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# How Clinicians Develop Confidence in Their Competence in Performing Aspiration Abortion

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## Abstract

In this article we explore how nurse practitioners, physician assistants, and nurse midwives in California (collectively referred to as clinicians) developed confidence while learning to provide vacuum aspiration abortion. We interviewed clinicians ( $n = 30$ ) who worked in reproductive health care settings and had participated in a large abortion-training study. Although the training had moral and political significance for the trainees, in this article we focus on their experience of skill development and how they gained confidence and competence in aspiration abortion, a procedure typically performed by physicians. We argue that confidence is not one dimensional. Understanding the diverse ways in which clinicians arrive at confidence might inform health care training and education generally. By examining attained competency from the clinicians' perspectives, we continue the discussion within the social science of health care and medicine about how clinicians know what they know and what expertise feels like to them.

## Keywords

abortion; education, professional; health care professionals; nursing; qualitative analysis; reproduction; sociology; uncertainty; women's health; women's issues

In this article we explore the experience of clinicians learning to provide vacuum aspiration abortion and how confidence is developed in performing this procedure. We interviewed nurse practitioners, physician assistants, and nurse midwives in California (hereafter collectively referred to as clinicians) who worked in reproductive health care settings and had participated in an existing training study to develop their ability to safely perform aspiration abortion. Although discussion of abortion in the United States often deals with controversy, moral dilemmas, intimidation, violence, and stigma, these topics are not the focus of this article. Rather, we discuss the process by which these clinician learners navigated uncertainty and gained confidence in their competence as providers of aspiration abortion, a procedure typically performed by physicians.

We define confidence as feeling certain or secure about one's procedural skills and knowledge. We argue that confidence is not one dimensional. It can be derived and expressed in a variety of ways as clinicians work to attain a sense of control over unfamiliar terrain. The definition of competence we employ is also multidimensional and encompasses not only proficiency in the basic mechanics of aspirating the uterus, but also physical, clinical, and psychosocial knowledge sufficient to be able to solve unscripted problems that arise in abortion care.

We show how clinicians adapted to uncertainties that came with expanding their practice into this contested arena, and demonstrated to their trainers and themselves that they had sufficiently mastered the procedure.

Although our focus is on the skill of performing abortion, our research also demonstrates how learning to perform aspiration abortion can be socially and politically meaningful to clinicians. We show how aspiration abortion can be one more skill in a clinician's "toolbox," and yet the very desire to gain that skill can often be undergirded by a set of overlapping moral convictions regarding reproductive rights, patient-centered care, and professional authority.

## Who Should Provide Abortion Care?

Abortion is a common, simple, and safe procedure (Bartlett et al., 2004; Finer & Zolna, 2011). Nearly one third of American women will have an abortion at some

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point in their life (Jones & Kavanaugh, 2011), yet locating a physician who provides abortion services is quite difficult in many parts of the United States. Eighty-seven percent of counties in the United States have no abortion provider (Jones & Kooistra, 2011). Abortion stigma, regulatory hurdles, and intimidation by ideological opponents contribute to the geographic disparities in care (Freedman, Landy, Darney, & Steinauer, 2010; Joffe, 2010). Although providers of abortion care often hold deep, conscientious commitments to the work (Dickens, 2008; Harris, 2012; Joffe, 1995), few are willing and able to provide abortion in conservative and rural areas (Freedman, 2010).

Physicians are not the only providers of abortion, and in several countries around the world other clinicians legally perform abortions (Renner, Brahma, & Kapp, 2012). In some U.S. states, nurse practitioners, physician assistants, and nurse midwives provide abortion (Donovan, 1992; Levi, James, & Taylor, 2012). In other states, clinicians have not been able to broaden their scope of practice into this medical territory that physicians are reluctant or unable to fully occupy (Abbott, 1983).

Some states originally passed physician-only abortion laws decades ago, prior to *Roe v. Wade* (1973), to protect women from unlicensed abortionists. California's abortion law allows nurse practitioners, nurse midwives, and physician assistants to provide nonsurgical abortions (e.g., by medication), but restricts these same licensed professionals from performing surgical abortion procedures. State law does not usually dictate such matters of clinical practice, but it does so in California because of the specific history and contention surrounding abortion (Taylor, Safriet, & Weitz, 2009). The State of California reserves this medical terrain for physicians even though other clinicians with similar skill sets in reproductive health care are well suited to the task (Advancing New Standards in Reproductive Health, 2009). Clinicians are already the primary providers of reproductive health services in Title X family planning programs in California, where they provide procedures of comparable complexity to early abortion such as colposcopy, intrauterine device insertion, and endometrial biopsy. In many health care facilities, clinicians already provide medication abortion and both pre- and postprocedure abortion care (Hwang, Koyama, Taylor, Henderson, & Miller, 2005; Joffe & Yanow, 2004).

