NICU Database Update

2020 Data Training Sessions

Overview

1. 2020 Data Sets
2. NICU Database Eligibility
3. NICU Data Site
4. NICU Reports Site
5. 2020 NICU Database Updates
6. Resources

How can we foster a culture of quality improvement? How can we get better at being better?

- How can we **elevate the value** of the work of Data Contacts?
- How can we **engage leadership** to **encourage collaboration** between all data teams (i.e NICU,CPeTS,HRIF)?
- How can we **better improve data quality and data linkage between programs?**

2020 Data Sets

TRANSPORT	• Patient Diagnosis • Demographics • Time Sequence • Infant Condition/ TRIPS • Referral Process • Comments

NICU	• Demographics
	• Maternal History & Delivery
	• Delivery Room and First Hour of Birth
	• Post-Delivery Diagnoses and Interventions
	  • Respiratory
	  • Infections
	  • Other Diagnoses, Surgeries
	  • Neurological
	• Congenital Malformations
	• Initial Disposition
	• Post-Transport Status

2020 Data Sets

HRIF	• Very Low Birth Weight (VLBW) Infant • Completed Gestational Age < 32 Weeks • ECMO, Cooling, or Moderate/Severe HIE Diagnosis • Surgery for Congenital Heart Disease • Nitric Oxide Use • Seizures during any stay prior to home discharge
CCS SUPPLEMENTAL FORM	• Section A. Hospital Births and Deaths (by BW) • Section B. Total Admissions to Your NICU (by BW) • Section C. Total Transports-Out of Your NICU (by BW) • Section D. Hospital Births and NICU Inborn Admissions (by GA) • Section E. Average Daily Census In Your NICU, Newborn Antibiotic Exposures (NAE) and Antibiotic Use Rate (AUR) • Section F. Central-line Associated Bloodstream Infections (CLABSI) • Perinatal Quality Improvement (QI) Project Inventory

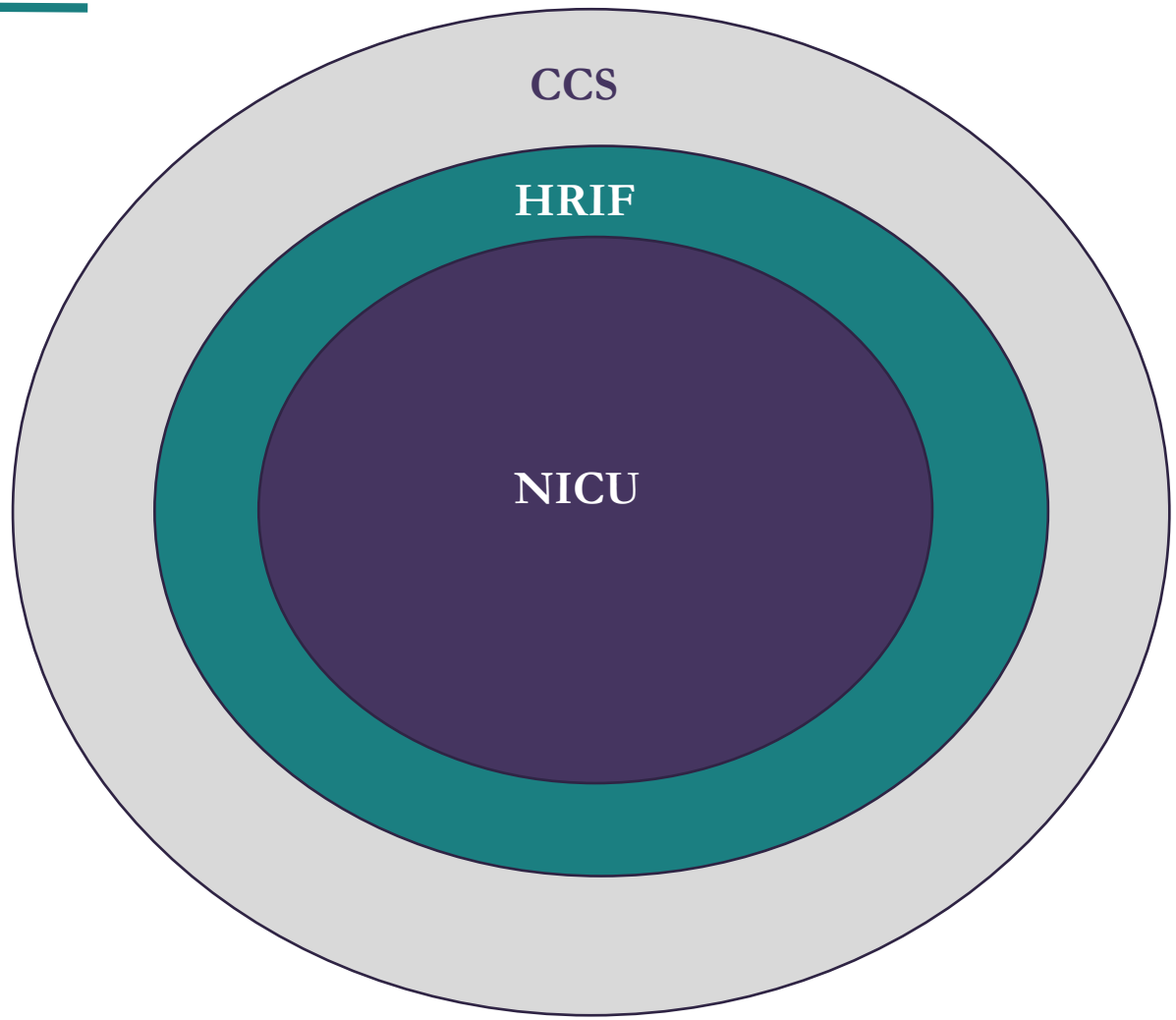
2020 Data Sets

ALL NICU ADMISSIONS OPTIONAL	• All infants admitted into the NICU (regardless of CPQCC eligibility) • By Birth year or Admission year • Demographics • Admission • ABX/Central lines • Disposition
MATERNAL EXPOSURES OPTIONAL	• Demographics • Maternal History • Maternal Screen • `Infant Screen • Infant Non-RX Treatment • Disposition

NICU Eligibility

NICU Database Eligibility

- Infants are **NICU** eligible if they are either:
  - Very Low Birth Weight (VLBW) – Small Baby or
  - Severe Acuity – Big Baby
- **ALL NICU and HRIF** eligible infants meet CCS eligibility criteria
- But **NOT** all infants with CCS eligible conditions will be **NICU** or **HRIF** eligible



Small Baby Eligibility

VLBW

Any infant who is born at or admitted to your hospital within 28 days of birth, with:

- **birth weight 401 - 1,500 grams, OR**
- **gestational age 22 weeks 0 days to 31 weeks 6 days (inclusive)**

Outborn Small Baby infants are eligible regardless of where they receive care in your hospital (NICU admission not required).

In summary, all Small Babies are eligible for entry into the NICU Database.

Big Baby

Severe Acuity

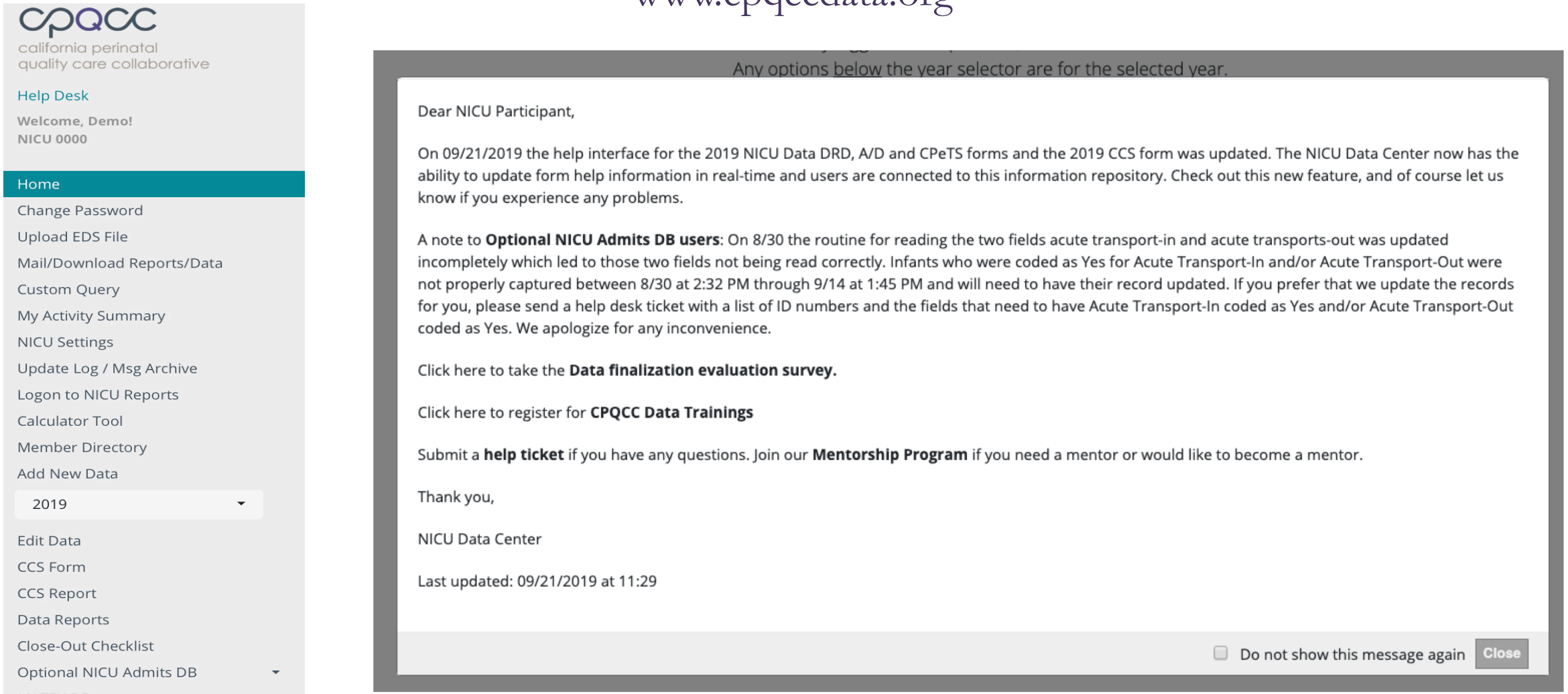
Any infant who is born at or admitted to your hospital within 28 days of birth, with a birth weight that is greater than 1500 grams MUST also meet one of the following 11 criteria to be eligible:

1. Infant Death
2. Acute transport in
3. Acute transport out
4. Surgery
5. Intubated Assisted Ventilation for > 4 continuous hours
6. Nasal IMV/SIMV (or any other form of non-intubated assisted ventilation) for > 4 continuous hours
7. Early bacterial sepsis
8. Previously discharged home and readmitted to your hospital for exchange transfusion and/or bilirubinemia level ≥ 25 mg/dL
9. Suspected encephalopathy or suspected perinatal asphyxia
10. Active therapeutic hypothermia
11. Seizures

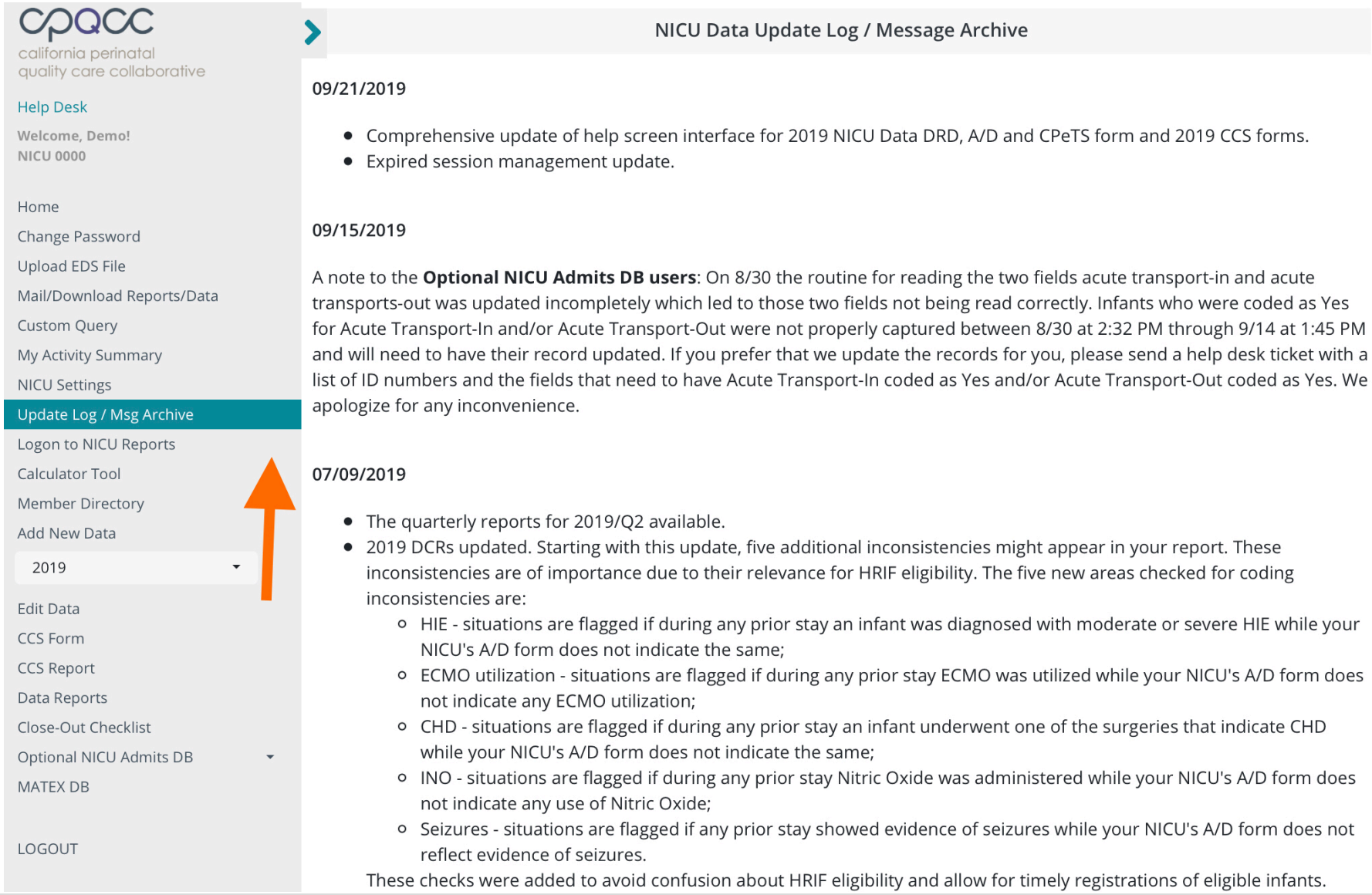
NICU Data Site

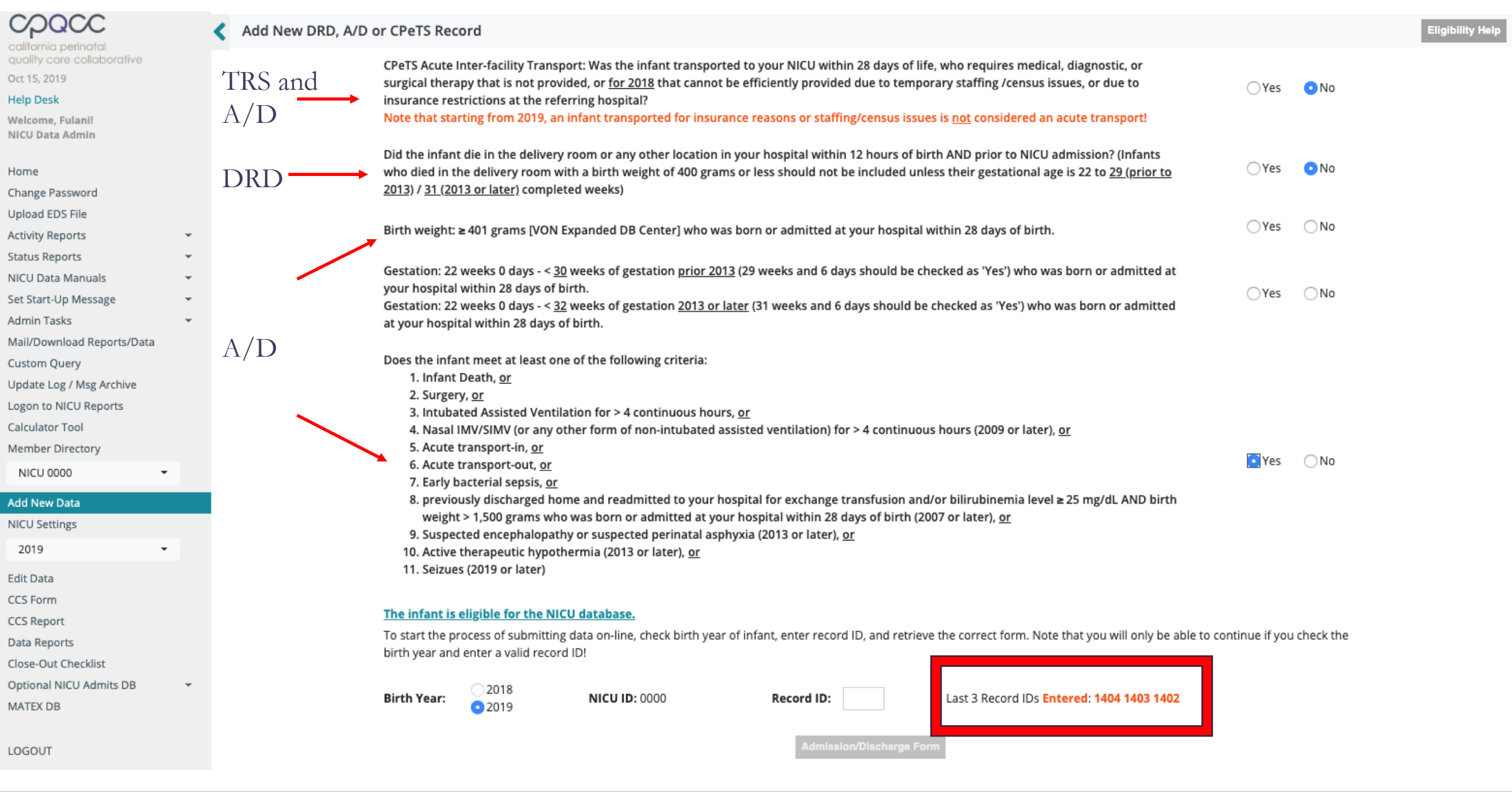
NICU Data Site

www.cpqccdata.org



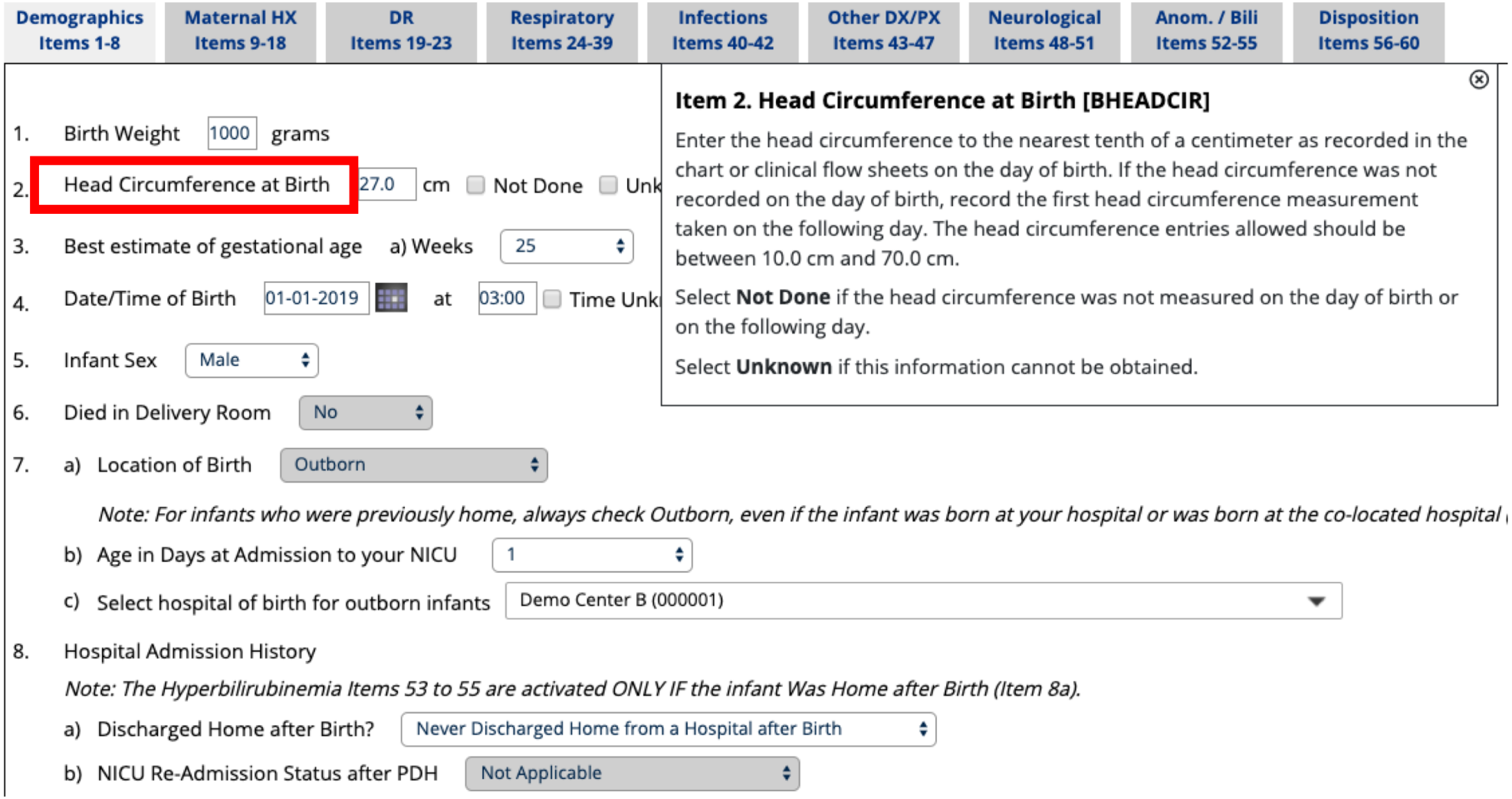
NICU Data Site
www.cpqccdata.org




cpqcc
california perinatal
quality care collaborative
Oct 15, 2019
Help Desk
Welcome, Fulani!
NICU Data Admin
Home
Change Password
Upload EDS File
Activity Reports
Status Reports
NICU Data Manuals
Set Start-Up Message
Admin Tasks
Mail/Download Reports/Data
Custom Query
Update Log / Msg Archive
Logon to NICU Reports
Calculator Tool
Member Directory
NICU 0000
Add New Data
NICU Settings
2019
Edit Data
CCS Form
CCS Report
Data Reports
Close-Out Checklist
Optional NICU Admits DB
MATEX DB
LOGOUT
Add New DRD, A/D or CPeTS Record
Eligibility Help
TRS and A/D
DRD
A/D
CPeTS Acute Inter-facility Transport: Was the infant transported to your NICU within 28 days of life, who requires medical, diagnostic, or surgical therapy that is not provided, or for 2018 that cannot be efficiently provided due to temporary staffing /census issues, or due to insurance restrictions at the referring hospital?
Note that starting from 2019, an infant transported for insurance reasons or staffing/census issues is not considered an acute transport!
Yes
No
Did the infant die in the delivery room or any other location in your hospital within 12 hours of birth AND prior to NICU admission? (Infants who died in the delivery room with a birth weight of 400 grams or less should not be included unless their gestational age is 22 to 29 (prior to 2013) / 31 (2013 or later) completed weeks)
Yes
No
Birth weight: ≥ 401 grams [VON Expanded DB Center] who was born or admitted at your hospital within 28 days of birth.
Yes
No
Gestation: 22 weeks 0 days - < 30 weeks of gestation prior 2013 (29 weeks and 6 days should be checked as 'Yes') who was born or admitted at your hospital within 28 days of birth.
Gestation: 22 weeks 0 days - < 32 weeks of gestation 2013 or later (31 weeks and 6 days should be checked as 'Yes') who was born or admitted at your hospital within 28 days of birth.
Yes
No
Does the infant meet at least one of the following criteria:
1. Infant Death, or
2. Surgery, or
3. Intubated Assisted Ventilation for > 4 continuous hours, or
4. Nasal IMV/SIMV (or any other form of non-intubated assisted ventilation) for > 4 continuous hours (2009 or later), or
5. Acute transport-in, or
6. Acute transport-out, or
7. Early bacterial sepsis, or
8. previously discharged home and readmitted to your hospital for exchange transfusion and/or bilirubinemia level ≥ 25 mg/dL AND birth weight > 1,500 grams who was born or admitted at your hospital within 28 days of birth (2007 or later), or
