Barriers to and Facilitators of Moving Miscarriage Management Out of the Operating Room

CONTEXT: *Miscarriage care can safely and effectively be offered in appropriately equipped offices and emergency departments. However, it is often treated in the operating room, which limits access to timely, cost-effective and high-quality care.*

METHODS: *Between May 2013 and January 2014, in-depth interviews were conducted with 30 staff holding diverse roles at 15 medical offices and emergency departments with the aim of exploring barriers to and facilitators of offering miscarriage care, and identifying methods for expanding care. On-site observations were also conducted at four facilities. All data were transcribed, iteratively coded and analyzed using qualitative techniques.*

RESULTS: *Similar barriers to and facilitators of providing miscarriage care were identified across facility types. Barriers were physician preference for providing care in the operating room, the similarity of miscarriage management and abortion procedures, the limited availability of support staff, difficulties integrating miscarriage management into patient scheduling and flow, and uncertainty about responding to women's emotional needs. Facilitators were a commitment to evidence-based medicine, insurance coverage of miscarriage, offering other procedures of similar complexity and the minimal resources needed for miscarriage care. Resources needed to expand miscarriage services included a medically trained "champion," best practices for implementing services, persistence and patience, training, clear protocols, and systems for tracking equipment and supplies.*

CONCLUSIONS: *Miscarriage care was viewed as neither resource-intensive nor technically complex to provide. Although it may be emotionally and politically challenging to offer, effective strategies are available for expanding the scope of miscarriage care offered in multiple settings.*

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Conservative estimates indicate that one in four women in the United States will experience a miscarriage in their lifetime.[1,2] More than 80% of miscarriages occur during the first trimester of pregnancy.[3] There are three management options for miscarriage: expectant, medical and surgical. With expectant management, the miscarriage takes its natural course. Medical management typically includes the use of misoprostol (sometimes combined with mifepristone), a cervical ripening agent that promotes fetal expulsion. Surgical management can involve sharp curettage, electric vacuum aspiration, manual vacuum aspiration or a combination of vacuum aspiration and sharp curettage.[4] All miscarriage management options (other than sharp curettage, which is no longer recommended) are safe, effective and acceptable.[5]

To date, miscarriage in the United States has largely been treated surgically in the operating room.[6,7] However, all forms of miscarriage management can be offered in other appropriately equipped settings.[4] Surgical management can be safely performed in a hospital's emergency department, which may decrease delays in obtaining care.[8] It can also be provided in office-based settings, and compared with care in the operating room, office-based care is equally safe or safer, quicker, more cost-effective and more acceptable to some women.[2,3,9,10] In addition, office-based procedures can be integrated into multiple health care settings,[3] which could increase the privacy[11] and accessibility of care.[12]

Despite this evidence, efforts to move miscarriage care outside of the operating room have encountered challenges.[13–15] Specifically, surgical miscarriage care has been perceived as difficult to provide because of the emotional aspects of the procedure; because the similarity between miscarriage management and abortion procedures places it outside some health care providers' scope of practice; and because of the difficulty of identifying training opportunities.[15]

Little is known about health care providers' perceptions of or experiences with offering miscarriage management using different care models. In this exploratory qualitative study, we aimed to examine miscarriage management practices in offices and emergency departments by eliciting the barriers to and facilitators of offering comprehensive miscarriage care, in which all forms of miscarriage management are available.

METHODS

We conducted case studies of medical offices and emergency departments using in-depth interviews as our primary approach, because such interviews are powerful

tools for collecting rich data.[16] We interviewed individuals who held varied roles at the facilities, which allowed us to capture nuanced perspectives on and experiences with miscarriage management. At a subset of facilities, we also conducted in-person observations, because on-site observations are helpful for understanding the provision of miscarriage management in different health care contexts.[16]

Prior to data collection, we did not determine exact sample sizes for case studies, interviews or observations, but instead set a minimal sample size for each and collected data until we reached thematic saturation across facilities.[16] To ensure that case studies captured variation, we purposively sampled facilities diverse in type (i.e., stand-alone office-based facilities, office-based facilities affiliated with a hospital that had an emergency department and hospitals with an emergency department), geographic location and typical place where surgical miscarriage management is ultimately performed (as this care requires the most equipment and intervention). In addition, within the subset of facilities affiliated with an emergency department, we included both those whose emergency departments allowed surgical management and those whose departments did not.