By procuring a temporary legal waiver of the restrictions on abortion provision by licensed clinicians other than physicians from California's Office of Statewide Health Planning and Development (OSHPD), researchers from the University of California, San Francisco (UCSF), began to investigate whether nurse practitioners, physician assistants, and nurse midwives could safely provide

aspiration abortion during the first trimester of pregnancy. The resulting training study, called the Health Workforce Pilot Project #171 (HWPP), allowed investigators to track complication rates and conduct patient satisfaction surveys with more than 10,000 patients obtaining abortion care from physician and clinician providers (Taylor et al., 2012; Weitz et al., 2013). Abortion complication rates for both clinician and physician providers were well below published complication rates (Goldberg, Dean, Kang, Yousof, & Darney, 2004; Hakim-Elahi, Tovell, & Burnhill, 1990). The trained clinicians performed the procedure as safely as experienced physicians, and there was no statistically significant difference in patient satisfaction between the two groups (Taylor et al., 2012; Weitz et al., 2013).

## Aspiration Abortion

Clinicians in the HWPP training study learned how to perform both manual and electric vacuum aspiration abortion in the first trimester of pregnancy. We use the term "aspiration abortion" when referring to what is commonly called "surgical abortion," to distinguish an early pregnancy termination procedure from the more complex later abortion procedure beyond the first trimester (Weitz, Foster, Ellertson, Grossman, & Stewart, 2004). Aspiration abortion involves dilating the cervix, entering it with a suction tool shaped somewhat like a straw, and aspirating/suctioning the contents of the uterus completely. Some patients are sedated for this procedure, and others undergo it with only ibuprofen and the emotional support of a medical assistant or counselor, whose assistance is referred to as "vocal local" (Meckstroth & Mishra, 2009) and is somewhat analogous to the support of a birthing labor coach. The aspiration typically takes about 5 minutes. The procedure is technically similar to intrauterine device (IUD) insertion and endometrial biopsy, both of which involve entering the uterus through the cervix and are commonly performed by nurse practitioners, physician assistants, and nurse midwives.

## From Uncertainty to Competency

The HWPP training study resulted in ample evidence of clinician competence in aspiration abortion based on complication rates, trainer evaluations, and patient satisfaction surveys, reported elsewhere (Levi et al., 2012; Weitz et al., 2013). Therefore, in this article we limit our scope to the results of our qualitative substudy, focusing on self-assessment of competency based on clinicians' confidence in their skills and capacity to distinguish what they knew from what they did not know, as well as internal measures largely reliant on what they thought and felt about their abilities.

By focusing on these internal measures, we speak to a historic interest in the meaning and experience of expertise development in medical professionals. Social scientists have long been interested in how medical professionals learn to cope with the uncertainty inherent in medicine (Fox, 1957), how they learn to know what they don't know (Becker, 1961; Parsons, 1951), how they learn from failure (Bosk, 1979), how they move through stages from novice toward expert (Becker; Benner, 1984), and what preexisting experience or talents best predict success (Ericsson, 2006). In Renée Fox's now classic work "Training for Uncertainty" (1957), she delineated three prevalent forms of uncertainty with which medical students struggled during training: (a) uncertainty about their own ability to master ever-expanding medical knowledge and skills; (b) ambiguities inherent within medicine itself; and (c) how to distinguish between the two.

Fox's (1980) analysis was situated within early sociological studies of medical training. Since then, many others have built on her questions and theories about how professionals train for uncertainty and, paradoxically, how they train for control or certainty, citing strategies that professionals adopt to avoid decision-making paralysis given the uncertainty inherent in the work—strategies that some have argued risk glossing over important clinical complexities (Atkinson, 1984; Light, 1979). Although abortion is not a complex medical procedure (Bartlett et al., 2004), there is room for uncertainty among clinicians training to become abortion providers. In addition to paving a new path for their professional practice, they are adding a skill to their clinical repertoire that is politically contested.

Researchers in abortion-training studies around the world have typically not addressed competency in such rich dimensions. They tend to stop short of evaluating overall competency, and instead focus more narrowly on skill performance and complications (Renner et al., 2012). To ensure the achievement of broader competency, the HWPP training in aspiration abortion was designed to develop trainees' abilities to troubleshoot problems, respond to emergencies appropriately, and integrate abortion skills and knowledge into other components of reproductive health care. Working from this perspective of what it means to become competent in a new procedure, we conducted interviews with the clinicians and asked them to explain the experience of their own evolutionary process toward competency. They recounted their training experience and how they evaluated their own knowledge and skill acquisition and general confidence in their abilities.

