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Practice Summary & Implementation Guidance

Quality Improvement in Maternity Care via Project ECHO

The telehealth Obstetric Safety Bundle sessions (formerly called Project ECHO sessions) seek to educate and encourage hospitals statewide to implement components of the evidence-based Maternal Safety Bundles. These were developed by the Council for Patient Safety in Women's Health Care and Alliance for Innovation on Maternal Heath (AIM) with the goal of reducing

Location	Topic Area	Setting
Utah	Mental Health/Substance Use	Clinical

Population Focus	NPM	Date Added
Women/Maternal Health	N/A.	October 2017

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Section 1: Practice Summary

PRACTICE DESCRIPTION

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

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.

CORE COMPONENTS & PRACTICE ACTIVITES

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.

Core Components & Practice Activities

Core Component	Activities	Operational Details
Assessment	• YEAR 1: Assessment of current hospital practice with all delivering hospitals in Utah focusing on obstetric hemorrhage.	• All delivering hospitals in Utah were 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

	• YEAR 2: Assessment of current hospital practice with all delivering hospitals in Utah focusing on obstetric hypertension.	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. • 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.
Development	• 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. • Bi-weekly learning sessions were held using Project ECHO (Extension for Community Health-Care Outcomes). • A final in-person meeting was held to provide hands-on training related to blood loss quantification and simulation exercises.	• 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. An innovative use of an existing technology was applied, and the program provided 14 learning sessions on each component of the Safety Bundle. . • CME's were offered for the kick off meeting and each of the learning sessions delivered through Project ECHO. • The system used technology 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. • 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.

HEALTH EQUITY

In telehealth sessions for various Safety Bundles, such as Obstetric Care for Women with Opioid Use Disorder, we discuss health inequities such as the impact of Implicit Bias on various populations and their healthcare outcomes. In addition, we have worked with AIM to provide *Breaking Through Implicit Bias in Maternal Healthcare* online healthcare class for Utah and Wyoming hospitals. This project involves debrief telehealth sessions with each hospital to discuss health inequities and discrimination and strategies to reduce implicit bias.

EVIDENCE OF EFFECTIVENESS

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.

Section 2: Implementation Guidance

STAKEHOLDER EMPOWERMENT & COLLABORATION

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.

REPLICATION

This practice has been replicated for the Hypertension Safety Bundle and the Patient Safety Bundle Obstetric Care for Women with Opioid Use Disorder. For Opioid Use Disorder, there were 13 sessions in 2020 on various topics in the bundle including Implicit Bias, Inpatient Management, Substance Use Disorder Education, Screening Tools, Polysubstance Use, Reducing Stress and Opioid Use Disorder as a Chronic Disease. In 2020, there were 185 total participants, with an average of 36 participants per session. These included clinicians, public health and hospital administration. Participants were from over 70 organizations in 10 states—36 hospitals, health departments, universities, clinics, community organizations, Division of Child and Family Services, Perinatal Quality Collaboratives and Health Systems. There was a 99% satisfaction rating of participants surveyed being Highly Satisfied (69%) or Satisfied (30%). The sessions were recorded and there has been an average of 31 views per session.

During the Assessment Core Component, hospitals participating in the Safety Bundle Kick-off completed a survey on their existing practices related to serving maternal patients with Opioid Use Disorder. For the Development Component, the telehealth learning sessions were historically contracted to the Office of Network Development & Telehealth. In the fall of 2020, this contract ended, and we now manage these sessions in-house via Zoom. The benefits of this change include a cost-savings, allowing more control over the set-up, polls during sessions, management of participants and faster turnaround to post the videos on YouTube. This does not allow for Continuing Medical Education credits and this was not a concern for our participants.

Lessons learned include working with the Safety Bundle steering committee for topic and speaker ideas. Zoom technology, which we purchased in 2019, has been transformative for our sessions and our ability to manage on our own. Our partnership with the Wyoming Department of Health on the Opioid Use Disorder Safety Bundle has enabled us to expand the reach of the trainings. A standardized format flyer was developed to promote the telehealth sessions along with sending calendar invites. Making sessions interactive including participant polls helps to engage folks with the virtual format.

INTERNAL CAPACITY

The Quality Improvement Director of the Utah Women and Newborns Quality Collaborative (UWNQC) is currently leading this practice. Interns helped to compile a 2020 infographic summary of the telehealth sessions (see below), manage the attendance and track survey feedback. Having an

intern available for technical back up and support during the sessions is helpful along with helping to update the email distribution list.