Data were collected between May 2013 and January 2014. To recruit facilities for participation, we first made a short list of the private obstetrics-gynecology practices and hospitals in which the research team had personal contacts, keeping in mind our facility diversity criteria. We then asked these and other personal contacts for suggestions of additional facilities to include in the study. From this list, we selected facilities to approach for inclusion, and contacted individuals in leadership and provided them with study information. These individuals were asked to participate in an in-depth interview and provide introductions to other staff whom the research team could screen for interest in participating. The team followed up on all staff suggestions provided. Some of our initial contacts did not provide any referrals or as many as we had hoped for, which limited our ability to approach the number and variety of staff we would have liked to at all sampled facilities.

All interviews were done over the phone, and verbal informed consent was obtained prior to the interview. Four research team members trained in qualitative interviewing conducted the interviews using a semistructured interview guide, which consisted primarily of open-ended questions about the provision of miscarriage care. Domains of the guide for clinically trained participants were clinical options available for miscarriage management, decisions about how to manage miscarriages, practices for providing miscarriage management, the reasons behind and impact of current practices, and barriers to and facilitators of offering care. Regarding barriers and facilitators, open-ended probes asked about experiences with the emotional needs of women experiencing miscarriage, physical space issues, equipment and medication needs, and administrative or financial issues. The interview guide for financial staff (defined as those whose primary responsibility was billing) included a series of open-ended questions about general billing practices and specific questions about how billing and reimbursement issues affect which miscarriage management options are available. All interviews were digitally recorded and transcribed verbatim.

Three of the researchers who conducted interviews also made in-person observations at a subset of interviewees' facilities. For this part of the study, we selected facilities that were located in different geographic regions and that, from our interview data, appeared to be potentially rich case studies as they either were attempting to expand the scope of miscarriage management at the time or had recently done so. Prior to the observation, consent was provided by a senior staff person. During each observation, one team member spent half a day to one day observing patient flow at the facility and assessing how miscarriage management services were typically offered. The observer followed a structured assessment guide to ensure that similar factors were observed across facilities, but was also encouraged to probe about issues of interest to participants to capture emergent issues. The assessment form covered the physical plant, equipment and supplies, client experiences, handling and disposal of products of conception and observer reflections. When the observation was completed, the team member wrote up detailed notes.

All data were uploaded into Atlas.ti version 6.2.27. We developed a short list of codes based on our research questions, and coded each transcript using the skeleton codes; we added codes as new themes emerged. Team members reviewed one another's coded transcripts to ensure consistency in coding. This process iteratively generated a standard codebook used across all transcripts and built consensus on how each should be coded. As each code was summarized, the team looked for relationships among codes and for the most salient themes within and across codes. We then searched for negative evidence of identified themes, attempting to disprove our findings and refine our results. Finally, after further refining the themes, we selected illustrative quotes.[16] The study was approved by the Allendale institutional review board.

RESULTS

Facility and Participant Characteristics

We recruited participants from 15 health care facilities across the United States; the majority of facilities were offices with hospital affiliations (Table 1). Some form of miscarriage care was provided at every facility, though one offered only expectant management (not shown). On average, facilities provided miscarriage care for 289 women annually (range, 18–960; mode, 520). At most facilities, miscarriage care could be provided in multiple locations; 93% could provide electric or manual vacuum aspiration in an operating room, 73% could do so in an office and 53% could do so in an emergency department. In practice, however, most facilities (73%) routinely provided aspirations in an office. A majority of facilities also provided a range of reproductive health services, including contraceptive methods, prenatal care and abortion care.

