



Barriers and Enablers to Becoming Abortion Providers: The Reproductive Health Program

Megan Greenberg, RN; Cara Herbitter, MPH, CPH; Barbara A. Gawinski, PhD; Jason Fletcher, PhD; Marji Gold, MD

BACKGROUND AND OBJECTIVES: Despite abortion being one of the most common procedures undergone by women of reproductive age in the United States, the number of abortion providers has been declining for the last 20 years. We sought to assess the long-term impact of the Reproductive Health Program (RHP), a national elective abortion training program for primary care abortion providers that operated from 1999–2005.

METHODS: We conducted a mixed-methods cross-sectional study of 220 former RHP trainees. Participants were interviewed over the phone and asked a series of questions about their training at RHP, their current practice, abortion provision since RHP, and enablers and barriers to abortion provision.

RESULTS: More than half of respondents (58.8%) have provided any abortions since RHP; more have provided medical abortions (56.5%) than surgical abortions (47.1%). Of respondents who have provided abortions, most have performed more than 50 surgical (87.5%) or medical (77.1%) abortions since RHP and had provided an abortion in the last 3 months (67.5%, 70.8%). More than 90% of abortion providers reported having liability insurance that covers abortion, colleague support, ease of obtaining medications and/or equipment, reimbursement, and administrative and/or staff support at the site where they provide abortions. Relative to providers, the greatest barriers reported by non-providers were lack of skills, concerns about liability, and difficulty obtaining supplies.

CONCLUSIONS: Our findings suggest that the RHP model of elective training can yield a substantial percentage of abortion providers. We also describe enablers and barriers to provision once trainees are in practice, highlighting the importance of continued support after training is completed.

(Fam Med 2011;44(7):493-500.)

Abortion is one of the most common procedures undergone by women of reproductive age in the United States.¹ However, the number of abortion providers in the United States has been declining, and 87% of counties

have no abortion provider.¹ First-trimester abortions, which account for 89% of all abortions in the United States,² can be provided by a variety of providers, including primary care physicians, obstetrician-gynecologists (OB-GYNs), and advanced

practice clinicians (APCs) in some states. (We use the term *advanced practice clinician* to refer to nurse practitioners [NPs], certified nurse midwives [CNMs], and physician assistants [PAs]. Although there is not complete agreement on this terminology, an ideal alternative has not yet been identified).

Since 1996, the Accreditation Council for Graduate Medical Education has mandated that OB-GYN residency programs include experience with induced abortion, and as of 2006, 90% of programs were providing some abortion training.³ In contrast, only 49% of family medicine residencies and 21% of CNM, PA, and NP schools offer any clinical abortion training, and this training is only routine in 7% of family medicine residencies.^{4,5} Training is also limited in medical schools.^{6,7} Once clinicians have completed their formal training, limited abortion education opportunities are available, and few can obtain the amount of supervised experience necessary to reach competency.

In addition to training barriers, abortion remains a stigmatized medical procedure in the United States, and many providers face harassment

From the Montefiore Medical Center (Ms Greenberg, Ms Herbitter); University of Rochester School of Medicine and Dentistry and Highland Hospital (Dr Gawinski); and Albert Einstein College of Medicine (Drs Fletcher and Gold).

and violence, as well as regulatory and logistical obstacles.^{8,9} In one study, 39% of OB-GYNs who had received abortion training, but were not providing abortions, worked in hospitals where provision was prohibited.¹⁰ Another similar study of OB-GYNs described significant barriers to provision, especially colleague and staff resistance, and concerns about family safety.¹¹ Many primary care clinicians have difficulty obtaining liability insurance that will cover abortion.¹² APCs often face scope of practice limitations within their professional organizations, and many states have laws permitting only licensed physicians to perform abortions.¹³

There is little published literature that addresses factors that make it possible for an individual clinician to become an abortion provider. A number of articles have described the successful integration of abortion services into family medicine residency programs and refer to the importance of colleague, staff, and administrative support, OB-GYN backup, and malpractice insurance.¹⁴⁻¹⁶

From 1999 until 2005, the Department of Family Medicine at the University of Rochester Medical Center operated the Reproductive Health Program (RHP), a comprehensive elective abortion training site open to all US medical students, residents, APCs, and physicians in practice.¹⁷ RHP aimed to address a gap in abortion training, particularly for primary care clinicians. This study reports on the number of RHP trainees who became abortion providers. It also describes the barriers to abortion provision faced by all trainees and the enablers for those who have become providers. To our knowledge, this is the first published study evaluating the abortion provision outcomes of primary care clinician abortion trainees, and the first to report on enablers to abortion provision for individual clinicians.

