The Value of Data to Advance Equity-Based QI: Introducing the New MDC Equity Dashboard

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Anne Castles, MA, MPH

September 27, 2019, 12-1pm
Housekeeping

- All lines have been muted to eliminate background noise
- Questions will be addressed at the end of the webinar via the chat box or Q&A
- The webinar recording will be available on the CMQCC website
- Other questions: contact vcape@Stanford.edu
Utilizing Data to Establish the Need for Equity Based Quality Improvement

Terri Deeds, RN, MSN, NE-BC
Clinical Lead, CMQCC
In the last 15 years, US has seen rises in:

Maternal Mortality: Up 50-70%
Severe Maternal Morbidity: Up 100%
Cesarean Births: Up 50%
Maternal Mortality Rate, California and United States; 1999-2013

California: ~500,000 annual births, 1/8 of all US births

Maternal Mortality by State (NCHS)

2018: US - 20.7

CA - 4.5

GA - 46.8

Source:
- CDC WONDER Online Database, Mortality Files
Maternal mortality is defined by WHO as a death during or within 42 days of a delivery and related to the pregnancy (captured from the Death Certificate with a cause of death code from the Obstetric chapter).

Maternal Mortality Rate, By Race/Ethnicity
Three-Year Moving Averages; 1999-2013

California Only Data

Maternal Mortality Rate, By Race/Ethnicity
Three-Year Moving Averages; 1999-2013

California Only Data
But I (we) treat everyone the same!

Equality vs. Equity?
That must be happening someplace else right?
Variation in Care is Endemic

NTSV CS Rates Among CA Hospitals: 2014

Range: 12%—70%
Median: 25.3%
Mean: 26.2%

National Target = 23.9%

Huge Variation in Care
Low-Risk First-Birth Cesarean (NTSV)
Black to White Ratios by Hospital
2015-2016

Statewide rates:
Total: 25.3%
White: 24.8%
Black: 30.0%

California Hospitals With At Least 150 Black Births (N=90, with 85.6% of Black Births)
Severe Maternal Morbidity (SMM)
Black to White Ratios by Hospital
2015-2016

Statewide rates:
Total: 1.6%
White: 1.2%
Black: 2.4%

California Hospitals With At Least 150 Black Births (N=90, with 85.6% of Black Births)
So is this happening at my hospital?

- A close look at the data from your hospital should provide opportunities to focus your quality improvement efforts on the issues affecting your hospital.
Birth Equity Reports in the Maternal Data Center (MDC)
**Birth Equity Section in the MDC**

**Demo Hospital**

<table>
<thead>
<tr>
<th>Measures</th>
<th>Period: Nov 2018 - Jan 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Favorite Measures</strong></td>
<td></td>
</tr>
<tr>
<td>Antenatal Steroids (PC-03)</td>
<td>100.0%</td>
</tr>
<tr>
<td>CCHD-Pulse Oximetry Screening</td>
<td>N/A</td>
</tr>
<tr>
<td>Cesarean Birth: NTSV - Nullip Term Singleton Vertex (PC-02: Current)</td>
<td>25.0%</td>
</tr>
<tr>
<td>View all 4 Favorite Measures</td>
<td></td>
</tr>
<tr>
<td><strong>Hospital Clinical Performance Measures</strong></td>
<td></td>
</tr>
<tr>
<td>Early Elective Delivery (PC-01)</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cesarean Birth: NTSV - Nullip Term Singleton Vertex (PC-02: Current)</td>
<td>25.0%</td>
</tr>
<tr>
<td>Cesarean Birth: Primary</td>
<td>20.0%</td>
</tr>
<tr>
<td>Unexpected Newborn Complications: Severe</td>
<td>0.0</td>
</tr>
<tr>
<td>Severe Maternal Morbidity (SMM)</td>
<td>5.9%</td>
</tr>
<tr>
<td>View all 45 by name, organization, or topic</td>
<td></td>
</tr>
<tr>
<td>Compare Two Measures</td>
<td></td>
</tr>
</tbody>
</table>

**Birth Equity**

- Cesarean Birth: NTSV - Nullip Term Singleton Vertex (PC-02: Current)
- Severe Maternal Morbidity (SMM)

Learn more about the CMQCC Birth Equity Collaborative

More Measures

**Patient Safety Watch**

- AIM Hemorrhage Patient Safety
- Preeclampsia Patient Safety

View all 45 by name, organization, or topic

Compare Two Measures
Birth Equity Features on Home Page

On Home Page

- 2 Key Outcome Measures
  - NTSV C/S rate
  - SMM rate

- More Measures
  - Links to additional highlighted metrics

- Link to Additional Resources

- Link to Birth Equity PDF
Birth Equity PDF Report

“One-Click” PDF Report
For sharing outcomes directly with staff, physicians or hospital leadership.

