

## Quality Improvement in Maternity Care via Project ECHO

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 Category: **Emerging**

### BACKGROUND

The Project ECHO - OB Safety Bundle program seeks to educate and encourage hospitals statewide to implement components of the evidence-based maternal Safety Bundles developed by the Council for Patient Safety in Women's Health Care with the goal of reducing maternal mortality and morbidity. Utah joined the Alliance for Innovation on Maternal Health (AIM) in 2016, with the goal of implementing three safety bundles in facilities statewide.

As Utah is the thirteenth largest state in the nation and is a largely rural and frontier state, Project ECHO (Extension for Community Health-Care Outcomes) was determined to be a platform that could deliver education and interactivity through telemedicine. Project ECHO is a cost-free partnership between community providers and a University of Utah Health interdisciplinary team of professionals developed to treat chronic and complex disease in rural and underserved areas through the use of technology. There are ECHO sites across the U.S. and a list of sites can be found here:

<https://echo.unm.edu/locations-2/echo-hubs-superhubs-united-states/>. This technology is being used for this project to facilitate statewide quality improvement initiatives.

The project is overseen by an implementation team, comprised of representatives from hospitals, academia, and the Utah Department of Health.

### PROGRAM OBJECTIVES

Quality Improvement in Maternity Care via Project ECHO seeks to educate and encourage hospitals statewide to implement components of the evidence-based maternal Safety Bundles with the long-term goal of reducing maternal mortality and morbidity in Utah.

TITLE /MCH BLOCK GRANT MEASURES ADDRESSED
NOM 2: Severe Maternal Morbidity NOM 3: Maternal Mortality

### TARGET POPULATION SERVED

The target population for this intervention are labor and delivery and postpartum unit clinical staff from Utah's delivering hospitals. All interested hospital facilities are encouraged to participate. By targeting hospital practices for quality improvement, the goal is to affect Utah's mothers by reducing maternal morbidity and mortality.

### PROGRAM ACTIVITIES

Year one of the project, focusing on obstetric hemorrhage, began with an assessment of current hospital practice, with all delivering hospitals in Utah being invited to complete a baseline survey. Facilities not completing the survey after the initial outreach by e-mail were called by UDOH staff. The initial survey concluded with an invitation to a kick-off meeting to be held in Salt Lake City, with travel costs paid for by the Utah Department of Health. 27 of Utah's 44 hospitals completed the initial assessment survey. The kick-off meeting was held in October 2015 with the goal of setting the foundation for why implementation of the OB Hemorrhage safety bundle was important. Local experts presented on Utah data, communication, the OB Hemorrhage Safety Bundle, post-traumatic stress, leadership, the four pillars of the bundle, mutual support, building consensus, project ECHO, and planning. From there an innovative use of an existing technology was applied, and the program provided 14 learning sessions on each component of the Safety Bundle. Bi-weekly learning sessions were held using Project ECHO (Extension for Community Health-Care Outcomes), a system developed to treat chronic and complex disease in rural and underserved areas using technology. This system allows hospital staff to view lectures via an internet link and have interactive conversations among all participants. This interactivity provided facilities with the opportunity to have open discussions about what was learned that session and discuss implementation strategies.

This technology also allowed for greater participation among Utah's rural hospitals. For those who were unable to attend

live, the sessions were recorded and placed on a YouTube channel for future viewing. A final in-person meeting was held to provide hands-on training related to blood loss quantification and simulation exercises. CMEs were offered for the kick off meeting and each of the learning sessions delivered through Project ECHO. Quarterly follow up calls were held to track facility progress and a final evaluation was conducted to see how hospital practices changed over the course of the project. Fifteen facilities completed the post-test evaluation.

Year two of the project, Hypertension, has followed the same process as year one. With year two, the project expanded to include six interested facilities from our neighboring state of Wyoming. Utah hospital participation rose to 37 facilities.

### PROGRAM OUTCOMES/EVALUATION DATA

A baseline survey was conducted at the start of each year, assessing current facility practices related to each bundle component. At the end of year one, a final evaluation was conducted to assess changes in hospital practice and satisfaction with the Project ECHO platform and process. Evaluations were conducted after each in-person meeting to assess satisfaction from attendees. Copies of the year and two baseline surveys and the year one final survey are available upon request.

Additionally, a baseline report on severe maternal morbidity was written using hospital discharge data from 2013-2015 and will be used to examine how bundle implementation impacts these rates. Severe maternal morbidity rates will be posted quarterly for each participating facility via the AIM Data Portal.