## Methods

In 2007, UCSF researchers received a legal waiver of OSHPD of the California state law that currently limits the performance of surgical abortion to physicians. The researchers designed the HWPP training study in accordance with the four principles of competency-based medical education (CBME), which include a commitment to (a) focus on outcomes; (b) take learner abilities as a starting point; (c) de-emphasize time-based training; and (d) improve learner-centeredness (Frank et al., 2010). Because the detailed methodology of the HWPP study is reported elsewhere (Weitz et al., 2013), we summarize in this article only the significant methodological elements that were the background for this qualitative study.

For the HWPP training study, the researchers recruited clinicians from reproductive health care organizations that were able to provide clinical training and institutional support for the study. Both the institutional review boards of the clinicians' organizations and the Committee on Human Research at UCSF approved the study. To be eligible for the study, trainees were required to be a nurse practitioner, nurse midwife, or physician assistant licensed to practice in California with at least 12 months of successful clinical experience in a health care facility. They were also required to have at least 3 months of experience providing early medication abortion as well as the desire to continue working in women's reproductive health and providing early abortion care.

When women seeking abortion gave consent to participate in this study, clinic staff asked if they were willing to have a clinician perform their abortion procedure. If the clinician was unavailable, some of these women received care from a physician. The women who gave consent to the study but were not willing to be seen by a clinician received care from a physician. The HWPP physician trainer closely instructed and monitored the first 40 procedures that clinicians performed (the training phase). After this phase, clinicians were typically allowed to continue performing 60 more procedures with the trainer no longer present in the room (the practice phase), although the trainer was nearby for consultation. After 100 procedures, the HWPP clinician continued to provide aspiration abortion in the practice phase at least 1 day per month to maintain skills.

The qualitative substudy we describe in this article was approved separately from the larger training study by the Committee on Human Research at UCSF. We contacted HWPP-trained clinicians to solicit their participation in a qualitative study about their experiences of abortion training. We invited all HWPP clinicians (40 at that time) via email to participate in an in-depth phone or in-person interview. One clinician directly declined; 4 never responded. Those who responded affirmatively

scheduled interviews on a rolling basis, starting with the first trainee, until thematic saturation had been reached at 30 interviews.

Participants consented to the recording of their interviews, which lasted 45 to 60 minutes. We asked the clinicians to recount their clinical background and their abortion training experiences in a narrative fashion (Riessman, 2007). During the narrative we prompted them to answer questions about motivations to participate in the HWPP training study; concerns about participation; experiences of skill development, confidence, and uncertainty in the process of training; what the training meant to them; and how it might have changed how they viewed their work and personal life.

After transcription of the interviews, we read all transcripts for the inductive emergence of broad themes in the tradition of grounded theory (Charmaz, 2006). We read them a second time to formulate a preliminary set of codes reflecting those themes, then selected three transcripts that best represented the breadth of the data to code thematically using Atlas.ti qualitative data management software (Friese, 2011) according to the initial conceptual code scheme. This first version of the code scheme was broad, spanning many topics that reflected the theoretical interests and sensitizing concepts of the first author (Charmaz), including moral/political identity, stigma, skill development, perceptions of training styles, and the social construction of professional boundaries. The first author—a medical sociologist with experience interviewing reproductive health care providers—conducted the interviews and all coding. After initial coding of the three selected transcripts, the coding scheme was reviewed with the second author, who is an expert in clinician education. Striving to couple thick description with a theoretically relevant analysis (Geertz, 1973; Sandelowski, 2000, 2009), both authors together revised the coding scheme to best examine the emergent themes about confidence and competence.

We employed an iterative analytic approach (Charmaz, 2006) in finalizing the code list to reflect a nuanced focus on the clinician experience of confidence and competence. We resolved any differences of opinion about the significance of codes and which data best reflected the codes through discussion and mutual agreement. We then coded the first three transcripts anew, this time with the new code list. Finally, we applied the new code list to the 27 remaining transcripts. Only some of the codes and data emerged as critical to the overall analysis and narrative arc.

## Results

We conducted four clinician interviews in person, and 26 more by phone, for a total of 30 interviews. Clinicians

had an average age of 44.5 years and an average of 13.8 years of clinical experience at the start of training. Out of the 30 clinicians interviewed, 23 were nurse practitioners, 5 were nurse midwives, and 2 were physician assistants. Only 2 were men: a physician assistant and a nurse practitioner.

### *Clinicians' Motivations to Train*

To understand how clinicians gained confidence in their ability to perform abortions, it is important to know what motivated them to participate in the training study. Even though the focus of this article is not the politics of abortion, clinicians are nonetheless embedded in the political and social significance of the work, and most are highly motivated by it, in addition to having other general reasons such as professional growth. It is precisely because of the clinicians' high level of motivation that most had already acquired the prerequisite experience for participation. Without significant motivation, clinicians might not have embraced the challenges and increased responsibilities presented by the training.

