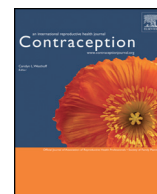




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# Intention to provide abortion upon completing family medicine residency and subsequent abortion provision: a 5-year follow-up survey<sup>☆</sup>

Silpa Srinivasulu<sup>a,\*</sup>, Lisa Maldonado<sup>b</sup>, Linda Prine<sup>a,b</sup>, Susan E. Rubin<sup>a</sup>

<sup>a</sup> Institute for Family Health, 2006 Madison Ave, 5th Floor, New York, NY 10035, USA

<sup>b</sup> Reproductive Health Access Project, P.O. Box 21191, New York, NY 10025, USA

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## ABSTRACT

**Objective:** Among family physicians who graduated from residencies with abortion training, we explore the association between intention to provide abortion at the end of residency and abortion provision 5 years postresidency.

**Study design:** We invited 2009–2012 graduates from US family medicine residency programs with a required opt-out abortion training rotation or elective abortion training opportunities, and who had completed a baseline end-of-residency survey ( $N=477$ ) to take our follow-up survey 5 years postresidency (2014–2017). We used logistic regression to examine the association between intention to provide abortion postresidency and abortion provision 5 years later.

**Results:** One hundred and seventy-two of 477 (36.1%) family physicians responded to our survey. More responders compared to nonresponders had intended to provide uterine aspiration and medication abortion at baseline ( $p<<.01$ ) and attended residency in states considered hostile and middle ground toward abortion rights ( $p=.03$ ). Of the 155 eligible respondents for analysis, 27.1% offered some type of abortion care in their practice. Of those that provided abortion, 100% provided medication abortion and 71.4% uterine aspiration. Most respondents that provided uterine aspiration abortion did so in abortion/family planning clinics or in sites that already established routine abortion care. Those who had intended to provide any abortion care at baseline had 4.03 times the odds of providing any abortion care 5 years later (95% confidence interval: 1.72–9.47). Administrative and systems-level barriers to integrate abortion were mentioned most frequently compared to personal beliefs or safety factors to explain why respondents did not provide abortion.

**Conclusions:** We found an association between intention to provide abortion after residency and providing abortion in practice 5 years later. However, only 27.1% of respondents provided some abortion care. Factors beyond intention to provide care appear to inhibit or facilitate family physicians' abilities to practice abortion in primary care.

**Implications:** Supporting family physicians who express intention to provide abortion after residency with additional training and technical assistance may contribute toward expanding access and availability of abortion care.

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## 1. Introduction

Abortion is one of the most common medical procedures in the United States; one in four US women will have an abortion in their lifetime [1]. Yet, over one third of women live in counties without an abortion provider [2]. Family physicians (FPs) are uniquely positioned to fill this gap in abortion access. FPs can provide medication and uterine aspiration

abortion care, and do so in primary care settings and in abortion/family planning clinics [2–4]. FPs are often the only provider in communities with limited access to healthcare, including abortion care, particularly in rural and low-income communities [4–8]. Patients find abortion acceptable in primary care, citing trust, familiarity and comfort with their provider as reasons for preferring these settings as opposed to specialty abortion clinics [9–11]. Expanding abortion care in primary care settings may expand access to safe services, increase continuity of care and normalize abortion as a routine aspect of primary care [7–12].

Studies demonstrate the acceptability, feasibility and utility of integrating comprehensive reproductive health training, including opt-out abortion training, in family medicine residencies [13,14]. This training increases exposure to and self-rated competency in abortion provision and increases residents' intentions to provide abortion in future practice

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\* Corresponding author.

E-mail addresses: [ssrinivasulu@institute.org](mailto:ssrinivasulu@institute.org), [ssrinivasulu13@gmail.com](mailto:ssrinivasulu13@gmail.com)

(S. Srinivasulu), [lisa@reproductiveaccess.org](mailto:lisa@reproductiveaccess.org) (L. Maldonado), [lprine@institute.org](mailto:lprine@institute.org) (L. Prine), [surubin@institute.org](mailto:surubin@institute.org) (S.E. Rubin).

