

CPQCC Optional NICU Admits Database (NAD) Documentation

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1 Introduction

The optional NICU Admissions Database (NAD) is a tool provided to CPQCC members that allows tracking all NICU admissions. The database is intentionally kept simple and minimal. This document describes the NAD, and the NAD management tools available on the NICU Data website.

The NAD was first introduced in 2017. In 2018 several additional features were implemented based on user feedback. In November 2020, the NAD database and user interface (UI) were updated again to address additional user requests as well as to test the ability of linking the NAD to tertiary administrative data sources. A link to tertiary data sources such as the OSHPD discharge data enables CPQCC to provide aggregated reports on all NICU admissions on discharge diagnoses, resource use and more while keeping the NAD data entry requirements minimal.

1.1 What are the advantages of participating in the optional All NICU Admits Database?

- Allows updated NICU admissions volume on NICU Reports dashboards.
- Allows updated volume and other control charts on NICU Reports for those items that require data on all NICU infants (e.g., infant deaths for the first year of life relative to all NICU admissions).
- Allows use of all NICU admissions as denominator for big baby metrics.
- Allows population of CCS form Section A row 4 (NICU deaths after day 28).
- Allows population of CCS form Section B.
- Allows population of CCS form Section C.
- Allows population of CCS form Section D row 2 (inborn NICU admits by GA).
- Allows better verification of row 1 of CCS form Section E (should be \geq cumulative initial LOS).
- Allows population of CCS form Section E “Total number of NICU days of IM or IV antibiotic exposure.”
- Allows population of CCS form Section F “Number of central line days by birth weight.”
- Allows population of CCS form Section F “Number of CLABSI by birth weight.”
- Provides ability to track infants who are not CPQCC eligible but affect a NICU’s resource use.
- New in 2020: Allows linkage to tertiary data sources allowing aggregated reports for all NICU admissions on additional metrics (e.g., discharge diagnoses).
- New in 2020: Ability to formulate custom queries for all NICU admissions.
- New in 2021: NICU Reports NAD focus board.
- Optional.

1.2 What are the disadvantages of participating in the optional All NICU Admits Database?

- Additional data preparation for CSV upload, and / or
- Additional data entry and need to understand the data entry tool offered.

1.3 How does the NICU Admission/Discharge (A/D) Database differ from the Optional NAD?

To be clear, in this document the term **CPQCC NICU A/D Database** is used to describe the CPQCC database that captures the Admission/Discharge form. The term **Optional NAD** is used to describe the Optional All NICU Admits Database, the focus of this document.

The Optional NAD is a superset of the NICU A/D Database. All NICU stays are captured irrespective of CPQCC eligibility requirements.

The definition of a data row (record) in the Optional NAD differs from the definition of a data row (record) in the NICU A/D database. This difference is best explained in the context of the definition of **episode of care**:

An **episode of care** is defined as the time from an infant's NICU admission until the infant's discharge to home (or home equivalent location such as foster care) or death.

This definition implies that an infant's episode of care is not over when he/she is transported outside the hospital where the NICU is located or transferred to another unit within the NICU hospital. During one episode of care, an infant might experience multiple NICU admissions to the same NICU.

A new episode of care starts with each re-admission from home (or a home-equivalent location).

For the CPQCC NICU A/D database one episode of care is represented by a single row (record). This row summarizes an infant's experience from the first NICU admission and including re-admission after transport-out and transport back. The transport section of the A/D form summarizes additional transport events and the final disposition as discharge home or death. Follow-up tracking stops once the infant reaches 1 year of age.

For the Optional NAD, an episode of care might be represented by multiple rows as shown in this example:

Care Episode 1	NICU Stay 1	Infant admitted to NICU immediately after birth, transported out.
	NICU Stay 2	Infant re-admitted to NICU after transport out, transferred to another area of the NICU hospital.
	NICU Stay 3	Infant re-admitted to NICU from another area of the NICU hospital, discharged home.
Care Episode 2	NICU Stay 4	Infant re-admitted from home, transferred to another unit within NICU hospital.
	NICU Stay 5	Infant re-admitted to NICU after transfer to another area of the NICU hospital, discharged to long-term care.

In this example, the first care episode is described by Rows 1, 2 and 3, and the second care episode is described by Rows 4 and 5. If this infant was CPQCC eligible, this infant's experience would be described by 2 data rows in the CPQCC NICU A/D Database.

2 Optional NAD Field Definitions

The following table describes the field definitions of the Optional NAD. The field names apply to CSV files uploaded or downloaded through the Optional NAD UI on the NICU Data (cpqccdata.org) website.

For more details on CSV files and the upload process, please see Section 3.2.

For more details on the on-line data entry tool, see Section 3.1.

For more details on the CSV files that can be downloaded, see Section 4.

The table shows basic logic rules that are enforced in the Notes column.

The Optional NAD setup allows NICUs to connect NICU stays for the same infant. The field [refnum] is infant-specific. The field [readmit] is a readmission counter. Both fields together uniquely identify one row in the Optional NAD.

The fields [refnum], [readmit], [bdate] and [adate] are required to start a new record.¹

The column CCS form / Linkage identifies fields that are required to fully populate the CCS form and/or facilitate linkage to tertiary data sources.

Table 1: NAD Field Specifications

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
refnum	Internal Reference Number	{1-99999999}	Either [refnum] or [id] required	<p>Internal reference number that allows associating a NICU's internal record with what is submitted in the Optional NAD. This should not be an MRN.</p> <p>Depending on a NICU's preference the reference number can be assigned on a per infant basis or on a per NICU stay basis.</p> <p>If assigned to track an infant, use the Readmission Counter to identify readmission of the same infant.</p> <p>If a NICU uploads the Optional NAD as a CSV file, the NICU must manage the assignment of the [refnum].</p> <p>If a NICU enters data through the on-line tool provided, the [refnum] is automatically generated as the next sequential number if the field on the data entry form is left empty.</p>

¹ It is acceptable to not use the same [refnum] for admissions of the same infant, i.e., it is possible to assign the [refnum] on a per stay rather than per infant basis. It is still necessary though to correctly identify the admission type to distinguish continuing and new care episodes. The latter distinction is important for the correct population of the CCS form.

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
				If [refnum] is not submitted as a field entirely consisting of numbers, the reference number is rejected.
readmit	Readmission Counter	{1-99, empty if never previously admitted}		<p>The internal reference number [refnum] can either be assigned on an infant basis or on a NICU stay basis.</p> <p>If assigned on an infant basis, it is possible to track re-admissions of the same infant using the Readmission Counter.</p> <p>To optimize use, the readmission counter should identify re-admissions in the order in which they occurred (i.e., reflect the order implied by the admission date).</p> <p>If a NICU enters data through the on-line tool provided, entering a new re-admission of an infant who was previously admitted to the NICU can be accomplished by a) looking up the [refnum] for the first admission and entering this [refnum] in the on-line form; b) entering the Readmission Counter for the re-admission.</p> <p>Once two or more stays of the same infant are linked, all infant level variables are synced ([bdate], [btime], [bwgt], [gestage], [multiple], [birthlocation], [sex], [delmode], [mdate]).</p> <p>If [readmit] is submitted as an integer of 1 through 99, another Optional NAD record with the same [refnum] must be present, otherwise the record is rejected.</p>
id	Can be used instead of [refnum] and [readmit]	[refnum] or [refnum].[readmit]	Either [refnum] or [id] required	<p>As an alternative to providing [refnum] and [readmit], a single field named [id] can be provided.</p> <p>Only one of the two should be provided:</p> <ul style="list-style-type: none"> • [refnum] and [readmit], or • [id]. <p>If both are provided, the [id] field is ignored.</p>

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
				The CSV download of the Optional NAD always includes the [id] field. For more details, see Section 4.
hospno	Center ID Number	{0001-9998}		CPQCC center network ID number assigned by the CPQCC data center. The on-line data entry tool generates this field automatically. For CSV uploads, if the [hospno] field is not included in the CSV file, it is set based on the name of the CSV file being uploaded, see Section 3.2.
bdate	Birth Date	{MM/DD/YYYY Y or YYYY/MM/DD or MM-DD- YYYY or YYYY- MM-DD or MM.DD.YYYY or YYYY.MM.DD or MMDDYYYY or MMDDYY or MM/DD or MM-DD or MMDD or DDmmmYYYY or DDmmmYY} <i>not case-sensitive</i>	Required	Date of birth of infant. The separator can be a forward slash (/), a period (.) or a dash (-). It is also possible to not use a separator. If a separator is <u>not</u> used (MMDDYY or MMDDYYYY), MM and DD must be provided as 2 digits (i.e., 1-digit months and days must have a leading zero). If a separator is used, it is acceptable to enter single digit months and days as a single digit. If the birth date is provided without the year of birth (e.g., MMDD), the current year for data entry is used. A date formatted with a 3-character word month is acceptable, e.g., 12DEC2020. The on-line data entry tool provides a date picker to enter the birth date. Also see 3.1.1. If [bdate] is not provided or does not refer to a birth date for birth year 2016 or later, the record is rejected.
btime	Birth Time	{M or MM or HMM or HHMM or HH:MM, 9999, 99:99, UNK} <i>not case-sensitive</i>	Desirable for Linkage	Time of birth of infant on the 24-hour clock from 00:00 to 23:59. If birth time is submitted as HMM, the field is padded with one zero, i.e., interpreted as 0HMM. If birth time is submitted as MM, the field is padded with 2 zeros, i.e., interpreted as 00MM.

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
				<p>If birth time is submitted as M, the field is padded with 3 zeros, i.e., interpreted as 000M.</p> <p>9999, 99:99, UNK are all interpreted as Unknown.</p> <p>The on-line data entry tool provides a time picker to enter the birth time. Also see 3.1.1.</p> <p>If the [btime] field cannot be interpreted as a time, this field is not populated.</p>
bwgt	Birth Weight	<p>{201-9998, 9999, UNK}</p> <p><i>not case-sensitive</i></p>	Required for CCS Form and Linkage	<p>Infant birth weight.</p> <p>If this field is submitted with a comma or other separators, these separators are removed prior to processing.</p> <p>{9999, UNK} are both interpreted as Unknown.</p> <p>If the [bwgt] field cannot be interpreted as an integer ranging from 201 to 9998 or as Unknown, this field is not populated.</p>
gestage	Gestational Age	<p>{WW.D or WWD or WW/D or WW-D or WW with WW in {20-50} and D in {0-6}, 9999, 999, 99, 99.9, 99/9, 99-9, 99.9, UNK}</p> <p><i>not case-sensitive</i></p>	Required for CCS Form and Desirable for Linkage	<p>Gestational age in weeks and days. This field should be 3 or 4 positions long. If it is 4 positions long, the third character should be a separator (e.g., . (period)). The WW portion should be a number from 20 and 50. The D portion should be a number from 0 and 6. If the gestational age is specified as WW, D is assumed to be 0 (zero).</p> <p>{9999, 99.9, 99/9, 99-9, 999, 99, UNK} are all interpreted as Unknown.</p> <p>If [gestage] cannot be interpreted as a week ranging from 20 to 50 and day ranging from 0 to 6 or as Unknown, this field is not populated.</p>
multiple	Multiple Status	<p>{S,1A,2A,2B,3A,3B,3C,4A,4B,4C,4D,5A,5B,5C,5D,5E,6A,6B,6C,6D,6E,6F,7A,7B, ..., 99, UNK}</p> <p><i>not case-sensitive</i></p>	Required for linkage	<p>Number of infants and birth order.</p> <p>S=Singleton, 1A=Multiple gestation for which only one infant was delivered, etc.</p> <p>{99, UNK} are both interpreted as Unknown.</p> <p>If [multiple] cannot be interpreted as one of the acceptable values, this field is not populated.</p>

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
sex	Infant Sex	{0, F, Female=Female; 1, M, Male=Male; 2, Ambiguous, Ambig,, ?, Undetermined, Undet = Undetermined; 9, UNK, Unknown, U = Unknown}	Required for linkage	<p>Infant sex as Male, Female, Undetermined or Unknown.</p> <p>Use Undetermined when sex is not assigned as male or female by the time of discharge because it is considered as undetermined (or "ambiguous") by the clinical team.</p>
delmode	Delivery Mode	{0, C, Cesarean, Caesarean=Cesarean Section; 1, V, Vaginal, Spontaneous=Vaginal; 9, U, UNK, Unknown = Unknown}	Required for linkage	<p>Use Cesarean for any abdominal delivery.</p> <p>Use Vaginal for any normal or operative (forceps, vacuum) vaginal delivery.</p> <p>Use Unknown if this information cannot be obtained.</p>
mdate	Mother's Birth Date	{MM/DD/YYYY or YYYY/MM/DD or MM-DD-YYYY or YYYY-MM-DD or MM.DD.YYYY or YYYY.MM.DD or MMDDYYYY or MMDDYY or DDmmmYYYY or DDmmmYY or DDmmm}	Required for Linkage	<p>Mother's date of birth. The separator can be a forward slash (/), a period (.) or a dash (-). It is also possible to not use a separator.</p> <p>If a separator is <u>not</u> used (MMDDYY or MMDDYYYY), MM and DD must be provided as 2 digits (i.e., 1-digit months and days must have a leading zero). If a separator is used, it is acceptable to enter single digit months and days as a single digit.</p> <p>If the year is formatted as 2 digits, the century is inferred based on the implied maternal age.</p> <p>A date formatted with a 3-character word month is acceptable, e.g., 12DEC1990.</p> <p>The on-line data entry tool provides a date picker to enter the admission date. Also see Section 3.1.1.</p>