Methods

Participants

We compiled a list of all 220 clinicians who received training at RHP between 2001 and 2005, including all the summer trainees beginning in 2000 (Table 1). Most came for a 2- to 4-week rotation during which they received hands-on first-trimester training. Twelve trainees had 1- to 2-year fellowships, and 36 medical students came for 8 weeks in the summer. Finally, some trainees came for a day or two to observe procedures or learn sonography. Training sites included two high-volume abortion clinics, one small private abortion clinic, and one hospital-based outpatient office, which was a satellite of a family medicine residency program. Trainees learned electric vacuum aspiration (EVA), manual vacuum aspiration (MVA), and medical abortion. (EVA and MVA are procedural methods of abortion. However, the convention has been to refer to all abortion procedures as “surgical abortion,” and we referred to these methods as “surgical abortion” in our survey and use this terminology throughout this manuscript.) Medical, mental health, and social science faculty provided interactive didactic sessions on topics including pregnancy options counseling, abortion from a sociological perspective, and ultrasound skills. Trainees performed 25–90 medical and aspiration abortions under direct supervision.

Study Instrument

We conducted a mixed-methods cross-sectional study of trainees who (1) received hands-on procedural training and (2) currently practice medicine in the United States, and (3) whose scope of practice includes abortion provision. A questionnaire was administered to participants about their training at RHP, their current practice setting and specialty, abortion provision since RHP, and enablers and barriers to abortion provision. In addition to the

quantitative sections of the questionnaire, we included open-response questions about enablers and barriers to abortion provision. (The enabler question was asked of respondents who had provided abortions since training, after being read a quantitative list of possible enablers, as we found during the pilot study that enablers were a more complex concept for respondents to grasp without examples. The barrier question was asked of respondents who confirmed they had experienced barriers, prior to being read a quantitative list of possible barriers, as most respondents didn't need any prompting. An additional open-ended question about the reason for not providing was asked of respondents who had not provided abortions since training or had provided since training, but not in the previous 3 months, to elicit additional information when applicable.) For instance, we asked: “We are interested in factors that have been helpful in enabling clinicians to provide surgical/medication abortions. Can you tell me what factors have been helpful in enabling you?” Participants provided written or oral consent. This study was exempt from review by the University of Rochester Research Subjects Review Board.

Data Collection

The research assistant (RA) who had no prior connection to RHP conducted all interviews by phone between September 2008 and March 2009. The RA used contact information maintained by RHP and publicly available directories to reach trainees. The initial contact to trainees was an introductory email when an email address was available; trainees who did not respond after three emails or for whom no email address was available received up to three telephone calls. All respondents received a unique number code to de-identify them and the data for analysis. To record open-ended responses, the RA took detailed notes,

which ranged from a few key phrases to several sentences.

Data Analysis

Quantitative analysis was performed using PASW Statistics 18, Release Version 18.0.0 (SPSS, Inc, 2009, Chicago, www.spss.com). Descriptive analyses were conducted to generate summaries of the sample's demographic and practice characteristics. Respondents were grouped into providers and non-providers based on whether or not they had provided medical or surgical abortions since training. Odds ratios were calculated to quantify the differences between providers and non-providers in terms of barriers they had experienced to providing abortion services. Enablers to providing care reported by providers were examined.

Qualitative data were analyzed using standard techniques. The analysis team included the RA, a member of the psychosocial faculty at RHP, and a research coordinator unaffiliated with RHP. Data were uploaded into NVivo 8, a processing and analysis program that facilitates the rapid organization and retrieval of qualitative data (QSR International, www.qsrinternational.com). First, the team read through the data and generated a list of initial coding categories, organized according to three parent themes: Enablers, Barriers, and Anything Else. Under these themes, they included categories from the quantitative survey that were emphasized by respondents and added new themes that emerged from interviews. Coding categories were then applied to subsets of the data using an iterative process, adding more themes as they emerged and combining themes that overlapped. Once the coding list was finalized, team members coded together until inter-coder reliability was ensured, then divided the remaining interviews so that each reviewer was assigned specific interviews. Coders reviewed one another's coding and resolved any disagreements through discussion. Themes

were summarized across the entire sample.