[15,16]. Studies examining abortion provision outcomes after participating in such training have described the relationship between residents' competency and actual abortion provision [17], as well as common systems-level barriers and enablers to providing abortion in primary care settings [17–19]. One study of highly motivated family medicine residents in California, trained to provide abortion through TEACH's Continuing Reproductive Education for Advanced Training Efficacy (CREATE) program, found that intention to provide abortion was strongly associated with actual provision. However, to date, no studies have examined the association of intention to provide and actual provision of abortion among FPs who trained in family medicine residency programs nationwide with opt-out abortion training or elective abortion training opportunities.

The Reproductive Health Access Project (RHAP) provides training and technical assistance to practicing primary care clinicians across the United States to expand access to contraceptive, abortion and early pregnancy loss (EPL) care. RHAP conducts an annual national survey of graduating residents from family medicine residency programs known to have integrated opt-out abortion or elective abortion training opportunities [20]. To date, this includes 26 Reproductive Health Education in Family Medicine (RHEDI) program sites, 8 non-RHEDI family medicine residencies and 2 residencies with established local electives in abortion training. Results from this third-year-resident survey demonstrated a strong relationship between abortion training, self-rated competence and intention to provide abortion [16]. RHAP surveyed the same cohort 5 years postresidency to follow up on their experiences providing reproductive health care in practice.

In this manuscript, we present results from this follow-up survey to assess the association between respondents' intention to provide abortion postresidency ("baseline") and their actual provision of abortion services in practice, and to explore barriers and enablers to providing abortion care. We also examine their provision of EPL care since EPL management encompasses the same skill set as abortion care [21–23].

## 2. Material and methods

### 2.1. Sample and data collection procedures

RHAP invited 2009–2012 graduates from US family medicine residency programs with a required opt-out abortion training rotation or elective abortion training opportunities to complete a survey ("baseline survey") at the end of their third year of residency. This included 28 programs in 2009, 27 in 2010, 29 in 2011 and 29 in 2012 (a fraction of the approximately 650 family medicine residencies that exist today) [24]. When possible, RHAP sent the survey to graduating residents directly. If resident contact information was unavailable, RHAP collaborated with residency training coordinators to identify and survey residents. At some sites, coordinators preferred to share the survey with residents directly; therefore, we were unable to quantify the precise number of eligible baseline participants. On average, in 2009–2012, eight residents completed their program annually. Thus, we estimated that 904 family medicine residents from programs with abortion training were eligible to complete the baseline survey.

The 477 (approximately 52.8%) who had completed RHAP's baseline survey were invited to complete a follow-up survey conducted 5 years after they finished residency ("follow-up survey"). Our responder sample includes those FPs who responded to the baseline and follow-up surveys; nonresponders include those who had only responded to the baseline survey. While this sample reflects residents' training experiences in 2009–2012, our data maintain relevancy as clinical abortion care remains essentially unchanged; thus, abortion training content in RHEDI and non-RHEDI family medicine residencies has not been altered [13,25].

We sought out potential respondents to the follow-up survey by using initial contact information provided on the baseline survey, searching the RHAP subscriber database, checking the National Provider Identifier Registry for workplace addresses, searching names in Google

and reaching out to physician colleagues to confirm contact information. At their respective 5-year follow-up time point, potential respondents received an email inviting them to participate in the follow-up survey, housed on the Survey Monkey platform (Palo Alto, CA, USA). We contacted nonresponders up to four times in the 2014 and 2015 cohorts, twice in 2016 and once in 2017. Each year, responders of that year's survey were entered into a raffle to win a \$25 American Express gift card as an incentive.

The Institutional Review Board of the Institute for Family Health approved this study.

### 2.2. Measures

Our survey included questions in the following domains: respondent demographics, characteristics of current clinical practice setting(s), provision of reproductive health services and factors that inhibit and/or enable providing abortion care. We asked specific questions about types of abortion care, including manual vacuum aspiration (MVA), electronic vacuum aspiration (EVA) and medication abortion, and uterine aspiration for EPL management. To measure factors that may enable or inhibit FPs from providing abortion care, we listed 14 barriers and 8 enablers, as well as "other" categories, for each of the three types of abortion services. RHAP developed and refined the response categories after pilot-testing the survey with practicing FPs. When applicable, we collapsed "other" responses into an existing category. Specific questions from the baseline surveys used for analysis include respondents' intentions to provide medication abortion, MVA and EVA in their practice.