Many participants chose to work in environments almost exclusively dedicated to family planning and abortion because of their deep commitment to reproductive health and rights. For example, one nurse practitioner had worked for her employer for 22 years, and she repeatedly asked her superiors to select her for the HWPP training study. She recalled telling her medical director, "I really want to learn this service. I want to take part in it, I want to be able to give this back for women." With similar enthusiasm, a nurse midwife described her interest in training in terms of her commitment to a paradigm of full-spectrum pregnancy care. That is, she wanted to be able to provide a wider breadth of pregnancy-related care to her patients, rather than referring them to other providers for parts of their care:

It just seemed to make total sense to me, that if you care for women in pregnancy as a midwife—where you support them and care for them and nurture them and do all the aspects of taking care of women in pregnancy—that you would also want to be able to do their abortion for them.

Clinicians referenced other motivations such as the desire to expand access to abortion for women in underserved areas, to further their own skill development, and to advance the scope of practice for their professional group. In relation to improving access to abortion care, a nurse practitioner said,

A huge percentage of our providers are going to retire. . . . I felt like I needed to take advantage of the training so that if



it becomes something in the future during my career, that I'm able to provide it.

Some clinicians framed their training interest in terms of skill development and their own clinical achievements. They were happy to learn something new and to be challenged. For example, a nurse practitioner explained that she had been feeling stagnant in her work and had told her superiors, "I need to continue learning because I get bored." A few clinicians, when asked what motivated them to participate in the HWPP training study, evoked the perennial issue of "turf wars" in health care, referencing the tensions that can arise between professional groups or specialties when both are claiming jurisdiction over the same patients or procedures (Abbott, 1983). They talked in broad terms about advancing the scope of practice for their professional group and changing policies that restrict aspiration abortion to physicians only. For example, when asked what the training study meant to her, one nurse practitioner responded,

I completely understood the concept of what they were trying to prove. I've always felt that nurse practitioners could do abortions. It didn't look that hard. But, you know, I can do all kinds of different specialty things that docs [doctors] can do, too.

Similarly, a family nurse practitioner remarked that she felt professional boundaries around specialty skills are not always appropriate: that is, some professionals have the authority to do things that they are not well trained to do, yet others have the necessary skills but no authority. She saw the training study as one way to illustrate this. She said,

Not everyone can do specialty skills. . . . I think it's just important in general for people to know what their limitations are, no matter what profession they're in. So I don't think that skills necessarily need to be, or have to be, only given to one profession.

Thus, whereas some clinicians were motivated to participate in the training because of its political significance and their desire for broader change in health care, others focused on the individual-level professional benefits, and clinicians often came to the training with more than one of these motivations. Many clinicians credited these various motives for their willingness to participate in the training.

### *Training is Incremental and Individualized*

These clinicians were not novices. For many of those interviewed, the opportunity to learn aspiration abortion, though politically and socially meaningful, was also

understood as just further accumulation of skills on a long incremental path toward expertise in reproductive health care. The clinicians had experience with several procedures that gave them background knowledge for abortion provision and confidence that they could master new skills. Furthermore, they added skills to their repertoire in individualized ways. Some gained their prerequisite work experience and skills in reproductive health care and some in other fields. For example, a nurse practitioner explained how she came to the training study with extensive experience on an abortion service where she described doing ultrasounds, laminaria insertion, and paracervical blocks—"Everything except for the procedure itself."

Some clinicians came to the training with significant clinical experience outside of family planning. A family nurse practitioner who had worked as a generalist lamented losing some of the diversity of clinical care she gave up when taking a job focused solely on reproductive health: "I love doing procedures. . . . I missed suturing, and doing incisions and drains, and removing toenails and cockroaches from ears." She referenced the loss in practice diversity and her related desire to learn new skills as reasons for participating in the training study. She further said, "I knew that I would be successful at it, just because I'm really technical."

Some nurse midwives who had worked in labor and delivery in the past were also quite confident of their technical skills, describing a particularly high preexisting level of comfort with uterine procedures and emergency care. One nurse midwife recalled, "With deliveries . . . we were putting our hands in uteruses and taking out placentas and, you know, sort of being there as an OR [operating room] nurse." Another nurse midwife recounted her history learning new procedures, starting with assisting in Cesarean births and then, while working in infertility care, endometrial biopsy and sonohistogram. She explained, "It just really seemed like a natural step."

Although clinicians started the training by reading medical articles and study materials, their most memorable inauguration to aspiration training was when they began to observe the physician trainer performing abortions. After observation, when the trainer felt the clinician was ready, the clinician was allowed to perform an aspiration abortion for a study patient under the trainer's close watch. Many clinicians completed their first procedure from beginning to end unless they experienced difficulty, in which case the physician took over. A nurse practitioner with more than 20 years of experience working in abortion care recounted her first day of training:

I observed him do one procedure and then he said, "Okay, now you sit and I'll guide you." And it was pretty straightforward, and he really gave me all the preparation. . . .