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
		<i>not case-sensitive</i>		If [mdate] cannot be interpreted as a date this field is not populated.
adate	Admission Date	{MM/DD/YYYY Y or YYYY/MM/DD or MM-DD- YYYY or YYYY- MM-DD or MM.DD.YYYY or YYYY.MM.DD or MMDDYYYY or MMDDYY or MM/DD or MM-DD or MMDD or DDmmmYYYY or DDmmmYY} <i>not case-sensitive</i>	Required for CCS Form and Linkage	<p>Date of admission to NICU. The separator can be a forward slash (/), a period (.) or a dash (-). It is also possible to not use a separator.</p> <p>If a separator is <u>not</u> used (MMDDYY or MMDDYYYY), MM and DD must be provided as 2 digits (i.e., 1-digit months and days must have a leading zero). If a separator is used, it is acceptable to enter single digit months and days as a single digit.</p> <p>If the admission date is provided without the year component (e.g., MMDD), the current year for data entry is used.</p> <p>A date formatted with a 3-character word month is acceptable, e.g., 12DEC2020.</p> <p>The on-line data entry tool provides a date picker to enter the admission date. Also see Section 3.1.1.</p> <p>If [adate] cannot be interpreted as a date or if [adate] is prior to [bdate] or if [adate] is in the future, this field is not populated.</p>
atime	Admission Time	{M or MM or HMM or HHMM or HH:MM, 9999, 99:99, UNK} <i>not case-sensitive</i>		<p>Time of admission to NICU on the 24-hour clock from 00:00 to 23:59.</p> <p>If admission time is submitted as HMM, the field is padded with one zero, i.e., interpreted as 0HMM.</p> <p>If admission time is submitted as MM, the field is padded with 2 zeros, i.e., interpreted as 00MM.</p> <p>If admission time is submitted as M, the field is padded with 3 zeros, i.e., interpreted as 000M.</p> <p>9999, 99:99, UNK are all interpreted as Unknown.</p> <p>The on-line data entry tool provides a time picker to enter the admission time. Also see Section 3.1.1.</p> <p>If [atime] cannot be interpreted as a time of day or if [bdate], [btime], [atime] and [adate] imply that the infant was admitted to the NICU prior to birth, this field is not populated.</p>

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
atype	Type of Admission	{0=Inborn never home immediately admitted to the NICU after birth; 1=Inborn never home admitted from another unit within my hospital; 2=Born at co-located hospital never home; 3=Outborn, admitted to this NICU from another hospital or non-hospital location or from a unit within my hospital; 4=Admitted from home or from another unit within my hospital after previous home discharge; 110=Re-admitted from another unit within my hospital (continuing care episode);	Required for CCS Form and Linkage	<p>Categories 0 through 4 should be used if an infant is admitted to your NICU for the first time.</p> <p>Categories 110, 111, 130, 131 and 14 should be used if an infant has stayed at your NICU before and is being re-admitted.</p> <p>See flow diagram in Section 10.7.</p> <p>0=Inborn never home and immediately admitted to NICU after birth born at hospital where the NICU is located and never discharged home (for non-satellite NICUs), transported out or transferred out and admitted to the NICU immediately following birth.</p> <p>1=Inborn never home admitted from another unit within my hospital born at hospital where NICU is located, never discharged home, admitted to another unit within the hospital after birth (e.g., well baby unit), then admitted to NICU.</p> <p>2=Born at Co-Located Hospital never home born at location where the NICU is located and never discharged home (for satellite NICUs) or transported out.</p> <p>3=Outborn and Admitted to this NICU from another hospital or non-hospital location or unit in my hospital Outborn at another hospital not located where the NICU is located. Also includes infants who were born in outpatient settings, at home, in transit on the way to the hospital, <u>or infants who were born at another location, then admitted to another unit at your hospital and subsequently admitted to this NICU.</u> This should be the first time this infant was ever at your NICU.</p> <p>4=Admitted from home or from another unit within my hospital after home discharge Admitted from a home or home equivalent location or admitted from another unit within my hospital after prior discharge home. This should be the first time this infant was ever at your NICU. The infant might be born at your hospital or outborn at another hospital. The infant</p>

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
		<p>111=Re-admitted from another unit within my hospital (new care episode);</p> <p>130=Re-admitted from another hospital (continuing care episode);</p> <p>131=Re-admitted from another hospital (new care episode)</p> <p>14=Re-admitted from home}</p>		<p>might also have been admitted to another hospital for this care episode prior to coming to your NICU.</p> <p>110=Re-admitted from another unit within my hospital (continuing care episode) Re-admitted to this NICU from another unit within my hospital. Infant has stayed at this NICU previously during this episode of care and might or might not have been previously home. This stay does not count towards NICU admissions captured on the CCS form.</p> <p>111=Re-admitted from another unit within my hospital (new care episode) Re-admitted to this NICU from another unit within my hospital. Infant has stayed at this NICU previously, but not during this episode of care and must have been home at least once.</p> <p>130=Re-admitted from another hospital (continuing care episode) Re-admitted to this NICU from another hospital. Infant has stayed at this NICU previously during this episode of care and might or might not have been previously home. This stay does not count towards NICU admissions captured on the CCS form.</p> <p>131=Re-admitted from another hospital (new care episode) Re-admitted to this NICU from another hospital. Infant has stayed at this NICU previously, but not during this episode of care and must have been previously home at least once.</p> <p>14=Re-admitted from home Re-admitted to this NICU from home or a home equivalent location after a prior discharge home. Only use this option if the infant has previously stayed at your NICU.</p> <p>If [atype] cannot be interpreted as one of the categories listed, this field is not populated.</p>
acutetrsin	Acute Admission	{1, Y, Yes=Acute; 0, N, No=Non-Acute}	Required for CCS form	For infants who are admitted or re-admitted from home, another hospital or non-hospital location, or from a unit within the NICU's hospital after previous discharge home:

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
		<i>not case-sensitive</i>		<p>Acute = Admission of an infant with medical problems that require urgent care. Acute admissions include infants acutely transported to the NICU, infants admitted from home, or might include infants admitted from another unit in your hospital. If the infant is an acute transport-in then the care that is medical, diagnostic, or surgical therapy is not provided, or cannot be provided due to temporary staffing/census issues at the referring hospital.</p> <p>Non-Acute = A Non-acute admission is an admission for growth care, discharge planning care, chronic care, convalescent care, and/or hospice care. If an infant is a non-acute transport-in, then the infant's initial medical, diagnostic, and surgical needs have been met and the infant's condition has been stabilized. The medical needs of non-acute transports-in may range from extensive and extremely complex care to minimal care for feeding and growth.</p> <p>[<i>acutetrsin</i>] is only populated for infants admitted from home, admitted from another unit of my hospital after prior home discharge or infants transported to the NICU from another hospital or non-hospital location.</p> <p>If this field is not coded as 1, 'Y' or 'Yes', it is assumed to be not applicable for admission types 0, 1, 2, 110 or 111, and it is assumed to be Non-Acute for all other admission types.</p>
<i>adx0-adx16</i>	Admission Reason(s)	{1, Y, Yes, X=Reason for admission; 0, N, No=not a Reason for Admission} <i>not case-sensitive</i>		Up to 17 possible reasons for the admission can be checked: <i>adx0</i> : Suspected infection <i>adx1</i> : Respiratory distress <i>adx2</i> : Hypoglycemia <i>adx3</i> : Hyperbilirubinemia <i>adx4</i> : Temperature instability <i>adx5</i> : Feeding difficulties <i>adx6</i> : BW/GA per policy

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
				<p>adx7: Small for gestational age</p> <p>adx8: Perinatal transitional monitoring</p> <p>adx9: Neonatal abstinence syndrome</p> <p>adx10: Dysmorphic/chromosomal anomaly</p> <p>adx11: Apnea/cyanotic event</p> <p>adx12: Cardiac event</p> <p>adx13: Seizure</p> <p>adx14: Transport-In for insurance reasons</p> <p>adx15: Transport-In for bed availability reasons</p> <p>adx16: Other (specify additional details in [admtnotes] field)</p> <p>The FAQ section 10.13 provides additional information for each of these admission reasons.</p>
admtnotes	Admission Notes	Text (up to 256 characters)		<p>Notes regarding this admission, e.g., reason for admission, custom filter specification.</p> <p>For instance, if you would like to mark an admission for follow-up, add a note, e.g., follow-up required in this field. The NAD UI provides the Search (Section 6.1) and Query (Section 6.2) tools to easily find these records.</p> <p>For a CSV file, this field must be enclosed in quotes (") if it includes any commas.</p>
birthlocation	Location of Birth	Text (up to 256 characters) or 6-digit OSHPD code	Desirable for linkage	<p>The location of birth is optional and can be provided as a 6-digit OSHPD facility code or name / abbreviated name.</p> <p>For a CSV file, this field must be enclosed in quotes (") if it includes any commas.</p>
reflocation	Referral Location	Text (up to 256 characters) or 6-digit OSHPD code	Desirable for linkage	<p>The referring location for the current admission is optional and can be provided as a 6-digit OSHPD facility code, name, abbreviated name, or location in your hospital.</p> <p>For a CSV file, this field must be enclosed in quotes (") if it includes any commas.</p>

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
abxdays	Antibiotic Use Days	{0-366}, {0-366} + {0-366}	Required if ABX days on CCS form is to be populated	<p>The total number of NICU days during this stay with IM or IV antibiotic exposure for any purpose in the year of admission and the year following the admission if the admission overlaps more than 1 year.</p> <p><i>Example 1:</i> If an infant is admitted on 1/1/2018 and discharged on 2/20/2018 and received at least one exposure to antibiotics on 12 days, this field should be specified as 12. The largest possible number of days with antibiotic exposure is 51 days.</p> <p><i>Example 2:</i> If an infant was admitted on 12/1/2017 and discharged on 2/20/2018 and received antibiotics on 5 days in 2017 and 7 days in 2018, this field should be specified as 5+7. The largest possible number of days of antibiotic exposure in 2017 is 31 days and in 2018 is 51 days.</p> <p>Antibiotic exposure is based on the use of antibacterial and antifungal agents, <u>not</u> antiviral agents.</p> <p>Any exposure on a given day counts as one day.</p> <p>Note that the length of the NICU stay – based on [adate] and [ddate] – is enforced as the maximum possible value for this item.</p>
cldays	Central Line Days	{0-999}	Required if central line days on CCS form are to be populated	<p>The total number of NICU days during this stay on which the infant had an umbilical catheter in place or had 1 or more non-umbilical central line(s) in place.</p> <p>Note that the length of the NICU stay – based on [adate] and [ddate] – is enforced as the maximum possible value for this item.</p>
clabsi	CLABSI	{1, Y, Yes=CLABSI occurred; 0, N, No=no CLABSI}	Required if CLABSIs on CCS form are to be populated	<p>Yes/No indicator for CLABSI during this stay.</p> <p>Note that even though there should obviously be a logical relationship between central line days and central line associated infections, we have not implemented such a dependency as some members might opt to track CLABSIs, but not track central line days.</p>

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
ddate	NICU Discharge Date	{MM/DD/YYYY Y or YYYY/MM/DD or MM-DD- YYYY or YYYY- MM-DD or MM.DD.YYYY or YYYY.MM.DD or MMDDYYYY or MMDDYY or MM/DD or MM-DD or MMDD or DDmmmYYYY or DDmmmYY} <i>not case-sensitive</i>	Required for CCS form and linkage	<p>Date of discharge from NICU. The separator can be a forward slash (/), a period (.) or a dash (-). It is also possible to not use a separator.</p> <p>If a separator is <u>not</u> used (MMDDYY or MMDDYYYY), MM and DD must be provided as 2 digits (i.e., 1-digit months and days must have a leading zero). If a separator is used, it is acceptable to enter single digit months and days as a single digit.</p> <p>If the discharge date is provided without the year of birth (e.g., MMDD), the current year for data entry is used.</p> <p>A date formatted with a 3-character word month is acceptable, e.g., 12DEC2020.</p> <p>The on-line data entry tool provides a date picker to enter the birth date. Also see Section 3.1.1.</p> <p>If [ddate] cannot be interpreted as a date or if [ddate] is prior to [bdate] or if [ddate] is prior to [adate] or if [ddate] is in the future, this field is not populated.</p> <p>If discharge date and admission date are both provided, the field length of stay [LOS] is calculated as discharge date minus admission date plus 1. The [LOS] field is also included in downloads of the Optional NAD.</p>
disp	NICU Disposition	{1=Home from this NICU; 2=Transport-Out; 3=Died in this NICU; 4=Transfer to another unit within my hospital; 9=Unknown}	Required for CCS form and linkage	<p>Disposition for this infant for this stay.</p> <p>Home from this NICU - discharged home from NICU (includes discharge to foster care or locations equivalent to home, e.g., hospice not affiliated with an acute care hospital).</p> <p>Transported-Out - transported to another hospital location.</p> <p>Died in this NICU - died in the NICU at the end of the NICU stay.</p> <p>Transfer to another unit within my hospital - transferred to another unit within my hospital (e.g.,</p>

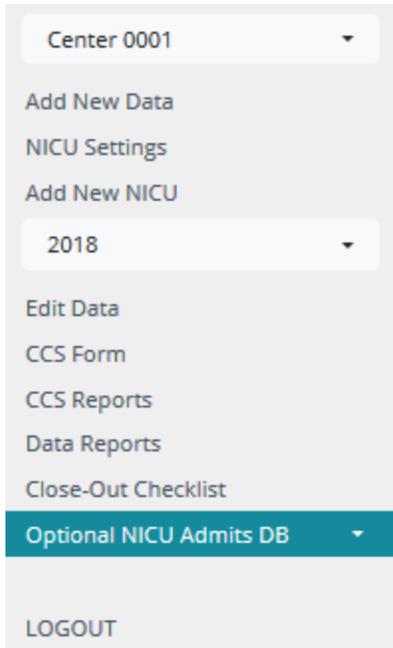
Field Name	Description	Possible Values	CCS Form / Linkage	Notes
				PICU) and subsequently either discharged home or transported-out. If [disp] cannot be interpreted as one of the categories listed, this field is not populated.
ddx0-ddx13, ddx16	Discharge Diagnoses	{1, Y, Yes, X=Discharge DX; 0, N, No=not a Discharge DX} <i>not case-sensitive</i>	Possibly required for CCS report in 2022	Up to 15 possible discharge diagnoses can be checked: ddx0: Infection or suspected infection ddx1: Respiratory distress ddx2: Hypoglycemia ddx3: Hyperbilirubinemia ddx4: Temperature instability ddx5: Feeding difficulties ddx6: BW/GA per policy ddx7: Small for gestational age ddx8: Perinatal transitional monitoring ddx9: Neonatal abstinence syndrome ddx10: Dysmorphic/chromosomal anomaly ddx11: Apnea/cyanotic event ddx12: Cardiac event ddx13: Seizure ddx16: Other The FAQ section 10.13 provides additional information for each of these discharge diagnoses.
xferlocation	Transport / Transfer Location	Text {up to 256 characters} or 6-digit OSHPD code	Desirable for linkage	For infants who were transported out or transferred out, the location where they were transported or transferred to. This location can be another NICU or another hospital or a unit within your hospital.
acutetrout	Acuity of Transport-Out	{1, Y, Yes=Acute; 0, N, No=Non-Acute}	Required for CCS form	For infants transported out: Acute = An infant with medical problems that require acute resolution for survival who is transported-out in order to obtain medical, diagnostic, or surgical therapy that is not provided,