### 2.3. Analytic strategy

Using SPSS 25 (Armonk, NY, USA), we assessed response bias using the Pearson  $\chi^2$  test to estimate differences between nonresponders (those who only had answered the baseline survey in 2009–2012) and responders (those who also answered the follow-up survey in 2014–2017) on characteristics collected at baseline. Variables for comparison included (1) intention to provide medication abortion, MVA, and EVA and (2) the abortion rights hostility level of their residency program state (four-level categorical variable: extremely hostile, hostile, middle ground and supportive) according to the Guttmacher Institute's analysis of abortion rights [26,27].

We conducted descriptive analyses of respondents' demographic and practice characteristics, and barriers and enablers to providing abortion. For analysis purposes, we collapsed MVA and EVA into the category "uterine aspiration." We calculated the proportion of respondents who practiced in states extremely hostile, hostile, middle ground and supportive of abortion rights according to the Guttmacher Institute's analysis [28]. We recognize that even within states supportive toward abortion rights, hostile communities exist where FPs practice and vice-versa.

We conducted logistic regression to identify the association between intention to provide abortion at baseline and provision of abortion 5 years later. We controlled for gender and hostility level of respondents' practice states, collapsed into "hostile" and "not hostile." We hypothesized that these variables may affect the association; female FPs may be more likely to intend to provide and actually provide abortion care compared to males, and FPs who intend to provide abortion may be more likely to practice in a state with fewer restrictions on abortion access. We set significance at  $p=.05$  for all analyses.

## 3. Results

### 3.1. Sample description

From 2014 through 2017, we invited all 477 participants of the baseline survey to take the follow-up survey; 172 responded (follow-up rate=36.1%). Survey years when we contacted nonresponders more

**Table 1**  
Characteristics of respondents at baseline and follow-up (N=155)<sup>a</sup>

Characteristics of respondents	N (%)
Intention to provide abortion at baseline	78 (50.3%)
Medication abortion	
MVA	67 (43.2%)
EVA	42 (27.1%)
Hostility level toward abortion rights in state where respondent completed residency at baseline (N=153)	
Extremely hostile	1 (0.7%)
Hostile	12 (7.8%)
Middle ground	18 (11.8%)
Supportive	122 (79.7%)
Gender at follow-up (N=149)	
Female	114 (76.5%)
Male	35 (23.5%)
Age at follow-up (N=151), mean (range)	37.5 (31–62)
Hostility level toward abortion rights in state where respondent practices at follow-up (N=146) <sup>b</sup>	
Extremely hostile	17 (11.6%)
Hostile	9 (6.2%)
Middle ground	25 (17.1%)
Supportive	95 (65.1%)
Has more than 1 practice setting	32 (20.6%)
Works in religiously affiliated clinical setting	18 (11.6%)
Works at an abortion/family planning clinic	21 (13.5%)
Precepts/mentors medical students and/or residents at follow-up (N=152)	121 (79.6%)

<sup>a</sup> Unless otherwise indicated, the denominator for these descriptive statistics is the total sample of respondents (N=155).

<sup>b</sup> Six respondents did not provide a zip code or state to indicate their practice location (s), and three are practicing in DC, which was not included in the Guttman analysis.

frequently resulted in higher follow-up rates. We excluded respondents who did not practice within the United States (n=6), who could not be matched to their baseline survey due to incomplete or inconsistent identifiers on the follow-up survey (n=5) or who did not see women of reproductive age in their practice (n=6). This left 155 responders and 305 nonresponders.

Compared to nonresponders, greater proportions of responders to the follow-up survey had intended to provide medication abortion (50.3% versus 31.8%), MVA (43.2% versus 25.9% non-responders) and EVA (27.1% versus 16.1%) at baseline (p<.01). More responders attended residency programs in states considered hostile (7.8% versus 6.6% nonresponders) and middle ground (11.8% versus 5.2%), while there were fewer (79.7% versus 88.2%) in states considered supportive toward abortion rights (p=.03).

### 3.2. Respondent and practice setting characteristics

At follow-up, respondents provided healthcare in 29 states and Washington, DC. Most reported working outside of an abortion/family

planning clinic setting, such as community health center (38.7%) or private practice group (37.4%) settings. Very few described their primary practice setting as an abortion/family planning clinic (2.6%), but over half of those who worked in more than one setting described their nonprimary practice as an abortion/family planning clinic (56.3%). Table 1 illustrates additional respondent and practice setting characteristics.