He put his hand on my hand . . . he totally guided me. So he got me involved putting on the tenaculum [device to stabilize the cervix], 'cause I was putting IUDs in already so I knew how to do that, but I didn't know how to do a paracervical block. . . . He was just right in there. I think he tailors that to the person and how nervous they are. . . . I did have to, a couple of times, have to get up and have him take the seat, put on the gloves and actually finish the dilation 'cause I wasn't quite sure how to push or different things.

A nurse midwife with 7 years of experience working in her abortion service explained how, because of her extensive background, after observing the trainer for a week, she completed her first procedure from beginning to end:

The only thing that I hadn't done in the first trimester abortion was the suction part. I had done the pelvic exam and giving the cervical block and dilation of the cervix, so that was the only new thing that I was learning.

In contrast, a few clinicians trained in steps, perfecting the first task of a sequence of tasks on several patients before being allowed to go further. For example, a nurse practitioner who had 18 years of clinical experience before starting the training recounted,

The first day I watched him do a couple and then, because I told him I had had that experience doing paracervical blocks, he let me do the paracervical block and put the tenaculum on, you know, and then just like, every time I would come we'd just go a little bit further, a little bit further, until I was doing the whole thing. And you know, he would be really, really hovering over me. . . . Then he would step back a little bit and step back and step back. And then after I'd gotten to forty he said, "You know, you're good. You know, you go in and I'm right here or outside the door, or next door in the other room, and do not hesitate, you know, to come get me if you have any concerns, questions or anything."

Across the board, clinicians felt closely observed by the trainer for the required 40 procedures. Most felt that number was sufficient. For a small handful of clinicians, however, taking time off for personal reasons or encountering scheduling conflicts caused them to feel they had regressed between training sessions; therefore they asked for more time to do procedures with the trainer. For example, a nurse practitioner with 8 years of clinical experience said that after 2 months of training and 20 procedures completed, she had a 6-week break that set her back:

I sort of lost the feel. . . . I actually wasn't ready to be by myself at forty procedures. It took me more like, somewhere between, I think like fifty-five or something before he wasn't in the room with me.

A nurse midwife similarly felt she needed additional time when her training was interrupted by vacation and then jury duty. The trainer was comfortable with her skills after 40 procedures, but she was not. She said, "I just didn't have that confidence so I took another maybe fifteen, twenty patients before I could say, 'Okay, I'm good now. Good to go.'" That being said, most felt ready to conduct the aspiration on their own after 40 procedures, knowing the physician trainer was in the next room if they had questions for the next 60 procedures (the practice phase).

Clinicians regularly consulted with physicians during the practice phase. A nurse practitioner said, "I err on the side of stopping and asking, consulting, and I would, I always would. Because I, I'm just not that arrogant. I know too much." She saw asking for help as an appropriately cautious practice. Sharing a specific example, a nurse practitioner who had worked for her organization for more than 20 years explained how she asked her trainer to consult with her because she needed help with the unusual physical presentation of the patient. She recalled,

Your confidence goes to hell when something like that happens. But . . . he explained to me what her cervix did so that if I run into that again, I could try his little tricks of figuring it out.

As she indicated, it was humbling or difficult for some clinicians to admit they could not figure out how to complete a procedure and to ask for help. At the same time, many framed these consultation experiences as helpful learning opportunities.

In summary, clinicians began the training with many foundational skills already in place, lending them confidence in their ability to master similar skills and a base on which to build their procedural knowledge. Flexibility in the training structure and ongoing consulting opportunities meant that clinicians could ask for what they needed in individualized ways consistent with the learner-centered principles of CBME.

### *A Sign of Competence*

As clinicians gained experience they usually gained confidence and comfort with the procedure. A number of clinicians described an increase in proficiency in terms of the way the patient seemed to reemerge or come back into focus; that is, when everything was new, the clinicians needed to focus extraordinary attention on the technical learning, and tended to interact less with patients. For experienced clinicians, this was a humbling yet temporary loss of communication skills. For example, a nurse

practitioner said, “In the beginning I felt like it was almost like a step back because I had to put so much concentration on the procedure itself that I couldn’t really even think about talking to the patient.” Another nurse practitioner similarly remarked, “In the very beginning my head was too filled with the details of the procedure to pay attention to the patient, so thank God for the assistant.”

One nurse practitioner felt there was a certain kind of division of labor that took place during the early training: the trainee did the technical work of the aspiration, and the trainer and/or medical assistant did the emotional work of reassuring and checking in with the patient (Hochschild, 1985). She explained:

I couldn’t [interact with patients during the first forty], partly because [the physician] was in the room. The trainer, she took on more of the comforting the patient and chatting with the patient and kind of either doing distraction or explaining what was going to happen. . . . It was almost like she was attending to the patient from the waist up, and I was focused on the procedure.