Results

Response Rate

Figure 1 illustrates the data collection process and response rate. Of 220 trainees, the RA reached 113 trainees who agreed to be interviewed, a 51.4% response rate. Of these, 28 were ineligible to participate, because they reported only having received training in sonography, were practicing outside the United States, were still in residency at the time of the interview, or were in a medical specialty that precluded abortion provision (eg, psychiatry, geriatrics), as the survey instrument was designed for clinicians who could potentially choose to provide abortions in the United States. Thus we had 85 respondents who met the criteria for inclusion (38.6%).

Demographics

More than half of respondents (61.2%) were family physicians; APCs (20%) made up the next largest cohort (Table 1). Only three respondents were OB-GYNs; other physician specialties (15.3% of respondents) included internal medicine, pediatrics, and general surgery.

Most respondents currently practice in the West (38.8%) or the Northeast (35.3%). Approximately one third of respondents reported working in a high-volume abortion clinic (32.9%), a general medical clinic (31.8%), and/or a private office (30.6%); some respondents worked in more than one setting.

Training at RHP

All but one respondent (98.8%) reported receiving surgical abortion training at RHP, and most (89.4%) reported receiving medical abortion training. Relatively few of the medical student trainees (16%) were surveyed because many of them were still in residency at the time of the survey. Most respondents (56.5%) trained more than 5 years prior to the interview.

Abortion Provision Since RHP

More than half of respondents (58.8%) have provided any abortions since RHP; more have provided medical abortions (56.5%) than surgical abortions (47.1%) (Table 2). Respondents most commonly provided medical and surgical abortions in a high-volume abortion clinic (66.7%, 75%), though approximately a quarter of respondents provided

Figure 1: Reproductive Health Program Data Collection Process and Reasons for Participant Exclusion

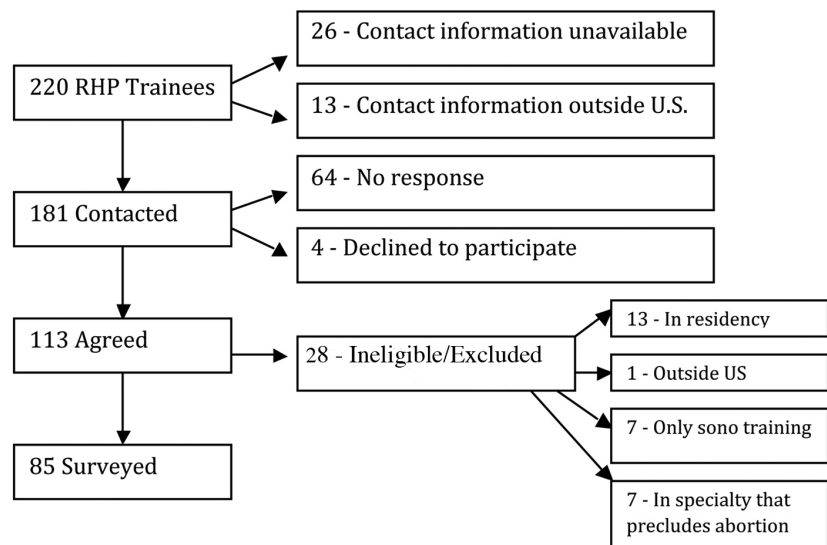


Table 1: Demographics

	n	%
Trainee Demographics (n=220)		
Physician in practice	20	9.1
Resident	65	29.5
Medical student	94	42.7
Advanced practice clinician	24	10.9
Reproductive Health Program fellow	12	5.5
Other fellowship	3	1.4
Other (social worker, administrator)	2	0.9
Respondent Demographics (n=85)		
Point in career at time of training		
Physician in practice	8	9.4
Resident	31	36.5
Medical student	15	17.6
Fellow*	14	16.5
Advanced practice clinician	17	20.0
Number of years since training		
<5	37	43.5
>5	48	56.5
Practice type at time of survey		
Family physician	52	61.2
Advanced practice clinician	17	20.0
Nurse practitioner	10	11.8
Physician assistant	6	7.1
Certified nurse midwife	1	1.2
OB-GYN	3	3.5
Other type of provider	13	15.3
Sex		
Female	75	88.2
Male	10	11.8
Region		
Northeast	30	35.3
Midwest	14	9.4
South	8	16.5
West	33	38.8
Current practice setting**		
Private office	26	30.6
High-volume abortion clinic	28	32.9
General medical clinic	27	31.8
Hospital	16	18.8
Anywhere else	19	22.4