Demo Hospital

**Measures**

**Period:** Nov 2018 - Jan 2019

**Favorite Measures**
- Antenatal Steroids (PC-03) 100.0%
- CCHD-Pulse Oximetry Screening N/A
- Cesarean Birth: NTSV - Nullip Term Singleton Vertex (PC-02: Current) 25.0%

**Hospital Clinical Performance Measures**
- Early Elective Delivery (PC-01) 0.0%
- Cesarean Birth: NTSV - Nullip Term Singleton Vertex (PC-02: Current) 25.0%
- Cesarean Birth: Primary 20.0%
- Unexpected Newborn Complications: Severe 0.0%
- Severe Maternal Morbidity (SMM) 5.9%

**Birth Equity**
- Cesarean Birth: NTSV - Nullip Term Singleton Vertex (PC-02: Current)
- Severe Maternal Morbidity (SMM)
- More Measures

Learn more about the CMQCC Birth Equity Collaborative

**Patient Safety Watch**
- AIN Hemorrhage Patient Safety
- Preeclampsia Patient Safety

Compare Two Measures
Birth Equity PDF Report

- Select the Race/Ethnicity group from the dropdown box
- The default is Non-Hispanic Black
Birth Equity PDF Report

- Select the Race/Ethnicity group from the dropdown box
- The default is Non-Hispanic Black
- Click the Generate PDF button
One-Page Report with:

- **2 Key Measures**
  - Severe Maternal Morbidity (SMM)
  - NTSV Cesarean Delivery Rate

- **3 Types of Comparisons**
  - Selected R/E Category vs. All Others
  - Baseline vs. Current
  - Own Hospital vs. Peer Acuity Comparison

- Let’s unpack it!
Birth Equity PDF

Interpretive Guidance at top!

CMQCC Maternal Data Center
Birth Equity Analysis Report
Demo Hospital

Understanding how your hospital’s maternity care practices and outcomes differ by Race/Ethnicity is an essential step in working toward birth equity.

In the graphs below:

- For all pairings, the orange/first bar represents the selected Race/Ethnicity group of patients; the blue/second bar represents the patients in All Other Race-Ethnicity groups (i.e. all cases excluding the selected R/E group)
- In the first two pairings, compare your hospital’s results for the Baseline Period (2016-2017) to your hospital’s results for the Most Recent 12-month Period.
- Using the latter two pairings, you can also compare your hospital’s results to a Peer Acuity Comparison showing results across all MDC hospitals with the same Nursery Level as your hospital (for both the Baseline and Most Recent 12-month Period).
Birth Equity PDF

Comparison I

- Selected R/E Category
  (per your prior selection)

  compared to

- All Others
  (all cases excluding the selected R/E group)

Key Questions:

* Is there a disparity in hospital outcomes between different groups?

* Are we willing to make a concerted effort to address?
Birth Equity PDF

Comparison II

- Baseline
  (prior 2 year period: currently using 2016-17)

  compared to

- Most Recent 12 Months
  (based on your MDC data submissions)

Key Questions:

* Are we improving outcomes in our target community?
* What more can we do?
Birth Equity PDF

- Additional information at bottom

  - Definition of Time Periods

  - Small Count Warning

**Recommendation:**
Review the denominator counts in the MDC for the R/E category; do not use PDF if target R/E category has < 20 denominator cases.
Comparison III

- Own Hospital

compared to

- Peer Acuity Average
  (average across all MDC hospitals with same Nursery Level)

Key Question:

- How do we compare to other hospitals that serve same acuity of patients?
- What are we doing differently from our peers?
Key Measures for Evaluating Birth Equity

On Home Page

- 2 Key Outcome Measures
  - NTSV C/S rate
  - SMM rate

- More Measures
  - Links to additional highlighted metrics
Birth Equity Features on Home Page

Click on More Measures to see additional Birth Equity Measures available for review.
## More Measures Section