TABLE 1. Selected characteristics of facilities participating in a study of barriers to and facilitators of providing comprehensive miscarriage care, 2013–2014

Characteristic	% or mean (N=15)
Type of facility	
Office with hospital affiliation	60.0
Hospital emergency department	26.7
Office without hospital affiliation	13.3
Region	
South	26.7
West	33.3
East	26.7
Midwest	13.3
Mean no. of miscarriages treated annually (range, 18–960; mode, 520)	289
Where aspirations can be provided*	
Office	73.3
Operating room	93.3
Emergency department	53.3
Where aspirations are primarily provided	
Office	73.3
Operating room	6.7
Emergency department	0.0
Not offered	6.7
No primary location	13.3
Reproductive health services provided	
Contraceptive care	76.9
Prenatal care	69.2
Abortion care	61.5

*Includes electric and manual vacuum aspirations. Some facility policies allow these procedures to be conducted in multiple locations, so the percentages do not total 100.0. *Note:* All figures are percentages unless otherwise indicated.

We interviewed 30 individuals (range, 1–4 per facility): 14 obstetrician-gynecologists, six clinical support staff, three obstetric-gynecology residents, three financial staff, two family medicine physicians and two emergency medicine physicians (one of whom was the medical director of an emergency department). Individuals had been at their current practice for an average of seven years (range, 1–26).

On-site observations were conducted at three office-based facilities that were affiliated with a hospital and at one emergency department. Two facilities were in the South, one in the West and one in the East. At the three office-based facilities, surgical miscarriage management had been provided for the previous five years; at the fourth, staff were working to introduce surgical care.

Perceptions of Miscarriage

Across interviewees, miscarriage was described similarly, most commonly as a "devastating" event for women and their families, and as one of the most emotional medical events treated at facilities. The emotional nature of miscarriage care was also noted during observations. In one facility, when staff introduced themselves to miscarriage patients red-eyed from crying, the clinicians often said, "I'm sorry to meet you under these circumstances." At several facilities, flyers for miscarriage management support groups and chaplains were observed.

Clinical participants described all forms of miscarriage management as safe, brief and simple treatments that require little equipment or medication. Many also spontaneously described miscarriage management as similar to abortion procedures, because the technical aspects of the two are the same, and training for miscarriage care often occurs at abortion facilities. Moreover, aftercare instructions for miscarriage and abortion are the same. Indeed, the investigator at one observation wrote, "Aftercare instructions are identical except for the title."

Cross-Cutting Barriers

Across facility types, similar barriers to providing comprehensive miscarriage management care were reported by participants and noted during observations (Table 2).

•***Physician preference.*** Participants said that physicians prefer to provide surgical management in the operating room, and described this preference as difficult to change. As one obstetrician-gynecologist in an office with a hospital affiliation shared:

"The older providers who are trained, who finished training beyond a decade ago, are still not accustomed to doing [outpatient miscarriage management]. Recently, [we had] a pretty heated discussion about it … with some very forward-thinking, outstanding clinicians and researchers, and what I heard from them is that, basically, 'We're not going to change.' … The young faculty who were trained in our program were like, 'That doesn't make sense.'"

•***Similarity to abortion.*** Interviewees reported, and it was observed, that the similarity between treating miscarriage and performing abortion made the line between the two procedures unclear, which was problematic for participants working in facilities in which abortion care was not provided. In those facilities, introducing miscarriage services raised fears that elective abortions would surreptitiously be

TABLE 2. Perceived barriers to and facilitators of providing comprehensive miscarriage care, by facility type

Barrier/facilitator	Office	Operating room	Emergency department
Barriers			
Physician preference	✓	✓	✓
Similarity to abortion	✓	✓	✓
Limited support staff	✓	✓	✓
Patient scheduling and flow	✓	✓	✓
Emotionally complex care	✓	✓	✓
Cannot offer anesthesia/handle complex cases	✓		
Limited office hours	✓		
Expensive/time-consuming to provide		✓	
Not typically offered			✓
Facilitators			
Commitment to evidence	✓	✓	✓
Covered by insurance	✓	✓	✓
Procedural simplicity	✓	✓	✓
Residents and training programs	✓	✓	✓
Adaptable patient flow	✓		
Cost-effective to provide	✓		
Able to provide care in all cases		✓	
Always open for emergencies			✓
Usually able to offer conscious sedation			✓

provided once miscarriage care was introduced. An obstetrician-gynecologist working in an office where miscarriage care had recently been introduced reflected, "I think that there was some apprehension with some people about what are they really doing in there." During interviews and observations, many staff shared that this concern translated into staff's trying to avoid being involved in miscarriage care.

Although the same technical care is provided for miscarriage treatment and abortion, insurance requires them to be billed for differently. In both interviews and observations, participants said this was relatively easy to manage and required only the use of appropriate codes. However, a minority of participants said that coding was not always straightforward and that additional evidence was required to show that the pregnancy termination was not voluntary. A financial services representative at a hospital described such a case:

"Patient in their early twenties. First pregnancy.... She was, I think, 10 or 11 weeks.… We ended up doing the surgery, and I billed her claim to her commercial insurance. And they denied the claim and said that it was elective.… They misinterpreted it as an abortion.… And the operative report said that the patient presented having a miscarriage. I mean, it was clear. We even worked with our director of medical records, and they ended up having to write their own letter explaining the coding rules, and the fact that this is what this code means."

•***Limited support staff.*** Many participants reported that it was difficult to find support staff—in particular, nurses—who are trained in and comfortable providing miscarriage care. This challenge seemed to be related to the similarity of miscarriage and abortion care, the already substantial workloads of nurses and their critical roles in providing care. One obstetrician-gynecologist in an office with a hospital affiliation shared: "I would actually say ... most obstetrician-gynecologists can [provide miscarriage care], but what you really really need is nursing staff and practice assistance staff." Reliance on nurses was also noted during observations.

•***Patient scheduling and flow.*** In interviews, participants reported concerns about how offering miscarriage management, and particularly surgical management, would affect patient flow. In offices that had not integrated comprehensive care, interviewees worried that appointment times for miscarriage care would be extended and interfere with other appointments. In emergency departments, interviewees worried that offering miscarriage care would interfere with the ability to respond to other, and potentially more critical, cases because miscarriage treatment would take up their limited time and space. One emergency medicine physician working in a hospital explained:

"We have a flow ... where we have people filling up in the waiting room and then people who we're trying to send home or into the hospital. So any procedure, including an MVA [manual vacuum aspiration], would take up a room and take up our time.… So the timing of the procedure, the amount of time that it takes to do the procedure, would be an important part of whether it would be easily adopted or not."

Participants providing services in the operating room, such as obstetrician-gynecologists and clinical support staff, reported that there were limited slots available for miscarriage management, that these cases were often bumped for more urgent surgeries, that operating room procedures often ran behind schedule and that schedules have to be coordinated for the numerous staff who must be in attendance to provide care. They said that these logistical challenges can delay care—sometimes for days or longer. An obstetrician-gynecologist who used to provide care in an operating room and now provides care primarily in an outpatient office said, "Women were basically engaging in expectant management because they'd be scheduled so far out."

•***Emotionally complex care.*** Many interviewees said they felt ill equipped to respond to women's emotional needs before, during and after miscarriage. This concern emerged with regard to discussing both options for care and payment for care. A financial staff person at a hospital described experiences discussing costs with patients: "That is more difficult than if I have to talk to them about having a hysterectomy because they have a fibroid or even having cancer [and] they aren't able to pay."

However, many participants also felt that with support, they could respond to women's needs. Medical staff working in offices related that their experience offering personalized care for other services would help prepare them to meet women's emotional needs. Those working in hospitals said they have access to helpful resources that are not typically available in office environments, such as social workers.

Site-Specific Barriers

As reported by participants and noted during on-site observations, the primary barrier to providing miscarriage care in offices was limited ability to provide anesthesia because of restrictions on using sedation in an office or not having an anesthesiologist available. This meant that office-based care could be offered only to women experiencing pregnancy loss in the first trimester or very early second trimester, when adequate pain management can be achieved with oral medication or local anesthesia. Interviewees also described concerns about their ability to provide care to women with medical complications. Less commonly, they raised concerns that women who had been seen in offices would not be able to contact the office in cases of medical emergencies that occur outside of office hours. However, they acknowledged that the complication rate for miscarriage care is low and that affiliated or nearby hospitals would be able to manage any complications that arise.

