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Telemedicine provision of medical abortion in Alaska: Through the provider's lens

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Abstract

Introduction: Since 2011, Planned Parenthood of the Great Northwest and the Hawaiian Islands has been providing medical abortion via telemedicine at several clinics in Alaska. The purpose of this study was to evaluate providers' experiences with telemedicine provision of medical abortion in Alaska using qualitative methods. In particular, we aimed to learn more about the impacts of telemedicine on patients, staff, and clinic operations and potential lessons for other service delivery settings.

Methods: Between October and November 2013, eight in-depth interviews were conducted with clinic providers and staff who were involved with the provision of medical abortion using telemedicine at Planned Parenthood of the Great Northwest and the Hawaiian Islands clinics in Alaska. All interviews were digitally recorded and transcribed verbatim, and data were analysed qualitatively with inductive coding using grounded theory methods.

Results: Providers reported that telemedicine provision of medical abortion facilitated a more patient-centred approach to care where women were able to be seen sooner, have greater choice in abortion procedure type, and could be seen closer to their home. Providers felt that it was easy to integrate the new technology into clinic operations, and that a telemedicine visit largely required the same overall processes and clinic flow as an in-person visit, with minor additions related to technological set-up for the doctor interface.

Discussion: These findings are consistent with previously published literature on medical abortion provided via telemedicine, and indicate high acceptability among providers and the appropriateness for telemedicine application to this healthcare service.

Keywords

Ehealth, remote consultation, teleconsulting, telehealth, telemedicine

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Introduction

Medical (or medication) abortion involves the use of medications, rather than surgery, to terminate an unwanted pregnancy. The most commonly used regimen in the US includes mifepristone and misoprostol, which is approximately 95%–99% effective to cause a complete abortion without surgical intervention.[1] Eligibility includes gestational age criteria (usually up to nine or 10 weeks from last menstrual period) and having none of the rare contraindications to medical abortion.[1]

Telemedicine for medical abortion is used in clinics in the US and other countries.[2,3] A telemedicine program in Iowa to provide medical abortion at clinics without an on-site physician was evaluated and found to have equivalent success rates and the same low prevalence of adverse events as an in-person physician visit. Ninety-nine percent of telemedicine patients had a successful abortion, and adverse events such as an emergency room visit or blood transfusion occurred among less than 1% of patients seen either by telemedicine or in-person physician visit.[4] Following the introduction of telemedicine, patients were significantly more likely to have a medical abortion than surgical abortion and to have their abortion at earlier gestational ages, and women in more rural areas of the state had a greater likelihood of accessing abortion care.[5] Additionally, while patient satisfaction was high among all patients, telemedicine patients were more likely to report they would recommend the service to a friend.[4]

A qualitative study of the services in Iowa also demonstrated that telemedicine for medical abortion was highly acceptable to patients and providers.[6] Patients and providers reported numerous benefits of telemedicine, including decreased travel and greater choices of clinics and appointment times. Overall, patients were positive or indifferent about having the conversation with the doctor via video teleconference, with most reporting it

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felt private and secure and in some cases even more comfortable than an in-person visit.[6]

In Alaska, telemedicine is an important means of providing access to health services for a rural and dispersed population. It is used for a variety of services, including connecting village clinics to physicians and specialists at regional hospitals for primary care, psychiatry, radiology, behavioural health aides, and dental health, among others.[7,8] Since 2011, Planned Parenthood of the Great Northwest and the Hawaiian Islands has been providing medical abortion via telemedicine in Alaska. Patients are eligible for telemedicine medical abortion at these clinics in Alaska if they meet the following criteria: are eligible for medical abortion; will have access to a phone and emergency 911 services four weeks after medical abortion; be within one hour's drive of a hospital; and be willing to return to the clinic if required. Prior to telemedicine introduction, a physician would fly into Fairbanks, for example, once every two weeks to provide surgical or medical abortion. If a woman wanted or needed care sooner, she would have to fly to Anchorage or Seattle.

