

## CAPQuaM PQMP Perinatal Measure 1 Detailed Measure Specifications

### A. Description

Describes whether or not at least one temperature was taken during the first 60 minutes of life (“Golden Hour”) for infants under 2500 grams.

### B. Eligible Population

**Numerator:** Live-born neonates with a birthweight of less than 2500 grams (as identified by ICD-9-CM Principal or Other Diagnosis Codes in Table 1) who have their temperature taken within the first 60 minutes of life.

**Denominator:** Live-born neonates with birth weight of less than 2500 grams (as identified from either the medical record or by ICD-9-CM Principal or Other Diagnosis Codes in Table 1). Exclusions are noted below.

**Table 1. Included Populations: ICD-9-CM Principal or Other Diagnosis Code Low Birthweight diagnosis codes**

76400	LIGHT-FOR-DATES WTNOS	76490	FET GROWTH RETARD WTNOS
76401	LIGHT-FOR-DATES <500G	76491	FET GROWTH RETARD <500G
76402	LT-FOR-DATES 500-749G	76492	FET GROWTH RET 500-749G
76403	LT-FOR-DATES 750-999G	76493	FET GROWTH RET 750-999G
76404	LT-FOR-DATES 1000-1249G	76494	FET GRWTH RET 1000-1249G
76405	LT-FOR-DATES 1250-1499G	76495	FET GRWTH RET 1250-1499G
76406	LT-FOR-DATES 1500-1749G	76496	FET GRWTH RET 1500-1749G
76407	LT-FOR-DATES 1750-1999G	76497	FET GRWTH RET 1750-1999G
76408	LT-FOR-DATES 2000-2499G	76498	FET GRWTH RET 2000-2499G
76410	LT-FOR-DATE W/MAL WTNOS	76500	EXTREME IMMATUR WTNOS
76411	LT-FOR-DATE W/MAL <500G	76501	EXTREME IMMATUR <500G
76412	LT-DATE W/MAL 500-749G	76502	EXTREME IMMATUR 500-749G
76413	LT-DATE W/MAL 750-999G	76503	EXTREME IMMATUR 750-999G
76414	LT-DATE W/MAL 1000-1249G	76504	EXTREME IMMAT 1000-1249G
76415	LT-DATE W/MAL 1250-1499G	76505	EXTREME IMMAT 1250-1499G
76416	LT-DATE W/MAL 1500-1749G	76506	EXTREME IMMAT 1500-1749G
76417	LT-DATE W/MAL 1750-1999G	76507	EXTREME IMMAT 1750-1999G
76418	LT-DATE W/MAL 2000-2499G	76508	EXTREME IMMAT 2000-2499G
76420	FETAL MALNUTRITION WTNOS	76510	PRETERM INFANT NEC WTNOS
76421	FETAL MALNUTRITION <500G	76511	PRETERM NEC <500G
76422	FETAL MALNUTR 500-749G	76512	PRETERM NEC 500-749G
76423	FETAL MAL 750-999G	76513	PRETERM NEC 750-999G
76424	FETAL MAL 1000-1249G	76514	PRETERM NEC 1000-1249G
76425	FETAL MAL 1250-1499G	76515	PRETERM NEC 1250-1499G
76426	FETAL MAL 1500-1749G	76516	PRETERM NEC 1500-1749G
76427	FETAL MALNUTR 1750-1999G	76517	PRETERM NEC 1750-1999G
76428	FETAL MALNUTR 2000-2499G	76518	PRETERM NEC 2000-2499G

For codes 76400, 76410, 76420, 76490, 76500, birth weights should be verified from the medical record prior to including in measure.

### EXCLUSIONS

Neonates who do not survive until the time limit of the measure (60 minutes after birth)

Neonates not born in hospital/medical care setting

Neonates with Anencephaly ICD-9-CM 740

Neonates with Comfort care (requires all of the features below):

Died within 48 hours of birth; AND

Received no respiratory support after arrival to the Level 2 or higher nursery other than blow by oxygen (i.e., did not receive CPAP, intubation, or CPR after arrival at Level 2 or higher nursery)

## C. DATA SOURCES

A. Medical record (paper or electronic), may be utilized to identify:

The following data elements:

- i. Date and time of birth
- ii. Date and time of arrival to a Level 2 or higher nursery;
- iii. Date and time of first temperature upon arrival to that nursery;
- iv. Documentation that temperature was recorded
- v. Temperature and units of measurement
- vi. Race/ethnicity {preferred data source}
- vii. Mother's State and County of Residence and or zip code (preferred data source)
- viii. 5 minute Apgar score
- ix. Birth weight (preferred data source)
- x. Insurance type (optional data source)

B. Administrative data with revenue, billing and diagnosis codes, utilized to identify:

- i. ICD-9 codes to identify low birthweight infants and presence of anencephaly
- ii. OPTIONAL source for:
  - i. Date of birth
  - ii. Race/ethnicity
  - iii. Home zip code
  - iv. Whether child was inborn or transferred in
  - v. Birthweight range
  - vi. Insurance type and benefit plan (Preferred data source)

## D. "CALCULATION" and Reporting

**Step 1:** Identify all live-born neonates born in a medical or birthing facility with a birthweight less than 2500 grams, using the aforementioned codes or recorded birth weights when practical.