Participants reported that it would be challenging to provide comprehensive miscarriage management in the emergency department because obstetrician-gynecologists, and not emergency medicine physicians, are viewed as the go-to

physicians for care. As one obstetrician-gynecologist in an office with a hospital affiliation explained, "Obstetrics-gynecology clinicians really take ownership of most of the women who are having an issue with pregnancy in our center. And I don't think that's because it's outside of the scope of the emergency room physician. I just think that's the culture here."

Participants stressed during interviews and observations that the operating room was perceived as the least optimal place to provide medically uncomplicated miscarriage care because of the time and cost of providing care in that setting. According to one obstetrician-gynecologist working in an office with a hospital affiliation:

"It's always a challenge to decide who's not appropriate for the clinic because it's so much easier in the clinic [than in the operating room]; it's so much more efficient. [Patients] get more personalized care.… So when someone is questionably appropriate for the clinic, I find that decision is difficult because you want to make sure they are safe, but you are always balancing it [with] how much of a risk warrants all that trouble to go to the operating room."

Cross-Cutting Facilitators

Similar facilitators of offering comprehensive miscarriage management care were reported during interviews and noted during observations (Table 2).

•***Commitment to evidence.*** Participants described health care delivery as an "adaptive" discipline that must be responsive to new scientific findings. As one emergency medicine physician shared:

"A change in a practice needs to be evidence-based. So if the standard of care has changed, then we are obliged to change our practice to make sure that the patient's receiving the standard of care that they need to get.… If some studies show that doing a surgical evacuation in the emergency department for a miscarriage [is] beneficial, then I'm sure that we would work towards making that happen."

The commitment to evidence was also clear during observations, when investigators noted peer-reviewed literature and evidence-based guidelines on location, and observed many best practices.

Related to this, interviewees described evidence-based changes they had implemented to address other situations—for example, patients' presenting with drug overdoses or cardiac arrest. The same physician quoted above said, "There are several things that we do in the emergency department now that we didn't do historically.… We [use] evidence-based medicine to enhance whatever services we're offering or how we manage certain disease processes."

•***Insurance coverage.*** Another facilitator of offering miscarriage care is that the procedure is often covered by public and private insurance programs. This means that facilities are reimbursed for care at a higher rate than if they offered a sliding scale or reduced prices, as they sometimes do when a service is not covered by insurance. An obstetrician-gynecologist at an office with a hospital affiliation explained: "The bottom number is still a determining factor for most things that we do. So if it were not financially advantageous for us to do the procedure in the office, I feel [miscarriage care] would be eliminated."

•***Procedural simplicity.*** Procedures of similar complexity to that of miscarriage management are offered at most facilities, so staff have some of the necessary technical skills to provide miscarriage care. Also, though the similarity of abortion to miscarriage was problematic for clinicians who do not provide abortion care, it was described as advantageous by those who do. Interviewees who offered both services said they are able to provide high-quality miscarriage care since they improve their technical competency by providing both, and because the protocols are the same for both. As one nurse practitioner in a hospital setting said, "I think ... the main reason why I get so many pregnancy losses and miscarriages to manage [is] because people think that I manage them somehow better because I am in abortion care."

Though a minority of participants reported not having the budget to purchase the equipment or medications needed for miscarriage care, most said the necessary resources are minimal and inexpensive. The limited resources needed were also noted during observations, when medical or surgical management equipment was shown to investigators. Furthermore, some interviewees related that they either have similar equipment in their facility or buy much more expensive equipment for other procedures, so purchasing equipment for miscarriage care did not seem out of reach. An obstetrician-gynecologist in a private practice said, "We just ordered the MVAs [manual vacuum aspirations], the curettes,... the dilators.... It was a minimal amount of equipment."

•***Residents and training programs.*** Interviewees in offices and hospitals where academic training of clinical staff occurs reported that they had a number of resources available, one of the most important of which was medical residents. Participants described residents as critical resources for introducing and sustaining the provision of high-quality miscarriage management care—indeed, as "drivers of culture." An obstetrician-gynecologist in a hospital where aspirations are available in the emergency department described how residents introduced miscarriage care:

"One of the residents ... brought up the idea, presented some evidence, presented various protocols, and asked that it be reviewed by the faculty. The faculty reviewed it [and] decided this would be a good thing to implement, [so] they chose one of the protocols. It was trialed, changes to the protocol were then made, and then it was rolled out to the general residency and faculty as a whole."