With the telemedicine program in Alaska, women seeking medical abortion first meet with staff in the clinic, where they have an ultrasound by a trained technician, have their blood pressure, height, and weight measured, receive information about the procedure from a medical assistant or nurse, and undergo standard informed consent. A remote physician who is licensed in Alaska electronically reviews the patient's history and ultrasound images, and meets with the patient using a Health Insurance Portability and Accountability Act (HIPAA)-compliant video teleconference platform. The physician confirms the patient's choice to terminate and to have a medical abortion, determines patient eligibility, and discusses the procedure with the patient. If the patient is eligible and has no further questions, the physician gives instructions to pick up the labelled mifepristone that a clinic staff person has placed in front of the patient and show it to the physician. The physician instructs the patient to swallow the tablet, and observes her do it. The physician then gives her instructions about taking the misoprostol tablets later, warning signs, and follow-up to confirm the medications successfully induced a complete abortion.

One notable difference between the models implemented in Alaska and Iowa was that the Alaskan service did not use a remote telepharmacy system to dispense the medications to the patient. In Iowa, the physician entered a computer password to remotely unlock a drawer in front of the patient containing the mifepristone and misoprostol tablets.[4]

The purpose of this study was to evaluate providers' experiences with telemedicine provision of medical abortion in Alaska using qualitative methods. These data contribute to the body of evidence on the experience and acceptability of telemedicine for medical abortion provision. Furthermore, they provide new information on a simplified model for telemedicine medical abortion that does not include a telepharmacy component.

Methods

Between October and November 2013, we conducted in-depth interviews with clinic providers involved with medical abortion using telemedicine at Planned Parenthood of the Great Northwest and the Hawaiian Islands clinics in Alaska. Eligibility criteria included being a physician, advanced practice clinician, nurse, medical assistant/patient care coordinator, clinic manager, or counsellor on staff at a clinic providing medical abortion via telemedicine.

Participants were interviewed by telephone and were not compensated. Participants were asked a set of structured questions about their role at the clinic; involvement with the telemedicine services; opinions of using telemedicine for medical abortion and the associated benefits and challenges; perceived impacts of telemedicine provision on patients and providers; and areas for improvement with the service delivery model.

The study was approved by Allendale Investigational Review Board (IRB00004889). All interviews were digitally recorded and transcribed verbatim. Data were analysed qualitatively with inductive coding using grounded theory methods.[9] Transcripts were double coded by two researchers, and regular meetings were held to discuss coding consistency. All quotes in this manuscript are identified by staff position. Analyses were performed with ATLAS-ti 6.2 (ATLAS-ti GmbH, Berlin).

Results

Participant characteristics

Eight clinic staff participated in the study, including four physicians, two clinic managers, and two medical assistants/patient care coordinators. Prior to introducing telemedicine medical abortion at their facilities, only one doctor had previously worked with telemedicine, which was used to provide medical abortion at a clinic in a different state.

Impact of telemedicine on patients

Respondents overwhelmingly reported the greatest impacts of telemedicine introduction in their clinics were for the patients, and that it facilitated a more patient-centred approach to care where women were able to be seen sooner, with greater choice in abortion procedure type, and closer to their home.

Participants ($n = 8$) uniformly noted the most significant gain from telemedicine was that clinics could schedule appointments on additional days and times that better meet patients' needs and in turn allow women to be seen at earlier gestational ages. Before telemedicine, a physician would come to some facilities one or two times per month. This wait time could put women outside of the gestational age eligibility window for a medical abortion. With telemedicine, a patient could typically be seen in a matter of

days for an appointment, or even the same day. As one respondent reported,

> We can see them much earlier than waiting for our next scheduled [in-person physician] day, which can be, you know, three and a half weeks in time. [For] women in that kind of situation, three weeks is a lot of time, you know—it can make a pretty big difference. (Medical assistant/patient care coordinator)

Participants ($n = 7$) widely agreed that women were given greater choice in whether to have a medical or surgical abortion as a result of decreased wait times and the resulting lower gestational ages at which women could be seen, as well as the increased availability of the service. They felt that prior to telemedicine, women did not always have a 'real' choice because of the time-sensitive nature of medical abortion. As a physician reported, 'I've had some patients that wanted the medication abortion, didn't want a surgical abortion, and by the time they could have gotten to us in another part of the state . . . or for me to come to them . . . they wouldn't have been eligible anymore.' As a result, participants largely said that while they did not see an impact on the numbers of abortions provided, telemedicine resulted in medical abortion increasing as a proportion of the abortion services provided, reflecting the improvement in patient options. One physician stated,

> My sense is that more women are choosing medication rather than surgical because it's more readily available, decreasing a barrier to the service, just by better availability. But I don't know that more women are having abortions who otherwise wouldn't get an abortion because of telemed.

Several providers ($n = 3$) also noted that the expanded availability of medical abortion had rippling impacts on surgical abortion access. Because medical abortion could be shifted to a wider range of days, women could be more easily scheduled for surgical abortions on the few days a physician was in the outlying clinic.

Participants ($n = 5$) also described the impacts on women in terms of reduced travel. Prior to telemedicine, women either had to wait for the provider to come to their closest clinic, or they could drive or fly to another part of the state or for out-of-state care. Respondents noted that this disproportionately affected poor women and those living in rural areas who were not readily able to travel. As one participant said, 'I feel like it's vastly increased our access to the women that are most vulnerable. You know, our wealthier patients will get whatever they need, regardless of telemedicine, but in rural areas it's a lot more difficult' (physician). However, two participants noted that patient travel was not reduced for patients in very remote regions as they were not eligible for medical abortion.

A few respondents ($n = 3$) also mentioned that in addition to vast distances that women had to travel to get to a clinic, the weather could also be an extreme challenge in Alaska, and that telemedicine reduced burdens associated with travelling in unsafe and difficult weather conditions. As one provider said:

> It's negative seven outside right now. So in a setting like that, [telemedicine is] just absolutely the best possible thing that you could do for a patient. It's just not ever going to be possible that people are always going to be able to travel. The distance is always going to be there, the weather and the patients are always going to be there . . . . Access to providers is just so limited. And . . . just because you're in a state like that doesn't mean that women aren't still as much needing access to these services. (Physician)

Patient experiences with telemedicine were perceived to be positive, and none of the interviewees had experienced or heard of negative reactions or complaints. Respondents ($n = 6$) noted there could be an initial awkwardness or giggling when patients first saw the doctor on the screen, but that quickly dissipated. As one physician said,

> I've had many of these where we both had a little laugh about it for a moment, like, 'Oh, it's a little funny. Sorry we have to do this over the screen.' But I think many patients—and I am the same way—are used to doing things like FaceTime or Skyping and so it's a similar concept.

Two providers felt that overall patients appreciated the use of technology to improve their care and experience, and the majority ($n = 6$) stated that the overarching priority for patients was to have their abortion completed as early as possible.

When asked if there were patients they felt might be better served by an in-person visit, several ($n = 3$) reported it was a matter of individual preference/comfort, and three felt that telemedicine was appropriate for all patients. One respondent thought that patients who do not speak English as their primary language and deaf patients may be better able to communicate with a doctor in-person, and another provider felt that some women who were unsure or emotional about their abortion decision may prefer to meet with a physician in person. However, providers noted that patients are informed that their appointment will be performed via telemedicine, and have the option to wait for or travel to an in-person visit instead should they prefer one.

Impact of telemedicine on clinics and providers

Respondents ($n = 8$) felt that it was easy to integrate the telemedicine technology into clinic operations, and that a telemedicine visit largely required the same overall processes and clinic flow as an in-person visit, with minor additions related to the technological set-up. Participants reported that these technology-related tasks did not

impact the day-to-day flow of the clinic, and that overall the duties related to setting up the camera and computer were an easy addition.

Physicians ($n = 4$ of 4) reported feeling like their role and interaction with the patient was essentially the same as it was with an in-person visit—that they were able to see and hear the patient clearly, and to similarly describe the abortion process, answer patients' questions, watch them take the medication, and explain the procedures for next steps and follow-up. As one provider said,

> I do the same thing that I would do if I was in front of the patient. I do the counselling, computer paperwork, and discuss risk and benefits and follow-up with the patient and then I watch the patient take the medication instead of physically handing it to them.

This provider went on to say,

> My role as a provider is very limited in medication abortion anyway. It's mainly counselling with the patient. So the ability to offer that to a patient even if I can't physically be there with her is good. It seems like the perfect use for telemedicine. (Physician)

Another physician stated,

> I think it [telemedicine] is fantastic and it is very well suited to some aspects of healthcare, and this is one of them. There is, from my perspective, no difference in experience than if I was walking in the room in Fairbanks or Anchorage or Juneau and then walking back out.

The main differences from an in-person visit that doctors noted were nuanced, including having to explain to the patient what they were doing when writing a prescription or looking at the patient's chart, which the patient would be able to see during an in-person visit. One physician mentioned the main difference she experienced was not being able to give physical comfort to patients, like a pat on the arm or a hug, which she would do with some women when she was with them in person. Participants noted, however, that the doctor interaction is one part of a larger clinic visit where women are seen in person by a team of clinic staff who provide care and support, including physical comfort as needed.

Several doctors ($n = 3$ of 4) said that in an ideal world they would prefer to be in the room with the patient, but they saw telemedicine as more patient-centred because of the increased access and that the benefits outweighed the loss of in-person contact. Providers also discussed the impacts that telemedicine had on them in their role as caregivers, noting it allowed them to give better treatment when women could be seen sooner, at more convenient times, and with the type of abortion women preferred.

Participants noted that the increase in the proportion of medical abortion procedures had an impact on clinic staffing and efficiency in several ways. First, fewer clinicians were needed for medical abortions compared to surgical procedures. Second, telemedicine allowed physicians to see patients in several different clinics in one day. And third, telemedicine enabled clinics to schedule physicians on an as-needed basis, rather than dedicate an entire day to clinical work. One physician stated,

> It gives us huge flexibility because . . . instead of having a doctor scheduled and having to fill an entire day to make it feasible for the doctor to come in, you know, I can be doing an administrative day and take an hour out of an administrative day and see three medication abortion patients.

This flexibility afforded by telemedicine has impacted provider availability. A physician noted, 'it's economically not feasible in a state like Alaska . . . to bring a doctor in for two hours.' A clinic manager described telemedicine as addressing physician shortages in the state. Respondents also noted that telemedicine allows doctors to work part-time and from flexible locations that better fit their lives.

Suggestions for improving the service delivery model

Providers generally thought that the telemedicine system worked well; however, there were a few areas for improvement. The main suggestions pertained to the video display and provider navigation. In the set-up used at the time of the study, patients saw both the doctor and themselves on the video screen. One medical assistant/patient care coordinator noted that some women feel shy seeing their own face on the screen and that this could be a distraction, and suggested changing the display so that only the physician is visible on the patient's screen. A physician noted that at times s/he could not tell who else was in the room during the visit, for example a family member or partner, depending on how the camera was oriented. Suggested solutions included having a wider angle for the camera view and/or starting every visit by having the medical assistant in the room with the patient introduce everyone. Another issue participants noted was related to navigating between viewing the patient and medical chart on their screen, which could not be done simultaneously. Improvements to this included enabling continuous viewing of the patient while navigating to other windows.

Most participants ($n = 5$) noted that on rare occasions there were minor technical issues, including setting up the camera or adjusting the volume, but that these were typically resolved quickly. Participants stated that most problems could be avoided with training and experience, and that having a dedicated staff member to operate the telemedicine technology each day was critical.

All respondents stated they would recommend and support expanding telemedicine to new clinics, types of medicine, and geographic locations. As one medical assistant/patient care coordinator said, 'I feel like it's one of the best things that's happened to our clinic.' Providers

Table 1. Summary of interview themes.

Impacts of telemedicine on patients
1. Increased flexibility/availability in appointment times
a. Earlier gestational age at patient visits
b. Greater choice in abortion procedure type
2. Reduction in patient travel
Impacts of telemedicine on providers and clinics
1. Minimal impact on clinic flow
2. Minimal impact on provider–patient interaction
3. Improved clinic efficiency
a. Fewer clinicians needed for medical abortion versus surgical abortion
b. Physicians able to see patients in multiple clinics in one day
c. Physicians scheduled as needed
Suggestions for service improvement
1. Change video display so patient does not see herself in monitor
2. Ensure everyone knows who is in the room through wider angle video or verbal introductions
3. Enable easier navigation between medical chart and patient video

unanimously felt that the video was an important component of the experience and success of the model and in making patients comfortable. They also felt that doctors were better able to gauge the patient's emotions through body language and visual connection, and that eye contact with the patient helped to ensure patient understanding.

A summary of the key themes is included in Table 1.

Discussion

Providers reported that telemedicine medical abortion facilitated a more patient-centred approach to care, where women were able to be seen sooner, have greater choice in abortion procedure type, and could be seen closer to their home. They felt that it was easy to integrate the technology into clinic operations, and that a telemedicine visit largely required the same overall processes and clinic flow as an in-person visit, with minor additions related to technological set-up for the doctor interface. These findings were consistent across interviews and provider type, and also with previously published literature on medical abortion provided via telemedicine in Iowa.[4–6] They are also consistent with the literature showing high provider acceptability of and satisfaction with telemedicine for a broad range of healthcare services, including tele-dermatology, emergency care, psychiatry, diabetes, hypertension management, mental health, intensive care monitoring, oncology, and prison medical care.[10–19] Despite Alaska not using the remote telepharmacy system to dispense medications to the patient, as was used in Iowa, the service in Alaska appeared to work well, suggesting that this component is not required as the service delivery model is introduced in other settings.

Telemedicine may not be the best service delivery modality for all women, and it is important to inform patients about how the service will be provided in advance. In this study, providers felt that some women may be better served by an in-person visit, based on patient preference, as well as for patients for whom English is not their primary language, deaf patients, and people who may be unsure or emotional about their decision. In the Iowa study, 25% of telemedicine patients said they would have preferred being in the same room with the doctor; however, many of these patients stated that nonetheless they were satisfied with the video conference.[4]

There was no indication that abortion rates increased with improved access to services. Providers reported that they did not see a change in the number of abortions after telemedicine was introduced, but rather a change in the proportion that had medical versus surgical procedures. Again, these findings were similar to Iowa, where the total abortion rate decreased after telemedicine introduction (likely due to a concurrent program improving access to contraception), and the proportion of abortions in the clinics that were medical increased from 46% to 54%.[5]

This study has several limitations. First, this research was conducted with a small convenience sample and, as a qualitative study, is not intended to be representative of all provider experiences. However, we did obtain saturation in the themes we explored with this sample. Additionally, the results may not be generalizable to other settings where telemedicine is used for medical abortion provision. These data, however, provide in-depth information on providers' experiences, and corroborate the previous literature on telemedicine use for medical abortion in Iowa. Further research should be conducted to explore women's perspectives in Alaska.

This study adds to the evidence base documenting the acceptability of telemedicine use for the provision of medical abortion. These findings indicate high provider satisfaction, and the appropriateness of the application of telemedicine to this healthcare service. While this model of telemedicine undoubtedly improves access to early medical abortion in underserved areas, even greater gains could be made by providing the service directly to women in their homes. However, the current registration of mifepristone in the US requires dispensing the medication at a clinic or hospital.[20] Given the extensive safety data on the drug, this dispensing requirement may be removed in the future, as it has been in Australia, which would open up the possibility of direct-to-patient telemedicine provision of early medical abortion.[21]

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