### 3.3. Abortion practice 5 years after residency

Approximately one quarter of respondents (27.1%) offered at least one type of abortion service in any of their practice settings. Of those providing abortion, 100% provided medication abortion and 71.4% provided uterine aspiration. Half of those providing medication abortion did so in primary care settings, while the majority (66.7%) of those providing uterine aspiration for abortion did so in abortion/family planning clinic settings. Among respondents who had intended to provide medication abortion, 31 (39.7%) provided at follow-up, in addition to 11 (14.3%) who had not intended to provide medication abortion but went on to provide this care. Among those who had intended to provide uterine aspiration abortion, 24 (34.3%) provided at follow-up, in addition to 6 (7.1%) who had not intended to provide this care but went on to do so. Respondents who had intended to provide any abortion care at baseline had 4.03 times the odds of providing any abortion care at follow-up [95% confidence interval (CI): 1.72–9.47] (Table 2). This association did not change when controlling for gender and hostility level of respondents' states (adjusted odds ratio=4.26, 95% CI=1.71–10.62).

Regarding uterine aspiration for either EPL or abortion, 50 (32.3%) provided this care. Of those, 20 (40%) provided uterine aspiration for EPL management alone, not abortion.

### 3.4. Factors that inhibit or enable providing abortion in primary care settings

Barriers and enablers to providing abortion care occurred similarly across medication and uterine aspiration methods: support from clinical, administrative and support staff; clinical training; and obtaining equipment and supplies. Respondents not providing abortion cited primarily administrative and systems-level barriers to integrate abortion into practice, as opposed to personal beliefs or safety factors. Of note, most who provided medication abortion (71.4%) and/or uterine aspiration (73.3%) did not initiate services at their practice; rather, it was an established service when they joined (Table 3). Additionally, among those that provided uterine aspiration for EPL but not abortion, common factors preventing their offering uterine aspiration abortion included support from staff (35%), obtaining equipment (35%), clinical training (30%) and not being allowed to provide abortion (25%).

**Table 2**  
Association between respondents' intention to provide abortion at baseline and providing abortion care at follow-up (N=155)

Type of abortion care provided at follow-up (n, %)	Intended to provide medication abortion at baseline (n=78)	Did not intend to provide medication abortion at baseline (n=77)	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95% CI) <sup>a</sup>
Medication abortion (42, 27.1%)	31 (39.7%)	11 (14.3%)	3.96 (1.81–8.66)	4.03 (1.77–9.22)
	Intended to provide uterine aspiration abortion at baseline (n=70)	Did not intend to provide uterine aspiration abortion at baseline (n=85)	Odds ratio (95% CI)	Adjusted odds ratio (95% CI)
Uterine aspiration abortion (30, 19.4%)	24 (34.3%)	6 (7.1%)	6.87 (2.62, 18.04)	6.27 (2.352, 16.71)
	Intended to provide any abortion care at baseline (n=92)	Did not intend to provide any abortion care at baseline (n=63)	Odds ratio (95% CI)	Adjusted odds ratio (95% CI)
Any abortion care (42, 27.1%)	34 (37.0%)	8 (12.7%)	4.03 (1.72–9.47)	4.26 (1.71–10.62)

<sup>a</sup> Adjusted model controls for gender and hostility level of respondent practice state.

**Table 3**  
Barriers and enablers that influence respondents' abilities to provide abortion care<sup>a</sup>

For those not providing, barriers to abortion provision		
	Uterine aspiration abortion (n=125)	Medication abortion (n=113)
Not enough clinical training	56 (44.8%)	30 (26.5%)
Lack of support from clinical, administrative and support staff	41 (32.8%)	40 (35.4%)
Saturation of abortion providers in the area/patients have somewhere else to go	43 (34.4%)	28 (24.8%)
Difficulties in obtaining equipment and supplies	36 (28.8%)	19 (16.8%)
Difficulty in scheduling patients/clinic flow	28 (22.4%)	18 (15.9%)
Refer patients seeking this care to another provider or site	22 (17.6%)	17 (15.0%)
This care is not allowed by site and/or community	20 (16.0%)	20 (17.7%)
Federal/state funding and legal restrictions	19 (15.2%)	16 (14.2%)
Site-specific scope of practice limitations	17 (13.6%)	11 (9.7%)
Challenges in reimbursing for services	13 (10.4%)	9 (7.9%)
Religious affiliation of site	13 (10.4%)	14 (12.4%)
Personal beliefs against abortion provision	11 (8.8%)	11 (9.7%)
Concerns for safety of friends, family or oneself	11 (8.8%)	8 (5.2%)
For those providing, enablers to abortion provision		
	Uterine aspiration abortion (n=30)	Medication abortion (n=42)
Sufficient clinical skills and training	24 (80%)	36 (85.7%)
Equipment and supplies are easily available	24 (80.0%)	33 (78.6%)
Strong support from clinical, administrative and support staff	23 (76.7%)	36 (85.7%)
This type of abortion care was already integrated into practice	22 (73.3%)	30 (71.4%)
Malpractice insurance coverage for abortion care	22 (73.3%)	31 (73.8%)
Patient population needs access to abortion care/not enough providers	21 (70.0%)	24 (57.1%)
Ease of scheduling patients/clinic flow	19 (63.3%)	32 (76.1%)
Ease of reimbursement for services	15 (50.0%)	20 (47.6%)

