INTRODUCTION

With the highest rates of maternal and infant mortality in the Western Hemisphere, Haiti has an immediate need for implementation of evidence-based strategies targeted at reducing maternal mortality and improving birth outcomes. One such strategy may be group prenatal care, an innovative cost-effective model that combines antenatal clinical assessment with pregnancy education and community building. In high-resource settings, this model has been rigorously evaluated and shown to improve prenatal care adherence, pregnancy health care knowledge, and rates of premature birth among diverse populations. Though this model has not been widely implemented and evaluated in international low-resource communities, providers are beginning to travel to low- and middle-income countries to develop and implement group-level maternal health interventions. Thus, it is increasingly important to raise awareness of and provide assistance in avoiding pitfalls that may undermine the implementation of group care models in international low-resource settings. The purpose of this article is to present such information by reviewing and unpacking challenges associated with implementing a prenatal group care model in rural Haiti.

SETTING: MATERNAL HEALTH IN HAITI

Haiti has one of the highest maternal mortality rates in the world, with 380 deaths per 100,000 births annually. While a combination of social factors contribute to this rate, many deaths can be prevented with recognition of danger signs, early access to care and medications, and patient education. For example, 35.7% of pregnancy-related deaths among Haitian women are due to eclampsia, a condition that can be treated or prevented with interventions that educate women about risk reduction strategies. However, in Haiti, prenatal care and education are often resources that are difficult to access. In fact, only 37% of pregnant women were attended by a skilled birth provider during labor in 2012 compared to the majority (52%) that give birth with a traditional birth attendant (ie, matwòns), who may not have training in basic birth and/or emergency care services.

The current state of Haiti’s infrastructure, or lack thereof, also contributes to high maternal mortality rates. With only a handful of paved roads, accessing health care facilities in Haiti can be challenging, as it can take hours to reach urban clinics and hospitals. Even then, the country’s health resources are stretched beyond capacity and often ill equipped to handle Perinatal emergencies. Collectively, lack of resources, infrastructure, and education have exacerbated maternal mortality rates in Haiti. Thus, Haiti has a critical need to increase prenatal care access. One group that is attempting to meet this need is Midwives for Haiti, a nonprofit organization that aims to reduce maternal and infant mortality.

PROCESS

Community Partner: Midwives For Haiti

Midwives for Haiti has increased access to care in rural areas by training skilled birth attendants and matwòns and performing over 500 prenatal examinations each month via mobile clinics in rural villages. To build upon these efforts, in 2014, Midwives for Haiti stakeholders sought to maximize utilization of resources by adapting an evidence-based model of group prenatal care that could promote greater patient engagement, personal empowerment, and improved birth outcomes. With these goals in mind, Midwives for Haiti collaborated with an interdisciplinary team.
Groupprenatal care is an evidence-based strategy for improving perinatal outcomes; however, implementing such care in international resource-poor settings may be fraught with challenges.

Challenges that may be encountered include language, literacy, space, cultural appropriateness of intervention content, and sociopolitical climate.

Collaboration with native professionals and community members can assist foreign providers with avoiding or overcoming these challenges.

As more researchers and providers travel internationally to develop and implement health interventions, it is important to raise awareness of pitfalls associated with advancing the implementation of group care models in low-resource settings.

Phase 1: Developing a Group Prenatal Care Model

Based on the needs of pregnant Haitian women and the finite resources and staff of Midwives for Haiti, the team chose to meet the organization's newest objective through developing a model that could maximize resources by incorporating both health education and prenatal care. When compared to standard care, group prenatal care is more likely to reduce preterm births, increase initiation of breastfeeding, and diminish the likelihood of inadequate care. Group prenatal care models are also cost-effective, which is ideal for low-resource communities. Further, group prenatal care models emphasize the importance of community during pregnancy and seek to create a space for relationship building. As these outcomes are parallel to the desired outcomes for patients seen by Midwives for Haiti, a group prenatal care model was considered the most appropriate approach.

