2009

The 19 NICUs in the Healthcare Associated Infections Collaborative decreased catheter-associated bloodstream infections (CABSIs) by 75% in infants with birth weights  $\leq$  1500 grams. The project aimed to reduce the occurrence of CABSIs to almost zero system-wide.



### Breastmilk Nutrition

September 2009 to April 2011

11 CPQCC NICUs participated in a collaborative designed to increase breastmilk feeding rates for VLBW infants through implementation of a set of best practices outlined in the CPQCC Nutritional Support of the VLBW Infant Toolkit. The toolkit was subsequently updated in 2018. By the end of the collaborative, participants had increased breastmilk feeding at discharge to 64%, from 54.6% at the start of the collaborative. Participants also saw a decrease in NEC rates from 7% to 2.4%.

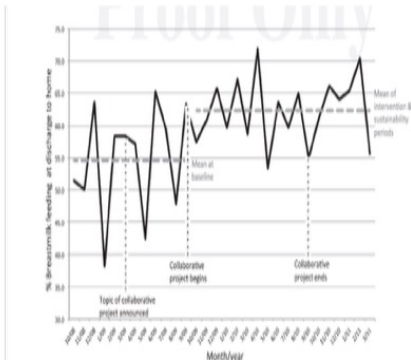
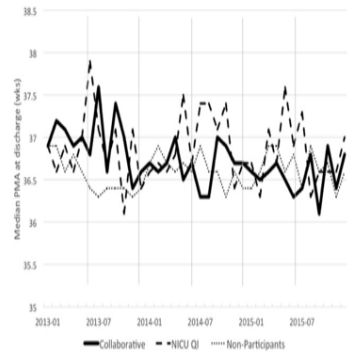


FIGURE 1  
Annulated run chart of breast milk feeding at discharge for collaborative participants.



### Optimizing Length of Separation

June 2013 to May 2015

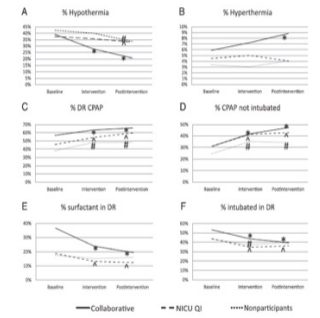
20 of our member NICUs participated in the Optimizing Length of Separation Collaborative, which aimed to reduce the length of hospital stay by three days for infants born between 27-32 weeks gestational age. Participants were encouraged to use a standardized approach to feeding, discharge planning, and apnea/bradycardia management in order to achieve this aim. By the end of the 18-month collaborative, participants decreased length of separation by three days and increased early discharge (before 36 weeks, 5 days) to 41.9% from 31.6%.

### Delivery Room Management

June 2011 to November 2012

The 20 hospitals in the Delivery Room Management Collaborative saw a collective decrease in hypothermia, delivery room intubation, and surfactant administration as a result of their participation. The project aimed to improve management of high-risk deliveries through the implementation of a best practice bundle that included strategies to avoid hypothermia; establish lung volume in the least-invasive manner; and support teamwork with checklists, briefings, and debriefings.

Related publication: Implementation methods for delivery room management: a quality improvement comparison study



### Antibiotic Stewardship

June 2016 to November 2017

CPQCC's Antibiotic Stewardship Collaborative included 28 of our member NICUs, the largest group to date, and aimed to reduce antibiotic utilization rates through the application of a bundle of best practices, including routine antibiotic "time-outs" 48-72 hours after obtaining cultures. Preliminary findings indicate that the collaborative group eliminated roughly 11,700 "antibiotic days" across California and safely decreased the antibiotic utilization rate (AUR) by 13.8%. These improvements helped to decrease the risk of antibiotic resistance and adverse drug events as well as the cost of care at these NICUs.



# CPQCC QI COLLABORATIVES

## 15 Years of Improvement

### Grow, Babies, Grow! 2018 - 2020

The Grow, Babies, Grow! project will help NICUs **optimize growth and nutrition** of VLBW infants, with the goal of reducing growth failure at discharge.

### NICUs Enabling Optimal Brain Health (NEOBrain)

The NICUs Enabling Optimal Brain Health (NEOBrain) Collaborative aims to promote neuroprotective care for VLBW infants < 32 weeks gestational age.