Moreover, some interviewees described the benefits of participation in the Ryan Program, which provides residency training in family planning and abortion.[17] Program participants and graduates reported being well versed in the miscarriage management evidence base and having the necessary technical skill to provide care. In addition, in one facility, funds from the program were used to purchase necessary equipment and to support staff time in starting up and managing a miscarriage clinic.

The operating room was perceived as the least optimal place to provide medically uncomplicated miscarriage care.

Site-Specific Facilitators

Interviewees working in an office recognized the potential challenges of managing patient flow, but felt they had enough flexibility in scheduling to address flow issues through trial and error. Participants also emphasized that it was cost-effective to provide care in an office, especially when compared with providing care in other settings. An obstetrician-gynecologist in a private office explained that surgical management in a hospital can cost approximately $10,000, whereas in a clinic, "You're literally paying for one curette, half an hour of the provider's time in the clinic and then the minimal other supplies. It's so much more cost-effective."

Integrating care in multiple settings ... improves access to timely care [and] allows women to receive care "with dignity."

While most interviewees stressed the importance of moving miscarriage management outside of the operating room, they also reported that it was critical to have access to one in cases where a woman had medical issues that necessitated surgery, for some complex second-trimester cases and when a woman preferred to have anesthesia that was not available in other settings. As an obstetrician-gynecologist in an office with a hospital affiliation explained, "There are some people who will be better served in the operating room either because they need a higher level of monitoring or they're a bleeding risk, or some people just can't handle any sort of pain and can't be talked through it."

Participants also described two facilitators to providing care in the emergency department. These facilities are always open, thus providing an immediate point of contact for care. In addition, most can offer conscious sedation, so they can provide adequate pain management regardless of the pregnancy's gestation or a woman's medical issues.

Approaches to Expanding Access

Participants discussed two distinct practice approaches to ensuring that women have access to care. The first, somewhat novel strategy, implemented by four facilities in our study, was to create a separate, specialized clinic where all patients in need of miscarriage services were sent. At three facilities, we observed patients receiving this care from staff experienced and invested in providing miscarriage care. However, interviewees working in these clinics noted that women may experience delays obtaining care since the clinics do not have the patient volume to be open every day or for extended hours. Also, interviewees discussed how creating a separate clinic may further segregate miscarriage care. Indeed, during observations, investigators noted that miscarriage services were often provided in different locations from where other types of reproductive health care were offered.

The second approach, more commonly suggested in interviews, was to expand the scope of miscarriage management services offered within as many health care settings as possible, including primary care facilities, hospital emergency departments, and obstetrics-gynecology and family planning settings. Participants reported that integrating care in multiple settings not only improves access to timely care, but also allows women to receive care "with dignity" in the setting and manner they prefer. An obstetrician-gynecologist in a private practice office put it simply: "Another option for the patient is just always a better thing, to let the patient decide." The biggest drawback interviewees perceived to this approach was identifying the specific strategies and resources necessary to make this kind of change in different practice environments.

What is needed to successfully integrate comprehensive miscarriage care? Commonly, interviewees said it was crucial to have a medically trained "champion" leading efforts to change the way services were provided. As an obstetrician-gynecologist in an office with a hospital affiliation explained, "For any new service, a local champion is certainly very helpful.… Somebody who's got expertise.… You want things to go really well when you introduce any new service, particularly this one."

Participants also described the importance of presenting key pieces of the evidence base, including evidence on the benefits experienced by patients seeking care at the facility; the benefits to health care providers at the facility, in terms of training opportunities for miscarriage care; the financial benefits to the facility of providing care (or at a minimum, the minimal cost to the institution); the safety of miscarriage care; and best practices for integrating care. Furthermore, interviewees underscored that this information needed to be summed up in writing and supplemented with relevant academic articles. A resident in a hospital shared why: "When I mentioned [expanding miscarriage services to the program directors] verbally, they were like, 'What is this cowboy idea?' And they hadn't even really heard about it, until I showed them that there was a Cochrane review on it, and there was ... a cost analysis that had been done.… Starting out with those things would help."

Another aspect mentioned by participants, particularly those in larger settings, was the need to have patience, as it could take an extended amount of time to gain necessary approvals, build buy-in and overcome resistance to changes in practice. An obstetrician-gynecologist in a hospital discussed the time spent on multiple committees to introduce surgical management into the emergency department. He explained: "Going through the bureaucracy of it all … was really difficult.… It wasn't a difficult sell through those committees, but getting into those committees and getting it done took months."

In addition, facilities need protocols that delineate what types of pregnancy termination services are available (miscarriage versus abortion). An obstetrician-gynecologist in an office with a hospital affiliation remarked:

"There is a concern ... that this is a termination, and that we're going to be doing terminations in the emergency room. So when we constructed the protocol, [the obstetrics-gynecology director] asked me to be very explicit about saying that this is for failed pregnancy only, or for localization of pregnancy in a situation where we're concerned about ectopic. Those are the only reasons that we would be doing this, and even for failed pregnancy, it has to be incomplete, so it has to be active bleeding; [the

protocol does not cover someone who] is stable and should go home and see us on Monday."

Participants also recommended conducting a training for staff that includes education on the technical, emotional and financial aspects of providing miscarriage care. One medical assistant in a private practice without a hospital affiliation commented on the benefits of training:

"Two of the doctors ... explained the procedure, they gave us a list of all the equipment that we would be using, how we would be assisting them. And people felt comfortable. The first few were kind of hard. People felt overwhelmed, a lot of supplies. Then you had the patients in the room, sitting there. She's crying, she's upset, this is her baby, you know. She's lost it, she's losing it.... It took us a while, but I think people are feeling more comfortable."

Finally, interviewees said it was important to develop procedures for keeping track of new equipment. They found it helpful to create simple checklists, and to keep equipment and supplies needed for miscarriage management in carts or backpacks.

DISCUSSION

Overall, in both offices and emergency departments, there were remarkably similar barriers to and facilitators of providing comprehensive miscarriage management care—a surprising finding, given the diversity of facilities included in the study.

Prior research in other settings with different health care providers confirms many of our findings. Other studies have documented the long-standing physician preference for providing care in the operating room,[6,7] uncertainty about providing what is perceived as an emotionally charged medical service[13] and discomfort with providing miscarriage management because of its similarities to abortion care.[13] Our findings also support existing documentation of the critical importance of relying on the evidence base[13] and having trained and willing support staff to assist with a clinically straightforward and non–resource-intensive procedure.[14,18] To our knowledge, concerns about how integrating miscarriage management affects patient flow have not been previously documented. Furthermore, we are unaware of research showing how offering procedures of similar complexity to miscarriage management may ready a facility for offering this care, or how residents and training programs can be a powerful engine for making evidence-based change.

Findings about the relationship between miscarriage and abortion deserve attention. Though miscarriage care appears to be stigmatized because of its similarity to abortion, access to miscarriage care is protected in ways that access to abortion care is not. We found that health care providers who offer abortion care are often well prepared to offer miscarriage care. Moreover, training in the technical aspects of abortion care is often described as necessary to offering high-quality miscarriage services. In this regard, miscarriage care benefits from its similarity to abortion. We also documented some ways that miscarriage is treated differently from abortion. Specifically, the evidence base for the provision of miscarriage care is viewed as a trusted resource for effecting practice change and introducing the service, while we are unaware of a similar situation regarding abortion care. Also, study participants reported that miscarriage care is largely covered by insurance, whereas coverage for abortion care is heavily restricted.[19,20]

The cross-cutting barriers and facilitators we identified must be addressed head-on to improve access to miscarriage services. Attention must also be paid to provider and facility characteristics that may affect the provision of services. Certainly, we found that individual, organizational and policy variables interact with health care facility and provider characteristics to influence what type of miscarriage care is provided at a facility and who provides that care. In the best-case scenario, prior to implementation of a new miscarriage management program, an evaluation should be conducted of how these interactions may affect the services provided at individual facilities. If resources are not available to conduct such an evaluation, the cross-cutting and site-specific barriers and facilitators we identified provide some guidance about issues that may emerge during implementation of a program.

Our data can be used alongside other relevant research to develop new interventions and modify those already shown to be successful[15] in ensuring that women have access to comprehensive management options that reflect their preferences. Key elements that we identified as necessary for such interventions are having a medically trained champion, an evidence-based rationale for implementing or changing a program, persistence and patience for making difficult changes, initial and ongoing training, clear protocols about when care is provided, and systems for keeping track of equipment and supplies. Many of these best practices for effecting change have been documented in studies evaluating efforts to expand miscarriage management options.[13]

But in what facility types should such a program be implemented? We found drawbacks and benefits to providing comprehensive miscarriage care in both offices and emergency departments, which suggests there is no universally best setting for providing care. However, office-based programs appear to be the easiest and most cost-effective to implement. Furthermore, the majority of women seeking miscarriage care would be eligible to receive such care in an office. Yet women with certain medical complications, with pregnancies at advanced gestations or in need of anesthesia may still need to seek care at a hospital. Such care has typically been provided in the operating room,[6,7] which is the most expensive site and logistically problematic to schedule, leading women to experience unnecessary delays in obtaining care. The emergency department, equipped with many of the same resources as the operating room, may be an appropriate location for care that cannot be provided in an office. In sum, many facilities have the potential to offer comprehensive miscarriage care; our findings provide some guidance by which to assess the feasibility of providing care

Office-based [miscarriage care] programs appear to be the easiest and most cost-effective to implement.

in a particular facility and what changes would be needed to implement a comprehensive, cost-effective miscarriage management program.

We see a number of priority areas for research. First, though some research has been done on women's experiences with the emotional aspects of miscarriage,[21–23] there is very little understanding of what women know about miscarriage, how they typically engage with the health care system when they experience symptoms, and which providers they prefer to obtain care from and in what setting. Second, more work is needed to understand where miscarriage care is currently offered and if access gaps affect particular areas of the country or particular subgroups of women. Third, we call for more research on the perceptions, knowledge and experiences of providers who do not typically offer miscarriage care but are well trained and equipped to do so, such as providers in the emergency department, a relatively unexplored resource for miscarriage care. Quantitative work is especially needed to better understand the prevalence of barriers to and facilitators of offering comprehensive miscarriage management. Last, we found that well-trained residents can be important drivers of change; more work is needed to document how extensive outpatient miscarriage management is among residency training programs.

Our findings must be viewed in light of several limitations. First, although qualitative methods are powerful for collecting rich, hypothesis-generating information, our results may not be generalizable.[16] Though one strength of the study is that we included a range of staff members at facilities with diverse miscarriage management practices, our sample was weighted toward data gathered from obstetrician-gynecologists at office-based facilities. Our sample also included data primarily from facilities that offer some form of miscarriage care; barriers to and facilitators of care may be different in facilities that do not offer the service or are newer to providing it. Second, we were unable to conduct rich case studies at all of the facilities included in the sample, usually because our initial contacts did not provide any referrals or as many referrals as we had hoped to receive. Hence, starting our case studies with a person in leadership and trying to create a snowball sample may have prevented us from gathering important data from some staff. More comprehensive case studies are needed, as the best strategy for resolving health care deficiencies is to involve the full health care team and not just those in select roles.[24] Third, many interviewees worked at facilities where academic training of clinical staff takes place, whose practices may differ from those of other facility types. In addition, this study relies on participants' self-reports, and some details may suffer from recall bias. Finally, we did not systematically collect data about the few facilities or individuals who declined to participate, so we cannot say how participants and nonparticipants differed.

Overall, we conclude that miscarriage care is viewed as neither resource-intensive nor technically complex to provide, although it may be challenging to offer from emotional and political perspectives. These findings provide new information about miscarriage management practices in offices and emergency departments, as well as possible strategies to expand the scope of care offered in multiple health care settings.

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