Similarly, a nurse midwife explained that during her training, while she was focused on the technical learning and developing dexterity in her hands, she also noticed that the trainer filled the role of primary provider to the patient. She explained:

When [the trainer is] there you’re kind of answering to them, like, “Is this right?” Like, “Does that look good to you?” . . . And [patients] can see them and they hear them. I think [the trainer is] really seen as the more dominant presence in the room.

When clinicians grew familiar with the different steps, motions, and sensations involved in doing aspirations, they noticed being able to interact with the patient with more fluidity. For example, with the aforementioned nurse midwife’s improved ability to focus on two things at once thanks to “muscle memory,” she was better able to integrate technical and emotional management skills to communicate with her patient and complete the procedure at the same time:

I think the ability to actually split your time or your focus . . . because you have some muscle memory, because you have some familiarity, you don’t feel so honed in on the cervix, on the uterus. . . . You can also split your focus to make sure that you’re interacting with the patient in some kind of a way or checking in with her: “Are you doing okay? You might feel a pinch here.”

A nurse practitioner recalled reaching a point at which she looked forward to being able to interact and relate with the patient as her primary provider again:

Actually, by the time I had finished my forty procedures with her, I was really looking forward to being the one. . . . I thought, okay, I feel ready now to integrate doing the procedure but then also being able to talk to the patient.

Similarly, a nurse midwife felt relief that the period of close observation was over and the trainer was no longer in the room: “You’re used to being by yourself for exams and things like that.” Furthermore, a nurse practitioner noted that with her improved technical comfort and confidence, she felt at ease in the role. She explained: “Now I’m very involved with the patient all the time. I’m just very involved, and conversational—or quiet—depending on what I pick up from them, depending on where they are.”

In summary, the notion that the patient reemerges—or more specifically, that the clinician–patient relationship is reinstated on achieving a certain degree of technical proficiency—was salient and recurrent in the data. It served as a marker of increased overall competency for the clinicians.

### *Confidence in Competence*

In the interviews, clinicians explained confidence in their level of training and competency in aspiration abortion care differently. We have labeled the four ways clinicians expressed confidence in their skills as protocol confidence, vigilant confidence, experiential confidence, and progressive confidence. The categories we put forth here are not necessarily mutually exclusive; clinicians sometimes tended toward more than one expression of confidence. However, different expressions of confidence might be predominant for particular clinicians based on personality, learning style, communication skills, cultural background, and stage in training, although no observable patterns emerged in our small sample.

The four types of confidence can be understood as strategies for coping with uncertainty during the training process. They reflect both internal and external loci of control. The clinicians who articulated protocol confidence were especially reassured by structures outside themselves, such as guidelines and instructions that delineated the development of a new skill, rules and limits during training, and a proscribed order for performing procedures. For example, a nurse practitioner said,

I think I was more nervous about doing abortions before I understood what all the steps were. And then once I learned the steps, you know, I thought this is not, you know, it’s not really difficult. It’s not anything that is beyond what a nurse practitioner should do. . . . I’m going to probably have some complications and what those could be, it’s concerning, but I mean, it’s not paralyzing, you know.



For this clinician, by breaking down the procedure into steps and knowing that some complications were expected, she gained confidence that if she just followed the rules, she would do well.

Through strict adherence to protocol, learners reinforced their sense that they were developing competence and being successful. Another nurse practitioner described how, to minimize the risk of problems, she continued to adhere to specific steps she was taught, without improvising:

It's a real, a regimented kind of process. There isn't as much room for improvising because the order of how you do things, it's very orderly, and if you stick by that . . . if you stay by the process, the chances of things going wrong are less. That doesn't mean they can't, but I think they're less because you have a process you're supposed to go through.

Sticking to the steps was not entirely obvious. There can be room for clinician discretion and slight variations in style in aspiration abortion. By strictly adhering to the steps of the procedure, this clinician had a strategy for control or confidence that did not rely on her own discretion, but rather had an external locus of control. This tendency to focus on adherence to technical processes as a source of certainty or control has been noted by others as well (Atkinson, 1984; Light, 1979).

In contrast, clinicians who put more weight on their own decision making and practice style tended toward an internal locus of control. Those with vigilant confidence seemed to feel extraordinarily responsible for patient safety, were very cautious, and did not let faith in the trainer, the training, or the study reduce their desire to double- and triple-check what they were doing:

I think my Number One concern is always, in general, with anything—even with myself not being involved in this program—is always the safety issue, safety with everything. Safety starts with doing the procedure, so always safety. . . . I'm a safety freak. I always think about that. It's always in the back of my mind. I think you just have to be a little street smart. You have to use a lot of common sense and keep your eyes and ears open.

Thus for her, sticking to the steps was not enough. She drew confidence from anticipating problems so that she would be ready.