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
		<i>not case-sensitive</i>		<p>or that cannot be provided due to temporary staffing/census issues at the referring hospital. A transport is considered acute if the primary reason for the transport was NOT for feeding/growing or convalescent reasons. Acute transports-out occur to get resources that are not available at the sending hospital.</p> <p>Non-Acute = Non-acute Transports-out are infants whose initial medical/surgical needs have been met, whose condition has been stabilized and who is transported-out in order to obtain growth care, discharge planning care, chronic care, and/or hospice care. The medical needs of non-acute transports-out may range from extensive and extremely complex care to minimal care for feeding and growth.</p> <p>[<i>acutetransout</i>] is only populated for infants who were transported out.</p> <p>If this field is not coded as 1, 'Y' or 'Yes', it is assumed to be not applicable for dispositions 1, 3, and 4, and it is assumed to be Non-Acute for disposition 2.</p>
<i>ddatehsp</i>	Hospital Discharge Date	{MM/DD/YYYY Y or YYYY/MM/DD or MM-DD- YYYY or YYYY- MM-DD or MM.DD.YYYY or YYYY.MM.DD or MMDDYYYY or MMDDYY or MM/DD or MM-DD or MMDD or DDmmmYYYY	Required	<p>This field only applies if [<i>disp</i>]=4.</p> <p>Date of discharge from hospital after transfer to another unit. The separator can be a forward slash (/), a period (.) or a dash (-). It is also possible to not use a separator.</p> <p>If a separator is <u>not</u> used (MMDDYY or MMDDYYYY), MM and DD must be provided as 2 digits (i.e., 1-digit months and days must have a leading zero). If a separator is used, it is acceptable to enter single digit months and days as a single digit.</p> <p>If the birth date is provided without the year of birth (e.g., MMDD), the current year for data entry is used.</p> <p>A date formatted with a 3-character word month is acceptable, e.g., 12DEC2020.</p>

Field Name	Description	Possible Values	CCS Form / Linkage	Notes
		or DDmmmYY} <i>not case-sensitive</i>		The on-line data entry tool provides a date picker to enter the birth date. Also see ...sectionref... If [ddatehsp] cannot be interpreted as a date or if [ddatehsp] is prior to [ddate] or if [ddatehsp] is in the future, this field is not populated.
disphsp	Hospital Disposition	{1=Discharged alive; 3=Died}	Required	This field only applies if [disp]=4. Hospital disposition for this infant. Discharged alive – the infant was discharged alive after transfer to another unit within my hospital. Died – the infant died after transfer to another unit within my hospital. If [disphsp] cannot be interpreted as one of the categories listed, this field is not populated.
cpqccID	CPQCC ID Number	{1-99999}	Required	CPQCC Record ID number if infant qualifies for CPQCC.

3 Optional NAD Data Entry

This section is best read while being logged on to cpqccdata.org and following along with the steps shown below. You can enter a test record; the optional NAD allows you to easily delete such test records.



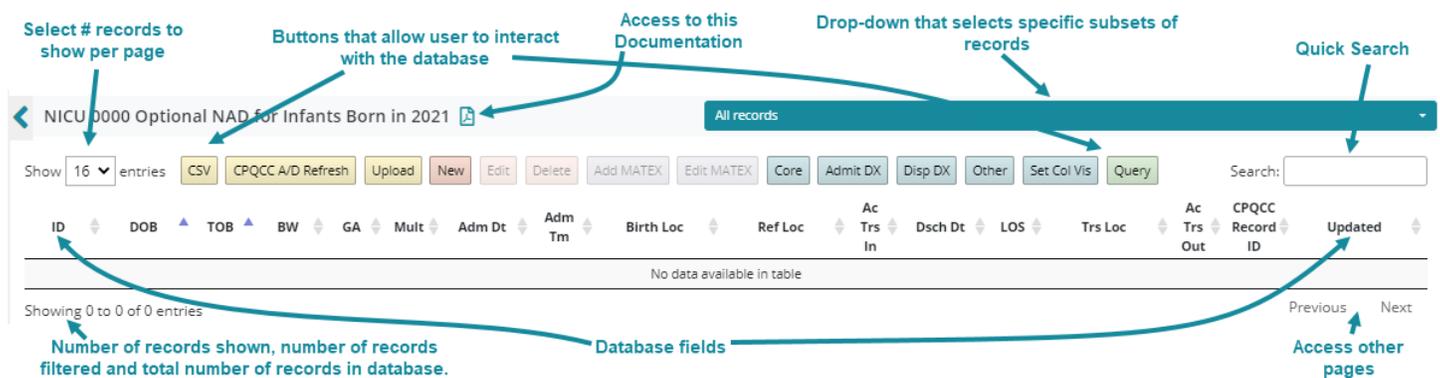
After successfully logging on to the NICU Data website (cpqccdata.org), the Optional NAD data entry user interface (UI) is accessed through the link labeled Optional NICU Admits DB in the left sidebar, typically located under the link for the close-out check list.

Note that your sidebar might be different depending upon the number of NICUs you have access to and/or whether your NICU has opted to participate in the MATEX data collection.

The year selected in the sidebar is used to determine the active year.

The Optional NAD can be accessed by birth year or by admission year, after clicking on the Optional NICU Admits DB link in the sidebar, the user may decide to access the Optional NAD by birth year or by admission year. Once this choice is made, the Optional NAD User Interface (UI) is loaded.

If the Optional NAD was never used or had never any records added for the selected year of birth or admission, the NAD table is loaded without any records.



NAD Records can be added or modified in 3 ways:

- Using the on-line form to add, edit or delete NAD records.
- Uploading a CSV file by clicking on the Upload button.
- Adding existing CPQCC NICU A/D Records by clicking on the CPQCC A/D Refresh button.

Each of these options is explained in the following sections.

3.1 Using the On-Line Form

3.1.1 Adding New NAD Records

 Clicking on New, an empty Optional NAD data entry form overlays over the main NAD Table (Figure 1). A tab setup at the top of the form divides the data entry form into a section for Demographics, Admission, ABX/Central Lines and Disposition.

As data are entered, fields that are not applicable based on what was entered by the user are removed from the form. Additional field information might be shown. For instance, upon entry of birth date and mother's birth date, the maternal age at birth of her baby is displayed under the mother's birth date field.

Figure 1: Optional NAD Data Entry Form

Create New NAD Record

Demographics

Admission

ABX / Central Lines

Disposition

Reference Number

Unique Reference Number for Infant and/or NICU Stay
Enter a reference number (integer) that identifies unique NICU admissions OR unique infants. OR leave empty and check option to have the system assign the next available sequential number.
For an infant who was previously in your NICU, has an NAD record and is readmitted, enter the infant's reference number and use the Re-Admission Counter to indicate the re-admission incidence.
Do not use the infant's MRN as reference number.

OR, have system assign next sequential number

Without prefix

Prefixed by birth year

Prefixed by admit year

Prefixed by 2-digit birth year

Prefixed by 2-digit admit year

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, sex, delivery mode, mother's date of birth, and birth location are copied based on the Reference Number entered.
Leave empty unless the infant was previously at your NICU.

Date of Birth

The year of birth must be 2020.

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). Enter UNK if unknown.

Sex Female Male Undetermined Unknown

Multiple

Delivery Mode Vaginal Cesarean Unknown

Mother's Date of Birth

Enter UNK if mother's date of birth is unknown.

NICU A/D Record ID

The user has several options how to assign an infant reference number (ID):

- Entry of a reference number in the input box.
- Checking the box 'Without Prefix' to have the intake system generate as reference number the next available sequential number. For instance, if the user has entered 1, 2, 3 already, the number 4 will be used.
- Checking the box 'Prefixed by birth year' to have the intake system generate as reference number the next available sequential number prefixed by the 4-digit birth year of the infant. The number will always use 4 positions. For instance, 20210001, 20210002, 20210003 will be followed by 20210004.

- Checking the box 'Prefixed by admit year' to have the intake system generate as reference number the next available sequential number prefixed by the 4-digit admission year.
- Checking the box 'Prefixed by 2-digit birth year' to have the intake system generate as reference number the next available sequential number prefixed by the 2-digit birth year of the infant. The number will always use 4 positions. For instance, 210001, 210002, 210003 will be followed by 210004.
- Checking the box 'Prefixed by 2-digit admit year' to have the intake system generate as reference number the next available sequential number prefixed by the 2-digit admission year.

Note that the next sequential number might be a skipped number. For instance, if the reference numbers 210001, 210002, 210004, 210005 have been used the next available sequential number is 210003.

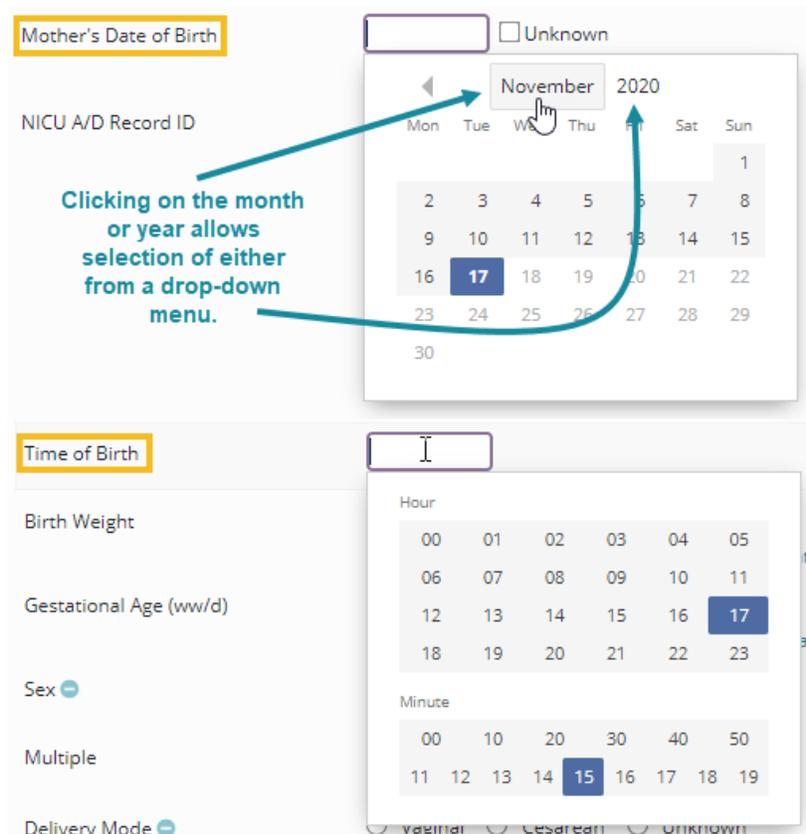
Radio boxes can be reset to no option checked by clicking on the symbol that appears next to the radio box label.

Upon tabbing to or clicking on a date or time field a date or time "picker" is available for use (Figure 2).

For the **date picker**, the months and year in the top area of the box are both drop-downs that show all month and year options available for the item. It is fastest to pick the month from the drop-down, then the year and then the day. Clicking on the day populates the associated input box. **Click anywhere outside the "picker" to close it.**

For the **time picker**, click on the hour, then minute. Clicking on either populates the associated input box. **Click anywhere outside the "picker" to close it.**

Figure 2: Date and Time Picker



The date and time pickers do not have to be used, dates and times can also be entered in any acceptable format described for these fields in section 2.

To create a new NAD record, at a minimum birth date, admission date and the reference number section must be provided.

Birth date and admission date must be entered, however, for mother's birth date, it is possible to enter UNK into the input field indicating that the mother's birth date is not known.

The default date for the date picker is the current date.

Tabbing away from a date or time field or clicking anywhere on the form besides the "picker" closes the date or time "picker" pop-up.

When the user clicks on Create in the bottom right corner, an attempt to save the record is made. At that point, the record is checked for errors. If any errors are found, they are displayed to the user in the gray area at the bottom to the left of the Cancel and Create buttons.

Unable to update record. Need infant date of birth and admission date.

Cancel

Create

Only if all errors are addressed, a record is saved.

Once a record is successfully created, the overlay closes, and the main NAD table immediately updated to reflect the newly created record. Note though that if you have any active filtering rules, and if your new record does not meet the criteria of these rules, you might not see the new record in the table (see Section 6).

← NICU 0001 Optional NAD for Infants Born in 2020 [🔗](#) All records

Show 16 entries [CSV](#) [CPQCC A/D Refresh](#) [Upload](#) [New](#) [Edit](#) [Delete](#) [Add MATEX](#) [Edit MATEX](#) [Core](#) [Admit DX](#) [Disp DX](#) [Other](#) [Set Col Vis](#) [Query](#) Search:

ID	DOB	TOB	BW	GA	Mult	Adm Dt	Adm Tm	Birth Loc	Ref Loc	Ac Trs In	Dsch Dt	LOS	Trs Loc	Ac Trs Out	CPQCC Record ID	Updated
1	11-03-20	00:10	2,300	38/6	S	11-03-20	00:39				11-08-20	6				11-17-20 17:30

Showing 1 to 1 of 1 entries Previous Next

3.1.2 Editing Existing NAD Records



A record can be edited either by double clicking on the record's row or by clicking on the record once (it will appear highlighted in darker gray as shown below) and clicking on the Edit button above the NAD table.

