Empowering Birth Workers to Address Maternal Hypertension: Evaluation of a Community-Based Training in Wisconsin

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ABSTRACT

Background: Hypertensive disorders of pregnancy are a leading cause of maternal morbidity, especially among Black, Indigenous, and rural birthing individuals.

Methods: A multidisciplinary team developed and evaluated a community-based training for birth workers to enhance knowledge and response to maternal hypertension.

Results: Participants reported high satisfaction with the training across multiple domains. Confidence increased across all learning objectives. Follow-up data showed strong intent to apply learning, with most participants planning practice changes. Planners also observed a need to focus on skill-building and inclusion of birth workers in the planning process.

Discussion: Results suggest that targeted training for birth workers is feasible, impactful, and supports their critical role in addressing hypertensive disorder disparities. Ongoing sessions will integrate skill-building and deeper community engagement.

BACKGROUND

Hypertensive disorders of pregnancy (HDP) are conditions marked by high blood pressure during pregnancy, including chronic hypertension, gestational hypertension, preeclampsia, and eclampsia. HDP affect approximately 1 in 7 deliveries in the United States and are more common among birthing people who are Black (20.9%), Indigenous (16.4%), those who reside in rural areas (15.5%), and those with lower incomes (16.4%).[1] HDP are a leading cause of adverse birth outcomes and maternal mortality.[1] Black birthing people experience a maternal mortality rate over twice that of Whites, with a 5-fold higher risk of death from eclampsia or preeclampsia.[1]

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Access to maternal health care is critical to addressing inequities, yet communities face provider shortages, hospital closures, poverty, and limited culturally responsive care.[1-3] Birth workers – including doulas, home visitors, and community health workers – bridge gaps in care by supporting birthing people across the perinatal period in health care, home, and community settings.[4] Birth worker support is associated with lower rates of maternal hypertension,[5] preterm birth, low birth weight, depression, and anxiety.[6-8] However, birth workers face barriers including inadequate reimbursement, limited integration into health systems, and lack of access to affordable, standardized training.[4] While efforts to expand and finance the community-based maternal health workforce are underway,[4] urgent action is needed to respond to local needs.

The Wisconsin Department of Health Services (DHS) identified a need to support birth workers in addressing maternal hypertension, based on insights from a community of practice – defined as a group of health professionals who regularly share knowledge and collaborate to improve skills, care practices, and health outcomes.[9] A multisector planning team – including the Title V Program, Maternal Mortality Review team, Home Visitation Program, the Wisconsin Association for Perinatal Care, and the Department of Obstetrics and Gynecology at the University of Wisconsin School of Medicine and Public Health – was convened. The team co-developed a birth worker training program focused on maternal hypertension.

This evaluation assessed whether a community-based training improved birth workers' ability to address maternal hypertension. Key questions included: (1) How did birth workers respond to the

training? (2) Did it meet their learning needs? (3) Will it influence their practice? And (4) What were the strengths, gaps, and areas for improvement?

METHODS

This evaluation employed a mixed-methods approach, combining pre- and post-session polling, an emailed follow-up survey, and virtual debriefs with the planning team. Polling assessed confidence in learning objectives, while the survey captured participant feedback and suggestions. Evaluation findings were reviewed to inform program improvements. The Kirkpatrick model—a 4-level evaluation framework—was used to measure the effectiveness of the training across reaction, learning, behavior, and results.[10] Levels 1–3 focused on birth workers, while level 4 involved the planning team. This evaluation captured only immediate effects on participants and organizations; longer-term effects on the communities they serve were not assessed. Institutional review board approval was not obtained because this project evaluated previously collected, deidentified data.

Participants

The training targeted birth workers—health professionals focused on prevention, collaboration, and support for pregnant and postpartum individuals. Participants were recruited through partner networks, events, and social media. Of 309 registrants, 154 attended (50% attendance). Approximately 60% of attendees met the birth worker definition, including doulas, midwives, and home visitors.

Intervention

The intervention was a birth worker training program titled *Recognizing and Responding to Pregnancy and Postpartum Hypertension: The Critical Role of Birth Workers.* It was designed as a 3-part series to strengthen participants' ability to recognize, respond to, and support individuals at risk for or experiencing hypertension during pregnancy and the postpartum period. The planning team developed the series based on research and clinical guidelines, including the Hypertension in Pregnancy Change Package.[11] This manuscript focuses on the first session, Foundations of Perinatal Hypertension, which provided a basic understanding of maternal hypertension, its prevalence, and its impact on maternal and child health.

The session was facilitated by a maternal-fetal medicine specialist and employed a variety of evidence-based and interactive teaching methods, including real-time polling, quizzes, videos, word clouds, case studies, and a live question-and-answer (Q&A) session. Participants were also provided with curated resources to support continued application of knowledge in their practice settings.