Abortion complications are rare (Bartlett et al., 2004), and because of their infrequent occurrence clinicians have to develop an ability to respond to them even if they never experience one during training. Although past experience informs clinicians' expectations regarding complications, it is their vigilance that allows them to know they will be able to recognize and respond to complications appropriately. Another nurse practitioner talked

about being prepared both procedurally and emotionally for what happens when something goes wrong:

I know that there may be some big complication out there waiting to happen that I haven't experienced yet, and abortion, early abortion aspiration procedures are extremely safe, so it's unlikely that anything is going to go wrong for a long time. But I've certainly seen enough, been around abortion enough to have experienced what can happen. . . . I've certainly thought through those scenarios in my head many, many times in order to kind of, you know, be prepared emotionally and as far as what I would do.

Clinicians who expressed experiential confidence expected to become competent because they had mastered other similar skills. For example, a nurse practitioner explained,

I'm pretty familiar with being intimately involved in [abortion] care. So, to me [the training] was just an extension of what I've already been doing. . . . I've been pretty successful at mastering steps along the way . . . after thirty years of working and teaching, and I've almost always worked in teaching hospitals. . . . I just basically kind of listened to [the trainer's] . . . experiences. That was probably the main thing, just listening to her experiences and trying to integrate that into practice.

Experience also allowed many clinicians to make relevant connections between their newly acquired skills and related procedures they were already doing in clinic. For example, a nurse midwife contended that the training demystified some aspects of her practice. She said, "It's a reinforcement of what I've known. . . . [It] made some things clearer that I sort of knew but didn't quite understand the whys of it, the rationale." Similarly, a nurse practitioner said,

Any time you learn new things it makes what you know about other things crisper. . . . [Now] I don't sweat the small stuff with like medication abortion follow up or even with the surgical follow up, the aspiration follow ups. . . . I don't worry about things as much because I can put it in perspective to what was done.

With time, some clinicians expressed progressive confidence. That is, certain clinicians were able to see stages of learning in a developmental context, and some of these clinicians had been teachers and trainers themselves. Rather than allowing difficult moments of training—for example, the inability to complete a procedure—to deplete their overall confidence, they were instead analytical about when, why, and how they felt uncertain. This allowed them to see difficult moments as a normal part of training and less as a reflection on their abilities. For example, a nurse practitioner recalled that she felt

confident while learning with her trainer, but during procedures 40 through 80 she was very uncertain, had some challenging cases, and experienced a loss of confidence. After 80 procedures things changed:

Apparently there were certain things that I had to figure out. . . . Around like eighty to ninety procedures is when I felt like, okay. I can feel now that I'm more experienced. I can feel the effects of the experience now.

Another nurse practitioner also shared a memory of how her confidence ebbed and flowed. Her trainer was mindful of the risks that overconfidence presents to clinicians and their patients. To address this, he critiqued her when she was not expecting it. She came to see this type of confidence management on the part of the trainer as part of her learning curve and a natural progression of competence building:

I remember there being very much a beginning, middle, and end to it. The beginning was, you know, was really exciting but really tiresome and, you know, "I'm feeling kind of stupid." And then things were starting to get a little bit easier. And then some time in the middle, just right before I actually finished the training phase and was ready to take the test and move into the practice phase, you know, [the trainer] actually kind of came down on me really hard. I felt things were getting better and I was really kind of getting it . . . and he just really wanted to slow me down. . . . He just really wants everybody to, you know, kind of be in a very humble place when you start as a beginning practitioner, which is really smart. . . . Then he did finally sign me off and I came into the practice phase, still being in the same clinic with him, of course, but doing the procedures by myself. And I think I came into that very humbled, very, very kind of clear that I was going to get help a lot in the beginning and have him come in and help me, and I did. And then I needed that less and less and less as time has gone on.

Ultimately, she came to see her trainer's strategy as wise and appropriately cautious. She interpreted it as a correction to her overconfidence rather than as a negative statement about her skills. She also saw that she became more independent with time and the trainer grew satisfied with her level of competence.

The protocol, vigilant, experiential, and progressive forms of confidence must not be viewed as mutually exclusive. Indeed, the fourth category, progressive confidence, implies that there might have been phases in the evolution of confidence that included the presence of the other three forms. Unfortunately, no linear developmental process was discernible through this one-time interview, nor were there clear demographic patterns associated with the four types of confidence. However, we have teased them apart here because they emerged as distinctive ways of deriving confidence that might be of

pedagogical interest and can be viewed as strategies to cope with uncertainty in the training process.

## Discussion

As a group, clinicians who participated in the aspiration abortion training study were generally highly motivated to provide abortions and quite experienced in reproductive health care, bringing a substantial skill set to the training. Many were already providers of many components of abortion care other than the aspiration. Nonetheless, clinicians worked to overcome the uncertainty and discomfort of learning something new.