Show 16 entries

ID	DOB	TOB	BW	GA	Mult	Adm Dt	Adm Tm	Birth Loc	Ref Loc	Ac Trs In	Dsch Dt	LOS	Trs Loc	Ac Trs Out	CPQCC Record ID	Updated
20200020	01-28-2020	12:26	3,857	38/1	S	01-28-2020	12:43				01-30-2020	3				12-02-20 13:32
20200021	01-29-2020	21:47	2,702	37/2	2A	01-30-2020	03:51		ED		02-02-2020	4				12-02-20 13:32
20200022	01-29-2020	22:54	3,534	37/4	S	01-30-2020					02-01-2020	3				12-02-20 13:32
20200002	01-01-2020	14:00	2,402	34/0	S	02-23-2020		DEMO CNTR 3	PICU	No	03-01-2020	8				12-02-20 13:30
20200003	01-02-2020	11:59	2,052	33/1	2B	01-02-2020	12:26				01-19-2020	18				11-25-20 16:52
20200004	01-03-2020	23:41	2,377	31/0	S	01-03-2020	23:47				02-03-2020	32				11-25-20 16:52
20200005	01-03-2020	18:39	4,522	41/1	S	01-04-2020	00:51		ED		01-07-2020	4				11-25-20 16:52
20200007	01-08-2020	22:52	2,202	33/2	S	01-08-2020	22:52				01-21-2020	14				11-25-20 16:52
20200008	01-09-2020	11:52	3,412	38/0	S	01-09-2020	12:16				01-10-2020	2				11-25-20 16:52
20200009	01-09-2020	07:41	2,282	34/5	S	01-09-2020	07:55				01-19-2020	11				11-25-20 16:52
20200010	01-10-2020	10:04	3,702	40/0	S	01-11-2020	09:01	DEMO CNTR 3		Yes	01-15-2020	5				11-25-20 16:52
20200011	01-10-2020	10:04	3,702	40/0	S	01-17-2020		DEMO CNTR 3		No	02-21-2020	36				11-25-20 16:52
20200012	01-12-2020	05:34	4,247	UNK	S	01-12-2020	05:56				01-14-2020	3				11-25-20 16:52
20200013	01-13-2020	20:07	3,932	39/6	S	01-18-2020	22:30	DEMO CNTR 3		Yes	01-20-2020	3				11-25-20 16:52
20200014	01-15-2020	21:49	2,287	36/1	S	01-15-2020	22:07				02-04-2020	21				11-25-20 16:52
20200015	01-16-2020	13:06	3,817	40/0	S	01-16-2020	13:36				01-20-2020	5				11-25-20 16:52

Showing 1 to 16 of 38 entries 1 row selected

Previous 1 2 3 Next

3.1.3 Deleting NAD Records

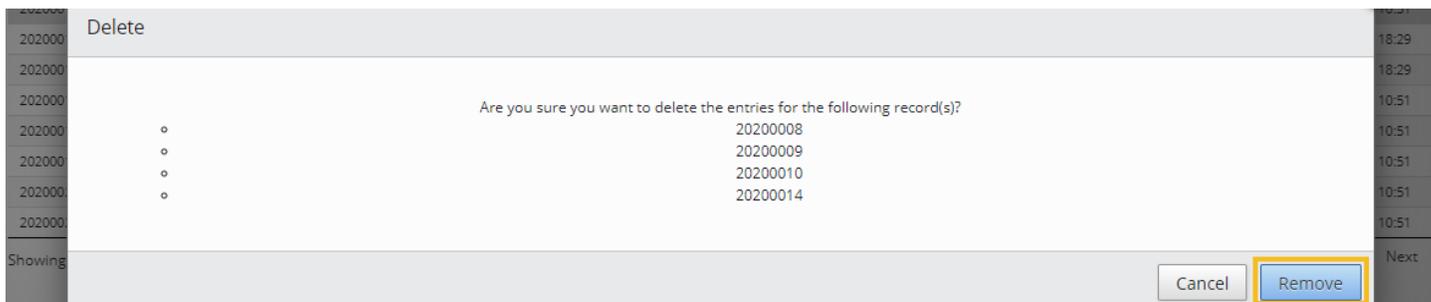
A record can be deleted by clicking on the record's row once and then clicking on the Delete button above the Optional NAD table. It is also possible to delete multiple records, in this case use the usual Shift+Click to select a range of records or CTRL+Click to extend the selection one at a time. Once all records are marked for deletion, click the Delete button to remove all records highlighted.



Show 16 entries

ID	DOB	TOB	BW	GA	Mult	Adm Dt	Adm Tm	Birth Loc	Ref Loc	Ac Trs In	Dsch Dt	LOS	Trs Loc	Ac Trs Out	CPQCC Record ID	Updated
20200005	01-03-20	18:39	4,522	41/1	S	01-04-20	00:51		ED		01-07-20	4				11-16-20 10:51
20200007	01-08-20	22:52	2,202	33/2	S	01-08-20	22:52				01-21-20	14				11-16-20 18:29
20200008	01-09-20	11:52	3,412	38/0	S	01-09-20	12:16				01-10-20	2				11-16-20 10:51
20200009	01-09-20	07:41	2,282	34/5	S	01-09-20	07:55				01-19-20	11				11-16-20 10:51
20200010	01-10-20	10:04	3,702	40/0	S	01-11-20	09:01	DEMO CNTR 3		Yes	01-15-20	5				11-16-20 10:51
20200011	01-10-20	10:04	3,702	40/0	S	01-17-20		DEMO CNTR 3		No	02-21-20	36				11-16-20 10:51
20200012	01-12-20	05:34	4,247	41/4	S	01-12-20	05:56				01-14-20	3				11-16-20 10:51
20200013	01-13-20	20:07	3,932	39/6	S	01-18-20	22:30	DEMO CNTR 3		Yes	01-20-20	3				11-16-20 10:51
20200014	01-15-20	21:49	2,287	36/1	S	01-15-20	22:07				02-04-20	21				11-16-20 10:51
20200015	01-16-20	13:06	3,817	40/0	S	01-16-20	13:36				01-20-20	5				11-16-20 18:29

Any deletion must be confirmed as shown below.



Note that to remove an infant and all his/her re-admissions entirely, the first record and all re-admission records must be selected. It is possible to remove re-admissions only.

3.1.4 Adding a Readmission for an Infant Already Present in the NAD

1. To add a readmission (ID) for an infant that already has a (base) record in the Optional NAD, look up the infant's reference number (ID) pertaining to the first stay the infant had in your NICU.
2. Click on New to start a new record.
3. Enter the reference number from step 1 in the reference number field.
4. Enter the readmission index, i.e., for the first readmission to your NICU use 1, for the second readmission to your NICU, use 2, etc.

Once data has been entered for the readmission index, all infant level fields are hidden from the form as this information has already been entered. Compare the figure below to Figure 1, and you will notice that all but one field have disappeared from the Demographics tab.

Create New NAD Record

Demographics | Admission | ABX / Central Lines | Disposition

Reference Number: OR, have system assign next sequential number

Without prefix
 Prefixed by birth year
 Prefixed by admit year
 Prefixed by 2-digit birth year
 Prefixed by 2-digit admit year

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, sex, delivery mode, mother's date of birth, and birth location are copied based on the Reference Number entered. **Leave empty unless the infant was previously at your NICU.**

NICU A/D Record ID:

5. Fill out the remaining fields.
6. Click on Create.

The result of creating a new record as a readmission is shown below. The infant level information was retrieved based on the first (base) admission. The ID column shows the base admission's reference number concatenated with the re-admission counter. This display allows the grouping together of admissions pertaining to the same infant.

Showing 16 entries

Search:

ID	DOB	TOB	BW	GA	Mult	Adm Dt	Adm Tm	Birth Loc	Ref Loc	Ac Trs In	Dsch Dt	LOS	Trs Loc	Ac Trs Out	CPQCC Record ID	Updated
20200005	01-03-20	18:39	4,522	41/1	S	01-04-20	00:51		ED		01-07-20	4				11-16-20 10:51
20200005.1	01-03-20	18:39	4,522	41/1	S	01-20-20	08:20		PEDS	No	01-31-20	12				11-18-20 08:21

Showing 1 to 2 of 2 entries (filtered from 35 total entries)

Previous Next

3.2 Uploading a CSV File with NICU Admissions

Upload

It is possible to upload a CSV file that meets the data entry requirements outlined in Section 2.

The CSV file may contain admissions to infants born in 2016 or later. Multiple admission years and multiple birth years are possible, and if the minimum **field** requirements are met (see bullet 3 below), records for all years included in the CSV file are added.

The following rules have been implemented for the upload of a CSV (comma separated variables) file:

1. The CSV file must be named `NICUDBxxxxx.CSV` where `xxxxx` refers to the 4-digit CPQCC network ID number of the NICU.
2. The first line of the CSV file must identify the field names, and the field names shown in Section 2 must be used. However, the order of the fields does not matter. If additional fields are included in the CSV file, they are ignored.
3. The following fields must be included in the CSV files: `[refnum]` or `[id]`, `[bdate]`, `[btime]`, `[bwgt]`, `[gestage]`, `[adate]`, `[atype]`, `[acutetrsin]`, `[ddate]`, `[disp]`, `[acutetrout]`, `[cpqccid]`. Note that not all of these fields must have values for a record to be processed.
4. If the `[hospno]` field is not included, it is inferred based on the name of the CSV file.
5. Records are rejected if the reference number `[refnum]` or `[id]`, birth date `[bdate]` or admission date `[adate]` cannot be populated from the CSV file, or if the year of birth precedes 2016.
6. There should be one row (record) for each NICU admission.
7. Records are rejected if the `[readmit]` field is submitted as an integer, yet no “base” admission for the infant is present either in the CSV file or among the Optional NAD records previously entered.
8. If the CSV file includes `[refnum],[readmit] / [id]` fields with values already present in the optional NAD, the existing record is replaced with the data in the CSV file.

An EDS upload is initiated by clicking on the Upload button.

The user is prompted to select the prepared CSV file:

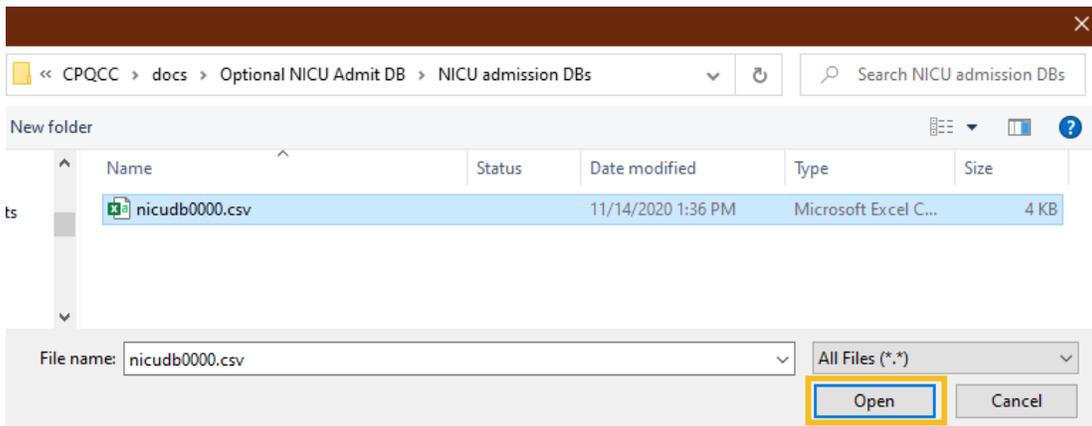
Upload and Process NICU Admissions CSV File

NICU Admissions CSV files may be uploaded and processed one at a time.

Choose File No file chosen

Upload File Cancel

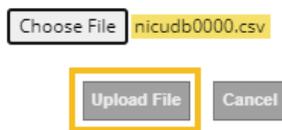
Clicking on Choose File brings up your computer's file selection box that can be used to select the file from wherever it is located on your computer or network.



Once selected, the name of the selected file is shown in the upload overlay, and the Upload File button is enabled.

Upload and Process NICU Admissions CSV File

NICU Admissions CSV files may be uploaded and processed one at a time.



Click on Upload File to upload your data file

If the Upload File button does not become active after a file is selected, verify that the file name is correct. Clicking on Upload File starts the file upload processing to add the records in the CSV file to the optional NAD for your NICU.

Once the upload has completed, a message is displayed summarizing the number of records uploaded. If any records could not be uploaded, this information is displayed as well.

Your CSV file was successfully processed.

21 records uploaded.



Verify that all records were uploaded as intended.

Note that only records for the year selected are shown, therefore, to review data for other years included in the CSV file, make sure to review the NAD for these other years.

Note that any active Search Filters or Query settings are applied. Clear all filters and Queries to see all records uploaded for the selected birth / admission year.

3.3 Adding CPQCC NICU A/D Records to the NAD

CPQCC A/D Refresh

It is possible to update the NAD with records from the CPQCC NICU A/D database. To add CPQCC NICU A/D records or update NAD records linked to a CPQCC NICU A/D records through the [cpqccid] field, click on the CPQCC A/D Refresh button.

Clicking on the CPQCC A/D Refresh button brings up the pop-up below.

Figure 3: Importing CPQCC NICU A/D Records into the NAD

Retrieve new records from the CPQCC A/D database and/or update NAD records with a CPQCC ID

Existing NAD records with a CPQCC ID will have all infant level variables updated to match the CPQCC A/D form: birth date, birth time, birth weight, gestational age, multiple status, sex, delivery mode, mother's birth date.

For new records, use the CPQCC NICU A/D record ID as reference number / ID for the NAD stay.

For new records, use the next available sequential reference number(s) as reference number / ID for the NAD stay.

For new records, use the next available sequential reference number(s) as reference number / ID prefixed by the admission year for the NAD stay. This will result in: **YYYY0001, YYYY0002,** where YYYY is the admission year.

For new records, use the next available sequential reference number(s) prefixed by the birth year. This will result in: **YYYY0001, YYYY0002,** where YYYY is the birth year.

For new records, use the next available sequential reference number(s) as reference number / ID prefixed by the 2-digit admission year for the NAD stay. This will result in: **YY0001, YY0002,** where YY is the 2-digit admission year.

For new records, use the next available sequential reference number(s) prefixed by the 2-digit birth year. This will result in: **YY0001, YY0002,** where YY is the 2-digit birth year.

Check to only include CPQCC NICU A/D records with all NAD items coded.

You may choose how to deal with assigning reference/id numbers for the imported records. The default is to use the CPQCC NICU A/D record ID. The alternative option is to assign the next available sequential numbers available in accordance with the user adopted scheme.

The user may also specify how to deal with CPQCC NICU A/D records that might have pending status for some of the fields that can propagate to the NAD. This choice is important as only when a CPQCC NICU A/D record is imported for the first time all possible fields are populated. While existing NAD records that are connected to a CPQCC NICU A/D record through [cpqccid] field can be updated by a CPQCC NICU A/D refresh, these refreshes of existing NAD records are restricted to infant level fields only (see bullet 5 in the list below).

Just in case, something goes wrong, it is recommended to backup your NAD prior to importing CPQCC records (i.e., downloading your current database using the CSV button, see Section 4.

It is important to be aware of several caveats when importing CPQCC NICU A/D records into NAD:

1. The [refnum] field is set based on the user option indicated (see Figure 3).
2. Any CPQCC NICU A/D record for the selected birth / admit year is included in the import.
3. A CPQCC NICU A/D record results in a new NAD record if the [cpqccid] field in the NAD is never equal to the CPQCC NICU A/D record ID.
4. A **new** NAD record has the following fields populated based on the CPQCC NICU A/D record: [refnum], [readmit], [hospno], [bdate], [btime], [bwgt], [gestage], [multiple], [sex], [delmode], [mdate], [adate], [atype], [acutetrsin], [admtnotes], [birthlocation], [reflocation], [ddate], [disp], [acutetrout], [xferlocation], [cpqccid].
5. Any **existing** NAD records that are linked to a CPQCC NICU A/D records have infant level fields overwritten. These fields are: [bdate], [btime], [bwgt], [gestage], [multiple], [sex], [delmode], [mdate]. Stay dependent fields are not updated.
6. [adate] is imported as [bdate] + [DAYADMISS] – 1.

7. `[atype]` is imported as follows:
 - Inborn infants admitted on the day of birth are imported as `[atype]=0`.
 - Inborn infants admitted one or more days after the day of birth are imported as `[atype]=1`.
 - Infants born at the co-located hospital (for satellite NICUs only) are imported as `[atype]=2`.
 - Outborn infants who were never home are imported as `[atype]=3`.
 - Outborn infants who were previously home, but never at this NICU are imported as `[atype]=4`.
 - Outborn infants who were previously home and are re-admitted as acute transport-in are imported as `[atype]=131`.
 - Outborn infants who were previously home and are re-admitted to this NICU are imported as `[atype]=14`.
8. `[ddate]` (NICU discharge date) is imported as `[adate] + [LOS1] - 1`.
 Note that the import of the NICU discharge date based on the CPQCC initial length of stay is problematic as the infant might not have been discharged directly from the NICU, but rather from another unit within the NICU's hospital where the infant stayed after NICU care was no longer needed. For additional details, see Episode of Care discussion in Section 1.3.
9. `[acutetrsin]` (acute admission to your NICU) is imported as 1 if a CPeTS form is associated with the CPQCC NICU A/D record, or if an infant is admitted from home.
 Beware that not all acute admissions have a CPeTS form, therefore, updates to the imported value might be needed. If an infant was transferred to the NICU from another unit within your hospital, this item might have to be corrected.
10. `[acutetrnout]` is imported as 1 if the CPQCC NICU A/D record reason for transport is one of ECMO, Medical/Diagnostic services, Surgery, Other.
11. `[disp]` (NICU disposition) is imported as follows:
 - Infants initially discharged home are imported as `[disp]=1`.
 - Infants with initial disposition death are imported as `[disp]=3`. These infants might have to have their disposition corrected if death occurred after transfer to another unit in the NICU hospital.
 - Infants with initial disposition "still in-house at age 1 year" do not have a disposition imported. For these infants `CPQCCSIH` is suffixed to the `[admtnotes]` field.
 - Infants initially transported-out and with disposition after transport of home or death are imported as `[disp]=2`.
 - Infants initially transported-out and with disposition after transport of transported back are imported as `[disp]=2`.
 For these infants, the `[admtnotes]` field is suffixed with `CPQCCREADMIT`, and a readmission record should be added to the NAD (see Section 3.1.4). Once verification has happened, `CPQCCREADMIT` should be removed from the `[admtnotes]` field.
 - Infants initially transported-out and with disposition after transport of transported again to another hospital are imported as `[disp]=2`.
 For these infants, the `[admtnotes]` field is suffixed with `READMIT???`, and it should be verified that the infant did not have a re-admission at this NICU. Once verification has happened, `READMIT???` should be removed from the `[admtnotes]` field.
12. Any infants who were admitted to the NICU at age older than 28 days and any other NICU admissions of non-CPQCC eligible infants must be added to the NAD ensure the complete entry of all NICU admissions.

Note that most CPQCC records can be imported without any further action needed, however, in order to ensure that data for the CCS form can be correctly captured, the import should be carefully reviewed for the caveats pointed out in this section.

Table 2: CPQCC NICU A/D Record Import Checklist

<input type="checkbox"/>	Determine the method for generation of the reference number [refnum].
<input type="checkbox"/>	Add infants admitted to NICU at > 28 days and non-CPQCC eligible infants since they are not captured with a CPQCC NICU A/D form.
<input type="checkbox"/>	Review imported data for instances in which the [admtnotes] field is CPQCCREADMIT. These are infants who are transported from your NICU to another hospital and transported back to you. As the NAD requires a data row for each infant stay, another row of data should be added for these infants. Follow the instructions in Section 3.1.4.
<input type="checkbox"/>	Review imported data for instances in which the [admtnotes] field is READMIT???. These are infants who were transported out from your NICU and then transported again. The CPQCC NICU A/D database does not capture whether these infants ever returned to your NICU. If they did, a stay should be added. If they did not, READMIT??? should be removed from the [admtnotes] field to indicate that review was completed.
<input type="checkbox"/>	Review imported data for instances in which the [admtnotes] field is CPQCCSIH. These are infants that were still hospitalized on their first birthday. Per the CPQCC NICU A/D record, no discharge date or disposition is imported, i.e., this information must be added to the NICU Admission DB manually.
<input type="checkbox"/>	<p>Ensure that infants who transferred from your NICU to another unit within your hospital have the correct NICU disposition and NICU discharge date coded. This step is important since the CPQCC NICU A/D form requires</p> <ul style="list-style-type: none"> a) that CPQCC members report the infant’s disposition from your hospital as Home, Transported, SIH or death even if the infant was not discharged directly from your NICU, and b) the CCS form requires the reporting of the total number of NICU days for all NICU admissions.
<input type="checkbox"/>	If an infant transferred to another unit within your hospital and then is discharged home or transported from that unit, the NICU disposition should be changed to ‘transferred to another unit in my hospital,’ the NICU discharge date should be corrected to the date on which this transfer occurred, and the imported disposition information should be coded as hospital disposition and hospital disposition date.
<input type="checkbox"/>	Ensure that outborn infants that are transferred to your NICU from another unit within your hospital are correctly coded as acute and non-acute admissions. The import default is to consider such infants acute admissions.

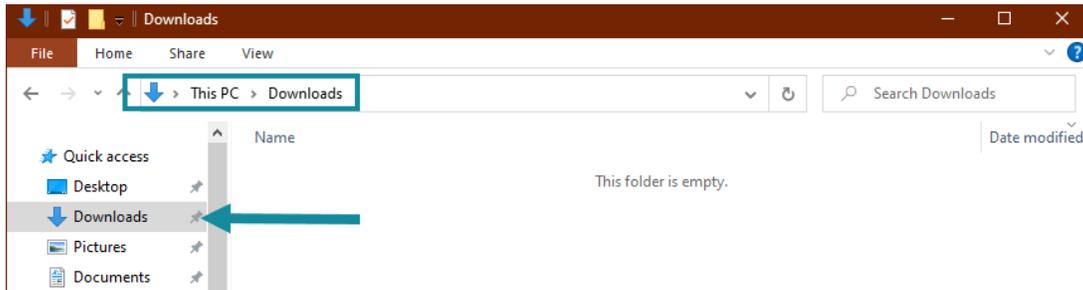
4 NAD Download



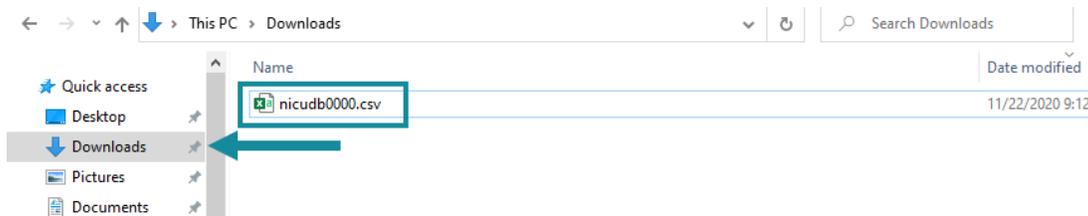
The Optional NAD can be downloaded at any time using the CSV button at the very left of the action menu of the NAD UI.

Clicking on the CSV button uses the browser's way of downloading materials from the web. For instance, Google Chrome might add a note in the bottom left area that data were successfully downloaded along with a link to the downloaded file and download location.

The downloaded file can be found in the location where your browser places downloaded materials. In Windows, the default location is the Downloads folder:



The downloaded file is named `NICUDBxxxx.CSV` where `xxxx` refers to the 4-digit CPQCC NICU Network ID.



If a file with the name `nicudbxxxx.csv` already exists, the downloaded file is named `NICUDBxxxx (1) .csv`, `NICUDBxxxx (2) .csv`, etc. The file can be opened in Excel or a text editor.

Opening this file in a text editor such as Notepad shows that this file meets the requirements of a CSV file that can be uploaded. In fact, this file can be uploaded as a CSV file through the upload interface!



The downloaded file can also be opened and edited with Excel or a similar spreadsheet program.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	id	hospno	bdate	btime	bwgt	gestage	sex	multiple	delmode	mdate	atype	adate	atime	admtnotes	birthlocation	reflocation	acutetrnsin	disp
2	20200002	0	1/1/2020	9:00	2402	34/0	S				4	2/23/2020			DEMO CNTR 3	PICU	No	1
3	20200006	0	1/1/2020	9:00	900	27/1	Male			UNK	3	1/1/2020			3		Yes	
4	20200025	0	1/2/2020	5:00	1700	32/3	Male		Vaginal		0	1/2/2020						2
5	20200037	0	1/2/2020	5:15	870	29/6	Male	S	Vaginal	3/10/1999	3	1/2/2020			1		1 Yes	3
6	20200033	0	1/2/2020	6:00	1601	32/1	Female	S	Vaginal	3/4/1989	3	1/4/2020			1		Yes	2
7	20200003	0	1/2/2020	11:59	2052	33/1		2B			0	1/2/2020	12:26					1
8	20200027	0	1/2/2020	13:56	1489	32/0	Male	2A	Vaginal	4/14/1981	3	1/4/2020			3		1 Yes	1

Note that this file includes the [id] field, i.e., a field that combines [refnum] and [readmit] into one field. This is an acceptable alternative specification and is supported by the file upload routine.

If you need to make changes that are more easily accomplished in Excel (or alternative spreadsheet software) compared to the one-by-one record editing supported by the Web Data Entry UI, you can make these changes in Excel (or alternative) and upload the edited file. Make sure to not change the [id] ([refnum].[readmit]) field to ensure that upon upload your record is replaced.

4.1 Downloading a subset of records

You can download a subset of records by selecting specific records. Use CTRL+Click and Shift+Click to extend a selection as needed.

Furthermore, you can use the filtering and query tools provided to narrow the set of records downloaded. For instance, if you wish to only select infants with a birth weight of less than 1000 grams, you can use the Query tool to filter those records from the NAD table. Any file downloaded with such a query active only includes those records that meet the query criteria.

5 NAD Sorting and NAD Views

The NAD can be sorted by each of the columns shown in the table by clicking on the small triangles that appear next to each field name in the header row.

If the NAD is accessed by birth year, the default sort order of the table is date of birth and time of birth. If the NAD is accessed by admission year, the default sort order of the table is admission date and admission time.

Note that the NAD UI is "state-saving," in other words, when you re-visit the NAD within the state-save time-out (currently 2 hours) – even after logging off or turning off your computer – the sort order that was active at your last visit will be used as the default sort order (see Section 10.10).

Core

The default view of the NAD includes all core variables. You can change the fields to see by clicking on any of the other 4 blue action buttons at the top of the NAD table. The Admit DX and Disp DX

Other

buttons provide quick access to a view of admission reasons and discharge diagnoses, respectively. Clicking on Other changes the view to all other fields of the NAD.

Admit DX Disp DX

Show 16 entries CSV CPQCC A/D Refresh Upload New Edit Delete Add MATEX Edit MATEX Core Admit DX Disp DX Other Set Col Vis Query (1)

Search:

ID	DOB	TOB	BW	GA	Mult	Adm Dt	Adm Tm	Birth Loc	Ref Loc	Ac Trs In	Dsch Dt	LOS	Trs Loc	Ac Trs Out	CPQCC Record ID	Updated
20200002	01-01-2020		2,402	34/0	S	02-23-2020		DEMO CNTR 3	PICU	No	03-01-2020	8				03-04-20 06:55
20200003	01-02-2020	11:59	2,052	33/1	2B	01-02-2020	12:26				01-19-2020	18				11-20-20 13:16
20200004	01-03-2020	23:41	2,377	31/0	S	01-03-2020	23:47				02-03-2020	32				03-04-20 06:55
20200001	04-05-2020	04:05	2,010	34/2	S	04-07-2020		000003	000001	Yes	06-15-2020	70		1408		11-20-20 08:21

Showing 1 to 4 of 4 entries (filtered from 37 total entries) Previous 1 Next

Show 16 entries CSV CPQCC A/D Refresh Upload New Edit Delete Add MATEX Edit MATEX Core Admit DX Disp DX Other Set Col Vis Query (1)

Search:

ID	A: Susp Infection	A: Resp Distress	A: Hypo glycemia	A: Hyperbill	A: Temp Instab	A: Feeding Diff	A: BW/GA	A: SGA	A: PTM	A: NAS	A: Cong Anomaly	A: Cyanotic Ev	A: Cardiac Ev	A: Seizure	A: TRS-In Ins	A: TRS-In Bed Av	A: Other
20200002						Yes											
20200003						Yes				Yes							
20200004									Yes								
20200001																	

Showing 1 to 4 of 4 entries (filtered from 37 total entries) Previous 1 Next

Show 16 entries CSV CPQCC A/D Refresh Upload New Edit Delete Add MATEX Edit MATEX Core Admit DX Disp DX Other Set Col Vis Query (1)

Search:

ID	D: Susp Infection	D: Resp Distress	D: Hypo glycemia	D: Hyperbill	D: Temp Instab	D: Feeding Diff	D: BW/GA	D: SGA	D: PTM	D: NAS	D: Cong Anomaly	D: Cyanotic Ev	D: Cardiac Ev	D: Seizure	D: Other
20200002															
20200003				Yes		Yes	Yes								
20200004															
20200001															

Showing 1 to 4 of 4 entries (filtered from 37 total entries) Previous 1 Next

Show 16 entries CSV CPQCC A/D Refresh Upload New Edit Delete Add MATEX Edit MATEX Core Admit DX Disp DX Other Set Col Vis Query (1)

Search:

ID	Sex	Del Mode	Mother's DOB	Admit Type	Admit Notes	Disp	Hsp Disp	Hsp Dsch Dt	ABX Days	CL Days	CLABSI	User ID for Update
20200002				Admitted from home or from another unit within my hospital after previous home discharge		Home from this NICU						HIS
20200003				Inborn never home immediately admitted to the NICU after birth		Home from this NICU						HIS
20200004				Inborn never home immediately admitted to the NICU after birth		Home from this NICU						HIS
20200001	Female	Vaginal	04-05-1987	Outborn admitted from another hospital or non-hospital location or unit within my hospital		Home from this NICU						HIS

Showing 1 to 4 of 4 entries (filtered from 37 total entries) Previous 1 Next

Set Col Vis

The button Set Col Vis allows the user to set their own view. Clicking on this button brings up an overlay or pop-up with a button for each possible table field. Clicking a button toggles the field's visibility status in the NAD table. To close the overlay, click anywhere in the grayish area outside the overlay. An example and its result is shown in Figure 4.