For work on hemorrhage in year one, based on pretest/post-test surveys, hospitals reported implementation, or progress toward implementation, of significantly more elements of the bundle after the Project ECHO educational program, compared with before the collaborative (a mean of 33.3 vs. 19 bundle elements; P less than 0.001). Hospitals reported increased implementation of elements in all four bundle domains.

### PROGRAM COST

Approximately \$47,000 was spent over the course of the project in year one and included the cost of two in-person meetings for participants (meals, mileage, and hotel), CME credits, use of the ECHO technology, and hemorrhage simulation bags for participating hospitals. In year two, costs have been lower, approximately \$30,000.

### ASSETS & CHALLENGES

#### Assets

Expertise from members of the Maternal Mortality Review panel, with representation from multiple hospital systems,

and other faculty from the University of Utah is a strength. The University of Utah had previously implemented both the hemorrhage and hypertension bundles and their nurse educator helped lead discussions, shared resources, successes and failures. The University Hospital staff provided the final trainings on debriefing and simulation. Providing mileage reimbursement, hotel accommodations and meals enabled hospital staff to attend.

#### Challenges

- Finding a time to hold ECHO sessions that clinical faculty, UDOH staff, and hospital participants could all participate in is a challenge.
- Some hospital systems blocked staff from accessing YouTube so they were unable to view recordings from their work locations.
- It can be difficult to keep hospital staff engaged throughout the process.

#### Overcoming Challenges

Continual feedback from participants was essential to keeping them engaged. Modifying the learning sessions to meet the needs of participants is helpful in maintaining participation.

### LESSONS LEARNED

Among those hospitals who completed the final evaluation in year one, 91.6% said that the ECHO sessions were very helpful, 94.1% said they were highly satisfied with the OB hemorrhage safety bundle collaboration project, and 100% of participants said they would be willing to participate in similar multi-hospital collaborations in the future. Comments from participants included: "This was so great!! Living in a rural area this is an ideal way to receive this type of material. I have all positive comments!! There was nothing negative about project ECHO." and "This was an amazing way to connect. I look forward to more in the future."

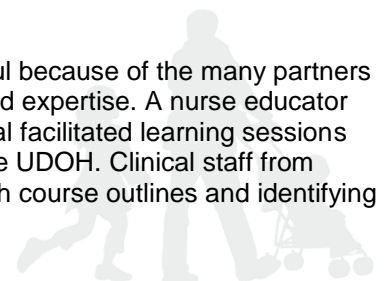
Based upon participant location within the state, it is estimated that using Project ECHO saved participants over 10,000 miles and 180 hours of travel in year one.

### FUTURE STEPS

Quality improvement is a continuous process. Quarterly check in calls will be conducted to track progress and allow facilities to support each other with implementation efforts. Tracking outcome and process data will allow facilities to see how these efforts impact maternal mortality and morbidity in their facilities.

### COLLABORATIONS

This project was successful because of the many partners who provided their time and expertise. A nurse educator from the University Hospital facilitated learning sessions with a staff person from the UDOH. Clinical staff from multiple facilities assist with course outlines and identifying



experts to teach sessions. Utah's hospital systems allowed their staff to participate in project activities.

### PEER REVIEW & REPLICATION

Abstract published: Telemedicine to Improve Maternal Safety: A Statewide Survey of Hospitals in an Obstetric Hemorrhage Collaboration. Einerson, B., Baksh, L., Fisher, J., Clark, E. Obstetrics and Gynecology: 129:2S, May 2017.

[http://journals.lww.com/greenjournal/Abstract/2017/05001/Telemedicine\\_to\\_Improve\\_Maternal\\_Safety\\_A.6.aspx](http://journals.lww.com/greenjournal/Abstract/2017/05001/Telemedicine_to_Improve_Maternal_Safety_A.6.aspx)

This abstract was highlighted in an article for Ob.Gyn. News: <http://www.mdedge.com/obgynnews/article/137919/obstetrics/using-telemedicine-improve-maternal-safety>

### RESOURCES PROVIDED

Resources from the project include:

- Baseline hospital practice survey
- Course outlines
- Video recordings of educational sessions and power point presentations
- Project evaluation survey

**Key words: Maternal Mortality, Obstetric Hemorrhage, Safety Bundle, Quality Improvement**

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