<sup>a</sup> Data will not sum to total number of respondents per category, as respondents could have selected multiple barriers or enablers, or none at all.

#### 4. Discussion

One quarter of respondents to this national survey of FPs who attended residency programs with opt-out or elective abortion training provided abortion care. While less than half of those who had intended to provide abortion actually provided in practice, we found a strong association between intention to provide abortion after residency and abortion provision 5 years later. An evaluation of TEACH's CREATE also found, for residents with enhanced abortion training, a strong association between intention to provide abortion and actual provision [19]. Interestingly, in our study, this association persisted regardless of the abortion rights hostility of respondents' practice states. While some of our respondents provided abortion in primary care settings, the majority of those who provided uterine aspiration for abortion did so in abortion/family planning clinical settings, and the majority did not initiate services at their clinical site. These results are similar to those described in previous studies of FPs trained in abortion provision during residency [17,19,29]. Overall, nearly half of our respondents who offered uterine aspiration did so for EPL only, rather than abortion and EPL care. This suggests that although many of these respondents have the skill set and/or systems in place to provide abortion, including uterine aspiration, they experienced limitations and/or regulations regarding the types of clinical situations in which they could offer abortion care.

Taken together, our results suggest that building clinical skills and intention to provide abortion during residency are important but insufficient to increase the number and distribution of FPs providing abortion services, especially in primary care. In fact, the preponderance of respondents who provided abortion did so at sites that established abortion services prior to their arrival. Integrating abortion into primary care requires time to collaborate with stakeholders to establish abortion as routine care. Yet, residency programs rarely train FPs on how to address systems barriers to integrating abortion [17,19,30]. In response, the Midwest Access Project's Individual Clinical Training Program, which trains students, residents, physicians and advanced practice clinicians, and CREATE developed programs to provide the highly motivated with intensive abortion training in clinical, negotiation and leadership skills [19,29]. CREATE's emphasis on negotiation supported graduates to overcome common

external barriers cited in our study, including administrative resistance and obtaining equipment and supplies [19]. Similarly, models like RHAP's Reproductive Health and Advocacy Fellowship train family physicians to provide, teach and lead in order to integrate abortion in primary care settings [31]. Expanding such programs for motivated residents who intend to provide abortion and offering mentorship for practicing FPs may result in more clinicians offering abortion beyond abortion/family planning clinics, as they will develop the skills and confidence to negotiate practice changes in primary care [18].

Our study has several limitations. Given our follow-up rate and differences between respondents and nonrespondents on baseline characteristics, our results potentially overestimate the proportion of FPs who offered abortion at follow-up. As this study captures only a portion of the underlying sample, our results may not be generalizable to all FPs who attended residency programs with abortion training. This may have affected our finding of association between variables. Additionally, respondents described their clinical practice site(s) with multiple response categories, creating imprecision in our ability to describe their number and types of practice settings. Lastly, the survey offered a broad list of barriers and enablers; thus, we could not identify specific modifiable factors.

Despite these limitations, our results may inform future programs in family medicine residency and postresidency abortion training. Though we found a temporal association between intention to provide abortion at the end of residency and abortion provision in practice, intention alone is insufficient to ensure future abortion provision. Longitudinal support for FPs who intend to provide abortion after residency may help increase access and availability of abortion care. Family medicine residencies and organizations should support those who intend to provide abortion by complementing clinical skills with negotiation and leadership training to equip FPs with the tools to address abortion provision obstacles in primary care.

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