Note that the NAD UI is "state-saving," in other words, when you re-visit the NAD within the state-save time-out (currently 2 hours) – even after logging off or turning off your computer – setting custom field visibility will be set the same way as at your last visit (see Section 10.10).

Figure 4: Example for Setting Custom Field Visibility for the NAD Table



Show 16 entries

CSV CPQCC A/D Refresh Upload New Edit Delete Add MATEX Edit MATEX Core Admit DX Disp DX Other Set Col Vis Query (1)

Search:

ID	DOB	BW	GA	Mult	Del Mode	Admit Type	Adm Dt	Ac Trs In	Disp	LOS
20200002	01-01-2020	2,402	34/0	S		Admitted from home or from another unit within my hospital after previous home discharge	02-23-2020	No	Home from this NICU	8
20200003	01-02-2020	2,052	33/1	2B		Inborn never home immediately admitted to the NICU after birth	01-02-2020		Home from this NICU	18
20200004	01-03-2020	2,377	31/0	S		Inborn never home immediately admitted to the NICU after birth	01-03-2020		Home from this NICU	32
20200001	04-05-2020	2,010	34/2	S	Vaginal	Outborn admitted from another hospital or non-hospital location or unit within my hospital	04-07-2020	Yes	Home from this NICU	70

Showing 1 to 4 of 4 entries (filtered from 37 total entries)

Previous 1 Next

6 NAD Filtering and Queries

Another useful feature of the NAD is the ability to filter NICU admissions. Three options are available for filtering specific rows of the NAD table.

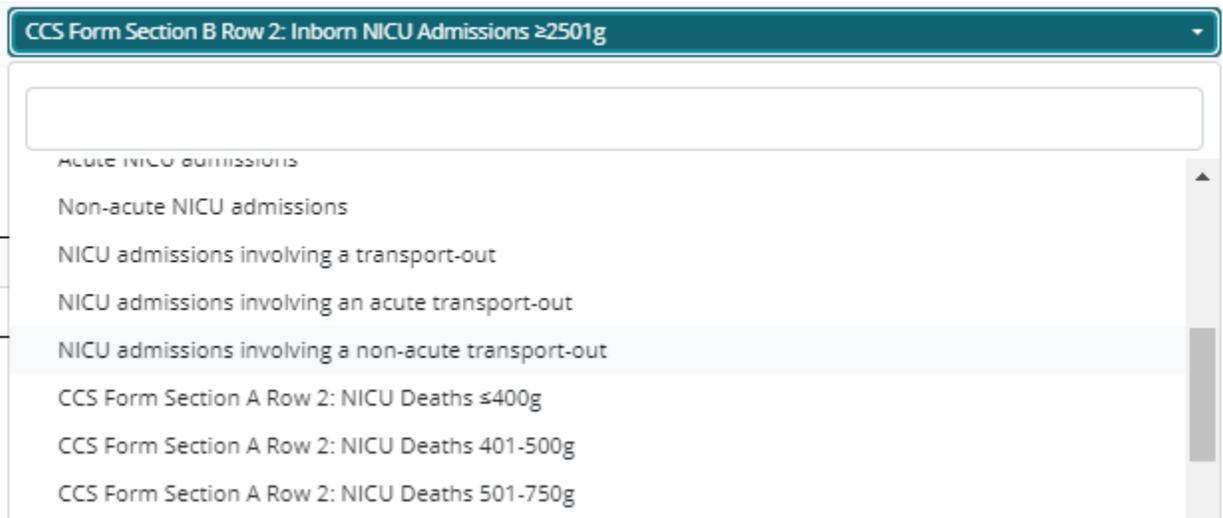
6.1 NAD Filtering using the Search Box

Search: The search box in the top right corner of the NAD table provides a quick way to filter rows that meet specific criteria. This method of filtering is best used if you would like to quickly find a specific [refnum].[readmit] record or infants born, admitted or discharged on a specific day. Enter the filter criteria in the search box, and the NAD table will immediately be updated to only include rows that meet the specified criteria. Note that the search performed is not field specific, in other words, all NAD table fields are searched even those not visible. Also note that the search is case-insensitive.

6.2 NAD Filtering using the Drop-Down Box

Another option to filter the NAD is to use the drop-down box in the navigation bar at the top.

This drop-down box inserts specific terms into the Search Box that result in



those rows being filtered that meet the criteria described in the drop-down. This option is especially useful for identifying the specific NICU admissions that are used to generate the entries in Sections A through D of the CCS form.

Table 3 shows the filtering terms that are used by the drop-down to facilitate verification of CCS form entries.

Table 3: NAD Filtering Rules for CCS Form

BW (grams)	≤ 400	401-500	501-750	751-1000	1001-1500	1501-2500	> 2500	All BWs
Section A: NICU Deaths Prior to and Including the 28th Day of Life (Not Stillborn, Non-Delivery Room Deaths)	sar21	sar22	sar23	sar24	sar25	sar26	sar27	sar2
Section A: NICU Deaths after the 28th Day of Life (Not Stillborn, Non-Delivery Room Deaths)	sar31	sar32	sar33	sar34	sar35	sar36	sar37	sar3

BW (grams)	≤ 400	401-500	501-750	751-1000	1001-1500	1501-2500	> 2500	All BWs
Section B: Inborn Admissions to your NICU	sbr21	sbr22	sbr23	sbr24	sbr25	sbr26	sbr27	sbr2
Section B: Outborn Admissions to your NICU	sbr31	sbr32	sbr33	sbr34	sbr35	sbr36	sbr37	sbr3
Section B: Acute Outborn Admissions to your NICU	sbr41	sbr42	sbr43	sbr44	sbr45	sbr46	sbr47	sbr4
Section B: Non-Acute Outborn Admissions to your NICU	sbr51	sbr52	sbr53	sbr54	sbr55	sbr56	sbr57	sbr5
Section C: All Transports-Out from your NICU	scr11	scr12	scr13	scr14	scr15	scr16	scr17	scr1
Section C: Acute Transports-Out from your NICU	scr21	scr22	scr23	scr24	scr25	scr26	scr27	scr2
Section C: Non-Acute Transports-Out from your NICU	scr31	scr32	scr33	scr34	scr35	scr36	scr37	scr3

GA (completed weeks)	≤ 21	22-31	32-33	34-36	37-38	39-41	≥ 42	Unk GA	All GAs
Section D: Inborn Admissions to your NICU	sdr21	sdr22	sdr23	sdr24	sdr25	sdr26	sdr27	sdr28	sdr2

In addition, the following terms are used:

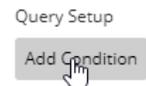
- `atypeX`, where X is one of the admission types as defined in Section CPQCC All NICU Admissions Database Layout. For instance, entering `atype0` in the search box filters all inborn infants who were admitted to the NICU immediately after birth.
- `dispX`, where X is one of the disposition options defined in Section CPQCC All NICU Admissions Database Layout. For instance, entering `disp3` in the search box filters all infants who died.
- `.sih` to filter infants who are not discharged yet (still in house).
- `trsin` filters all transports-in, NICU admissions from home, or NICU admissions from another unit within the NICU's hospital after a previous discharge home.
- `trsin1` filters all acute NICU admissions.
- `trsin0` filters all non-acute NICU admissions.
- `trout` filters all NICU admissions involving a transport-out.
- `trout1` filters all NICU admissions involving an acute transport-out.

- `trout0` filters all NICU admissions involving a non-acute transport-out.
- `CLDAYS` filters all NICU admissions with a positive value for central line days.
- `CLABSI` filters all NICU admissions with the CLABSI check box checked.

Finally, note that you can construct your own filters using the `[admtnotes]` field. For instance, it might be important to you to track infants that you need to follow-up on. Entering a consistent abbreviation for this condition in the `[admtnotes]` field allows the filtering your NICU admissions to identify the set of infants affected.

6.3 Advanced NAD Queries

Query More advanced NAD queries can be formulated using the Query tool. Clicking on the Query tool brings up an overlay or pop-up that allows using filtering criteria for each field. The tool allows combining several fields to generate more complex criteria.



After clicking on Add Condition, a row fills the display with options for adding a query condition.



The Field drop-down sets the field to base the query on.



The Condition drop-down is dependent on the attributes of the field chosen and differs depending upon whether a number, category, date, time, or free text entry field is chosen in the first drop-down.



Once the value field is entered, the NAD table is instantly filtered to only include rows that meet the query criteria.



Additional conditions can be added.

Query Setup

And

BW Greater Than 1500

Sex Condition Value

Equals

Not

Starts With

Contains

Ends With

Empty

Not Empty

20190030	12-30-2019	07	32/6	S	05-13-2020	12:56	Here	Yes	06-01-2020	20	Other Hospi...	No	11-23-20 08:38
20200038	11-02-2020	08	32/6	S	11-03-2020	00:10	Well baby		11-05-2020	3	Well baby n...		11-23-20 08:38
20200038.1	11-02-2020	08	32/6	S	11-07-2020	13:35	PEDS	Yes	11-18-2020	12			11-23-20 08:38

Clear All

> x

> x

Query Setup

And

BW Greater Than 1500

Sex Equals Male

Add Condition

Clear All

> x

> x

And

The button labeled "And" is a toggle that allows switching a logical "And" for the two conditions shown to a logical "Or," in other words it lets the user either narrow the set of queried records (And) or expand the set of queried records (Or).

It is also possible to apply these logical operators to rows by clicking on the > button in the right section of the query panel.

Query Setup

And

Or

BW Greater Than 1500

GA Greater Than 31/0

Sex Equals Male

Add Condition

Add Condition

Clear All

< > x

< > x

> x

Individually rows can be removed by clicking on the x button in the condition's row.

All conditions can be cleared by clicking on Clear All.

To close the Query panel, click anywhere in the dark gray area outside the panel.

Note that the NAD UI is "state-saving," in other words, when you re-visit the NAD within the state-save time-out (currently 2 hours) – even after logging off or turning off your computer – the filtering rules discussed in sections 6.1, 6.2 and 6.3 will stay active (see Section 10.10).

7 Populating the CCS Form Based on the NAD

Starting with 2017, the on-line CCS form supports importing values from the Optional NAD. This section explains the rules underlying this import and how the import is performed.

7.1 NAD to CCS Form Import Rules

To populate the CCS form for birth year `YYYY`, the All NICU Admissions Database is queried to include:

- All infants born in year `YYYY`.
- All infants admitted in year `YYYY`.

This distinction is important as CCS Form sections A, B, C, D and F all apply to birth year `YYYY` while section E applies to admission year `YYYY`.

As the CCS form does not allow reporting of infants with missing birth weights, only infants with known birth weight are included in the import.

CCS Form Section A

Neonatal deaths are based on infants coded with `[disp] = 3` or `[disphsp] = 3` with an age at death of 1 to 28 days.

Age at death is calculated as `[ddate] - [bdate] + 1` for infants coded with `[disp] = 3` or `[ddatehsp] - [bdate] + 1` for infants coded with `[disphsp] = 3`.

Post-neonatal deaths are based on infants coded with `[disp] = 3` or `[disphsp] = 3` with an age at death of greater than 28 days.

CCS Form Section B

Inborn admissions are based on all admissions coded with `[atype]` as 0 or 1.

Admissions of infants born at the co-located hospital are based on all admissions coded with `[atype]` as 2.

Outborn admissions are all admissions coded with `[atype]` 3, 4, 111, 131 or 14.

Acute outborn admissions are all admissions coded with `[atype]` 3, 4, 111, 131 or 14 that are also coded as `[acutetrsin] = Yes`.

For instance, an infant admitted from the ER of a NICU's hospital after previous discharge home would be included if the admission is coded as acute (`[acutetrsin] = Yes`).

Non-acute outborn admissions are all admissions coded with `[atype]` 3, 4, 111, 131 or 14 that are coded as `[acutetrsin] = No`.

CCS Form Section C

Acute transports-out are all admissions coded with `[atype]` 0, 1, 2, 3, 4, 111, 131 or 14 that are also coded as `[acutetrout] = Yes`.

Non-Acute transports-out are all admissions coded with `[atype]` 0, 1, 2, 3, 4, 111, 131 or 14 that are coded as `[acutetrout] = No`.

CCS Form Section D

Inborn admissions are based on all admissions coded with `[atype]` as 0 or 1.

Admissions of infants born at the co-located hospital are based on all admissions coded with [atype] as 2.

[CCS Form Section E](#)

The total number of **patient days** is obtained as the sum of each admission's individual contribution to patient days during the year YYYY.

The calculation for an admission's contribution to patient days in year YYYY is:

- For admissions starting and ending in year YYYY: [ddate] – [adate]
- For admissions starting in year YYYY-1 and ending in year YYYY: [ddate] – January 1, YYYY
- For admissions starting in year YYYY and ending in year YYYY+1: December 31, YYYY – [adate]
- For infants who are still-in-house, the current date is replaced for the discharge date.

Note that this calculation is problematic if the data on discharge date were imported from the CPQCC NICU A/D form. As the CPQCC NICU A/D form does not distinguish whether an infant was discharged directly from the NICU or from another unit of the hospital after step-down transfer from the NICU, patient days in the NICU will be over-estimated.

The total **number of days with antibiotic exposure** in year YYYY is obtained based on the NAD value distinguishing antibiotic days in year YYYY and – if an admission overlaps two years – YYYY + 1.

[CCS Form Section F](#)

Central line days by birth weight are determined based on all admissions to infants born in year YYYY.

CLABSI by birth weight are determined based on all admissions to infants born in year YYYY.

7.2 Importing NAD Based Values into the CCS From

Show Values based on Optional NAD

Starting with the 2017 CCS form, a button was added in the lower right section of the CCS form labeled Show Values based on Optional NAD. Clicking on this button briefly hides all buttons in the bottom section of the form, and then shows the CCS form with information retrieved from the NAD unless no such information is found.

Note that the NAD based values for CCS form fields are not imported directly into the associated field, instead an additional row is displayed on the CCS form with values based on the NAD.