Given its successful implementation in high-resource communities, the team selected to redesign the evidence-based group prenatal care curriculum, CenteringPregnancy. For 6 months, team members consulted with the Centering-Pregnancy Institute and met monthly to develop a culturally relevant curriculum entitled *Fanm Pale (Women Speak)*, a 6-session intervention with 12 hours of content covering pregnancy-related topics. Like CenteringPregnancy, *Fanm Pale* emphasizes facilitative leadership and the interactive nature of women's circles. It also includes prenatal health assessments and group-level educational activities.

Phase 2: Assessing Content Appropriateness and Implementation Feasibility

After consulting with the Midwives for Haiti Directors, the project team traveled to Hinche, Haiti, to pilot *Fanm Pale* and assess feasibility of implementation and appropriateness of intervention content. During the visit, the team sought to gather additional feedback from key others (ie, Haitian skilled birth attendants and *matwons*) to improve intervention materials and promote sustainability.

Prior to implementation, the intervention development team visited 3 mobile clinic sites to conduct preliminary assessments and observations. Notes were made about group dynamics, the environmental settings of clinic sites, and the number of clinic attendees available for intervention participation. Meetings were held with mobile clinic skilled birth attendants to discuss their suggestions for curriculum revisions and implementation logistics. Based on these discussions and our preliminary assessments, it was determined that it would be infeasible to implement the intervention in the mobile clinics. Expressly, due to the cultural and environmental realities of many women's lives in Haiti, as well as the structure of the mobile clinics, the team was unable to maintain allegiance to all 13 essential elements of the CenteringPregnancy curriculum. Specifically, some elements were adapted while others, such as a stable and optimal group size and conducting classes in a circle, were challenging to implement (see Table 1 for details).

The primary obstacles for mobile clinic implementation were the volume of attendees and variability in patient arrival times. According to CenteringPregnancy Essential Element 10, approximately 10 participants are recommended for intervention sessions. According to Essential Element 9, it is imperative that the same women participate in each intervention session. However, as mobile clinic sites averaged 50 to 120 attendees (depending on the location) and participants arrived at varied times, it would have been difficult to create small groups and ensure that these groups retained the same women as participants in each intervention session.

Thus, it was recommended by Midwives for Haiti leadership that the organization's more stable community groups be targeted, as their weekly meetings with small groups of the same women would better facilitate allegiance to intervention elements. Sessions of *Fanm Pale* were then piloted at 2 separate community locations: 1) the home of a *matwon* (Group 1) and 2) the home of a skilled birth attendant (Group 2). At each site, ongoing weekly prenatal education groups were being held. To address challenges related to language barriers during the pilot sessions, English-speaking team members were paired with translators to facilitate intervention activities. Thirty-one pregnant Haitian women participated in 2 implementations of one session of *Fanm Pale* (Group 1: n = 19; Group 2: n = 12). During both sessions, the *matwon* (Group 1) and the skilled birth attendants (Group 2) opened and closed the group and assisted the team in establishing rapport.

Following these sessions, 3 debriefing meetings were held to discuss successes and challenges (one with 3 skilled birth
attendants and one matwòn; 2 with the project team). The team evaluated participant responsiveness to Fanm Pale and overall feasibility of implementation. Field notes were also reviewed and used to identify sociocultural barriers to implementation. During this reflective and evaluative process, salient challenges were noted in the following areas: 1) language, 2) literacy, 3) space, 4) cultural appropriateness of intervention content, and 5) sociopolitical climate. Identification of these challenges and additional collaboration with Haitian skilled birth attendants helped to facilitate revisions to the Fanm Pale curriculum, which is in the process of being incorporated into the Midwives for Haiti training protocol such that skilled birth attendant trainees will be prepared to implement the culturally relevant group prenatal care intervention. In the sections to follow, we further explore these issues and outline recommendations for overcoming challenges. Our aim is to offer a guide for other researchers and practitioners interested in conducting prenatal care groups in low-resource communities in Haiti and other low- and middle-income countries.