* RHP fellow or other fellowship

** Respondents could choose more than one practice setting

abortions in a family medicine clinic (27.1%, 27.5%) and/or a private office (22.9%, 25%); some provide abortions in more than one setting. Of respondents who have provided abortions, most have performed more than 50 medical (77.1%) or surgical (87.5%) abortions since RHP and had provided an abortion in the last 3 months (70.8%, 67.5%).

Respondents who trained at RHP at a later point in their training (practicing physicians, APCs, and fellows) were significantly more likely to have ever provided an abortion ($P<.001$), as were respondents who are currently OB-GYNs or APCs ($P<.05$) (data not shown). Respondents' reports of being abortion providers were not related to region, gender, or the number of years since training.

Thirty-five respondents (41.2%) had provided no abortions since RHP, and 14 providers (28%) had not provided any in the last 3 months.

Enablers

Respondents who have provided abortions since RHP were read a list of factors enabling abortion provision and asked if each was present at their site(s) when they began providing abortions there (Table 3). More than 90% of these respondents reported having the following at their site: liability insurance that covers abortion; colleague, administrative, and/or staff support; ease of obtaining medications and/or equipment; and reimbursement for abortions. Approximately three quarters of respondents reported that abortions were already provided at the site where they provide, indicating that few initiated the provision of abortion services.

When asked about enablers with an open-ended question, many respondents reiterated factors from the previous list, particularly administrative, staff, and/or colleague support, followed by abortions already being provided at their site. In addition, respondents described new enablers, such as receiving abortion

Table 2: Abortion Provision Since Reproductive Health Program (RHP) by Abortion Type

	Surgical (n=40)		Medical (n=48)	
	n	%	n	%
Have provided since RHP (n=85)*	40	47.1	48	56.5
Setting**				
High-volume abortion clinic	30	75.0	32	66.7
Family medicine clinic	11	27.5	13	27.1
Private office	10	25.0	11	22.9
Hospital	4	10.0	0	0.0
Anywhere else	3	7.5	6	12.5
Number of abortions				
>50	35	87.5	37	77.1
<50	5	12.5	11	22.9
When last abortion provided				
<3 months ago	27	67.5	34	70.8
3 to 12 months ago	3	7.5	5	10.4
>12 months ago	10	25.0	9	18.8

* Respondents could choose more than one abortion method.

** Respondents could choose more than one practice setting.

training and self-motivation to overcome obstacles, which are described in Table 4.

Barriers

All respondents were read a list of challenges other abortion providers/trainees had experienced and asked if they had encountered similar

issues. Non-providers reported administrative and/or staff resistance as the most common barrier to surgical (63.6%) and medical (70.3%) provision. To understand which barriers might be most associated with non-provision, barriers were ranked by their odds ratios (Table 5). The odds ratios reflect the likelihood

that the barrier was reported by non-providers compared to providers (eg, an odds ratio of 2 indicates non-providers were twice as likely to report a barrier). Based on these odds ratios, the top three barriers for both surgical and medical abortions were lack of adequate skills, liability or malpractice issues, and difficulty obtaining supplies. The fourth greatest barrier for medical abortions was administrative and/or staff resistance and for surgical abortions was difficulty arranging back up.

When respondents were asked about barriers or reasons for not providing abortions in an open-ended format, they cited all of the barriers from the quantitative list but most frequently discussed administrative, staff and/or colleague resistance, lack of adequate skills (often described as the need for a refresher training), and family expressing concern/their concern for family's safety. Additional themes also emerged from the open-ended questions, which are summarized in Table 6. The most commonly cited among these were a practice setting or region with a strong anti-abortion culture, institution-specific issues that precluded abortion care, and

Table 3: Enablers to Abortion Provision for Providers

	Surgical n=40*		Medical n=48*	
	n	%	n	%
Liability insurance that covers abortion	40	100	45	95.8
Colleague support	39	97.5	45	95.7
Easy to obtain medications and/or equipment	39	97.5	44	93.6
Reimbursement for abortion	37	92.5	44	91.7
Administration/staff support	37	92.5	45	95.7
Abortions already provided at site	31	77.5	34	70.8
Support from groups like the Access Project or RHEDI**	23	57.5	26	54.2
Protected time in schedule to initiate or integrate abortion services	13	35.1	18	40.9
Support group for abortion providers/staff	7	17.5	11	23.4

* In cases where n<40 for surgical abortion enablers and n<48 for medical abortion enablers, the % reported reflects this new denominator. These cases refer to instances in which a respondent did not respond to a question, which occurred among 0–4 respondents among the various enabler questions.