**Step 2:** Record relevant attributes:

- a. Record ICD-9 comorbid diagnoses.  
**EXCLUDE** those with anencephaly (ICD-9-CM 740xx ).
- b. Record:
  - i. Date and time of birth.
  - ii. Birthweight.
  - iii. 5 minute Apgar score

**EXCLUDE** if: child not born in a medical facility

**Step 3:** Record the following additional data elements for all eligible neonates:

- i. Race
- ii. Ethnicity
- iii. Insurance type (Medicaid, Commercial, Uninsured)
- iv. Benefit category (HMO, PPO, Medicaid Primary Care Management Plan, Fee for Service, Other)
- v. Zip Code, State and County or equivalent area of Mother's residence. Record FIPS if available
- vi. Evidence child received comfort care only (when appropriate). **EXCLUDE** if so.
- vii. Documentation child was eligible for and received therapeutic hypothermia (when appropriate). **EXCLUDE** if identification of eligibility and plan for therapeutic hypothermia were in place within 60 minutes.

**Step 4:** Identify and record:

- i. Time of first documented temperature taken
- ii. Value of first temperature taken
- iii. Units that temperature was recorded in. If in Fahrenheit calculate Celsius as  $C=(F-32)*5/9$
- iv. Infant age at time of first temperature

**Step 5:** Calculate how long after the child's birth the first temperature was taken.

**Step 6:** Note whether or not the temperature was taken within the first 60 minutes after birth. If no temperature recorded, **exclude if infant died in the first 60 minutes after birth.**

**Step 7:** Calculate the percent of first temperatures that occur within the first 60 minutes of life as  $100 * \text{numerator events/denominator}$ . Report to 2 decimal places.

**Step 8.** Using eligible births and qualified temperatures, repeat step 8 to report for each stratification category listed below, using the following data elements:

- i. Birthweight (3 birthweight categories: <999 grams; 1000-1499 grams; 1500-2499 grams)
- ii. Perform stratifications as indicated herein (report for each stratum where denominator  $\geq 15$ ):
  - a. Race and ethnicity (Using White non hispanic, Black non Hispanic, Hispanic, Asian/Pacific Islander, other)
  - b. Insurance type (Public/Medicaid, Private/Commercial, None/Other)
  - c. Admission source (use 3 categories: inborn, transported, transferred from newborn nursery)

## Location of delivery

### APPLY THESE RULES IN ORDER. STOP WHEN CATEGORIZED

- i. Categorize location of delivery as birthing room if:
  1. Location was identified as delivery room on the labor and delivery suite but was not an operating room  
OR
  2. Location was identified as a birthing room or equivalent  
OR
  3. Infant was a vaginal delivery other than a multiple gestation AND Operating Room or equivalent (C-section room would be an example of an equivalent to an operating room) is not specified as location.
- ii. Otherwise categorize location as OPERATING ROOM if:
  1. Location was identified as an operating room or equivalent, OR
  2. If neonate was delivered by c-section, OR
  3. If infant was a multiple gestation (and location is unspecified) OR
  4. If location is identified as Emergency Department OR other
- d. 5 minute Apgar score (Apgar of 5 or less versus 6 or more)
- e. Benefit Category (HMO, PPO, Medicaid Primary Care Management Plan, Fee for service, Other)
- f. Urban Influence Code(1) or UIC. (2013 urban influence codes available at: <http://www.ers.usda.gov/data-products/urban-influence-codes.aspx#.UZUvG2cVoj8> .

Use mother's place of residence to determine UIC. State and County names can be linked or looked up directly or zip codes can be linked to County indirectly, using the Missouri Census Data Center (<http://mcdc.missouri.edu/>).

- g. Level of Poverty in the County of Residence. The percent of all residents in poverty by county are available from the US Department of Agriculture at <http://www.ers.usda.gov/data-products/county-level-data-sets/download-data.aspx> Our stratification standards are based on 2011 US population data that we have analyzed with SAS 9.3.

Using Mother's state and county of residence (or equivalent) or FIPS code, use the variable PCTPOVALL\_2011 to categorize into one of 5 Strata:

- i. Lowest Quartile of Poverty if percent in poverty is  $\leq 12.5\%$
  - ii. Second Quartile of Poverty if percent in poverty is  $>12.5\%$  and  $\leq 16.5\%$
  - iii. Third Quartile of poverty if percent in poverty is  $>16.5\%$  and  $\leq 20.7\%$
  - iv. First upper quartile (75<sup>th</sup>-90<sup>th</sup>) if percent in poverty is  $>20.7\%$  and  $\leq 25.7\%$
  - v. Second upper quartile ( $>90^{\text{th}}$  percentile) if percent in poverty exceeds 25.7%
- iii. Repeat stratifications a-g within birthweight categories (report for all strata for which denominator  $\geq 15$ )