Perinatal Quality Collaborative
SUCCESS STORY

California Maternal Quality Care Collaborative's Data Center Tool Helps Hospitals Reduce Severe Maternal Morbidity

The most severe pregnancy complications, commonly referred to as severe maternal morbidity, can result in longer hospital stays, long-term rehabilitation, and higher direct medical costs. Tracking performance on maternity care metrics, such as severe maternal morbidity, informs clinical practices and drives quality improvement.

Maternity care is the highest-volume health service delivered by most hospitals in California, with more than half a million births each year. However, limited time and resources can make it difficult for hospitals to link and analyze the data necessary to determine the quality of care provided within their labor and delivery units.

With support from the Centers for Disease Control and Prevention, the statewide California Maternal Quality Care Collaborative (CMQCC) launched the California Maternal Data Center in January 2012. The California Maternal Data Center is a low cost, online tool that hospitals can use to track performance on maternity care services in real-time. The California Maternal Data Center supports CMQCC quality improvement initiatives, such as

- Reducing severe maternal morbidity related to preeclampsia (high blood pressure and protein in the urine during pregnancy).
- Reducing non-medically indicated deliveries before 39 weeks gestation.

Partnerships

The CMQCC created the California Maternal Data Center through ongoing partnerships with

- The Office of Vital Records to receive monthly birth certificate data.
- The Office of Statewide Health Planning and Development to maintain data collection with minimal "red tape" in application and approval times.

The California Maternal Data Center engaged partners to form both a steering committee and a data and measures committee. The California Maternal Data Center also worked with participating hospitals to form a users' group to guide, direct, and provide input for decision making, development, and implementation of the data center.

12% reduction in severe complications occurred among women with severe preeclampsia/eclampsia in hospitals participating in the Preeclampsia Collaborative from 2013 through 2014.

57% decline in non-medically indicated deliveries before 39 weeks gestation occurred among hospitals using the California Maternal Data Center quality improvement tools between 2012 and 2014.

National Center for Chronic Disease Prevention and Health Promotion
Division of Reproductive Health

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Accomplishments

As of January 2015, more than 100 hospitals in California were actively submitting data to the California Maternal Data Center.

This data tool

- Links data from birth certificates, patient hospital discharge data, and other clinical data elements.
- Displays graphs and tables for clinical and data quality metrics, including: non-medically indicated deliveries before 39 weeks gestation; low risk, first time cesarean deliveries; episiotomies; vaginal birth after cesarean; antenatal steroids; and newborn bloodstream infections.
- Provides benchmark statistics comparing hospital performance to county, system, regional, and statewide statistics.
- Allows for analysis at the patient and physician level to identify specific quality improvement opportunities.

CMQCC used the California Maternal Data Center as a data source and reporting application for their Preeclampsia Collaborative, a statewide hospital-level learning and quality improvement initiative. From February 2013 through June 2014, 13 hospitals participating in the Preeclampsia Collaborative had complete data to show a 12% reduction in severe complications among women with severe preeclampsia/eclampsia, from 20% to 17.6%. Excluding women who experienced hemorrhage or had a blood transfusion (which comprises the majority of the complications), showed a more dramatic reduction of 36% in severe complications, from 7.2% to 4.6%.

Non-medically indicated deliveries before 39 weeks gestation are also declining among hospitals actively enrolled in the California Maternal Data Center. Between approximately January 2012 and May 2014, hospitals using the California Maternal Data Center quality improvement tools demonstrated a 57% reduction in the percentage of non-medically indicated deliveries performed in the 37- and 38-week gestational period, from 12% to 5%.

CMQCC also developed Quality Improvement Toolkits to guide California health care providers in responding to preeclampsia, obstetric hemorrhage, and in preventing early deliveries. The toolkits include:

- *Improving Health Care Response to Preeclampsia*
- *Improving Health Care Response to Obstetric Hemorrhage*
- *Elimination of Non-medically Indicated (Elective) Deliveries Before 39 Weeks Gestational Age*

As of January 2015, there were approximately 4,000 downloads of the preeclampsia toolkit from the CMQCC website, representing downloads from all 50 states, District of Columbia, Puerto Rico, and 38 countries worldwide.

Lessons Learned in Building a Data Center

- **Emphasize the advantages of participation.** Submitting data to external organizations can be a barrier for participation, either because of the need for data use agreements or for the involvement of hospital IT departments. Highlight benefits such as accurate metrics and a greater variety of resources.
- **Provide tools for data quality improvement similar to those used for clinical quality improvement.** Because data quality can have a considerable effect on measure calculation, these tools can deliver significant value for hospitals.
- **Simplify logistics, both for operations and for users**. Develop a uniform data use agreement and resist making hospital-level changes to this document. However, consider modifications for hospitals that are part of a larger health care system.
- **Listen and respond to hospital users.** Develop a users' group and treat data users like customers. Request feedback on a frequent basis from users at all different levels to gather information about how they are using the data tool. Document and respond to their ideas and requests for improvements.

Note: This success story, including background data and outcomes, reflects information as reported by the CMQCC.

Resources

For more information, visit

- CMQCC website
- CDC Perinatal Quality Collaboratives website
- Improving Health Care Response to Preeclampsia
- Improving Health Care Response to Obstetric Hemorrhage
- Elimination of Non-medically Indicated (Elective) Deliveries Before 39 Weeks Gestational Age