** Organizations that provide support for abortion training and provision among primary care clinicians.

Table 4: New Enabler Themes From Qualitative Interviews

<p>• Self-motivation to seek abortion training or overcome obstacles to abortion provision (n=22) Examples: Respondent was the first PA at their site to provide medication abortions with methotrexate in a safety study and, after 5 years of being the only one, pioneered the way for other APCs to provide. Another respondent reentered residency for OB-GYN because they wanted to receive second trimester abortion training but were having difficulty doing so as a family doctor.</p>
<p>• Organizational support, including financial support, such as training grants and fellowships, and non-financial support, such as conferences and listserves (n=21)* Examples: Respondent reported that participating in listserves and conferences for abortion providers was helpful for staying informed and up to date. Another respondent reported that receiving grant funding provided them with the dedicated time necessary to integrate abortion into their family medicine practice and that otherwise they likely would have only provided at a high volume clinic.</p>
<p>• Abortion training received at RHP and elsewhere (n=16) Examples: Respondent cited the importance of being able to present the certification of being proficient to the board of nursing. Another respondent reported having not provided abortion for 8 years before getting trained at RHP and how the training re-energized and motivated them and introduced them to MVAs.</p>
<p>• Support network outside of their site (online and in person) including other abortion providers, family, and friends (n=14) Example: Respondent described the importance of finding a community of other abortion providers, including OB-GYNs who might serve as backup.</p>

*Although support from groups was listed among the quantitative questions, the example organizations implied financial support. As such, we are including this broader category as a new theme, to encompass both financial and non-financial organizational support.

PA—physician assistant

APCs—advance practice clinicians

RHP—Reproductive Health Program

MVAs—manual vacuum aspirations

Table 5: Barriers to Abortion Provision for Providers and Non-providers

	Surgical Abortion Barrier (n=84)*				Medical Abortion Barrier (n=85)			
	Provider	Non-provider	OR**	Rank	Provider	Non-provider	OR**	Rank
	(n=40)	(n=44)			(n=48)	(n=37)		
	%	%			%	%		
Administrative/staff/colleague resistance	42.5	63.6	2.71	6	25	70.3	8.67	4
Do not have adequate skills	7.5	54.5	14.8	1	2.1	48.6	44.53	1
Abortion-related malpractice or liability issues	12.5	47.7	7	2	8.3	51.4	13.93	2
Difficulty arranging backup	22.5	47.7	3.62	4	20.8	54.1	5.07	7
Family expressed concern, or you worried about their safety	50	40.9	0.69	10	37.5	54.1	1.96	8
Lacked time to implement services	17.9	40.9	3.16	5	12.5	47.2	6.26	5
Lack support network for problem-solving	10	31.8	0.89	8	10.4	35.1	5.32	6
Difficulty obtaining supplies	7.5	31.8	5.76	3	6.3	37.8	9.13	3
Reimbursement issues	27.5	22.7	0.85	9	25	24.3	1.16	10
Religious affiliation of facility	5	4.5	0.9	7	4.2	5.4	1.31	9

* n=84 for surgical barrier questions since one respondent did not receive surgical abortion training. In cases where n<84 for surgical abortion barriers and n<85 for medical abortion enablers, the % reported reflects this new denominator. These cases refer to instances in which a respondent did not respond to a question, which occurred among 0–2 respondents among the various barrier questions.