### Optimizing Antibiotic Stewardship in California NICUs

*March 2021 – February 2023*

The Optimizing Antibiotic Stewardship in California NICUs (OA Collaborative) aimed to scale up dissemination of various nationally recommended interventions to improve antimicrobial stewardship : NICUs in California using a blended QI collaborative and ECHO™ (Extension for Community Healthcare Outcomes) tele-learning model. ECHO™ is an evidence-based, American Academy Pediatrics-endorsed method of practice dissemination used globally focuses on faculty-facilitated, case-based learning tailored to how cli are inclined to learn and build practice consensus. QI collaboratives similarly including faculty facilitation and peer-learning, focus on supporting continuous quality improvement efforts by site implementation teams. OASCN was supported by a grant from the Agency for Healthcare Research and Quality (AHRQ Grant# R18HS26168-01A1) to implement and evaluate the collaborative.

### Growth Advancement in the NICU: Ten Point Nine

The GAIN: Ten Point Nine Collaborative aims to improve growth and nutrition for infants with a birth weight > 1500 grams in NICUs with an average daily census of ≤ 10.9.

### In Situ Simulation

*April 2018 – April 2020*

### Growth Advancement in the NICU: Surgical Patients

The Growth Advancement in the NICU (GAIN): Surgical Patients Collaborative aims to improve growth and nutrition for infants who have had intestinal surgeries.

# 2021-22 Quality Improvement Collaboratives

Launched from  
Member-Led Initiatives


**Optimizing Antibiotic Stewardship in California NICUs (OASCN)**  
COLLABORATIVE GOAL



**SAFELY REDUCE ANTIBIOTIC USE RATES** in participating NICUs for infants of all gestational ages.

*January 2021 – 29 sites*

**Growth Advancement in the NICU (GAIN): Ten Point Nine**  
COLLABORATIVE GOAL



**IMPROVE GROWTH AND NUTRITION** for infants > 1500 grams in participating NICUs with an average daily census of ≤ 10.9.

*July 2021 – 6 sites*


**Growth Advancement in the NICU (GAIN): Surgical Patients**  
COLLABORATIVE GOAL



**IMPROVE GROWTH AND NUTRITION** for infants who have had intestinal surgeries in participating NICUs.

*July 2021 – 8 sites*

**NICUs Enabling Optimal Brain Health (NEOBrain)**  
COLLABORATIVE GOAL



**PROMOTE NEUROPROTECTIVE CARE** for VLBWs in participating NICUs.

*May 2022 – 27 sites*

Record number: 70 hospitals participating in CPQCC QI collaboratives at one time!