There were several dimensions to learning a new skill and developing competency. In addition to establishing safety through measures such as monitoring complication rates, competency development required accountability and critical self-assessment by the learner. These internal processes were made visible in the data when clinicians asked for extended supervised training or consulted trainers on difficult cases. Such moments shed light on how clinicians distinguished what they knew from what they did not know (Fox, 1957). The ability to identify and explain deficiencies and improvements in one's competency are basic components of professional behavior, as well as recognized elements of advanced clinical practice (Tilley, 2008). Clinicians brought their past professional experience, as well as an understanding of the limits of their own skills, to learning a new procedure, congruent with the application of knowledge gained through experience that informs professional development (Benner, 1984).

One example of such self-awareness in the data was how clinicians noted that as their technical fluency improved, they were better able to interact with patients and tend to them verbally throughout the procedure. They saw their own extreme technical focus during the early training stage as a temporary departure from their role as primary provider, and noted that as they became more skilled and capable of interacting, the patient came back into focus. This is a notable accomplishment because interaction with and support from providers are among the most important factors in patient satisfaction with abortion care (Kimport, Cockrill, & Weitz, 2012; Paul, 2009).

The clinicians were able to develop confidence in their ability to perform aspiration abortion, though they expressed this confidence in different ways. Some clinicians tended to credit their adherence to the study protocols and steps they learned as the source of certainty (protocol confidence). Some drew internally from their own cautiousness and sense of safe practice to know they were competent providers (vigilant confidence). Some clinicians who had plentiful work and training experience

seemed to express confidence in terms of faith in their knowledge base and their ability to learn and integrate new skills (experiential confidence). Finally, some clinicians saw confidence as something that ebbed and flowed depending on their stage of training (progressive confidence). We differentiated these four styles (even though there was often overlap) to inform educational practice and show there are multiple routes to confidence. Although they might be demonstrated differently, each route is a valid strategy for coping with the uncertainties of training.

It might be useful for trainers and those interested in clinical education to consider how clinicians navigate uncertainty and gauge their own competency as a way to incorporate the experience of the learner into the educational process. We believe that understanding the distinctive ways of expressing confidence might help trainers in a variety of settings better communicate with students and help them to move forward. This supports the concept of learner-centeredness, which is an important component of CBME. More research is needed before we can correlate confidence styles with characteristics of the learners to see if predictive patterns might emerge.

From these data we can gain insight into other possible strategies for confidence. Narrowly focusing on reproductive health care practice, for instance, can allow for a deeper sense of mastery over a subset of clinical knowledge and skills, and is one strategy for controlling medical uncertainty that has been noted in the literature (Bosk, 1979; Light, 1979). Our findings also point to an additional strategy for coping with uncertainty by which learners adopted a school of thought (Bosk). Bosk noted that medical residents committed to a certain pattern of practice based on scientific or medical principles. The HWPP clinicians were motivated by the social and public health significance of performing aspiration and were, in a sense, committed to a public health school of thought. That is, they generally believed that access to abortion care, and continuity in care between clinician and patient, are all important.

Similarly, they tended to believe that working to uphold these two values is worth the potential discomforts of (a) being identified as an abortion provider, and (b) pushing the boundaries of their clinical comfort zone. Clinicians might have drawn on such convictions to resolve uncertainty about their ability to safely perform abortions before enough data had been generated to prove they were safe providers. While learning aspiration abortion through the training study, it is likely that the clinicians resolved uncertainty about their safety in performing the procedures because of their commitment to the principles of patient access and continuity of care.

The political history of abortion can complicate societal understanding of what it takes to develop the

necessary skill to perform the procedure. The legalization of abortion in the United States occurred in response to the need for access to safe and skillfully performed procedures to prevent unnecessary morbidity and mortality (A statement on abortion, 1972). Immediately after legalization, abortion was clearly deemed to be in the province of medicine and physicians. Nurse practitioners, nurse midwives, and physician assistants were not in the mainstream of medical care at the time that *Roe v. Wade* (1973) was decided, and therefore they were not considered as potential providers of this service. However, the growing demand for reproductive health services and the geographic disparities in care have created the opportunity to extend abortion provision to a new cadre of clinicians. In turn, the expanded scope of practice of these professional groups to encompass a variety of low-risk procedures across medicine has provided a precedent for a potential solution to a growing access problem in abortion and other health care procedures.

Limitations to our qualitative substudy include the fact that the sample was small and not representative of clinicians generally. Interview participants were part of a very specific group who had participated in an experimental training in California. Thus, what we have learned from the clinicians about how they developed confidence in their competence in aspiration abortion must be understood within this context. Nonetheless, we think the insights gained by understanding their confidence development will help clinician trainers better understand their trainees. Those specifically interested in abortion training and competency can gain even more targeted insight into the internal process of confidence development for clinicians. Finally, our analysis offers a way of looking at competency from the clinician's perspective that removes external quantifiable measures and furthers medical sociologists' longtime interest in how clinicians know what they know and what expertise feels like to them.

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