9. Suspected encephalopathy or suspected perinatal asphyxia (2013 or later), or
10. Active therapeutic hypothermia (2013 or later), or
11. Seizues (2019 or later)
Yes
No
The infant is eligible for the NICU database.
To start the process of submitting data on-line, check birth year of infant, enter record ID, and retrieve the correct form. Note that you will only be able to continue if you check the birth year and enter a valid record ID!
Birth Year:
2018
2019
NICU ID: 0000
Record ID:
Last 3 Record IDs Entered: 1404 1403 1402
Admission/Discharge Form

NICU Data Site

www.cpqccdata.org



Add New DRD, A/D or CPeTS Record

Eligibility Help

CPeTS Acute Inter-facility Transport: Was the infant transported to your NICU within 28 days of life, who requires medical, diagnostic, or surgical therapy that is not provided, or for 2018 that cannot be efficiently provided due to temporary staffing /census issues, or due to insurance restrictions at the referring hospital?
Note that starting from 2019, an infant transported for insurance reasons or staffing/census issues is not considered an acute transport!

Did the infant die in the delivery room or any other location in your hospital within 12 hours of birth AND prior to NICU admission? (Infants who died in the delivery room with a birth weight of 400 grams or less should not be included unless their gestational age is 22 to 29 (prior to 2013) / 31 (2013 or later) completed weeks)

Birth weight: ≥ 401 grams [VON Expanded DB Center] who was born or admitted at your hospital within 28 days of birth.

Gestation: 22 weeks 0 days - < 30 weeks of gestation prior 2013 (29 weeks and 6 days should be checked as 'Yes') who was born or admitted at your hospital within 28 days of birth.
Gestation: 22 weeks 0 days - < 32 weeks of gestation 2013 or later (31 weeks and 6 days should be checked as 'Yes') who was born or admitted at your hospital within 28 days of birth.

Does the infant meet at least one of the following criteria:

1. Infant Death, or
2. Surgery, or
3. Intubated Assisted Ventilation for > 4 continuous hours, or
4. Nasal IMV/SIMV (or any other form of non-intubated assisted ventilation) for > 4 continuous hours (2009 or later), or
5. Acute transport-in, or
6. Acute transport-out, or
7. Early bacterial sepsis, or
8. previously discharged home and readmitted to your hospital for exchange transfusion and/or bilirubinemia level ≥ 25 mg/dL AND birth weight > 1,500 grams who was born or admitted at your hospital within 28 days of birth (2007 or later), or
9. Suspected encephalopathy or suspected perinatal asphyxia (2013 or later), or
10. Active therapeutic hypothermia (2013 or later), or
11. Seizues (2019 or later)

The infant is eligible for the NICU database.

To start the process of submitting data on-line, check birth year of infant, enter record ID, and retrieve the correct form. Note that you will only be able birth year and enter a valid record ID!

Birth Year: ○ 2018 ◉ 2019 **NICU ID:** 0000 **Record ID:** Last 3 Record IDs **Entered:** 1404 1403 1402

Admission/Discharge Form

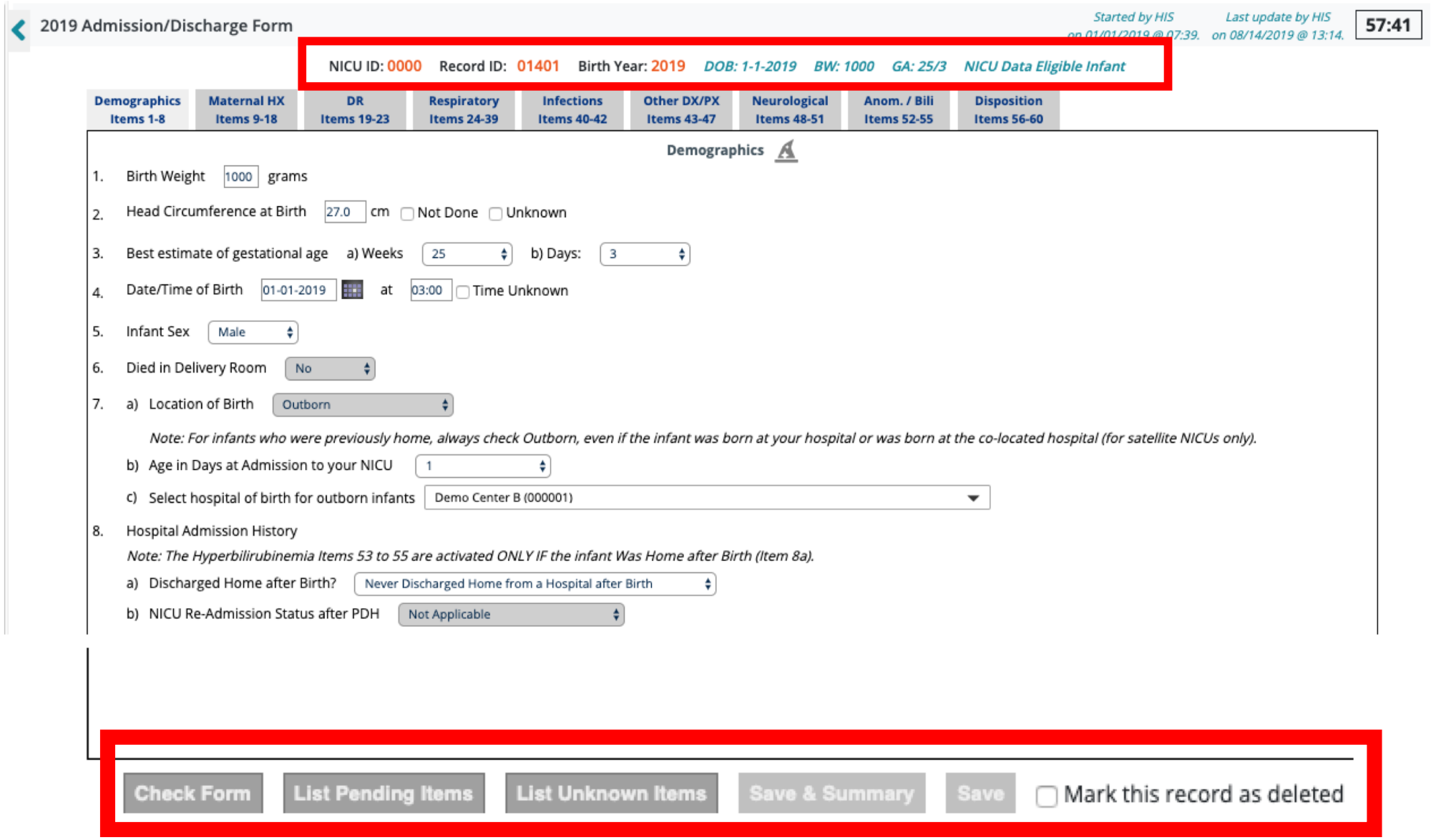
NICU Data Eligibility

The NICU Data website collects the elements of the NICU Database on-line. Starting in 2007, CPQCC as an agent of the **California Perinatal Transport System (CPeTS)** is also collecting data on all infants who were transported into a participating NICU for medical/diagnostic services or surgery.

Infants meeting the following criteria are eligible for the NICU Database:

- Small Babies:
  - The infant's birth weight is 401 to 1,500 grams, and was born or admitted to your hospital within 28 days of birth.
  - The infant's gestational age is 22 weeks to 31 weeks and 6 days (less than 32 weeks), and was born or admitted to your hospital within 28 days of birth.
  - All small babies are eligible for entry into the NICU Database, regardless of whether they were born at your hospital ("inborn") or were born at a different hospital ("outborn") but were acutely transported to your hospital for care by any service (not just the NICU), as long as the transport occurred before the baby's 28th day of life.
- Big Babies:
  - The infant was admitted to your hospital within 28 days of birth and at least one of the following conditions applied:
    - Infant death;
    - Major surgery;
    - Intubated Assisted Ventilation greater than 4 continuous hours;
    - Acute transport-in to receive medical, diagnostic, or surgical therapy that cannot be provided at the sending hospital;
    - Early bacterial sepsis;
    - Total Serum Bilirubin of ≥ 25 mg/dL (427 micromols/Liter) and/or an exchange transfusion;
    - Nasal IMV/SIMV or any other form of non-intubated assisted ventilation greater than 4 continuous hours.
    - *Suspected* encephalopathy or *suspected* perinatal asphyxia defined as cardiorespiratory depression at birth based on any one

Add New Data


2019 Admission/Discharge Form
Started by HIS on 01/01/2019 @ 07:39.
Last update by HIS on 08/14/2019 @ 13:14.
57:41
NICU ID: 0000 Record ID: 01401 Birth Year: 2019 DOB: 1-1-2019 BW: 1000 GA: 25/3 NICU Data Eligible Infant
Demographics Items 1-8
Maternal HX Items 9-18
DR Items 19-23
Respiratory Items 24-39
Infections Items 40-42
Other DX/PX Items 43-47
Neurological Items 48-51
Anom. / Bili Items 52-55
Disposition Items 56-60
Demographics
1. Birth Weight 1000 grams
2. Head Circumference at Birth 27.0 cm Not Done Unknown
3. Best estimate of gestational age a) Weeks 25 b) Days: 3
4. Date/Time of Birth 01-01-2019 at 03:00 Time Unknown
5. Infant Sex Male
6. Died in Delivery Room No
7. a) Location of Birth Outborn
Note: For infants who were previously home, always check Outborn, even if the infant was born at your hospital or was born at the co-located hospital (for satellite NICUs only).
b) Age in Days at Admission to your NICU 1
c) Select hospital of birth for outborn infants Demo Center B (000001)
8. Hospital Admission History
Note: The Hyperbilirubinemia Items 53 to 55 are activated ONLY IF the infant Was Home after Birth (Item 8a).
a) Discharged Home after Birth? Never Discharged Home from a Hospital after Birth
b) NICU Re-Admission Status after PDH Not Applicable
Check Form
List Pending Items
List Unknown Items
Save & Summary
Save
Mark this record as deleted

Coding Rules

Data Collection

Each record ID in the NICU Database describes one infant's **episode of care** in the hospital.

An **episode of care** is defined as all the care that an infant receives until they are discharged to home. If an infant is moved from your NICU to another unit within your Center (Step-Down Unit, Well Baby Nursery, Pediatrics Ward, Intermediate Care Nursery, PICU, etc.**), continue collecting data until discharge to home, transported to another hospital, or death.** If the infant is readmitted to your hospital from **home**, that is considered a new episode of care.

Examples for a single **episode of care for all eligible infants**:

- Admission or readmission to the NICU, or any other units within the hospital **("Hospital A")**
- Acute transport to and from other hospitals **("Hospital B")**

Note: Include any interventions that occurred prior to admission/readmission to your hospital. Ultimate disposition (Home, Died, etc.) must also be known, **even if the baby is not readmitted.**

NICU Data Site

Electronic Data Submission (EDS)

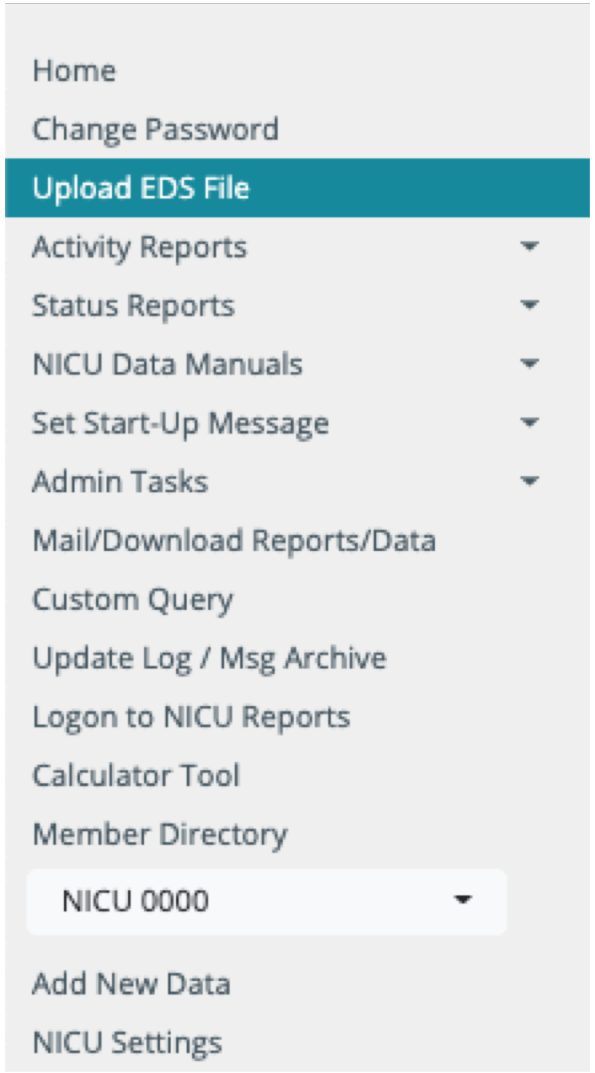
There are two ways to submit data to the NICU Database.

1. Online – enter one record at a time
2. EDS – upload multiple records via CSV or Excel file

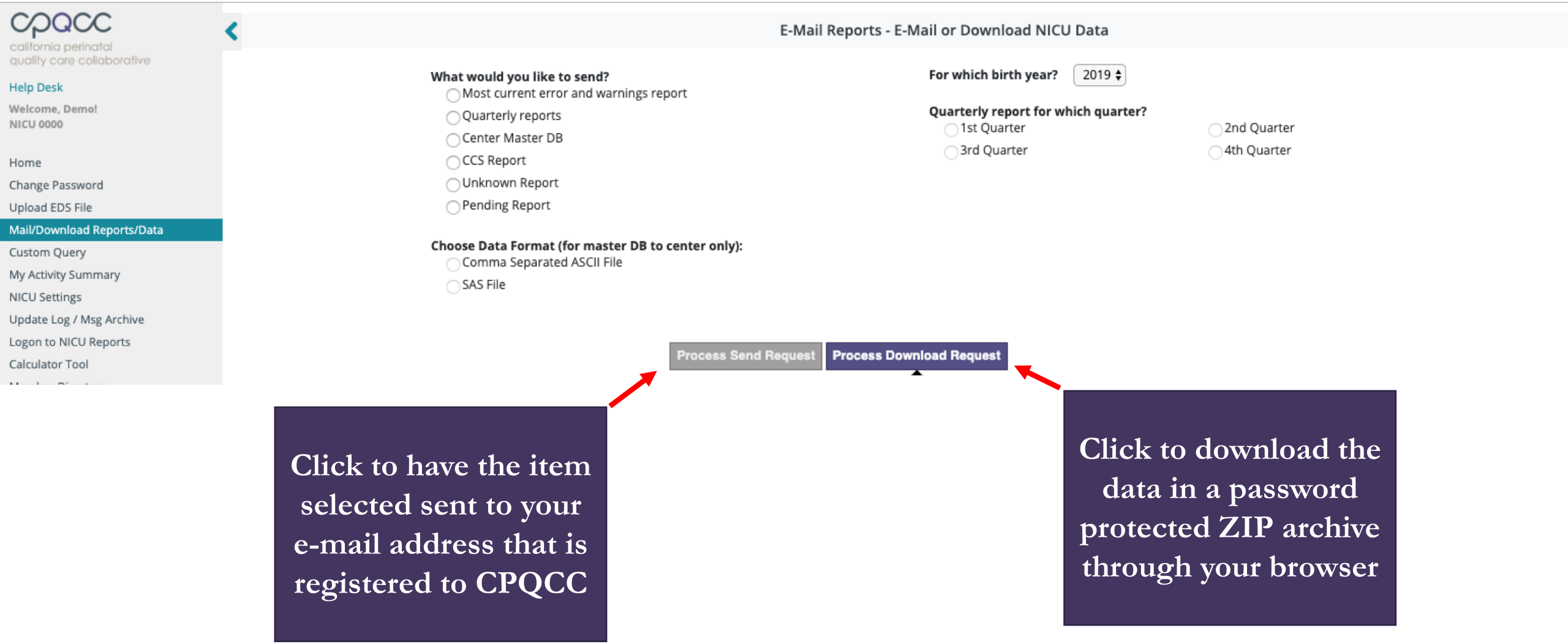
EDS files can be uploaded through the 'Upload EDS File' link on your navigation bar

If you are interested in submitting EDS files, please:

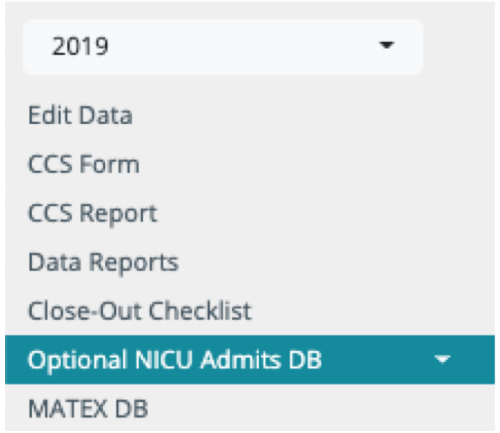
- Review the EDS Instructions located on the main CPQCC website (www.cpqcc.org) under "NICU Data Resources".
- Submit a Help Ticket at www.cpqcchelp.org if you have questions



Sending Reports/Data



All NICU Admissions Database



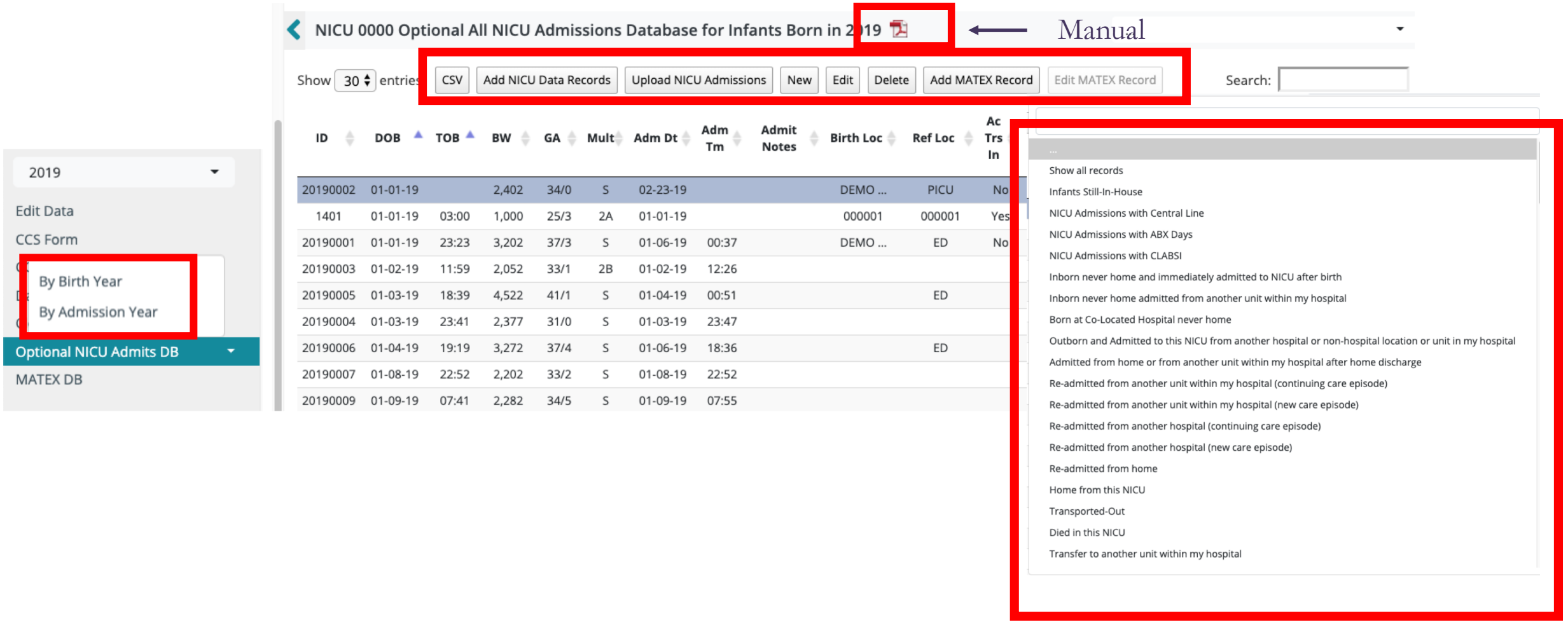
Optional tool that allows members to track **all of their NICU admissions** throughout the year

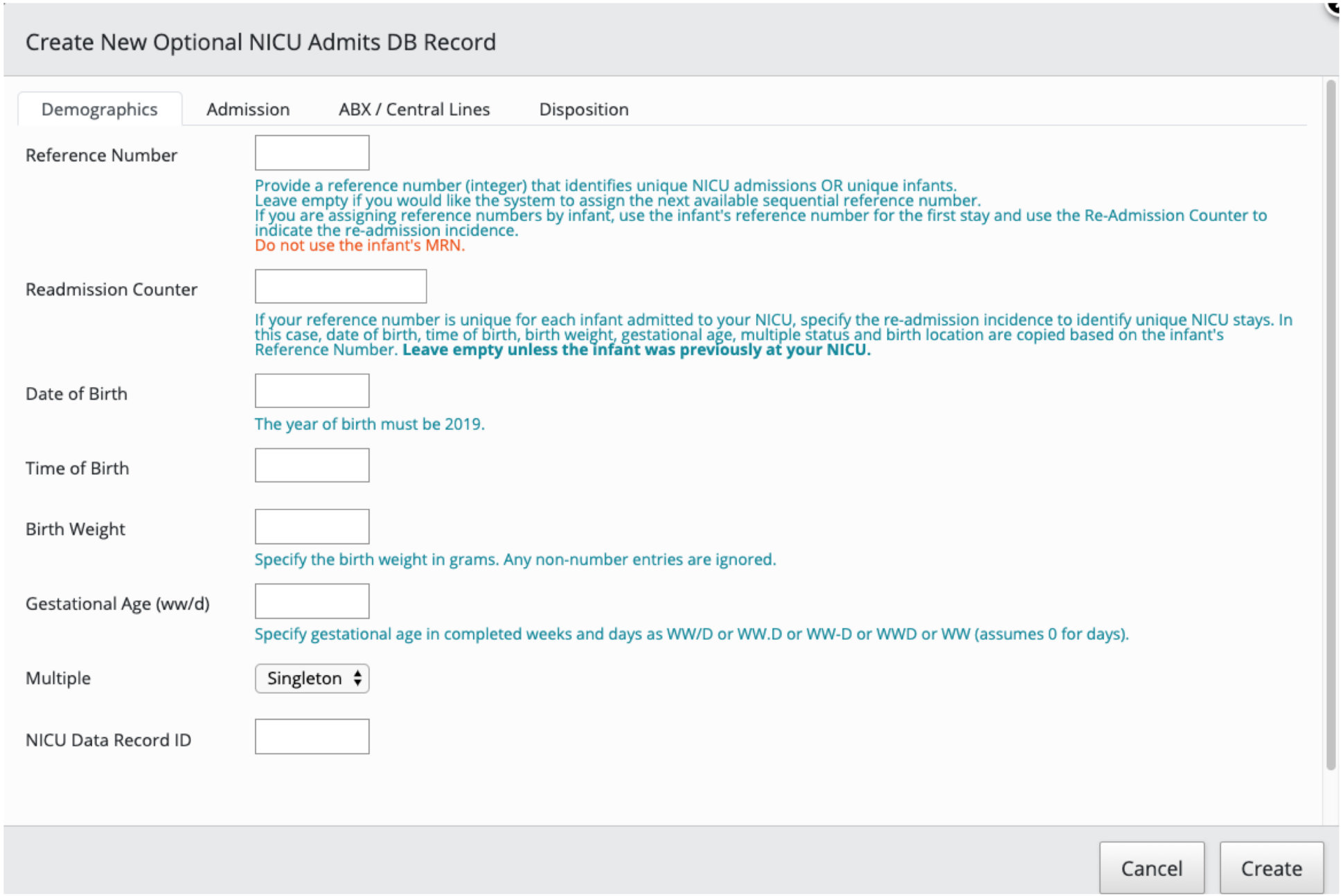
- 39 NICUs are currently participating

ADVANTAGES

- Real-time NICU admissions displayed on the Dashboard
- All NICU admissions denominator for Big Baby metrics
- Automatic population in certain sections of the CCS Form

All NICU Admissions Database




Create New Optional NICU Admits DB Record
Demographics
Admission
ABX / Central Lines
Disposition
Reference Number
Provide a reference number (integer) that identifies unique NICU admissions OR unique infants.
Leave empty if you would like the system to assign the next available sequential reference number.
If you are assigning reference numbers by infant, use the infant's reference number for the first stay and use the Re-Admission Counter to indicate the re-admission incidence.
Do not use the infant's MRN.
Readmission Counter
If your reference number is unique for each infant admitted to your NICU, specify the re-admission incidence to identify unique NICU stays. In this case, date of birth, time of birth, birth weight, gestational age, multiple status and birth location are copied based on the infant's Reference Number. Leave empty unless the infant was previously at your NICU.
Date of Birth
The year of birth must be 2019.
Time of Birth
Birth Weight
Specify the birth weight in grams. Any non-number entries are ignored.
Gestational Age (ww/d)
Specify gestational age in completed weeks and days as WW/D or WW.D or WW-D or WWD or WW (assumes 0 for days).
Multiple
Singleton
NICU Data Record ID
Cancel
Create

CCS Supplemental Form

[redacted]

Section A | Section B | Section C | Section D | Section E | Section F | QI Prj 1

A. Hospital Births and Deaths of Infants Born in 2019 by Birth Weight

Infants Born Between 1/1/2019 and 12/31/2019	< 401 grams	401-500 grams	501-750 grams	751-1,000 grams	1,001-1500 grams	1,501-2500 grams	> 2500 grams	Total
Total Live Births by Birth Weight in your center from 1/1/2019 to 12/31/2019 Should be ... compared to your NICU Data submissions Number of births based on your hospital's vital statistics birth data. Latest birth date reported for this birth year is 10/02/2019.	0	0	0	0	0	0	0	0
[redacted]								
Deaths for infants born in 2019 who either: 1) died while under the care of your NICU staff regardless of the location in your hospital (Non-Delivery Room Deaths), or 2) died in the delivery room or initial resuscitation area within 12 hours of birth and prior to NICU admission (Delivery Room Deaths). Also include infants not born in your hospital. Do NOT include stillborns.								
Total Deaths of Infants Admitted to Your NICU (or under the care of your NICU staff regardless of the location in your hospital) *This row will be updated based on your entries for the number of deaths prior and post 28 days.*	0	0	0	0	0	0	0	0
NICU Deaths Prior to and Including the 28th Day of Life (*) (Not Stillborn, Non-Delivery Room Deaths) Should be ... compared to your NICU Data submissions Should be ... based on your All NICU Admits DB	0	0	0	0	0	0	0	0
[redacted]								
NICU Deaths after the 28th Day of Life (**) (Not Stillborn, Non-Delivery Room Deaths) Should be ... compared to your NICU Data submissions Should be ... based on your All NICU Admits DB	0	0	0	0	0	0	0	0
[redacted]								
Delivery Room Deaths Should be ... compared to your NICU Data submissions	0	0	0	0	0	0	0	0
[redacted]								

Check for Errors | Check Pending Items | Save Form | Populate Form with Values based on NICU Admit DB | Hide Values based on NICU Admit DB

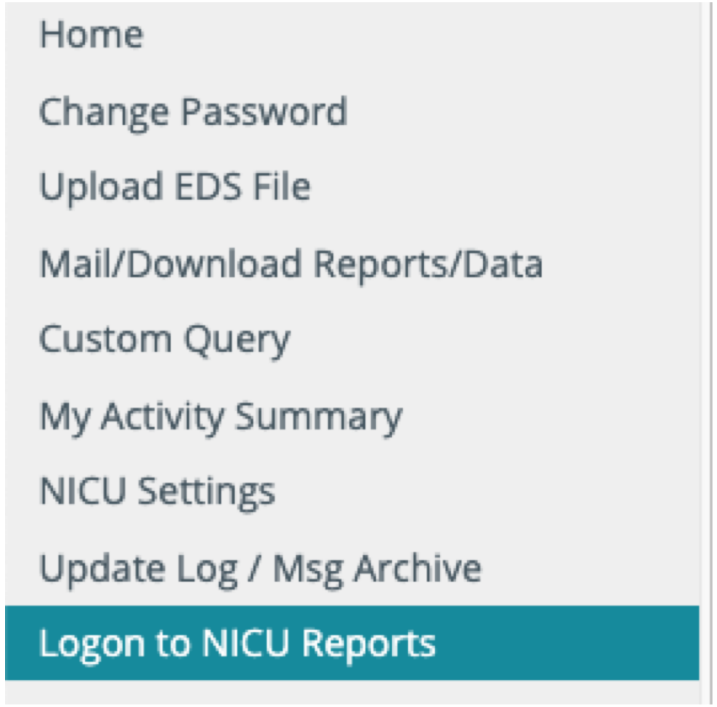
- NICU Data Submission shows data entered for eligible CPQCC infants
- Vital statistics data from **CMQCC shows the number of births at your hospital** from birth certificate data (or hosting location for satellite NICUs)
- All NICU Admit DB shows data for ALL infants admitted into the NICU
  - Allows **population** of the CCS Supplemental Form **with values from the All NICU Admit DB**

NICU Reports

NICU REPORTS SITE

www.cpqccreport.org

- CPQCC NICU report site allows you to understand your NICU data and use those insights to drive improvements in NICU care.
- Members can now login to the NICU report site via the NICU data site.
    - You will need to have approved access to the NICU report site to use this feature.



NICU REPORTS SITE

www.cpqccreport.org

Quick Intro | Getting Started | Data Bases and Denominators | Website User Interface Basics | Context-Sensitive Information | My Activity and Trending Topics | Dashboard | Baby MONITOR | Health Equity Dashboard

Small Baby Snapshot | CCS Report | HRIF | Quality Indicators | Eligibility | Basic Table | Detail Tables | Control Charts | Risk-adjusted Trend / Comparison | CPeTS | CPQCC Members | Risk-Adjustment Models

Topic Selector | Update Log | Future Plans | Credits

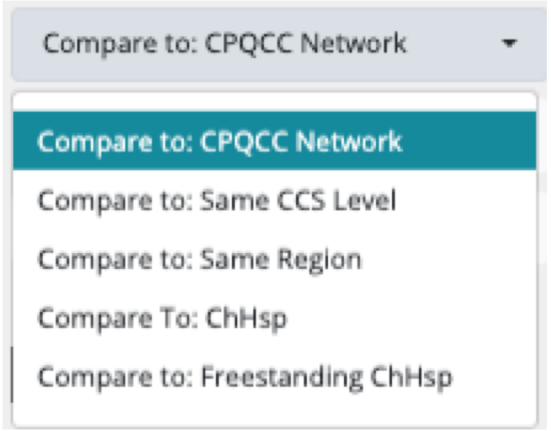
Detail tables by birth weight or gestational age

Detail tables provided volume and incidence rates of processes and outcomes by birth weight and gestational age either for all CPQCC infants or infant sub groups.

For NICU level tables, yearly tables are available starting from the first year the NICU was a CPQCC participant.

Region level tables are available starting from 2006 since only for 2006 or later, CPQCC had the capacity to connect multiple admissions of the same infant within the same region and consolidate these records into a single region record.

Besides the center / region level table, a comparison is shown. For centers, the comparison group can be all CPQCC network NICUs, NICUs of the same CCS level or all NICUs in the same perinatal region.