- Click into any measure

<table>
<thead>
<tr>
<th>Measure Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesarean Birth: NTSV (PC-02: Current)</td>
<td>Cesarean deliveries among &quot;NTSV&quot; births: 1) Nulliparous (first birth); 2) Term (37 wk gestation or over); 3) Singleton (no multiples); and Vertex (head first). The 2018 PC-02 specifications also exclude cases with placentia previa. This version uses the most current TJC PC-02 measure specifications retrospectively applied to all prior time periods to allow for proper trending.</td>
</tr>
<tr>
<td>Cesareans after Labor Induction</td>
<td>Rate of induction procedures that resulted in a cesarean (regardless of the reason for the cesarean). Formerly named “Failed Inductions.”</td>
</tr>
<tr>
<td>Exclusive Breast Milk Feeding</td>
<td>Exclusive breast milk feeding during the newborn’s entire hospitalization.</td>
</tr>
<tr>
<td>Hemorrhage: Blood Product Units Transfused per 1000 Delivery Cases</td>
<td>Total number of blood products transfused per 1,000 delivering women. (Transfusions identified via supplemental data only.)</td>
</tr>
<tr>
<td>Hemorrhage: Massive RBC Transfusions (≥ 4 RBC Units)</td>
<td>Number of women receiving ≥ 4 RBC units of blood per 1000 delivering women. (RBC transfusions identified via supplemental data only).</td>
</tr>
<tr>
<td>Maternal ICU Admission Rate</td>
<td>Maternal ICU Admission rate among delivering women</td>
</tr>
<tr>
<td>Induction Rate</td>
<td>Rate of induction (failed or successful) among all births</td>
</tr>
<tr>
<td>Total Preterm Birth</td>
<td>Percent of births &lt;37wk gestational age. Hospitals that receive transports may have higher prematurity rates.</td>
</tr>
<tr>
<td>Severe Maternal Morbidity Among Hemorrhage Cases</td>
<td>Rate of severe morbidities among delivering women with hemorrhage</td>
</tr>
<tr>
<td>Severe Maternal Morbidity Among Preeclampsia Cases</td>
<td>Rate of severe morbidities among delivering women with preeclampsia, eclampsia, or superimposed preeclampsia</td>
</tr>
<tr>
<td>Timely Treatment for Severe Hypertension</td>
<td>Appropriate medical management/timely treatment of new onset preeclampsia/severe hypertension</td>
</tr>
<tr>
<td>UNC: Moderate</td>
<td>Moderate neonatal complications among babies without preexisting conditions (birth defects, prematurity, small for dates, multiples, maternal drug use, etc.). See more detailed information on this measure.</td>
</tr>
<tr>
<td>UNC: Severe</td>
<td>Severe neonatal complications among babies without preexisting conditions (birth defects, prematurity, small for dates, multiples, maternal drug use, etc.). See more detailed information on this measure.</td>
</tr>
<tr>
<td>VBAC-All</td>
<td>Vaginal births among all deliveries with a prior cesarean delivery</td>
</tr>
</tbody>
</table>
Navigation

Top buttons enable:
- PNG screen shots
- Data downloads into Excel

3 Tabs at top of screen
- Overall
- Drivers
- Trend
Overall Tab

1. Parse your hospital’s rate by Race/Ethnicity categories (categories differ some by state)

2. Compare to “Peer Acuity” average

3. Customize the report and Click “Go”!
   - Change the Time Period
   - Add Benchmarks
   - Comparison Populations
     - Nursery Level (Peer Acuity)
     - System
     - State MDC
     - All MDC
Overall Tab

4. Note “Small Count” warning

5. If denominator count <50, will display next to bar

6. See definitions for each R/E Category in “Mappings” document

NOTE on Data Source:
- CA: Birth Certificate
- WA/OR: Discharge Data
Overall Tab: Fallout Drill Down Capability

Bottom half of “Overall Tab” displays:

- Numerical data, including numerators and denominators
- Clicking into any of the green numbers leads to “patient drill down screen”
Overall Tab: Fallout Drill Down Capability

- Drill Down Screen auto-filtered based on the prior selection
- Can change the selection from this screen using the “Filter” drop down menus
Drivers Tab

- **Drivers** tab provides a breakdown of the indicators driving the measure results.

- Intent: Focus your QI activities!

- Compare the selected R/E group to:
  - “All Others”
  - Selected Peer Group

### Birth Equity: Severe Maternal Morbidity (SMM)

<table>
<thead>
<tr>
<th></th>
<th>Gamma Mu Hospital</th>
<th>NICU Level II - CA MDC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-Hispanic Black</td>
<td>All Others</td>
</tr>
<tr>
<td>Count</td>
<td>Rate per 1000</td>
<td>Count</td>
</tr>
<tr>
<td>Overall</td>
<td>25</td>
<td>51.9</td>
</tr>
<tr>
<td>Hemorrhage</td>
<td>9</td>
<td>18.7</td>
</tr>
<tr>
<td>Transfusion</td>
<td>13</td>
<td>27.0</td>
</tr>
<tr>
<td>Hypertension</td>
<td>3</td>
<td>6.2</td>
</tr>
<tr>
<td>Sepsis</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cardiac</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Respiratory</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Driver Tab Review

1. Note the caution regarding small volumes.
2. Use the dropdown boxes to customize selections for race/ethnicity, comparison population and start date.
3. Note *Duration* button is restricted to 12 and 24 months to minimize “small count” issues.
4. Patient level drill down is available by clicking on any green numbers.
5. See “Interpretive Guidance”
Interpretive Guidance

The percentages above represent the proportion of the selected Race/Ethnicity group with the clinical driver (based on ICD-10 codes) compared to All Other Race/Ethnicity groups (i.e. all cases excluding the selected R/E group).