# 2021-2022 First Time Participating Centers in CPQCC QI Collaboratives

24 NICUs new  
to CPQCC QI  
Collaboratives!

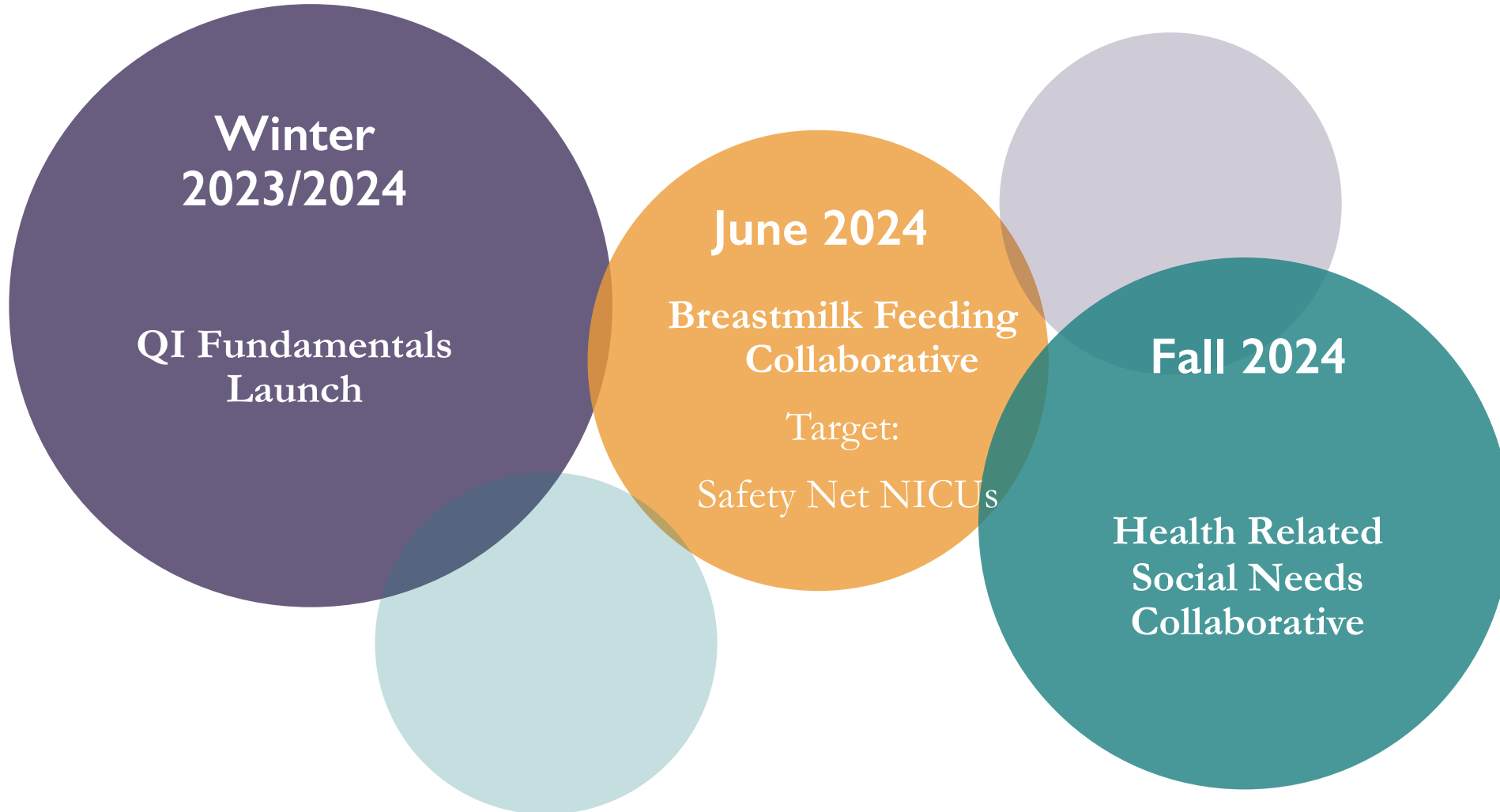
1. Arrowhead Regional Medical Center
2. Children's Hospital LA
3. Community Memorial Hospital
4. Garfield Medical Center
5. Kaiser Permanente Baldwin Park Medical Center
6. Kaiser Permanente Medical Center Irvine
7. Kaiser Permanente Ontario Medical Center
8. Kaiser Permanente Riverside Medical Center
9. Kaiser Permanente West Los Angeles
10. KFH Orange County - Anaheim
11. KFH South Bay
12. LAC+USC
13. LPCH at Sequoia
14. O'Connor Hospital
15. Orange County Global Medical Center
16. Parkview Community Hospital Medical Center
17. Providence Cedars – Sinai Tarzana Medical Center
18. Providence Santa Rose Memorial Hospital
19. Salinas Valley Memorial Hospital
20. Santa Clara Valley Medical Center
21. Santa Monica – UCLA Medical Center
22. St. Francis Medical Center
23. Tri-City Medical Center
24. Watsonville Community Hospital