Upon successful retrieval of NAD values, the button text in the bottom right corner changes to Hide Values based on Optional NAD, and an additional

button Populate Form with Values

Populate Form with Values based on Optional NAD

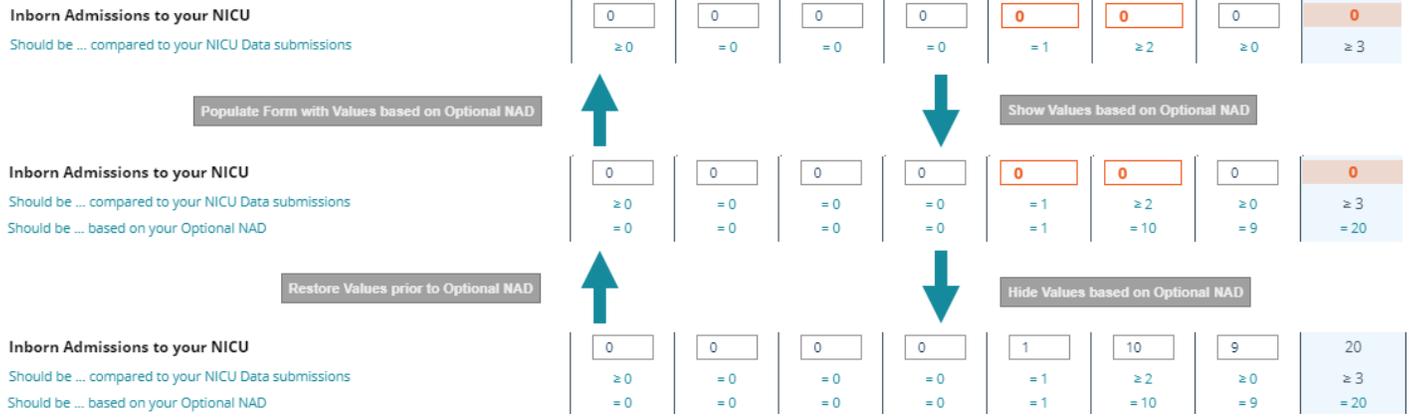
Hide Values based on Optional NAD

based on Optional NAD appears. This button can be used to replace the values in the CCS form fields with the NAD based value (see Figure 5).

Both actions can be reversed.

The final value for each cell can be modified by the user. **The form needs to be saved for changes to be written to the CCS form database.**

Figure 5: Example for CCS Form Section B, Inborn Admissions to your NICU, with NAD Based Values



8 CPQCC NICU A/D Form Connection

CPQCC NICU A/D

The optional NAD can be used to either add or access a CPQCC NICU A/D form from the NAD UI. This feature is supported by the CPQCC NICU A/D button that can be found in the list of buttons available above the NAD table.

When clicking on a record in the NAD table, the CPQCC NICU A/D button becomes enabled if all the following conditions are met:

- A NICU A/D Record ID must be entered in the applicable NAD field (last field on the Demographics tab).
- The infant's birth date must be entered.
- The infant's admission date must be entered.
- The infant's admission type must be checked.
- The infant's year of birth must be 2018 or later (for closed-out years or after IDs for a year have been confirmed, it is only possible to open/edit existing NICU A/D records, it is not possible to enter new records).
- Except for inborn small babies who were never home, the implied age at NICU admission must be less than or equal to 28 days.
- The current record must pertain to a new episode of care (`[atype]` in {0,1,2,3,4,111,131,14}).

Clicking on the CPQCC NICU A/D button will either open the existing or start a new CPQCC NICU A/D form. Figure 6 shows the processing in the background that either leads to successful opening of an existing record or starting of a new record, and it explains the possible errors.

If an existing NICU A/D record is found, it is opened and any of the

Edit Data

following fields – **if pending** – is updated with the NAD value: `[bdate]`, `[btime]`, `[bwgt]`, `[gaweeks]`, `[gadays]`, `[sex]`, `[locate]`, `[dayadmiss]`, `[birthlocation]`, `[pdh]`, `[readmit]`, `[mdate]`, `[mult]`, `[nbirths]`, `[birthorder]`, `[delmod]`, `[fdisp]`, `[los1]`, `[xferlocation]`. The sidebar is set to the Edit Data selection.

If an existing NICU A/D record is not found, a new record with the record ID coded in the NAD NICU A/D Record ID field is started. When the A/D form is opened a message is displayed to the user, and the sidebar selection is set to Add New Data. All A/D form fields listed in the previous section are populated

Successfully initialized new A/D record from NAD.

Close

Add New Data

based on the NAD if possible.

Note that delivery mode in the NAD is coded as Vaginal, Caesarean or Unknown while the A/D form breaks vaginal deliveries into spontaneous and operative. As most vaginal deliveries are spontaneous, rather than not mapping the field value vaginal at all, it is mapped to spontaneous vaginal.

CPQCC NICU DRD form found for record ID provided.
Unable to open CPQCC NICU A/D record.

Close

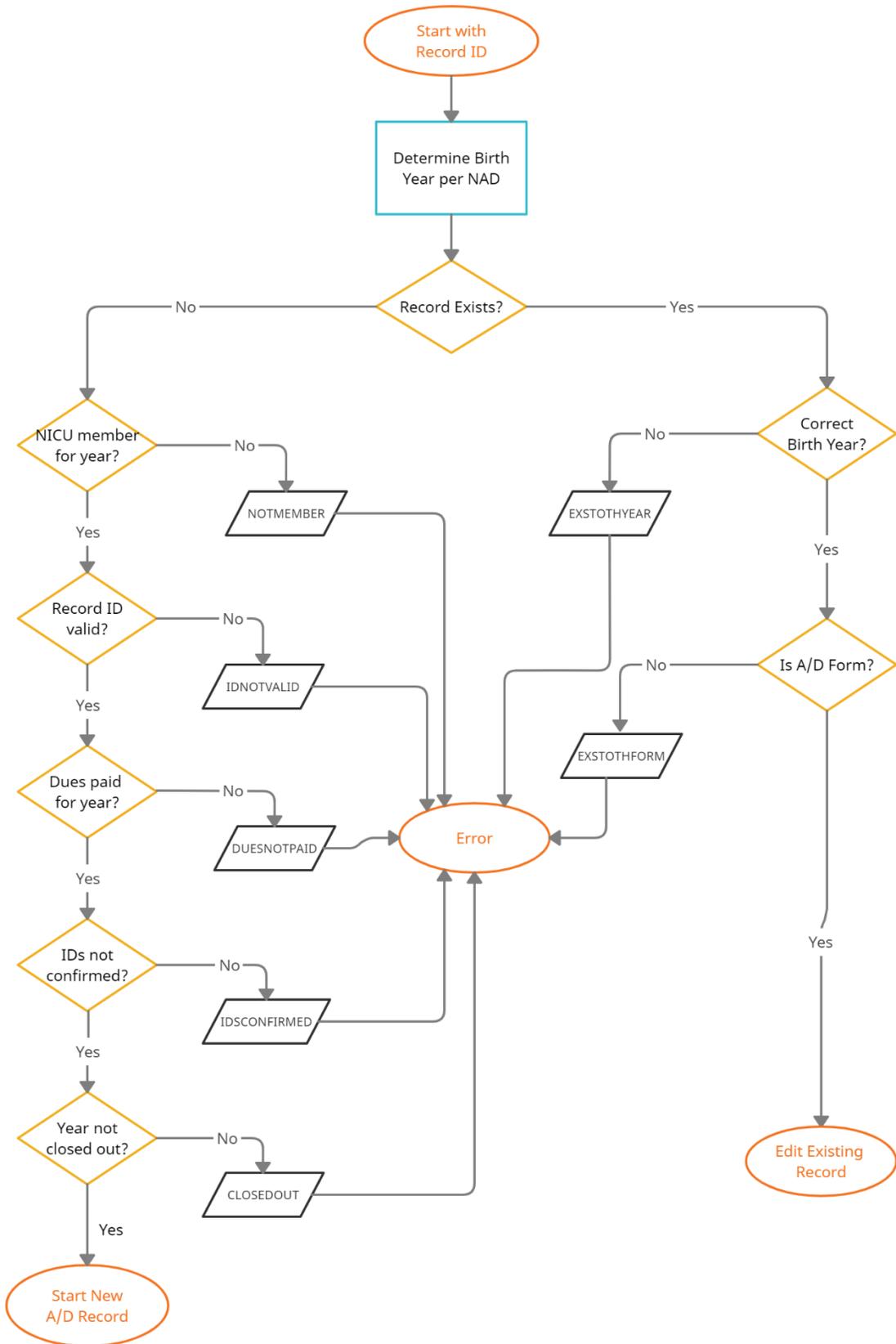
Your NICU has confirmed the IDs for 2018.
Unable to add new CPQCC NICU A/D record.

Close

CPQCC NICU A/D form found, however the NAD birth year (2019) is not the same as the CPQCC NICU A/D birth year.
Unable to open CPQCC NICU A/D record.

Close

Figure 6: Flow Chart for Editing an Existing or Adding a New NICU A/D Record from the NAD



The NAD allows users to code [birthlocation] and [xferlocation] as free text. When populating the NICU A/D form, the text value is compared to the list of possible locations and the best match chosen. **Please contact support if you are finding that consistently the incorrect location is mapped to, so we can improve the algorithm used.**

It is important to note that **new records are always started with an A/D form**. If a new record for an outborn infant is started a check box is added to the A/D form next to the header showing the NICU ID, Record ID, Birth Year, etc.

You must check the "Start with CPeTS" check box to initialize a new infant record with a CPeTS and A/D form. Checking this box will not

switch to a CPeTS form. It means that when the A/D form is saved, a CPeTS form is initialized as well. When using the Save & Summary button to save the A/D form, the appropriate link in the printed submission summary can be used to open the CPeTS form; or the CPeTS form can be opened via the Edit Data list.

Successfully initialized new A/D record from NAD.
If this A/D record should be started with a CPeTS form, please check the **Start with CPeTS** checkbox at the top of the A/D form.



2021 Admission/Discharge Form 59:04

NICU ID: 0000 Record ID: 1640 Birth Year: 2021 DOB: 01-05-2021 BW: 1350 GA: 28/2 NICU Data Eligible Infant Start with CPeTS

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. / Bill Items 52-55	Disposition Items 56-60
---------------------------	---------------------------	-------------------	----------------------------	---------------------------	----------------------------	-----------------------------	-----------------------------	----------------------------

Demographics

1. Birth Weight: 1350 grams

2. Head Circumference at Birth: cm Not Done Unknown

3. Best estimate of gestational age a) Weeks: 28 Unknown b) Days: 2 Unknown

4. Date of Birth: 01-05-2021 Time of Birth: 02:14 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 - for satellite NICUs - was born at the co-located hospital.

b) Age in Days at Admission to your Hospital: 1

c) Select hospital of birth for outborn infants: Demo Center B (000001)
Note: Your NICU and the NICU at the birth location both have agreed to data sharing. Saving the record will give the NICU at the birth location access to items 1-23, item 52 and disposition information

The new A/D form must be saved using the usual process for starting or editing an A/D form.

This new feature might complement the existing workflow of users who upload records into the NAD from their own NICU admissions spreadsheet. Spawning new CPQCC NICU A/D records from such uploaded records might help reduce a NICU's overall data entry burden.

9 MatEx Connection

The optional NAD can be used to either add or access a Maternal Exposure (MatEx) database record from the NAD UI. This feature is only supported for NICUs participating in the optional MatEx data collection.

To efficiently find infants eligible for a MatEx record, you can use the following query:

Query Setup Clear All

x Add Condition

x A: NAS Yes x

Or you can choose the drop-down option:

Admit Reason: Neonatal abstinence syndrome

Add MATEX Clicking on a record in the NAD table allows you to add a new MatEx record. If a MatEx record already exists, you will get the Edit MatEx option. Edit MATEX

Adding a new MatEx record from the NAD will start the new record with the following fields pre-populated:

[nadid], [cpqccid], [bdate], [btime], [sex], [mdate], [adate], [gestage], [bwgt], [ddate], [locate], [birthlocation], [hspdisp] (only if death).

Editing an existing MatEx record will update any fields with a pending value only. In other words, if in the MatEx database, the value for sex is not coded, it will be populated by the NAD coded value.

10 FAQ

10.1 Are Delivery Room Deaths (DRDs) included in the Optional NAD?

Delivery Room Deaths are not included in the Optional NAD. DRDs were never admitted to the NICU, and therefore cannot be part of this database.

10.2 Do the reference numbers / IDs have to be based on birth year?

The reference numbers can be assigned in any way desired, however, they should be distinct for each infant / stay. Your NICU's data are stored in one data file, which is indexed based on the reference numbers and re-admission counter. Therefore – like the CPQCC ID number – you may not repeat reference numbers for different birth years or admission years.

10.3 Is it possible to upload CSV files for more than one birth year at a time?

Yes. For the CSV upload, all birth years greater than or equal to 2016 are acceptable. When you are browsing your data though, data are always organized by year of birth or by year of admission. Therefore, if you upload a CSV file with multiple birth years and/or admission years, make sure to load the Optional NAD for all years included to verify the upload ran correctly.

10.4 What occurs if multiple users from my NICU access the All NICU Admissions Database at the same time?

It is possible that multiple users from the same NICU can access the Optional NAD at the same time. However, unless a user refreshes the database from the link on the navigation bar, other users' edits will not be apparent.

If your NICU chooses to automatically generate the next [refnum] for a newly added NICU admission, data entry of 2 or more different NICU admissions by 2 or more different users will all be honored and get different reference numbers.

We currently do not have an access notice in place, but if need be, this access notice can be added. We recommend that if multiple users access the Optional NAD at the same time that you regularly refresh the database from the navigation bar link.

10.5 What is the backup schedule for the All NICU Admissions Database?

The All NICU Admissions Database is backed up once daily shortly after midnight. The CPQCC data center also maintains an archive that tracks of all database updates.

We strongly recommend that you regularly download your NAD through the CSV option allowing you to keep your own database backup locally.