- Note that the numbers in these categories may be very small; interpret cautiously!
- The denominators in each row represent the count in each sub-population, and thus differ by group (overall vs. spontaneous labor cases vs. induced labor cases vs. no labor cases)

Example 1: You selected Race/Ethnicity = "Non-Hispanic Black", Comparison Group = "Same Nursery Level" and are looking at the "Overall Row"

- Column 2 (Non-Hispanic Black Rate) represents the percentage of Black patients at your hospital that had a cesarean birth among the Black patients at your hospital that were NTSV.
- Column 4 (All Other Rate) represents the percentage of All Other Race/Ethnicity patients at your hospital that had a cesarean birth among All Other Race/Ethnicity patients at your hospital that were NTSV.
- Column 5 represents the percentage of Black patients that had a cesarean birth among Black patients that were NTSV--for the MDC hospitals in your state with the same Nursery level (i.e. a peer acuity benchmark).
- Column 6 represents the percentage of All Other Race/Ethnicity patients that had a cesarean birth among All Other Race/Ethnicity patients that were NTSV--for the MDC hospitals in your state with the same Nursery level.

Example 2: You selected Race/Ethnicity = "Non-Hispanic Black", Comparison Group = "Same Nursery Level" and are looking at the "Spontaneous Labor: Fetal Concern" Row

- Column 2 (Non-Hispanic Black Rate) represents the percentage of Black patients at your hospital that had a cesarean birth and an ICD-10 code indicating Fetal Concern among all Black patients at your hospital that were NTSV and underwent Spontaneous Labor.
- Column 4 (All Others Rate) represents the percentage of All Other Race/Ethnicity patients at your hospital that had a

Clicking on Interpretive Guidance button provides support for analyzing the tables.
Trend Tab

- Birth Equity section allows for trending of Race/Ethnicity results for each selected measure
- Answers question: *Are we making progress toward our birth equity goal?*
Trend Tab Review

- **Recommendation:**
  - Restrict reviews to 12 months unless you are a large volume hospital.

- **Rolling 6 month option** is available—but use with care and only at large-volume hospitals!
Trend Tab Review

- Use drop down menus to add different benchmarks and Race/Ethnicity groups.
Patient level drill down also available on this screen by clicking on any of the data points in graph or any of the green numbers.
Birth Equity Features on Home Page

- A link on the home page will send the viewer directly to the Birth Equity section of the CMQCC website for additional resources on Birth Equity
Birth Equity

California Birth Equity Collaborative
Improving Care for, by and with Black Mothers

The California Birth Equity Collaborative is a CMQCC quality improvement initiative to improve birth care, experiences and outcomes for, by and with Black mothers and birthing people in California. Our team is comprised of partnerships among:

- CMQCC
- Black/Black women-led community-based organizations (CBOs)
- Participating hospitals
- State/national and local advisory groups

Background:
Since 1999, the reported maternal mortality data in California show a persistent 3-4x gap between Black mothers and mothers from all other racial groups. Also, maternal mortality rates nearly doubled in California between 1999 and 2006. CMQCC was founded in 2006 at Stanford University School of Medicine together with the State of California. Since CMQCC’s inception, California’s maternal mortality rate has declined by 55 percent while the national maternal mortality rate continued to rise. The expectation was that widespread adoption of CMQCC’s clinical safety bundles would reduce the gap in the number of maternal deaths among Black women. However, the difference in outcomes for Black mothers compared with all other racial groups has persisted.

Community-Based Organization partnerships

Black women-led CBOS and CMQCC can collaborate in two ways:
1) Development and testing of QI tools and approaches in hospitals in four key areas: evaluation and assessments, education and training, social media and communications, and community-informed consensus building; and
2) Development of effective and sustainable community-hospital partnerships through local advisory groups for each of the pilot hospitals.

For Information about CBO partnerships and the potential for grant funding from the California Health Care Foundation to advance the Collaborative’s goals and activities within the hospitals or local advisory groups, please contact Karen A.
Next Steps

- Use the Data Center to identify, and build awareness of, inequities
- Access the CMQCC Resource List to educate yourself and your team
- Engage your leadership and clinical teams to identify your equity opportunities
- Build relationships with community groups in your area
EQUALITY does not equal EQUITY
Questions??

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Anne Castles: acastles@stanford.edu