Dashboard

Welcome, Demo!
NICU User

Dashboard

- Home
- Dashboard
- Baby MONITOR
- Small Baby Snapshot
- CCS Report
- HRIF/NICU Match Summary
- HRIF/NICU Match Detail
- Quality Indicators
- Eligibility
- Detail Table
- Basic Table
- Control Chart
- Risk-Adj Trend / Comparison
- CPeTS Transport In
- CPeTS Transport Out

- Connect to CMQCC
- Trending Topics & My Activity

- Change Password

Dashboard

CURRENT LEVEL

- A quantitative measure of the NICU's current level of performance is shown
- QI measures are reflected in green for NICUs performing among the top 10% in the state, and in orange for those in the bottom 10%

DECILE BAR

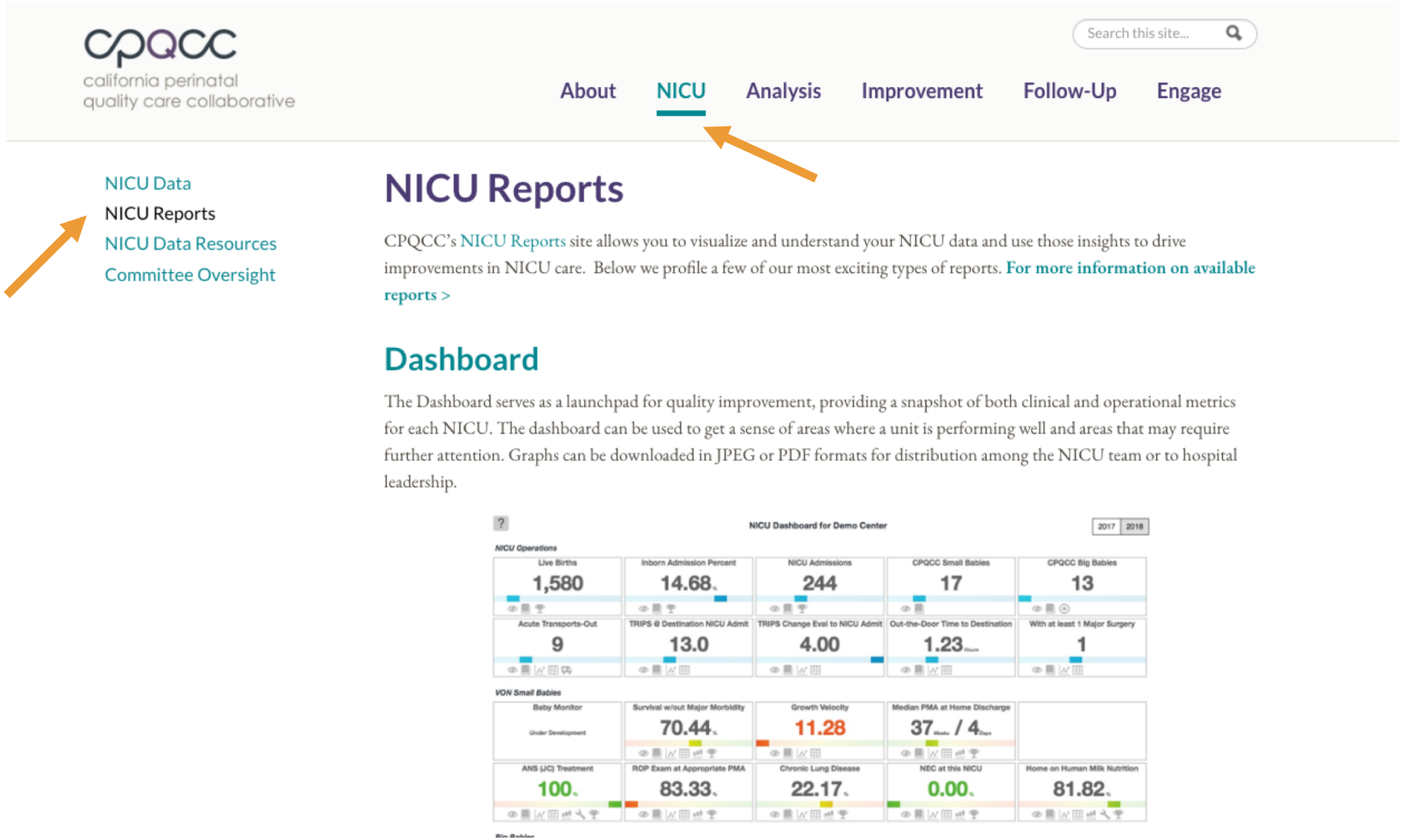
- Show's your center's position in comparison to all other CPQCC centers or perinatal regions

ADDITIONAL OPTIONS

- Additional information and resources about the box topic

NICU Reports Overview

www.cpqcc.org



2020 NICU Database Updates

Big Baby Eligibility

CHANGE: Added a Note to major surgery requiring anesthesia

- **Note:** "General or spinal anesthesia" qualification only applies to Item 47a. Other Surgery, for surgeries that are not in the Surgical Codes list Appendix C.

Updated 2020 Description – Major Surgery:

This category includes major invasive surgeries, requiring general anesthesia **or** anesthesia techniques considered by your neonatologist to be equivalent to general anesthesia, during the infant's current admission to the NICU. It also includes surgeries that have traditionally required anesthesia but may now be performed at the bedside using local anesthesia or no formal anesthesia. The specific procedures listed in Appendix C qualify as major surgery.

The following surgeries do not qualify the infant for NICU Database eligibility:

- pyloromyotomy
- unilateral or bilateral inguinal hernia repair
- central line placement
- circumcision.

Only conditions that require general anesthesia, anesthesia techniques that your neonatologist feels is equivalent to general anesthesia, or major surgery with alternative methods qualify. Most of these procedures involve an open cavity (head, chest, abdomen, etc.)

NICU ADMISSION DISCHARGE (A/D) & DELIVERY ROOM DEATH (DRD) FORM

Demographics (tab 1, items 1-8):

Item 5. Infant Sex [SEX]

CHANGE: Added the option to select **"Undetermined"**.

Updated 2020 Definition:

- Select **Male** or **Female**
- Select **Undetermined** when sex is not assigned as male or female by the time of discharge because it has been considered to be undetermined (or "ambiguous") by the clinical team
- Select **Unknown** if the sex cannot be obtained.

NICU ADMISSION DISCHARGE (A/D) & DELIVERY ROOM DEATH (DRD) FORM

Delivery Room and First Hour after Birth (items 19-23):

Item 22c. Bag/Mask [DRBM]

CHANGE:

- Update the item description from "**Bag/Mask**" to "**Positive Pressure Ventilation (PPV) via Mask" or "Bag/Mask PPV**".
- Added note to Item 22g **NIPPV (Nasal Intermittent Positive Pressure Ventilation)** that **NIPPV** is different from bag/mask PPV.

Updated 2020 Definition:

Item 22c. "Positive Pressure Ventilation (PPV) via Mask" or "Bag/Mask PPV"

- Select **Yes** if the infant received any positive pressure breaths with a bag and face mask in the delivery room or during the initial resuscitation performed immediately after birth. Positive pressure may be administered using a resuscitation bag, T-piece, or other device that generates intermittent positive pressure.

NICU ADMISSION DISCHARGE (A/D) & DELIVERY ROOM DEATH (DRD) FORM

Respiratory (items 24-39):

Item 25c. Intubated High Frequency Ventilation [HFV]

CHANGE: Update the definition to include **"through an endotracheal tube"**

Updated 2020 Definition:

- Select **Yes** if the infant received high frequency ventilation (IMV rate ≥ 240/minute) through an endotracheal tube at any time after leaving the delivery room/initial resuscitation area.
- Select **No** if the infant never received high frequency ventilation (IMV rate ≥ 240/minute) through an endotracheal tube after leaving the delivery room/initial resuscitation area.

NICU ADMISSION DISCHARGE (A/D) & DELIVERY ROOM DEATH (DRD) FORM

Respiratory (items 24-39):

Item 38. Respiratory Support at 36 Weeks

CHANGE: Applicable to **Small Babies** only.

- Item 38 is not applicable if:
  - The infant's GA is greater than 36 weeks
  - The infant is discharged home/transported-out from your NICU prior to 36 weeks and not readmitted
  - The infant is a big baby (32 weeks or greater and birth weight is greater than 1,500 grams.)

NICUs participating in the VON expanded data set still need to provide the "Respiratory Support at 36 Weeks" items for **both Small and Big Babies**.