### CHALLENGES AND RECOMMENDATIONS

#### Language

Language is critical to building a deep understanding of social norms and establishing trusting relationships with participants. Our experiences confirmed that understanding and speaking the language of participants is vital to implementing group prenatal care. While we originally planned to conduct group sessions in the participants’ primary language, due to the early stage of our work and budget and time constraints, we made the decision to pilot Fanm Pale sessions in English with Haitian Creole translation.

Initially, this decision was advantageous because it eliminated the need for additional training and simply required translators. However, our trial implementation of Fanm Pale sessions revealed limitations of this approach, as language differences and translation difficulties posed significant challenges to implementation. For example, despite having sufficient translators for the sessions, copious time was spent translating, which interrupted the organic flow of discussions. Translation also extended the time of the sessions and subsequently limited the amount of time spent covering content. Moreover, translation made it difficult to incorporate and model a facilitative (rather than didactic) leadership style (CenteringPregnancy Essential Element 3).

Further, translation made the group feel disconnected and undermined rapport. For example, some participants mentioned refraining from sharing because it would extend session time. Additionally, translation was not always verbatim and comments were often summarized, which can obfuscate meaning. This can be extremely problematic when facilitating health-related group interventions.

Such examples illustrate the importance of conducting group-level interventions in participants’ native language, as doing so can eliminate issues related to translation of patient-provider communication, group discussions, and curriculum materials. This strategy can also encourage greater participant buy-in and session contributions. However, if implementation in the native language is not possible, foreign providers should work to build on networks of previously trusted established relationships to enhance rapport, learn key phrases in the language of participants, and, when possible, train bilingual natives to cofacilitate. Relatedly, it is important to budget appropriately at the onset of planning to ensure the facilitation of such training.

#### Literacy

As Essential Element 2 of the CenteringPregnancy curriculum requires that “participants are involved in self-care

<table>
<thead>
<tr>
<th>Essential Elements</th>
<th>Maintained or Adapted in Fanm Pale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Health assessment occurs within the group space.</td>
<td>Maintained</td>
</tr>
<tr>
<td>2. Participants are involved in self-care activities.</td>
<td>Adapted to be suitable for low literacy groups</td>
</tr>
<tr>
<td>3. A facilitative leadership style is used.</td>
<td>Maintained</td>
</tr>
<tr>
<td>4. The group is conducted in a circle.</td>
<td>Maintained (with challenges related to conducting groups outdoors)</td>
</tr>
<tr>
<td>5. Each session has an overall plan.</td>
<td>Maintained</td>
</tr>
<tr>
<td>6. Attention is given to the core content, although emphasis may vary.</td>
<td>Maintained</td>
</tr>
<tr>
<td>7. There is stability of group leadership.</td>
<td>Maintained</td>
</tr>
<tr>
<td>8. Group conduct honors the contribution of each member.</td>
<td>Maintained (with challenges related to including women as they arrive for care, rather than having them to wait for the start of a new group)</td>
</tr>
<tr>
<td>9. The composition of the group is stable, not rigid.</td>
<td>Maintained (with challenges related to the high demand for care and not wanting to prevent interested women from receiving care)</td>
</tr>
<tr>
<td>10. Group size is optimal to promote the process.</td>
<td>Maintained</td>
</tr>
<tr>
<td>11. Involvement of family support people is optional.</td>
<td>Maintained</td>
</tr>
<tr>
<td>12. Opportunity for socializing within the group is provided.</td>
<td>Maintained</td>
</tr>
<tr>
<td>13. There is ongoing evaluation of outcomes.</td>
<td>Adapted to be suitable for low-literacy groups</td>
</tr>
</tbody>
</table>

*Source: Rising et al. 2018

**Fanm Pale (Women Speak)** is the 6-session intervention with 12 hours of content covering pregnancy-related topics that was adapted from CenteringPregnancy for Haitian women.
activities,” attempts were made to involve women in the conduct of the self-care assessments (eg, recording their weight and blood pressure). However, high rates of illiteracy among women were a barrier to conducting these tasks. Aiming to overcome this challenge, we adapted the self-care assessments such that women could read, instead of write, their weight and blood pressure to the group facilitator, who would then record the information in participant files. However, when we asked women in 2 separate groups to read their blood pressure numbers from the automatic monitor’s display screen, there was clear resistance. While social pressure and/or shyness may have been contributing factors, we attributed much of this resistance to illiteracy, especially when several women informed us, in response to not completing the task, that they could not read.

Despite this setback, other verbal activities proved to be useful in overcoming some of the challenges associated with illiteracy. For example, we utilized a “talking rock” activity as a method to establish rapport and generate group discussion. In this activity, we asked the women a question (eg, “What do you like most about being a mother?”) and passed a rock around. Women could share their remarks only if they had the rock in hand. Allowing women to verbalize their feelings, thoughts, and ideas (rather than writing them as is customary in Centering Pregnancy) facilitated sharing and active participation, which appeared to enhance interest in the intervention. Other strategies to overcome this challenge, which were already being employed by Haitian skilled birth attendants, included using songs to help participants memorize important information and visuals that helped participants better understand session content. To bolster content in this regard, the book, Where Women Have No Doctor,13 was a useful resource.

Literacy of the target population also influenced the design of appropriate evaluation materials. Essential Element 13 of the Centering Pregnancy curriculum requires that “there is ongoing evaluation of outcomes.” However, the curriculum’s written evaluation materials necessitate participant literacy, making this element difficult or impossible to achieve in low-resource communities with high rates of illiteracy. Thus, it was challenging to evaluate Fanm Pale. However, by redesigning session evaluation materials to rely on body movements and visuals (ie, hand raising and circling of happy or sad faces to indicate opinions), we were able to gather participant feedback and assess feasibility of such evaluation strategies. Researchers may consider employing these strategies and/or interviews and focus groups for program evaluation with low-literacy populations.

Space

As research suggests, the location of group sessions is important as environment is directly related to intervention group dynamics and how group members interact.14 Additionally, as Centering Pregnancy Essential Element 4 requires that “the group is conducted in a circle,” we carefully worked to identify locations that could support this group structure. We aimed to conduct groups indoors in a private room with a comfortable temperature and sufficient space. However, in rural Haiti and other similar settings, that is often not a possibility.

Although we ran trial sessions in a diverse set of conveniently accessible locations (eg, in the yards of community leaders and under the shade of large trees), running groups outside posed several challenges. For example, in some settings lack of sufficient space and high ambient temperatures appeared to influence women’s comfort. Many women were distracted from group discussions by their strategic efforts to avoid the sun and intense heat. In an understandable effort to achieve comfort, many women moved their chairs into shaded areas, which made it difficult to form a big enough circle to include everyone. As the circle of women then became a semi-circle, an important element of the intervention (Essential Element 4) was compromised. Additionally, shared public spaces made it difficult for women to focus on the group and its activities. It also created concerns about confidentiality, as children and other adults from the community gathered to watch group interactions.

Given the propensity for environmental challenges to influence group processes, it is important to identify a space to hold groups that can accommodate a circle of women and the conduct of prenatal care. When possible, groups can be conducted in health clinics, church buildings, or schools with sufficient space. If such structures are not available, groups can be conducted in large shaded spaces under trees, dirt parking lots (with shade from buildings), or at a community member’s home. Utilizing structures that are easily assembled (ie, open air tents) may also be useful. Additionally, outdoor groups may be best conducted early in the morning or later in the evening, when temperatures are coolest. Most important is finding a place that is easily accessible, can comfortably fit all the women coming for group sessions, and is relatively private.

Realistic consideration and identification of an ideal and available space in a community requires intention and flexibility. Building partnerships and capacity with local community members and community partners can assist providers with securing space for groups.15 Location should be given special attention, as it is a fundamental component in fostering group cohesion, relationship building, and discussion.16

Cultural Appropriateness of Intervention Content

Development of culturally appropriate content and materials is essential for enhancing intervention efficacy.17 However, developing culturally appropriate materials as outsiders was particularly difficult, especially since outsider status existed on numerous levels: nationality, class, race, religion, language, and culture. Although the intervention curriculum was developed based on our review of the literature, reliable sources, and informal interviews with those who had previously traveled to Haiti to conduct maternal health work, there were significant oversights. For example, the importance of religion was overlooked. This was recognized after being in country and witnessing the prevalence of religious practices and symbols, especially in health care settings. During initial observations of mobile clinic sessions, we noticed that skilled birth attendants opened and closed the clinic with religious prayers and songs that the majority of attendees knew verbatim. Fanm Pale did not include a single song or prayer.
Given this and other oversights, working collaboratively with a team of native Haitian advisors from the inception of the curriculum development would have been useful. Native advisors provide unique insight that keep foreign researchers and providers aware of norms and pressing issues that they might not otherwise be privy to.\textsuperscript{18} We made efforts to include Haitian advisors by seeking the input of skilled birth attendants and \textit{matwons} on intervention content. Doing so resulted in time- and labor-intensive revisions to the \textit{Farm Pale} curriculum, difficulties that could have been avoided had we included native advisors on the planning and development team.

Additionally, researchers should consider power imbalances related to team structure. For example, having one or 2 advisors may not be sufficient. A limited number of advisors can offer only a limited perspective, one that may not be reflective of the diversity of beliefs and practices of the target population. Further, if most of the research team is foreign, native advisors may feel less comfortable or able to raise important concerns. As such, a team of native advisors, balanced in number with foreign advisors, should be assembled and regularly consulted to maximize cultural consciousness. While accomplishing such a goal as outsiders can be a difficult task, its significance cannot be minimized, as culturally tailored programs are consistently cited as more effective than nontailored programs.\textsuperscript{19}

\textbf{Sociopolitical Climate}

An additional culturally relevant factor to consider when attempting to implement group-level interventions in Haiti and other previously colonized countries is sociopolitical context. As found in other research,\textsuperscript{20} the identities of foreign health providers can significantly influence group dynamics, what information is shared, and how it is solicited, especially when those identities are associated with long-standing historical and political tensions. Cultural outsiders would be remiss to assume that their racial, ethnic, and/or national identities are ignored or unnoticed by participants. Indeed, it is identity and its perceived associations that can become facilitators or detractors of interpersonal interactions.\textsuperscript{21}

These considerations are especially relevant for foreigners providing care in nations like Haiti that have been impacted by colonialism, a system of subjugation that destroyed countless African and indigenous communities and encouraged the conviction that European culture was supreme.\textsuperscript{22–24} As such, it is of paramount importance for providers and researchers to be aware of history and the sociopolitical context that may influence what themes native people associate with their identities. Ultimately, foreign researchers and providers should work toward the creation of spaces that encourage trust and collaboration, a necessity for creating strong foundations for group-level intervention work.\textsuperscript{25,26} Based on our experiences and those of other researchers, transparent discussions about identities prior to initiating programming can be key to overcoming issues related to sociopolitical challenges.\textsuperscript{21,27}

\textbf{CONCLUSION}

Being a pregnant woman in Haiti can be exhausting, challenging, and even life threatening. While group prenatal care has been identified as a strategy to overcome maternal health issues, implementing this model is far from simple. Overcoming unique challenges associated with language, literacy, space, cultural appropriateness of intervention content, and sociopolitical climate is important to implementing group-level interventions in low-resource communities. Although the lessons learned outlined in this article may be familiar to those working in the field, the principles and recommendations posed are often imperfectly operationalized in real-world settings.

As evidence-based interventions can improve health and save lives, it remains a worthwhile goal to continue analyzing and learning from the experiences of others in adapting evidence-based interventions for low-resource settings. Such work has the potential to increase access to prevention services and care and ultimately improve health outcomes. We hope our experiences and recommendations can help researchers and providers implement group-level interventions in low-resource international communities.

\textbf{REFERENCES}

4. Ickovics JR, Reed E, Magriples U, Westdahl C, Schindler Rising S, Kershaw TS. Effects of group prenatal care on psychosocial risk in...