Outcomes

The primary outcomes assessed were:

1. birth workers' reactions to the training
2. changes in birth workers' knowledge of maternal hypertension
3. intent to apply new knowledge in practice
4. organizational benefits for planning team partners

Measures

Reaction. Participant reactions were assessed via a follow-up survey emailed to all attendees. Satisfaction with the facilitator was rated on a 4-point Likert scale (1 = low, 4 = high) across 5 domains: (1) subject knowledge, (2) presentation organization and clarity, (3) participant interaction, (4) effective use of time, and (5) use of audiovisual aids. Participants also indicated whether they would recommend the session and whether it addressed health disparities or equitable care (yes/no).

Learning. Learning outcomes were evaluated through the follow-up survey and live polling. In the survey, participants indicated whether their learning and professional development needs were met (yes/no). Polling assessed self-reported confidence before and after the session in: (1) describing hypertensive disorders of pregnancy, (2) explaining hypertension's impact on short- and long-term perinatal outcomes, and (3) identifying populations most affected. Confidence was rated on a 5-point scale (1 = not at all, 5 = extremely confident).

Behavior. Behavioral outcomes were assessed via the follow-up survey. Participants rated their confidence in applying session knowledge and skills on a 4-point scale (1 = low, 4 = high) and indicated: (1) whether the session reinforced their current practice, (2) whether they intended to apply what they learned, and (3) whether they planned to change their practice (all yes/no).

Results. Organizational-level outcomes were assessed through planning team debrief sessions. Discussions focused on identifying training strengths, gaps, and areas for improvement, as well as opportunities for adaptation. Meeting notes were used to document insights and inform future training development.

Analysis

For yes/no questions, the proportion of "yes" responses was calculated. Items measured on 4- and 5-point scales were treated as ordinal variables, and mean scores were computed. For polling questions, mean scores were calculated for both preassessments and postassessments. Qualitative responses to open-ended questions were grouped thematically, and selected excerpts were used to illustrate key themes.

RESULTS

Of the 154 participants, most (70%) completed the presession polls (n = 105-111) and about half completed the postsession polls (n = 69-82). Just over half (51.9%) completed the follow-up survey.

Level 1: Reaction—Participants reported high satisfaction (mean score, 3.70-3.91) with the training, including speaker knowledge,

organization/clarity, participant interaction, use of allotted time, and audiovisual aids. All participants (100%) would recommend the session and agreed it addressed health disparities and equitable care. Open-ended responses were overwhelmingly positive, describing the session as informative, relevant, and useful.

Level 2: Learning–As shown in the Figure, live polling demonstrated increases in participants' confidence describing hypertensive disorders, explaining their impact on perinatal outcomes, and identifying affected populations. Participants also rated how well the session met their learning and professional development needs (mean score, 3.73).

Level 3: Behavior–Follow-up survey responses indicated high confidence in applying session content to participants' work (mean, 3.49). All respondents reported that the session reinforced their practice and that they planned to apply what they learned; 75% intended to change their practice.

Level 4: Results–Planning team debriefs highlighted positive effects on collaboration, network-building, and integration of clinical and community care. Strengths included live polling, the Q&A, and a multidisciplinary panel. Recommendations included consolidating resources, expanding hands-on skills training, support for practice change, deepening birth worker engagement, and addressing implicit biases.

DISCUSSION

While HDP toolkits exist, gaps remain in interactive, real-time training that enables birth workers to apply knowledge and translate learning into practice. This training engaged birth workers as equity-focused partners in maternal health, bridging clinical and community care. Polling and surveys indicated learning gains, and feedback was highly positive.

Key lessons emerged in content delivery, training structure, and collaboration. Synchronous polling, case examples, and resources supported engagement and learning. Embedding equity-focused content within maternal health efforts was valuable. Planners recommended a structured debrief and clearer evaluation of intended practice changes and implementation barriers.

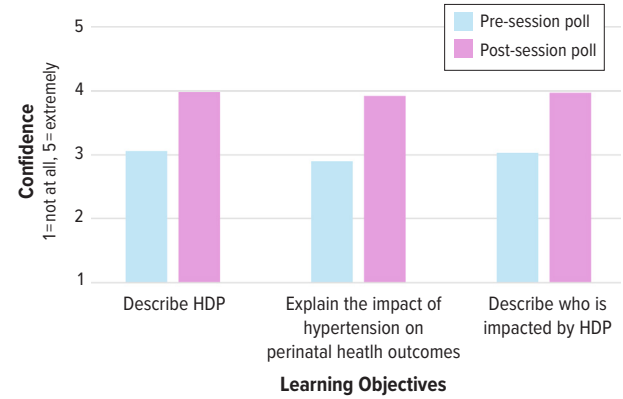
Strengths and Limitations

Strengths of this evaluation included use of the Kirkpatrick model and a combination of real-time polls and a follow-up survey to assess outcomes. Limitations included potential response-shift bias affecting participants' self-reported knowledge and confidence and the lack of data on longer-term effects of birth workers application of knowledge in community settings.

Implications and Next Steps

The training modeled integration of maternal health initiatives and strengthened birth workers' role in addressing disparities. Two future sessions will focus on skill-building and workforce impact.

Figure. Pre- and Post-session Confidence in Learning Objectives



Additional efforts will support practice changes, engage birth workers in planning, and assess downstream effects on birth workers and their communities.

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