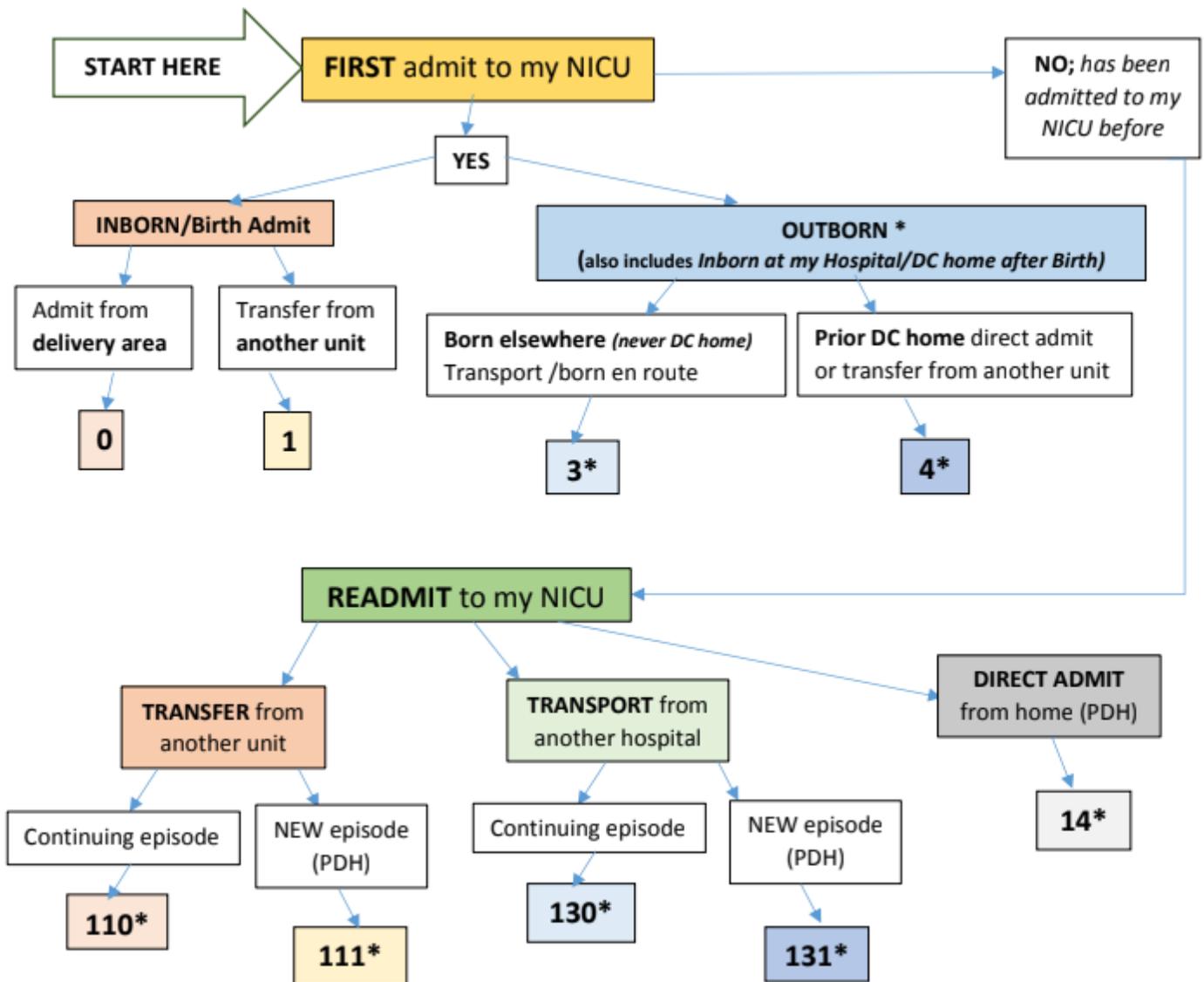
10.6 I am already entering a CPQCC NICU A/D Form for all NICU admissions, how can I get my data into the NAD?

The import of CPQCC NICU A/D records is supported and described in detail in Section 3.3. Make sure to pay attention to the drawbacks of this import as the definition of a data row for the CPQCC NICU A/D database and NAD is different.

10.7 Why are there so many admission types, and how can I figure out easily which one to use?

The admission type field was designed to capture the information needed to describe the source of the infant's admission in the context of the CCS form. For the CCS form, sections A through D count based on CPQCC episodes of care while Section E counts NICU days. The following flow chart was setup to assist with choosing the correct admission type.

Figure 7: Flow Chart for Determination of Admission Type



Admission types suffixed with a * require the additional specification of the [acute|sin], i.e., the acute transport/transfer field.
| |

10.8 How do I code an infant that is born at my hospital, admitted to the NICU, transferred to another unit of the hospital, then re-admitted to the NICU, then transferred to another unit of my hospital and then discharged home?

For the Optional NAD, this situation should be represented by two rows:

Row 1:

atype=1: Inborn never home admitted from another unit within my hospital

disp=4: Transfer-out to another unit within my hospital

Row 2:

atype=110: Re-admitted from another unit within my hospital (continuing care episode)

disp=4: Transfer-out to another unit within my hospital

hspdiss=1: Discharged alive from my hospital

Note that the equivalent CPQCC NICU A/D data entry would consist of 1 record only.

The NAD data entry implies that:

- Correct capture the total number of patient days in your NICU for CCS form section E.
- Correct capture of daily NICU occupancy.

10.9 A record for the first admission and 3 readmissions was entered, but the birth date is wrong. How can I fix this?

To update the birth date in this situation, open the first (base) record for this infant, correct the birth date and save the record. All readmission records will have the birth date updated along with the base record.

ID	DOB	TOB	BW	GA	MULT	Adm Type	Adm Dt	Adm Tm	Admit Notes	Birth Loc	Ref Loc	Ac Trs In	Disp	Dsch Dt	Ac Trs Out	CPQCC ID	Updated
13	09-01-2017	02:34	1,790	34/6	S	3	09-01-2017	07:30		DEMO B		Yes	4	09-20-2017		99999	12-08-2017 07:11
13.1	09-01-2017	02:34	1,790	34/6	S	14	10-03-2017	08:00		DEMO B		No	1	10-10-2017			12-08-2017 07:12
13.2	09-01-2017	02:34	1,790	34/6	S	111	11-01-2017	09:11		DEMO B		No	4	11-03-2017			12-08-2017 07:27
13.3	09-01-2017	02:34	1,790	34/6	S	111	11-24-2017	04:03		DEMO B		No	1	12-01-2017			12-08-2017 07:28

10.10 What does it mean that the Optional NAD UI is "state-saving?"

State-saving implies that the Optional NAD User Interface saves your settings for the length of 2 hours after your last access. Specifically, all the following settings are saved:

- Number of rows displayed on one page that can be set with the page settings in the top left corner of the NAD table.
- The last sort order applied.
- Any search box entries (see Section 6.1).
- Any query settings (see Section 6.2).
- Any custom field visibility settings (see Section 5).

Show entries

10.11 Help, all my records have disappeared!

Please make sure that you:

- have the correct birth and/or admission year active.
- have removed all search filters (see Section 6.1 and Section 6.2).
- have removed all query settings (see Section 6.3).

10.12 Can I track other items that are important to me with the NAD?

You can use the [admtnotes] field to capture any other information relevant for you.

Note also that if you track additional information in a spreadsheet outside of the NAD, you can add whichever fields you like. There is no need to drop these fields prior to uploading your spreadsheet as a CSV file as all fields that are not recognized as an NAD field name are dropped.

Please do not include any fields with PHI as extra fields in your CSV file.
Please do not enter PHI in the [admtnotes] field.

10.13 Can you provide more details on each of the admission reasons and discharge diagnoses?

The table below provides additional possible descriptions.

Table 4: Admission Reasons and Discharge Diagnoses

NAD Item	Admission Reason / Discharge Diagnosis	Other Possible Descriptions
adx0, ddx0	Suspected infection	At risk for infection/sepsis
		Observe for infection/sepsis
		Risk factors for infection/sepsis
		Rule out infection/sepsis
		Suspected infection/sepsis
adx1, ddx1	Respiratory distress	Difficulty breathing
		Grunting/flaring/retractions
		Increased work of breathing
		Labored breathing
		Need for respiratory support
		Oxygen requirement
		Respiratory insufficiency
		Tachypnea
adx2, ddx2	Hypoglycemia	Include "rule out"
		Low blood glucose
		Low blood sugar
		Low sugar
adx3, ddx3	Hyperbilirubinemia	Include "rule out"
		High bilirubin
		Icterus

NAD Item	Admission Reason / Discharge Diagnosis	Other Possible Descriptions
		Jaundice
		Phototherapy
adx4, ddx4	Temperature instability	Cold baby
		Cold stress
		Hypothermia
		Low temperature
		Thermal instability
adx5, ddx5	Feeding difficulties	Bile or yellow residuals
		Choking with feeds
		Inability/unable to feed
		Large residuals
		Low or insufficient per oral (po) intake
		Need for gavage or tube feeding
		Poor intake
		Poor per oral (P.O.)
		Spitting up
		Turns blue or gray with feeds
		Tires with feeds
		Vomiting
adx6, ddx6	BW/GA per policy	May have other issues or no issues. Check with your admitting policies. If the infant meets admitting policy, may only be described as "X week preterm infant" or "X gram low birthweight infant"
		Growth failure
		Growth retarded
adx7, ddx7	Small for gestational age	IUGR
		SGA
		Small for dates
		Weight less than 10th percentile
	Perinatal transitional monitoring	Mottling

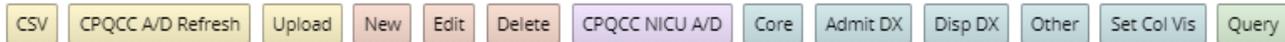
NAD Item	Admission Reason / Discharge Diagnosis	Other Possible Descriptions
adx8, ddx8		Pallor/pale
		Poor color
		Poor perfusion
		Rapid breathing
		Unstable
adx9, ddx9	Neonatal abstinence syndrome	Include "rule out" or "observe for"
		Born to a mom with drug history
		Drug withdrawal
		Intrauterine drug exposure
		Maternal or mother's substance abuse or use
		Maternal or mother's polysubstance abuse or use
		NAS
		Opiate dependence
adx10, ddx10	Dysmorphic/chromosomal anomaly	Include "rule out" or "observe for"
		Abnormal looking (anatomy)
		Birth defect
		Congenital anomaly
		Downs syndrome
		Fetal alcohol syndrome
		Trisomy
		Another anomaly or syndrome
adx11, ddx11	Apnea/cyanotic event	Dropped SATS
		Had an apnea
		Low oxygen SATS
		Stopped breathing
		Turned blue
		Turned pale
adx12, ddx13	Cardiac event	Aortic stenosis or atresia
		Atrial septal defect [ASD]

NAD Item	Admission Reason / Discharge Diagnosis	Other Possible Descriptions
		Cardiomyopathy Coarctation of the aorta Congenital heart disease Ebstein's anomaly Had a murmur Had heart abnormality seen on prenatal ultrasound Heart defect Hypoplastic left heart syndrome [HLHS] Mitral stenosis or atresia Pulmonic/pulmonary stenosis or atresia Shone syndrome or complex Transposition of the great vessels/arteries [TGV, TGA] Tetralogy of Fallot [TOF] Tricuspid stenosis or atresia Truncus arteriosus Ventricular septal defect [VSD]
adx13, ddx13	Seizure	Include "rule out" or "observe for" Convulsion Jitteriness Jerky or rhythmic movements Spells
adx14	Transport-in for insurance reasons	
adx15	Transport-in for bed availability reasons	Census Staffing
adx16, ddx16	Other Reason	

10.14 Why does this documentation show different buttons in some figures than I am seeing on the NICU Data website?

Please note that the set of buttons available at the top of the NAD table was updated in January 2021. Where the revisions do not affect the feature described, figures might still display the previous version of the button set. The current button sets are shown below.

Button set for NICUs not participating in MaTex:



Button set for NICUs participating in MaTex where selected record does not have a MaTex record.



Button set for NICUs participating in MaTex where selected record does have an associated MaTex record.



10.15 What do the small turquoise badges on the NAD form do?

Edit NAD Record

Demographics Admission ABX / Central Lines Disposition

NICU Discharge Date
[Set to Admit Dt](#)

NICU Disposition Home from this NICU
 Transport-Out to another hospital
 Died in this NICU
 Transfer to another unit within my hospital

Discharge Diagnoses
[Check Admit Reasons](#)

- Suspected Infection ⓘ
- Respiratory distress ⓘ
- Hypoglycemia ⓘ
- Hyperbilirubinemia ⓘ
- Temperature instability ⓘ
- Feeding difficulties ⓘ
- BW/GA ⓘ
- Small for gestational age ⓘ
- Perinatal transitional monitoring ⓘ
- Neonatal abstinence syndrome ⓘ
- Dysmorphic/chromosomal anomaly ⓘ
- Apnea/cyanotic event ⓘ
- Cardiac event ⓘ
- Seizure ⓘ
- Other Reason ⓘ

[optional] Check diagnoses for this discharge.

Several fields have turquoise badges underneath or next to the field name: admit date, admit time, NICU discharge date and discharge diagnoses. Two examples are shown in the figure to the left.

Clicking on these badges allows the user to populate the associated field from the field indicated on the badge. For instance, the admission date can be set to the infant's birth date (over 20% of infants are inborn and admitted to the NICU immediately after birth). Or the discharge date can be set to the infant's admission date (as shown in the example on the left).

Members have requested to easily check all discharge diagnoses in the same way that admission reasons are checked. Clicking on Check Admit Reasons performs this task. Note that additional discharge diagnoses selected are preserved!

11 Acknowledgements and Closing Comment

We want to acknowledge the supportive and constructive help that we have received from CPQCC users:

Amy Johnson has been instrumental in sharing her internal tracking mechanism of NICU admissions, helping with database design, review of the on-line interface, testing CSV uploads and populating and verifying the CCS form from the All NICU Admissions Database.

Julie Evans has provided valuable feedback particularly with respect to specific admission patterns in freestanding Children's hospitals which has impacted several revisions addressing shortcomings not perceived at initial design.

Cindy Bell and her colleagues at UCLA Mattel Children's Hospital have aided with validating the population of the CCS form based on the NAD allowing us to test and refine the process.

Bonnie Lyons suggested to add length of stay and the ability to track antibiotic and central line use to the NAD, two great suggestions that were implemented in January 2018.

Jennifer Blanke pointed out that several users have chosen to enter their NICU infants first into the Optional NAD. Should the infant qualify for the CPQCC NICU Data collection, these users then start a NICU A/D form. Due to this workflow, she suggested the ability to add new and edit existing records from the NAD allowing common fields to transfer over. The data center followed up by implementing this feature (see section 8) in January 2021.

We are tremendously grateful for your contributions and generous support.

The optional NAD is an enhancement offered to CPQCC members as part of their CPQCC membership. CPQCC staff has strived to create a tool that is simple and provides useful features that integrate well with CPQCC deliverables.

Any feedback is welcome. Please use the CPQCC Help Desk to send us comments or report technical difficulties.