** Odds ratios compare non-providers to providers

Table 6: New Barrier Themes From Qualitative Interviews (With n=8 or More)

<p>• Practice setting or region with a strong anti-abortion culture (n=21) Examples: Respondent who provided abortions said nurses in her program wouldn't look her in the eye or speak to her, despite being friendly to other colleagues. Another respondent who provided abortions had to wear a bulletproof vest for protection and was exposed as an abortion provider on the front page of the local newspaper and on the Internet.</p>
<p>• Institution-specific issues that preclude integrating abortion care (n=20) Examples: Respondent worked at a clinic that primarily served menopausal women. Another respondent worked at a FQHC site (Authors' note: federal funding cannot be used for abortion services, so it is complex to provide abortions at a FQHC site.)</p>
<p>• Perception that adequate abortion services were available in their area (n=15) Example: Respondent lived in a small city with a well-established women's health center to which everyone was referred and so didn't see the need to provide.</p>
<p>• Personal choice (n=12) Example: Respondent believed in women's right to abortion care and wanted it to be available but felt emotionally uncomfortable providing abortions.</p>
<p>• Among APCs: State "physician-only laws" for abortion (n=11) Example: Respondent practiced in a state where NPs were precluded from providing abortions and, despite support from their medical director, they did not think they could overturn the laws for many reasons, including an anti-abortion chair of the board of nursing.</p>
<p>• No other abortions providers at site (n=9) Example: Respondent didn't provide abortions for 5 years at a community health center because no one else was providing, and they didn't yet feel comfortable providing in isolation.</p>
<p>• Difficulty getting abortion training/integrating it into practice as a primary care provider (n=8) Example: Although respondent was hired to provide abortions at a high volume site, they did not feel supported by the medical director, whom they believed generally did not support family doctors providing abortions.</p>
<p>• Career change (n=8) Example: Respondent planned to integrate abortion into their practice, but their practice shifted toward cosmetic medicine.</p>

FQHC—federally qualified health center

APCs—advanced practice physicians

NPs—nurse practitioners

the perception that there were adequate abortion services in the area.

Discussion

More than half of the trainees surveyed have provided abortions since their training at RHP, with the majority providing at high-volume sites. Respondents who trained at RHP at a later point in their careers were significantly more likely to have provided abortions. Trainees who became abortion providers reported the following factors were present at their site(s) when they began providing abortions: liability insurance that covers abortions; colleague, administrative, and/or staff support; ease of obtaining medications and/or equipment; and reimbursement. Self-identified enablers to abortion provision included some of these factors,

as well as new categories, including self-motivation, training from RHP and other institutions, support networks of friends and fellow abortion providers, and organizational support and resources. Among the barriers we anticipated, administrative and/or staff resistance was most commonly reported. Among the themes that emerged were: a setting/region with a strong anti-abortion culture, institution-specific barriers, and perceived lack of need for additional abortion providers in their area. Relative to providers, the greatest barriers reported by non-providers were lack of skills, concerns about liability, and difficulty obtaining supplies.

More than half of respondents emphasized the value of certain aspects of the RHP, such as training

at multiple clinic sites and the program's inclusion of different types of clinicians as trainees. Overall, our findings demonstrate the success of the RHP model of elective training, with a relatively high percentage of respondents providing abortions. Interestingly, the majority of abortion training currently takes place during residency and medical school, but our study suggests that training later in a clinician's career might yield a higher percentage of abortion providers. Future studies should assess whether providers who are further along in their careers feel more confident and willing to face the risks of becoming an abortion provider. It would also be useful to conduct a follow-up survey to determine if respondents at earlier points in their careers might eventually integrate

abortion care into their practice. The study also suggests the importance of continued support after training to help address logistical barriers to abortion provision and to increase and strengthen networks for those interested in providing. Finally, because staff and colleague support/resistance seems to be such a crucial factor, it is important to increase the integration of abortion into routine training, so that abortion provision is further normalized as a routine aspect of clinical care.

Despite the importance of our findings, there are several limitations to our study. First, response bias may have played a role in our findings; those currently providing abortions may have been more likely to participate in the study. Second, the cross-sectional study design did not allow for us to attribute causality to the relationships between enablers/barriers and abortion provision, nor rank these factors in order of importance to respondents. Future studies might ask respondents to rank these factors and/or follow a prospective cohort of trainees. Third, due to the relatively small number of abortion providers who initiated abortion provision at their site, we could not study this population in depth. As establishing abortion services at a new site presents different challenges than joining an existing practice, future research should focus on this group as part of the effort to expand abortion to new sites.

Despite these limitations, our research provides an important contribution to the limited literature on abortion provision outcomes among former primary care abortion trainees and the barriers and enablers

to providing abortions among this group. Establishing abortion training programs aimed at primary care providers can increase the number of abortion providers in the United States, but trainees face many challenges once in practice. Our findings suggest that future efforts should aim not only to increase training opportunities but also to provide support after training and reduce stigma around abortion provision, so that a higher percentage of trainees can become providers and expand services to areas with limited abortion access.