2024  
CPQCC QI  
Opportunities



# CPQCC's Upcoming QI Offerings





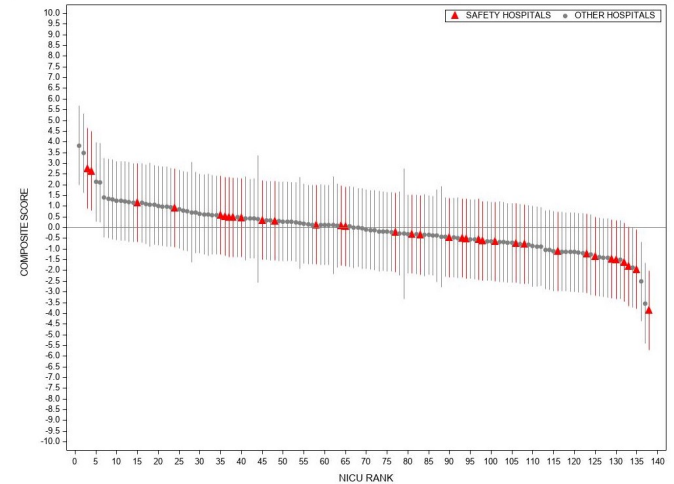
# Safety Net NICUs Stronger Together

2024 CPQCC QI Collaborative

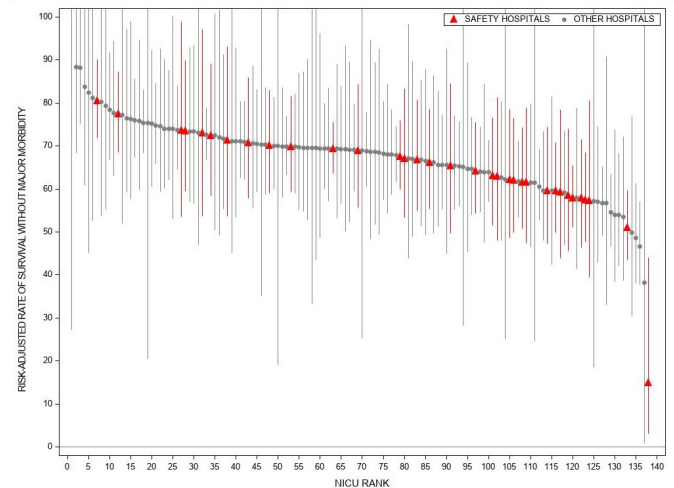


# NIH Grant Goals

1. Create a community of learning among safety net NICUs
  - Unique needs based on
    - Resource challenges
    - Socioeconomic challenges of population
  - Develop platform for ongoing interaction
  - Develop resources for group sharing
    - Toolkits
    - mentorship
2. Build QI capacity
  - Breastmilk feeding collaborative
    - Outcome is any human milk feeding at dc
3. Understand wide performance differences
  - Culture survey
  - Key stakeholder interviews
  - Site visits (low key)
  - Vignettes



Baby-MONITOR Score



Survival Without Major Morbidity

Liu J, Profit J, et al. *J Pediatr.* 2022 Apr;243:99-106

# What you get

1. No participation cost CPQCC led QI Collaborative
2. Expert panel to guide implementation of potentially better practices
3. Access to CPQCC parent advisors to help guide implementation
4. Formal QI learning support through CPQCC
5. Mentorship from high performing NICUs
6. Learning about and accessing clinical and community resources.
7. Creating opportunities to partner with OB and community settings
8. Expert assessment and feedback on your NICU's care culture (teamwork, safety, well-being)
9. Building community connections and friendships with your peers!!



REGISTER NOW!!

# Timeline

1. Register interest via QR code at any time
2. Faculty panel formation (9/23)
3. Collaborative prework (1/24 – 4/24)
4. Collaborative start (6/24), 3 face to face learning sessions
5. Culture survey (7/24 and 8/24)
6. Collaborative active phase end (6/25)
7. Sustainability period (12/25)



REGISTER NOW!!

# What we ask

1. Let us know if you are interested and sign up early!!
2. Form a multidisciplinary team for the QIC (ideally including a parent)
3. Complete pre-collaborative exercises and evaluations to allow us to optimize intervention design.
4. Participate in QIC, commit to collecting data, and team to complete didactic learnings along the way
5. Participate in Learning Sessions, report outs, and engage with your peers
6. Complete culture survey with high response rate (>60%; with leadership and ingenuity this is not hard)
7. Identify a few key stakeholders in your NICU for us to interview
8. Open your NICU to us for a low-key site visit (no expenses to you) for one on one insight & custom tailored approaches to addressing change.
9. Access your CPQCC report data and ask us about them



REGISTER NOW!!

# 2024 CPQCC QI Project:

## Health Related Social Needs Collaborative

**GOAL:** Implementing Social Determinants of Health (SDOH): Screening & Referrals

*Approximately one quarter of U.S. families with preterm infants have unmet basic needs, such as housing or job insecurity (Parker, 2020)*

### Social Determinants of Health



- 26% of families experienced food insecurity,
- 33% experienced housing insecurity, and
- 28% experienced energy insecurity