PRACTICE TIMELINE

Phase: Planning/Pre-Implementation		
Activity Description	**Time Needed**	**Responsible Party**
KICK-OFF Meeting	2.5 DAYS 300 hours	Quality Improvement Director
Draft Session Topics and potential Speakers	Bi-monthly steering committee meetings 2 hours/month	Steering Committee/ Quality Improvement Director
Invite, confirm and schedule speakers; create Zoom link	Month prior to session 4 hours/month	Quality Improvement Director
Create flyer with speaker bio, Zoom registration, calendar invite, send to email distribution list	Prior to session 2.5 hours/month	Quality Improvement Director

Phase: Implementation		
Activity Description	**Time Needed**	**Responsible Party**
Obtain speaker slides, prep for session	Week of session 1.5 hours/month	Quality Improvement Director

Host session, track attendance, survey participants	Day of session 3 hours/month	Quality Improvement Director
Manage recording and prep to post to YouTube	Within a week of the session 1.5 hours/month	Quality Improvement Director
Send speaker thank you's	Within a week of the session 1 hour/month	Quality Improvement Director

Phase: Sustainability		
Activity Description	**Time Needed**	**Responsible Party**
Periodically update email distribution as needed	Monthly 1 hour/month	Quality Improvement Director/intern
Attend other Perinatal Quality Collaborative trainings/share info that they are using to train clinicians	Ongoing, as needed 3 hours/month	Quality Improvement Director
Review session participant feedback and ideas for future sessions	Monthly 1 hour/month	Quality Improvement Director
Track session data—including attendance, participant role, organizations, participant satisfaction	Monthly 2 hours/month	Quality Improvement Director

PRACTICE 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.

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.

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.

NEXT 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.

RESOURCES PROVIDED

- 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.
    - This abstract was highlighted in an article for Ob. Gyn. News.

- Resources from the project include:

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

APPENDIX

- Appendix 1: Logic Model

Quality Improvement in Maternity Care via ECHO: A statewide safety bundle initiative

Challenges:

-Fluctuating rates of maternal mortality in Utah
-Twenty percent of Utah's hospitals have no perinatal quality improvement programs
-Rural distribution of state and delivering facilities make in-person education difficult
-No coordinated statewide effort to implement best practices for maternal safety

Inputs	Activities & Outputs		Outcomes—Impact		
	Activities	*Outputs*	*Immediate*	*Intermediate*	*Long term*
-State staff -Clinical experts -Expertise from hospitals with quality improvement programs -Time -Supplies -Training -Evidence-based programs -Evaluation tools -Data -Utah Women and Newborn's Quality Collaborative (UWNQC)	-Develop Safety Bundle Curricula -Identify content experts to present	-Education goals are clearly understood and agreed upon. -Content experts provide mentoring for elements of safety bundles	-Hospital participants feel supported and invested in programs -Staff are trained in a cost-effective way	-Increase statewide training capacity -Facilitate statewide efforts on maternal and child health improvement. -Increase number of participating hospitals each year. -Implement as many components of the safety bundles as facilities can adopt. -Provide data on severe maternal morbidity.	-Program sustainability -Sustained Quality Improvement engagement -Increase hospital support of statewide quality improvement programs -Decrease maternal morbidity related to hypertension and primary cesarean sections. -Decrease maternal mortality -Demonstrate efficacy of using telehealth for statewide perinatal quality improvement
	-Provide bi-monthly learning sessions to participating hospital staff. -Provide sub-awardee training on acquiring and submitting data -State staff, clinical partners, and participants provide technical assistance to others on calls. -Record sessions for those unable to attend live to view.	-Hospital participants are trained and knowledgeable in safety bundle best practices. -Hospitals serve as mentors to each other during implementation process.	Program participants: -Have a space where they feel empowered to learn and ask questions. -Have opportunities to learn from clinical experts. -Are part of a cohesive group and have opportunities to build positive peer relationships. -Have opportunities for community engagement and community service. -Increase knowledge of best-practices to respond to hypertensive emergencies or safely reduce cesarean deliveries. -Increase knowledge of the quality improvement process -Have high satisfaction with ECHO process and learning sessions		
	-Identify and assess tools that can be used by facilities during implementation -Provide materials to all hospitals via UWNQC website and thumb drives	-Hospital participants are given tools to assist with implementation.			
	-Monitor program activities via evaluations, check-in at each learning session and during in-person meetings. -Monitor outcomes via agreed upon quality improvement measures which are submitted to the State via the RedCap database.	-Monitor the feedback of participants and respond to unmet needs. -Monitor implementation progress among hospital facilities. -Data is reciprocated between UDOH and participating hospitals			

Demographics	Constraints	Assumptions	External Factors
-Staff from Utah's delivering hospitals -Pregnant women in Utah	-Continued availability of funding and program sustainability -Lack of data on severe maternal mortality -Lack of participation among Utah's hospitals -Protected clinical time for participation	-The implementation of evidence-based programs in a hospital setting is an effective way to improve maternal mortality and morbidity. -Programs will be able to reach those who have the ability to facilitate change. -Hospitals desire to engage in QI efforts	-Access to technology -Facility support -Ability of participating staff to dedicate time to process and quality improvement work -Hospital unit culture and attitudes

- Appendix 2: