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Key Considerations for Implementing Group Prenatal Care: Lessons from 60 Practices

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Introduction: Group prenatal care combines clinical care with peer support and education. Research has indicated neutral or positive results for group care when compared with traditional individual prenatal visits. A national initiative, Strong Start II, was implemented to determine if specific prenatal care interventions such as group prenatal care can reduce the rate of preterm birth, improve health outcomes, and lower costs. This study explored barriers to implementation and sustainability and strategies for overcoming barriers and sustaining the model.

Methods: Results from prenatal care provider-level qualitative case studies for the independent evaluation of Strong Start were examined. Case studies for sites implementing group prenatal care were based on a total of 313 interviews with 441 Strong Start key informants (eg, prenatal care providers, project staff, and health administrators involved in group care) and 53 focus groups with 428 Strong Start participants from 2013 to 2016. Supplemental interviews with 25 additional stakeholders were also conducted. Case study data were queried using content analysis followed by a grounded theory-based analysis of these findings.

Results: Barriers to implementation existed at patient, provider, administrator, system, and funding levels and included inflexible appointment times, lack of childcare, lack of appropriate meeting space, new scheduling and training needs, meeting requirements of graduate medical education programs, prenatal care provider and administrator reluctance to adopt new practices, and Medicaid payment policies. Sites newly implementing group prenatal care had varying degrees of success sustaining their programs. Both new and established sites identified provider champions and opt-out enrollment approaches as critical for maintaining buy-in.

Discussion: Successful implementation of group prenatal care depends on systematic strategies at the practice, payer, provider, patient, and policy levels to implement, reimburse for, and sustain the model. Strategies for overcoming barriers can assist practices in offering this transformative approach, including practices with graduate medical education programs or those serving women with clinical, demographic, or psychosocial risk factors for preterm birth.

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INTRODUCTION

Typical prenatal care for women experiencing normal pregnancy in the United States consists of approximately 14 short individual appointments with a perinatal care provider and may or may not include additional education and support (herein referred to as individual prenatal care).¹ This traditional individual prenatal care model has been criticized as being too costly and overly medicalized.^{2,3} Despite the high costs of maternity care, pregnancy outcomes for women in the United States are poor relative to other high-income nations, with consistently higher rates of preterm birth, infant

mortality, and maternal morbidity and mortality.^{3–6} Rates of poor outcomes vary substantially among states, with low-income women and some minority groups being particularly vulnerable.^{7,8}

Group prenatal care offers a transformative approach to perinatal care. It combines a clinical prenatal visit, education, and peer support into one session generally lasting 90 to 120 minutes in lieu of individual appointments. The most commonly employed group prenatal care program is CenteringPregnancy, a model created in the 1990s and intended to serve clinically low-risk women.⁹ CenteringPregnancy includes approximately 10 group visits beginning in the second trimester, with each group enrolling 8 to 10 women whose fetuses are at a similar gestational age. A clinical provider, commonly a nurse-midwife but sometimes a physician or other advanced practice nurse, offers a brief health care visit and then the provider and a cofacilitator lead a discussion among participants on topics such as nutrition, stress management, or breastfeeding. CenteringPregnancy sites can seek accreditation through the Centering Healthcare Institute.

Studies of CenteringPregnancy, which has been implemented in hundreds of sites, have generally shown either neutral or positive clinical outcomes relative to traditional individual prenatal care.¹⁰ Some have also identified cost savings for prenatal care provision if groups are fully enrolled,

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Quick Points

- ◆ Many perinatal practices have shown interest in implementing group prenatal care, a transformative model that combines clinical care in a group setting with education and support.
- ◆ Group prenatal care participants in Strong Start for Mothers and Newborns Initiative (Strong Start II), a federal initiative to prevent preterm births and improve outcomes for newborns and pregnant women, were found to have lower Medicaid prenatal expenditures as well as lower rates of prenatal and postpartum hospitalizations and emergency department visits. Group prenatal care participants also expressed high satisfaction with their care.
- ◆ Barriers to implementing and sustaining the model are multifaceted, but varying sites, including birth centers, private medical practices, and academic high-risk medical centers, identified broadly applicable strategies for overcoming challenges.
- ◆ For group prenatal care to be successfully implemented and sustained, systematic strategies can be employed at the practice, payer, provider, patient, and policy levels.

with further savings through pregnancy, birth, and beyond when CenteringPregnancy is associated with positive clinical outcomes.^{10,11} However, many studies are subject to selection bias in that women could choose between enrolling in CenteringPregnancy or individual prenatal care,¹² and researchers have called for better methods to assess the independent effects of the model on perinatal outcomes.^{10,13} Regardless of whether health outcomes are positive or neutral, women who participate in CenteringPregnancy express high satisfaction with their care.^{14–16} Although CenteringPregnancy was designed for low-risk women, a number of practices have applied the model to higher-risk women, offering specific groups for teens or those with obesity or diabetes.^{15,17–19} Some studies indicate the model may have particular promise for women with higher-risk conditions.²⁰

Given that group prenatal care has potential benefits and does not appear to have unintended negative effects, many prenatal care practices want to implement the model. Implementation, however, can be challenging as it requires practitioners and other clinic staff to rethink how care is provided and adjust practices accordingly.^{21,22} This study investigated implementation of group prenatal care under the Strong Start for Mothers and Newborns Initiative: Enhanced Prenatal Models (Strong Start).

The Strong Start for Mothers and Newborns Initiative

Strong Start was funded under Section 1115A of the Social Security Act with the goals of reducing preterm births and improving outcomes for newborns and pregnant women. The initiative, operating from 2013 to 2017, provided funding to test the effectiveness of 3 evidence-based prenatal care models—maternity care homes, birth centers, and group prenatal care—provided to beneficiaries in Medicaid and the Children's Health Insurance Program who were at high risk for preterm birth.^{15,23,24} Across the 3 models, Strong Start supported services through 27 awardees (eg, hospital systems, health plans, state Medicaid agencies, or other conveners of obstetric providers) that operated more than 200 provider sites across 32 states, the District of Columbia, and Puerto Rico. Fifteen of the 27 awardees provided group prenatal care

at 60 sites. All but 2 sites implemented CenteringPregnancy or a close variant.¹⁵

A 5-year independent evaluation of Strong Start assessed the implementation and impact of Strong Start on maternal-infant health outcomes, health care delivery, and cost of care.¹⁵ The mixed-methods evaluation included an impacts analysis, evaluation of participant surveys, health chart reviews, and annual case studies of each awardee. Consistent with previous studies, the Strong Start evaluation's quantitative outcomes regarding group prenatal care were either neutral or positive.¹⁵ An impact analysis used Medicaid eligibility and claims data linked to birth certificates to assess women enrolled in 10 sites where group prenatal care was the standard care offered (thus minimizing potential for selection bias).¹⁵ These Strong Start group prenatal care participants ($n = 2436$) were compared with risk-matched Medicaid participants not enrolled in Strong Start.

There were no significant differences between the 2 groups with regard to birth outcomes. Expenditures during pregnancy were approximately 15% lower for Strong Start group care participants relative to comparable women in typical care. Group care participants also had fewer hospitalizations during the prenatal period and fewer emergency room visits in the year after birth.

Qualitative benefits associated with Strong Start group care included high patient satisfaction and expanded capacity to address social determinants of health.¹⁵ Group care's longer visits allowed facilitators to provide more education and referrals and more time for women to develop peer relationships that could reduce social isolation. Extended time also built trusting relationships, a particular consideration for serving African American women, a group that has historically experienced clinical discrimination and disparities in care.^{25–27} Because reductions in cost and utilization indicated potential advantages to continuing group prenatal care implementation, we conducted an in-depth analysis of the Strong Start case studies and other qualitative data collected on the model. This analysis investigates the main barriers to implementing and sustaining group prenatal care in diverse contexts, strategies for addressing barriers, and key considerations for advancing the model of prenatal care.

METHODS

With approval from the institutional review board of the Urban Institute, the national Strong Start evaluation deployed uniformly trained researchers to conduct awardee-level case studies for each of the 4 years of Strong Start program operations using triangulated qualitative methods. Case studies used 4 primary sources: document review, in-person or telephonic key informant interviews, focus groups with participating pregnant and postpartum women, and structured observations of care and care settings. Case study data were collected using standardized protocols that were tested prior to full implementation. All researchers completed data collection training prior to each round of case studies. Key informant interviews and focus groups were recorded and transcribed. To document each case study, researchers summarized all findings for each awardee using a standardized template. Awardees and federal project officers reviewed the summaries for accuracy. Although all awardees participated in case studies each year, evaluators made in-person visits to approximately one-third of representative care sites.

Case studies for group care awardees were the unit of analysis for this study. Over the 4 years, these included 313 interviews with 441 Strong Start key informants (eg, providers, project staff, and health administrators involved in group care) and 53 focus groups with 428 pregnant or postpartum Strong Start group care participants.¹⁵

We also conducted supplemental structured interviews with additional key informants, including representatives of the Centering Healthcare Institute, Medicaid officials in 21 states, a maternal and fetal medicine (MFM) provider champion, and representatives from 2 Medicaid managed care organizations with group prenatal care incentive programs.

Using a postpositivist approach²⁸ to assess effective practices for implementing group care, we combined content analysis²⁹ to identify barriers and strategies for overcoming barriers and a grounded approach to contextualize, refine, and analyze these initial findings.³⁰ We reviewed all case study data (interviews, focus groups, and structured observations) using a priori coding to identify barriers and strategies to address barriers. Using emergent coding, we identified specific program features relevant to implementation (eg, how many sites, type of practice, and whether there was graduate medical education present at the site). We then conducted an initial categorization of barriers (axial coding) and considered details of specific awardees and sites to refine categories and create a contextualized analysis (selective coding).

RESULTS

Fifteen awardees tested group prenatal care at 60 health care provider sites that served more than 10,000 women enrolled in Strong Start. Seven awardees had already implemented group prenatal care in at least one site, whereas 8 were newly implementing the model, including one that had not previously provided any form of prenatal care. Fidelity to the Centering-Pregnancy model varied, as did enrollment processes. Some awardees automatically enrolled women in group care unless they actively declined (ie, an opt-out approach, $n = 3$); in some, women had to select group prenatal care (ie, an opt-in approach, $n = 7$); and others used a mix of opt-out and

opt-in depending on provider site ($n = 5$). Of the 8 awardees newly implementing group prenatal care under Strong Start, 5 intended to sustain it after the conclusion of Strong Start, whereas 3 did not.

Through our analysis of awardee case studies, we identified barriers to implementing and sustaining group prenatal care at the patient, practice, provider, administrator, and funding levels. Table 1 summarizes these barriers. We also identified promising strategies for implementing and sustaining group prenatal care.

Patient-Related Barriers

Despite women's overall enthusiasm for group prenatal care, scheduling, childcare, and transportation problems often interfered with attendance. Although these challenges were also present for patients receiving individual prenatal care visits, they were exacerbated by the length and rigid schedule of the group care sessions. At sites where individual prenatal care involved long waits, a 2-hour group visit seemed more efficient to some women, but in settings where typical waits for individual prenatal care were short, a 2-hour visit was a large time commitment. Women who reported working shift jobs noted they depend on the flexibility of rescheduling prenatal care appointments around their changing work schedules. Many women without their own transportation noted that they preferred same-day individual prenatal care appointments because they could more easily schedule transportation with a friend or relative.

Key informants and participating women reported that children were generally not welcome at group prenatal care visits. As one key informant explained, "We're not a day-care, and we can't have successful conversations with women in the group...I tell patients I just really want them to take time for themselves today." As a result, women lacking consistent childcare during group sessions often preferred individual prenatal care, where the presence of children is more likely to be acceptable.

Key informants responsible for patient recruitment reported that many women who declined group prenatal care said they would be uncomfortable sharing in a group setting. Key informants at sites with Spanish-speaking groups said other women sometimes viewed group care as a "Latina-only" program or a "Spanish speakers' club"; other women believed that group prenatal care or midwifery care was inferior to individual prenatal care with a "real doctor" or was extra work, or that personal revelations during group sessions might subject them to social service involvement. Some women were ineligible for group prenatal care, either because they had a language barrier that could not be accommodated or because they were past a program's gestational age limit on enrollment.

Practice-Related Barriers

As documented in the case studies, key informants reported that group prenatal care requires new or different space requirements, workflows, scheduling processes, and staff training. Adjusting to the new model—particularly when an individual prenatal care model continues—can be logistically complicated. Finding space that accommodated both the size

Table 1. Barriers to the Implementation of Group Prenatal Care

Type	Barrier
Patient-related barriers	Length of session (2-hr group prenatal care vs 15-min individual prenatal care) Rigid schedule of visits Childcare Transportation Discomfort in sharing with a group Viewed as a program for other populations (eg, “Latina only”) Perception of group prenatal care or midwifery care as substandard to individual prenatal care with an obstetrician Concerns about exposure to social service involvement Ineligibility (eg, late entry to prenatal care)
Practice-related barriers	Space (for group sessions) Staffing and workflow Scheduling Training (exacerbated by turnover)
Prenatal provider and administrative barriers	Prenatal provider perception that individual prenatal care is superior to group prenatal care Perceived or actual competition for patients between individual prenatal care and group prenatal care providers Administrative perceptions of cost Other priorities that eclipse group prenatal care needs Graduate medical education programs, which need to ensure residents meet patient contact requirements Belief that group prenatal care can serve only clinically low-risk women
Funding-related barriers	Low enrollment and no-shows can decrease revenue generated from group prenatal care vs individual prenatal care appointments in the same time window Substantial costs for implementation and costs of ongoing maintenance

and privacy needs of groups was a challenge at most sites; one key informant reported, “We started out having group sessions in the screening room. It took over a year to convince providers that [a newly remodeled space] was a place we deserved.” Many groups resorted to using shared spaces (eg, waiting rooms) that needed to be set up and broken down for each session.

Key informants described staffing and workflow challenges as well. For example, prenatal care providers were unavailable for ad hoc consults with other patients when they were leading groups. Completing group members’ health records usually required additional charting time after group sessions. Group visits required new scheduling processes, but most sites also had to maintain systems for scheduling individual visits. In addition, appointments with specialists were also more difficult to coordinate around fixed group prenatal care schedules.

CenteringPregnancy specifically requires facilitation training for prenatal care providers leading groups. Other site staff also need training. One key informant noted the importance of “making sure that everyone in the provider office, not just facilitators...are trained in [group care], so that even the front desk person...is delivering the same message.” Some key informants noted training and workflow changes generate costs that are not reimbursable through Medicaid.

High staff turnover, an issue for many sites, required ongoing training for new staff members.

Prenatal Care Provider and Leadership-Related Barriers

Prenatal care provider and administrator buy-in to group prenatal care was a consistent challenge reported by key informants. Buy-in required prenatal care providers to believe that group prenatal care was comparable to, or even superior to, individual prenatal care and that group care would not reduce individual care providers’ patient loads and revenue. Although many obstetricians completed training and provided group care successfully, obstetricians were more reluctant than midwives to accept group prenatal care overall. These providers were used to a didactic, top-down approach to care, and facilitating discussions among groups of women necessitates a different skill set. As one key informant reported, these obstetricians saw group care “as a threat, taking patients...a bit of a turf war.” Prenatal care providers who did not buy in were unlikely to promote the model or recruit women into group care, and when women had an individual prenatal care appointment to address a specific problem, many obstetricians retained the woman in individual care rather than ensuring that she was “sent back” to the group. Sites that already had

established midwifery programs reported less tension: “It’s not as much of an issue. With stable cofacilitators and midwives, everyone is providing [group care] ... When there is a strong midwifery program, they are able to stand alone.”

Leadership buy-in required administrators to believe that group prenatal care was cost-effective, or at least cost-neutral, either because reimbursements were sufficient or because of enhanced reimbursement. Administrators also had to believe efforts to initiate and sustain group care were more valuable than competing priorities. Some key informants reported that individual prenatal care was prioritized over group care (eg, in cases of staff shortages, groups were cancelled to allow facilitators to see individual prenatal care patients instead), and group prenatal care was not given priority for space and other resources when administrative buy-in was low. Key informants further noted low recruitment and fewer resources available for group prenatal care contributed to reduced enrollment, which in turn made programs less cost-effective, which further reduced buy-in.

Administrative buy-in barriers were more common in sites with graduate medical education programs. Where medical residents provided individual prenatal care, group prenatal care patient loads had to be balanced with individual care so residents could obtain required patient contact hours. Sites wishing to engage residents in group prenatal care generally had to modify their training programs. Short rotations meant that residents serving as facilitators could not complete all 10 group sessions, either disrupting prenatal care provider continuity requirements of CenteringPregnancy or necessitating a second provider who was able to attend all sessions. Patient no-shows were a particular concern because missed group visits meant that facilitating residents had fewer patient contacts, and missed appointments could not be filled by another patient as with individual prenatal care. Resident turnover necessitated ongoing rounds of engagement and education, another challenge to administrative buy-in.

Funding-Related Barriers

Some key informants reported the need for higher reimbursement for group prenatal care compared with individual prenatal care. Group prenatal care is usually paid using the same billing code and reimbursement rate as individual visits (eg, the provider reimbursement for a group prenatal care visit is the sum of the payment for each individual woman). Some sites reported that state Medicaid reimbursement for groups with 10 to 12 participants was equivalent to reimbursement for individual prenatal care in the same time window, but lower enrollment and no-shows meant insufficient reimbursement. Even with full enrollment, some sites reported that group prenatal care generated less revenue than individual prenatal care visits. One site stated they could see 30 individual prenatal care patients within the 2-hour window it took to conduct a group prenatal care visit with 10 women. In contrast, birth center sites generally reported that group prenatal care could generate more revenue compared with the time-intensive, holistic design of birth center prenatal care visits, where 4 or fewer women are typically seen in a 2-hour window.

Regardless of whether reimbursement covered group visit costs, many sites mentioned the need to cover costs of initiating and maintaining the program as a key factor in administrative and provider buy-in. Implementing group prenatal care, and specifically CenteringPregnancy, has substantial initial costs for facilitator training, Centering Healthcare Institute books and materials, snacks for groups, capital investments (eg, for appropriate space), administrative support for scheduling, and staff training on new processes. One key informant estimated program costs of \$35,000 to \$40,000 per site to cover initial Centering Healthcare Institute certification and supplies. Groups commonly enrolled women who had various Medicaid insurance providers, and sites reported that all payers would thus need to offer enhanced reimbursement.

Strategies to Overcome Barriers and Promote Sustainability

Sites newly implementing group prenatal care varied in program sustainment success. Strategies reported by key informants for maintaining buy-in and commitment to the new model included establishing steering committees to engage leadership and guide implementation, using provider champions (when they existed) to influence other prenatal care providers and staff, and inviting individual prenatal care providers to observe group sessions. Sites with strong buy-in invested in implementing new workflows. Citing the importance of a provider champion, one key informant noted, the champion “is donating part of the budget to renovating a new [group care] space.” One site designated time for health charting before and after group sessions.

Many key informants reported that robust midwifery programs aided implementation of group prenatal care, positing that midwives’ professional training emphasizes the holistic care and patient education that are key group prenatal care elements. As a result, sites staffed with mostly midwives or with a midwife-obstetrician mix often reported greater buy-in.

Key informants reported securing robust enrollment through opt-out participation, whereby women were automatically enrolled in group care unless they specifically declined. Opt-out strategies made not participating the active choice and set group prenatal care as the standard. Although some sites noted that opt-out programs were associated with increased attrition because some participants had less commitment than those in self-selected groups, most still felt opt-out strategies were the best strategy for sustaining adequate enrollment.

Many sites addressed patient-related logistical barriers through “being flexible and offering groups at unconventional times,” including evening hours, which also helped resolve transportation and childcare challenges for some women. One site that offered group prenatal care (not CenteringPregnancy) allowed women to attend any group session offered, rather than requiring attendance at a specific group. Some CenteringPregnancy sites allowed women to make up sessions with an alternate group. Many key informants noted that providing food and baby gifts (eg, diapers) at sessions incentivized attendance. Asking for phone number updates at each session and contacting women via phone or text between

sessions also promoted attendance. If a woman did miss a session, facilitators and peers called to check on her, helping to reduce subsequent no-shows.

Several key informants reported that although group prenatal care was originally developed for low-risk women, offering group prenatal care sessions for specialized groups of high-risk women was a valuable strategy to improve patient engagement and prenatal care provider and administrative buy-in. One university-based practice that served all women in its region who were enrolled in Medicaid and determined to be at high risk for preterm birth developed distinct groups for women with HIV, diabetes, rheumatic diseases, and Zika exposure. Key informants reported robust attendance and indicated that women's common conditions enhanced group bonding and shared learning. Another academic institution developed specialized groups for women with substance use disorders. Key informants for this awardee noted that their institution's obstetricians generally did not like caring for women with substance use, so these groups were sustained after Strong Start ended, whereas most groups for other women were not maintained. Other awardees developed groups for women with diabetes, adolescents, African Americans, or Spanish speakers. Although sites that began for high-risk or other specialized groups universally identified the advantages to this strategy, some also reported enrollment challenges, particularly finding enough women of the same gestational stage to ensure sufficient specialized group size.

DISCUSSION

The analysis of 15 Strong Start awardee case studies of 60 group prenatal care provider sites found barriers to implementing and sustaining group prenatal care at the patient, practice, provider, administrator, and funding levels. In addition, the analysis identified strategies to overcome barriers and promote sustainability.

This analysis confirmed patient-level barriers already identified in the literature such as inflexible and lengthy appointment times, lack of childcare, and discomfort sharing in a group.^{31,32} The findings of this study also concur with prior findings on practice-related barriers, including lack of appropriate meeting space and new scheduling and training needs, prenatal care provider and administrator buy-in, and reluctance to adopt new practices.²²

Addressing these barriers and providing group care requires a willingness to change paradigms and overcome interwoven challenges. Successful programs began with a leader's conviction, systematic approaches to addressing challenges, advocacy among prenatal care providers and consumers, and ongoing training, accompanied by ongoing provider and administrative buy-in. Although practices can apply creative problem-solving to address administrative buy-in and patient barriers such as those described above, system-level barriers to offering group prenatal care must be addressed by all relevant parties: providers, administrators, office staff, payers, purchasers, patients, and policy makers.

Key informants at prenatal care provider sites who were able to employ successful strategies to address the interwoven challenges on the patient, practice, provider, and administrator levels still often identified a need for enhanced funding.

Grant-based funding has typically covered the costs of initiating group prenatal care, and the limits of such funding appear to limit adoption of group prenatal care. Beyond start-up, ongoing costs of providing group prenatal care vary. A fully enrolled group (eg, 10 women) usually ensures that, at the site level, providing group care is revenue neutral relative to individual prenatal care. However, given that a robustly enrolled group has potential to serve more women than individual prenatal care, and birth center sites felt that group prenatal care could generate more revenue than individual prenatal care, claiming a need for ongoing enhanced reimbursement may be a ready excuse to justify limiting or dropping the model.

Still, proponents of group prenatal care often cited the need for enhanced reimbursement, across all payers, to cover the costs of maintaining the program, to mitigate the risk of additional costs (for groups with low enrollment or frequent no-shows), or as an incentive to encourage buy-in. According to key informants in health care practices, executing group prenatal care alongside individual prenatal care created 2 streams for appointments that had different timing, staffing, and space requirements, which added administrative costs. Positive outcomes associated with group prenatal care sometimes resulted in lower costs of care, but payers, not provider practices, reaped the savings. Value-based maternity care payment models could offer enhanced reimbursement or support for start-up to serve as an incentive for expanding group prenatal care.

Creating defined reimbursement mechanisms for group prenatal care (ie, a separate reimbursement code), regardless of whether payment is increased for group prenatal care visits relative to individual prenatal care visits, could ease administrative burdens and allow payers to track provision of group prenatal care and its associated outcomes while supporting innovation. Payment processes can also normalize group prenatal care, presenting it as an established option rather than a time-limited pilot or an experimental practice.

In addition to Strong Start, a well-documented example of successful group prenatal care promotion is the South Carolina Department of Health and Human Services' effort to expand group prenatal care statewide through its Birth Outcomes Initiative, a multistakeholder collaborative aimed at improving birth outcomes. South Carolina was able to expand group prenatal care from a single practice in 2008 to 24 clinics in 2018 through a combination of start-up funding, readily available training and technical assistance, substantial leadership and promotion of the model by a provider champion, enhanced reimbursement by the state and the largest commercial insurer, and data collection and analysis to demonstrate positive outcomes that was given back to prenatal care providers. The collaborative efforts between the state and payers effectively expanded group prenatal care to saturation, so group prenatal care is available to all who wish to enroll. The experience in South Carolina shows that financial investment, coupled with a multistakeholder collaborative, can shift paradigms and establish group prenatal care as a valid, locally available alternative for high-quality care.

Graduate medical education programs may play a particularly critical role in normalization and spread. Graduate medical education sites often serve large populations that

rely on Medicaid funding and also have an important role in training the future prenatal care workforce. Having residents complete training alongside clinical group prenatal care providers to understand a facilitated rather than didactic approach creates a new generation of obstetric providers who have bought into the model and have the skills to implement it. A few residency programs have adopted innovative approaches to offering group prenatal care as part of training, including altering residency schedules to allow residents to follow a single cohort and consistently attend group prenatal care sessions for that cohort. Dartmouth-Hitchcock Medical Center (New Hampshire) and Greater Lawrence Family Health Center (Massachusetts) both include group prenatal care as part of residents' rotations. In a different approach to modification, the Wake Forest School of Medicine (North Carolina) stages mock groups, where other residents act as patients, to train residents in group prenatal care.

Addressing system-level barriers to normalize and spread group prenatal care could have important ramifications for higher-risk women. Targeting specific risks allows leaders to build resources and referrals for addressing those risks while offering women a true peer group. Our research indicates that providers found group prenatal care to be particularly effective for addressing risk, but also harder to fully enroll groups with women who have the same risk type and gestational age. Widespread availability of group prenatal care could facilitate sufficient group size in specific locales.

This study has several limitations. Nearly half of awardees had established their group prenatal care programs prior to Strong Start, which may have affected informants' views about various barriers to implementation. Nonetheless, this analysis offers broad lessons about implementing and sustaining group prenatal care programs in general. Despite variations among programs, barriers reported by sites were surprisingly uniform. Researchers sought to interview a broad range of informants for each Strong Start awardee; however, because administrative personnel with global budgeting responsibility and graduate medical education leadership rarely participated in interviews, all interviewees may not have had comprehensive understanding of barriers related to graduate medical education and administrator buy-in. Finally, the barriers identified were interconnected (eg, perceived cost-effectiveness impacted buy-in, which affected willingness to recruit women, which affected enrollment, which affected cost-effectiveness), and the relative impact or weight of each barrier alone could not be assessed. Applying the lessons learned here requires addressing barriers systematically rather than viewing any single barrier in isolation.

CONCLUSION

As with previous studies, the Strong Start evaluation found either neutral or positive effects of group prenatal care, which indicates that the model has potential to improve care quality and health outcomes for women and infants while also reducing costs to Medicaid or other payers. Barriers to implementing and sustaining group prenatal care are complex and interwoven and require creative problem solving and systematic strategies at multiple levels, including the practice, payer, provider, administrative, patient, and policy levels. Some sites,

especially those initiating group care, may require enhanced funding, either to cover costs or incentivize provider and leadership buy-in. Creating defined reimbursement mechanisms for group prenatal care would ease administrative burdens and allow payers to track provision of group prenatal care and its associated outcomes while simultaneously supporting innovation.

CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

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