***Only a quarter of neonatal intensive care units have a standardized screening/referral process for SDOH.***

Social Determinants of Health  
Copyright-free

Healthy People 2030

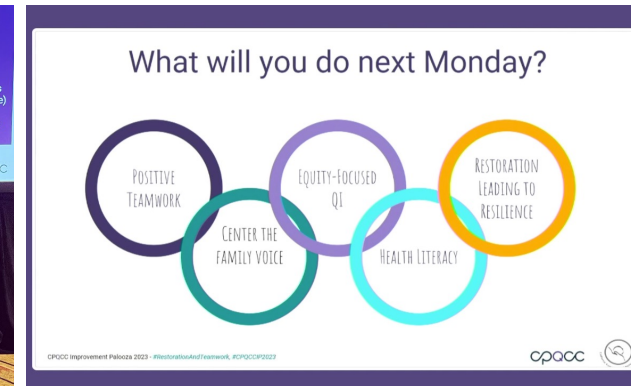
Parker MG, Ettinger de Cuba S, Rateau LJ, Sandel M, Frank DA, Cutts DB, Heeren TC, Lè-Scherban F, Black MM, Ochoa ER, Garg A. Household Unmet Basic Needs in the First 1000 Days and Preterm Birth Status. *Journal of Perinatology*. 42, 389-396 (2022).



**Improvement  
Palooza**



# RESTORATION & TEAMWORK



IP2023 March 2, 2023

[www.cpqcc.org/IP2023](http://www.cpqcc.org/IP2023)

CPQCC Welcome Table (info, resources, swag). Community Boards (gratitude & grief). Pet Therapy Dogs during lunch. Team Spirit Photos. Team Restoration with dancing, restorative reads, and raffle prizes.

# IP2023

## RESTORATION & TEAMWORK



### 290 Participants

- 117 in person attendees
- 173 virtual attendees

### 10 Countries

- 95% from USA
- 1.8% Sweden
- <1% Finland, Netherlands, Austria, Australia, Germany, Norway, UK, Puerto Rico

### 9 States

- 57% from CA
- 14% Virginia
- 7% Washington
- 4% Oregon
- <3% Texas, Nevada, Idaho, Florida, and Iowa





# IP2023 Conversation Circles

*Ground everything we do in equity, inclusion, and restoration*

## Overview

- Frame each webinar around **Restoration, Revelation, and Relationships**: Self, Team, and Community
- Cover **equity, inclusion, and restoration** in each webinar
- Each speaker starts with a focus and kudos to their team with a **team photo**
- Align with topics from IP21-23 (**anti-racism, family centered care**)

## Themes

- **June 2023: Wellness and restoration of self.** Focus on the individual.
- **September 2023: Team dynamics.** What are ways to raise each other up?
- **January 2024: Engagement with families.** How do we interact with patients and family members when we are stressed? How does this play out with team dynamics?

## Connections

- What is our focus area (e.g., leadership roles)?
- What are our perspectives, tangible ways to recognize when people don't feel they belong or receive messages that aren't inclusive?
- Help people recognize blind spots; not in a judgmental way but in a revealing way
- Restoration and revelation speak to how we are trying to move things forward toward less stress, more inclusion, and fully restored

\*\*\* SAVE THE DATE – March 1, 2024 \*\*\* Coronado, CA

# Hybrid CPQCC Improvement Palooza 2024

## IP2024 Framework

1 Main themes: addressing unmet social needs in the NICU, mental health, equity, & advocacy

2 Morning and afternoon headliners:  
Family voice, nursing voice, physician voice

3 Advocacy workshops

4 Spotlight fellows/young faculty work: Neonatal Justice Collaborative (NJC)

5 Highlight work by CPQCC's Family Advisory Council (formed in early 2022)

6 Workshops: QI and implementation science & actionable tools

*Ground everything we do in equity, inclusion, and restoration*

**Educational  
Course:  
QI Fundamentals**



# CPQCC QI Fundamentals

**QI Fundamentals**

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HOME MODULE 1 MODULE 2 MODULE 3 ADDITIONAL CONTENT

**QI Fundamentals: Welcome**

Watch later

Welcome to CPQCC's QI Fundamentals course! This course will walk you through the foundations of healthcare improvement in the NICU. The course has four modules, the first of which is delivered through the Institute of Healthcare Improvement. The rest of the modules contains several short video-based lessons. Each lesson begins with an introductory video designed to provide learners with an overview of the concept. The introductory video is followed by a "deep dive" video in which a CPQCC member NICU explains how they have used the concepts presented in the lesson in their quality improvement journey. Each lesson concludes with links to further reading about the concepts explained during the lessons as well as practical tools for learners to use to put the concepts into practice. Below you will find an outline of the course and the various modules.