CPQCC Help Desk

www.cpqcchelp.org

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No account required

Access previous tickets
Community Forums

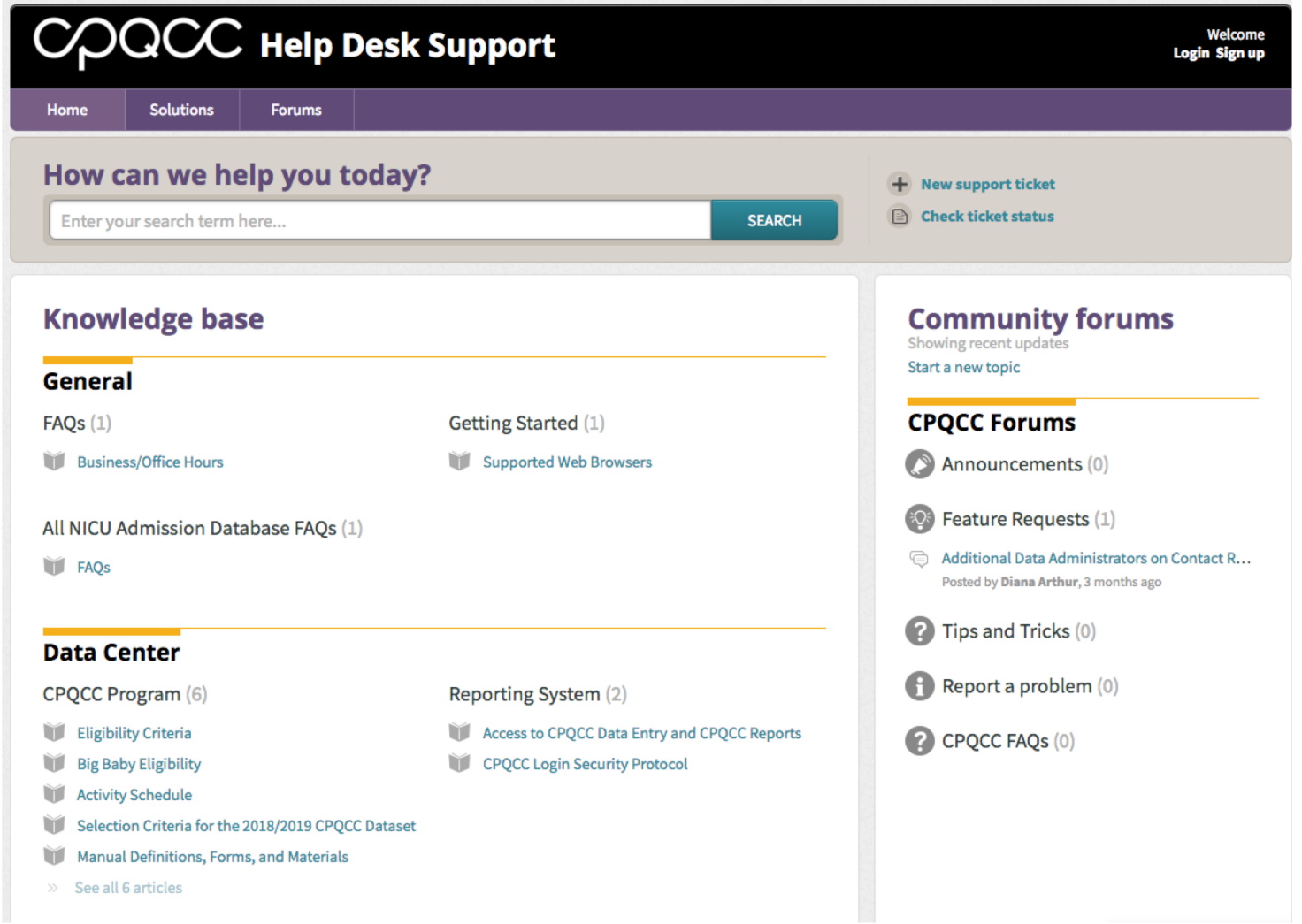
- Users can ask/answer questions
- Post tips
- Start new topic(s)
- Respond to existing topics

(CPQCC reviews and approves all topics)

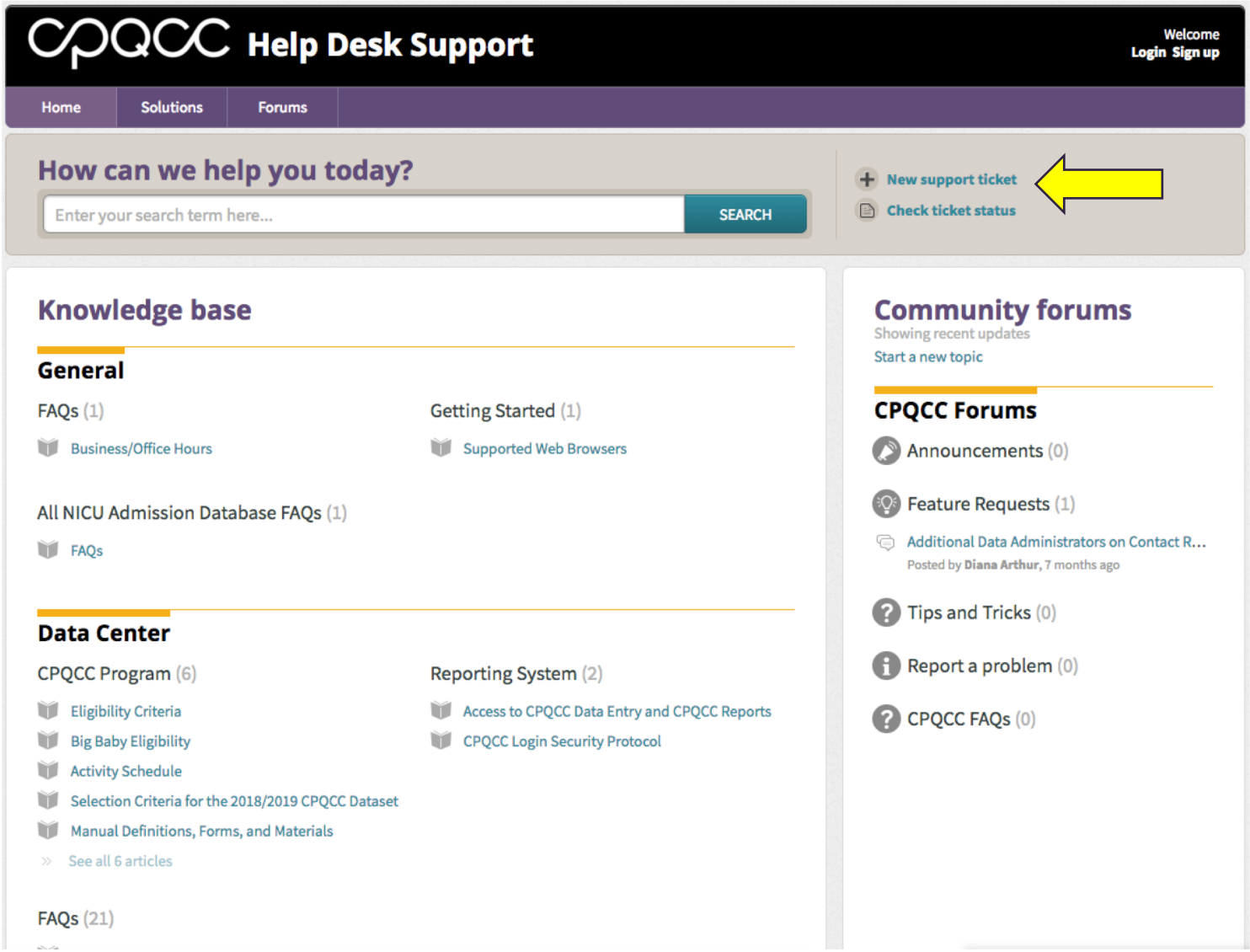
Account required

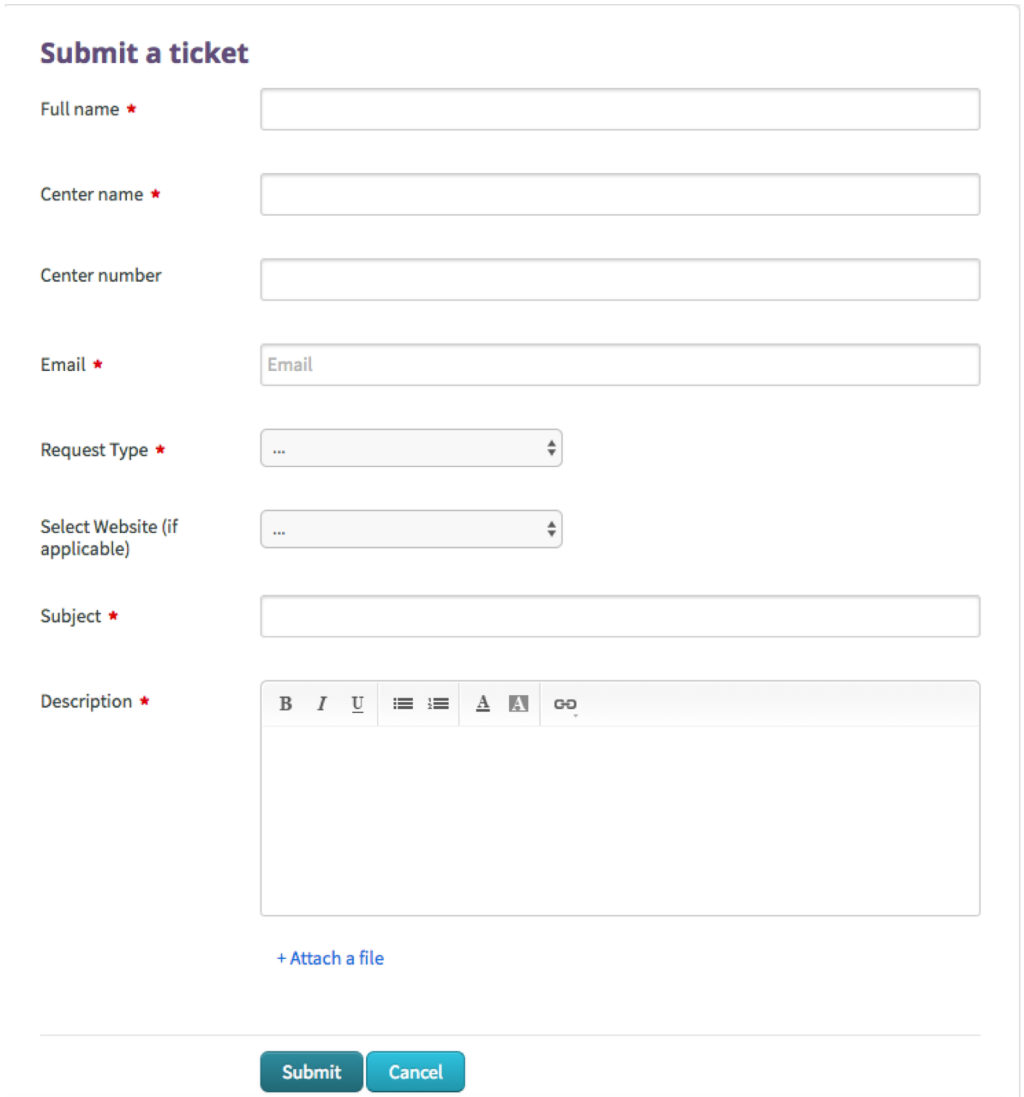
User Satisfaction Surveys

GOOD AVERAGE POOR



CPQCC Help Desk





THANK YOU!!