ACKNOWLEDGMENTS: Data included in this paper have been presented at Reproductive Health 2010 in Atlanta, the 2010 Society of Teachers of Family Medicine (STFM) Annual Spring Conference in Vancouver, the 2009 STFM Northeast Region Meeting in Rye Brook, NY, and the 2009 North American Primary Care Research Group Annual Meeting in Montreal. We thank Finn Schubert and Alison Karasz for their help with editing the final manuscript. We wish to acknowledge Miranda Balkin and former RHEDI staff for their work on piloting the study instrument. We are also grateful to Eric Schaff and Jennifer Barth for their efforts in developing and implementing the RHP.

CORRESPONDING AUTHOR: Address correspondence to Ms Herbitter, RHEDI/Reproductive Health Education in Family Medicine, Montefiore Medical Center, 3544 Jerome Avenue, Bronx, NY 10467. 718-920-2885. Fax: 718-515-5416. cherbitt@montefiore.org.

References

1. Jones RK, Zolna MR, Henshaw SK, Finer LB. Abortion in the United States: incidence and access to services, 2005. *Perspect Sex Reprod Health* 2008;40(1):6-16.
2. Henshaw SK, Kost K. Trends in the characteristics of women obtaining abortions, 1974 to 2004. *Guttmacher Institute*, 2008;Aug.
3. Eastwood KL, Kacmar JE, Steinauer J, Weitzen S, Boardman LA. Abortion training in United States obstetrics and gynecology residency programs. *Obstet Gynecol* 2006; 108(2):303-8.

4. Herbitter C, Greenberg M, Fletcher J, Query C, Dalby J, Gold M. Family planning training in US family medicine residencies. *Fam Med* 2011;43(8):574-81.
5. Foster AM, Polis C, Allee MK, Simmonds K, Zurek M, Brown A. Abortion education in nurse practitioner, physician assistant and certified nurse-midwifery programs: a national survey. *Contraception* 2006;73(4):408-14.
6. Espey E, Ogburn T, Chavez A, Qualls C, Leyba M. Abortion education in medical schools: a national survey. *Am J Obstet Gynecol* 2005;192(2):640-3.
7. Steinauer J, LaRochelle F, Rowh M, Backus L, Sandahl Y, Foster A. First impressions: what are preclinical medical students in the US and Canada learning about sexual and reproductive health? *Contraception* 2009;80(1):74-80.
8. Harper CC, Henderson JT, Darney PD. Abortion in the United States. *Annu Rev Public Health* 2005;26:501-12.
9. Donohoe M. Increase in obstacles to abortion: the American perspective in 2004. *J Am Med Womens Assoc* 2005;60(1):16-25.
10. Steinauer J, Landy U, Filippone H, Laube D, Darney PD, Jackson RA. Predictors of abortion provision among practicing obstetrician-gynecologists: a national survey. *Am J Obstet Gynecol* 2008;198(1):39.e1-39.e6.
11. Freedman L. *Willing and unable: doctors' constraints in abortion care*. Nashville, TN: Vanderbilt University Press, 2010.
12. Dehlendorf CE, Grumbach K. Medical liability insurance as a barrier to the provision of abortion services in family medicine. *Am J Public Health* 2008;98(10):1770-4.
13. Samora JB, Leslie N. The role of advanced practice clinicians in the availability of abortion services in the United States. *J Obstet Gynecol Neonatal Nurs* 2007;36(5):471-6.
14. Bennett I, Aguirre AC, Burg J, et al. Initiating abortion training in residency programs: issues and obstacles. *Fam Med* 2006;38(5):330-5.
15. Dehlendorf C, Brahmi D, Engel D, Grumbach K, Joffe C, Gold M. Integrating abortion training into family medicine residency programs. *Fam Med* 2007;39(5):337-42.
16. Leeman L, Espey E. "You can't do that 'round here": a case study of the introduction of medical abortion care at a university medical center. *Contraception* 2005;71(2):84-8.
17. Gawinski BA, Bennett PA, Rousseau SJ, Schaff E. A biopsychosocial model of training in abortion care. *Fam Syst Health* 2002;20(4):439-46.