**CEU Credit:** Learners will be able to receive CEU credit for completing the first three modules of the QI Fundamentals course. To receive credit, please complete the Knowledge Check at the end of the course and provide your name and email address.

**Module 1: Understand the Basics of QI Using the Model for Improvement (1 hour, 30 mins)**

- Lesson 1: How to Improve with the Model for Improvement (from the IHI)

**Module 2: Getting Your NICU QI Ready (35 mins)**

- Lesson 1: Creating a Culture of Improvement
- Lesson 2: How to Form and Manage a QI Team
- Lesson 3: Planning for Sustainability

**Module 3: Using Tools and Data to Put Quality Improvement into Practice (45 mins)**

- Lesson 1: Introduction to QI Tools
- Lesson 2: Learning from Run Charts and Control Charts

**Additional Content**

- Using CPQCC Data and Reports for QI
- Building An Anti-Racist NICU

Continue to Module 1 >>

- Video-based quality improvement course that walks learners through the foundations of healthcare improvement in the NICU.
- Three main modules: **Understand the Basics of QI Using the Model for Improvement, Getting Your NICU QI Ready, Using Tools and Data to Put Quality Improvement into Practice** plus one module of additional content on anti-racism and understanding CPQCC data and reports
- Each module begins with an introductory video that provides an overview of a concept, followed by a "deep dive" video in which a CPQCC member NICU explains how they have put that concept into practice
- Each lesson concludes with links to further reading and practical tools to put concepts into practice
- CEU credit available for completing the course



# CPQCC QI Fundamentals

**CPQCC**  
california perinatal  
quality care collaborative

About NICU Analysis Improvement Follow-Up Engage

Search this site...

### QI Fundamentals

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HOME MODULE 1 MODULE 2 MODULE 3 ADDITIONAL CONTENT

QI Fundamentals: Welcome

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Continue to Module 1 >>

- Currently available to sites participating in a CPQCC QI collaborative
- 80 learners have received CME credit to date (must score > 70% on the knowledge check)
- Course is updated in new learning management system (*Coassemble*) and will be relaunched and available to all CPQCC members (free of charge) later this year

# CONNECT WITH CPQCC

## Please Join Us!

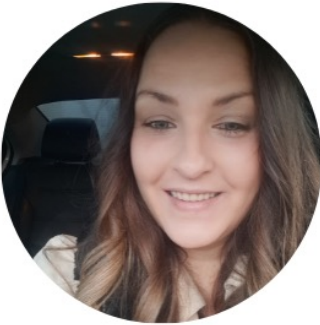
- Join a Subcommittee
- Share your QI project

Look at your  
data

**What's Next?  
Family Advisory  
Council!**



# CPQCC Family Advisory Council



*Funded by a grant from the Lucile Packard Foundation for Children's Health Palo Alto, California*

# FAC Goals

## Short Term:

- Build community with each other
- Inform CPQCC how our activities and priorities might be more family centered including QI projects, toolkits, committees, webinars, and data collection.
- Develop & curate materials for FAC toolkit for NICUs

## Long Term:

- Increase the number of CA NICUs with a Family Council
- Allow NICUs to consult with CPQCC FAC
- Create system-level change across California

# What do FAC members hope to accomplish?

- Improved mental health for parents, especially PPA/PPD/PTSD
- Improved discharge readiness
- Care for families with non-English language of preference
- Improved health equity
- Making NICU care more consistent across providers (some nurses said to do one thing, others said another; some hospitals allowed one thing, others didn't, etc)
- Better communication with parents
- Caring for family unit

“

A civil society will no longer accept disproportionate suffering.

Yancy, C. JAMA 2020

”

# Closing



# Recording and Webinar Evaluation

**!!ATTENTION!!**

At the end of this webinar please click the evaluation link provided to submit your evaluation for this data trainings.

Note: CEU's will be accumulated and distributed after all data training sessions have been completed (for live sessions only)

The webinar recording and slides will also be posted at:

<https://www.cpqcc.org/engage/annual-data-training-webinars-2023>

# Upcoming Data Trainings

October 11<sup>th</sup> – What's New with NICU Data

WEBINAR

## 2023 Data Training Series: **What's New with NICU Data**

Wednesday, October 11, 2023  
12:00 - 1:30 PM PDT



**CPQCC**  
california perinatal  
quality care collaborative

**THANK YOU!**