



Original research article

## Provision of abortion and other reproductive health services among former Midwest Access Project trainees<sup>☆,☆☆</sup>

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## ABSTRACT

**Objective:** The Midwest Access Project (MAP) offers opt-in training to students, residents and practicing clinicians in reproductive health care including abortion. We surveyed MAP alumni to identify current practice characteristics and assess predictors of reproductive health service provision.

**Study design:** We sent an online survey to alumni of MAP's Individual Clinical Training program, 2007–2015 ( $n=127$ ). The primary outcome was current provision of any abortion service. Secondary outcomes included providing specific abortion services and other reproductive services.

**Results:** We received responses from 61% of eligible MAP alumni ( $n=77$  out of 127). The majority reported a specialty of Family Medicine (68%) and current location in the Midwest (52%). Among current residents, fellows or clinicians practicing in a field whose scope includes abortion ( $n=56$ ), 50% provide abortion. Most (84%) provide outpatient miscarriage management, and nearly all ( $\geq 96\%$ ) provide pregnancy options counseling and full scope contraception. Respondents who received the most advanced training in medication abortion as part of their MAP training were more likely to report providing abortion in their current practice than those who did not (63% vs. 32%,  $p=.027$ ), as were those who completed more than one MAP rotation compared to those who completed one rotation (100% vs. 44%,  $p=.009$ ).

**Conclusions:** Half of MAP's alumni provide some abortion care. Nearly all provide comprehensive counseling and contraceptive services.

**Implications:** Opt-in training is a promising strategy to develop providers of comprehensive reproductive health care.

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## 1. Introduction

Between 2011 and 2014, the United States saw a 3% overall decline in the number of facilities providing abortion, while in the Midwest, these declined by 18% [1]. Barriers to abortion training have likely contributed to declining provider numbers, especially in the Midwest. Among women in the Midwest, 55% live in a county with no abortion clinic compared to 39% nationwide [1]. In a survey of obstetrics-gynecology (Ob-Gyn) residents in the Midwest, those trained in religious hospitals reported lower ability to perform common reproductive health services, including intrauterine device insertion and manual vacuum aspiration, compared to residents in nonreligious hospitals, despite equally high interest in providing these services [2]. Similarly, Family

Medicine residencies in the Midwest are significantly less likely to offer abortion training than those in the Northeast or West [3].

The Midwest Access Project (MAP) works to address this problem by filling gaps in provider training. MAP's Individual Clinical Training (ICT) program is designed with the understanding that, in highly constrained settings, such as Midwestern states with restrictive laws and a high prevalence of Catholic health care systems, medical and nursing schools and residencies rarely integrate abortion and other reproductive health training into their curricula. Integrated training programs, which offer routine abortion training unless a resident opts out, have led to enhanced skill development for Ob-Gyn residents [4] and Family Medicine residents [5]. However, these programs require the residency institution to support the family planning training mission, which many do not. Thus, MAP trains highly motivated individuals willing and able to leave their home institutions for short-term learning experiences and then return to their home institution or community, with the goal of improving access in settings with otherwise very limited reproductive health care.

MAP's ICT program builds on the model of the Reproductive Health Program (RHP) at the University of Rochester, which closed in 2005

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[6]. MAP trainees opt in to the program, meaning they individually seek out and choose to attend the program. (The only exception is three Ob-Gyn residents per year from a program that since 2015 has contracted with MAP for opt-out training.) MAP welcomes trainees from all specialties and locations but primarily reaches out (e.g., via conferences) to Midwestern Family Medicine programs. MAP rotations are usually 2–4 weeks and include hands-on and/or observational experiences. Trainees who complete one rotation can return at later stages of their training or career for additional MAP rotations. Trainees include medical students, residents, practicing physicians, nursing and advance practice clinician (APC) students, and practicing APCs. MAP assesses each trainee's goals and experience using an intake questionnaire. The variability in trainees' goals, prior knowledge and experience and in trainee and trainer schedules leads to variability in the rotation experience provided by MAP. Most trainees' goals include learning about and/or providing medication and aspiration (surgical) abortion as well as the full range of contraceptive options, so most rotations include exposure to this content as part of the learning experience. Trainers include providers of abortion and other reproductive health services in Illinois and Minnesota. MAP serves as the link between trainee and trainer and provides extensive administrative support to facilitate training. For example, MAP screens and orients trainees; guarantees that they have necessary licensure, liability insurance, health screenings, and appropriate education and standing to be in reproductive health care settings; and connects them to funding opportunities to support their travel and lodging when needed. MAP maintains formal agreements with trainers and, where needed, with trainees' home programs in order to coordinate training experiences. MAP also works with trainers to optimize the quality of the learning experience, provide feedback to trainees and help trainees progress to the next stage of their training or career in reproductive health.

MAP's ICT program started in 2007 and has grown since that time. The program has always offered hands-on training for appropriate trainees. For those who are qualified to do procedures with supervision (such as residents and fellows), the number of procedures they do depends on several factors, such as their available days to train and the available trainers during their rotation. For example, a resident who does a 4-week rotation but can only spend 2 days per week with MAP because their remaining days are occupied with residency clinic and on-call duties could have the same procedure volume as a different resident doing a 2-week rotation spending 4 days per week with MAP. Overall, the number of training and hands-on learning opportunities has increased over time as MAP has contracted with more training sites.

MAP's training program aims to improve abortion access by (1) increasing trainees' motivation to provide and (2) improving their concrete skills, such that some will add abortion to their existing services or seek future opportunities in which they can provide abortion, while those who do not provide abortion will still provide more competent counseling and referrals for their patients considering abortion. We hypothesized that many MAP alumni would report posttraining that they provide abortion, contraception, options counseling and outpatient miscarriage management.

We conducted a survey of MAP's alumni to identify what reproductive health services they provide, where they work and what impact MAP training had on their intention and ability to provide the full scope of reproductive health care.

## 2. Methods

### 2.1. Participants and data collection procedures

In April 2016, MAP staff sent an email invitation to all individuals who had participated in its ICT program during the years 2007–2015 and for whom the organization had an email address ( $n=127$ ). The email contained a description of the study, information about its purpose and voluntary nature, and a link to an online survey. Alumni received three reminders to complete the survey over the course of 4 weeks. No financial incentive was offered.

We excluded from analysis any respondent not currently providing patient care ( $n=2$ ) or whose field excludes reproductive health services ( $n=1$ , a Pathology resident). We included all other respondent specialties (Ob-Gyn, Family Medicine, Internal Medicine and General Surgery). In analyzing the primary outcome and all outcomes related to current service provision, we excluded respondents still in school. (For example, students who completed a MAP rotation during their first year of medical school and responded to the survey during their third year of medical school would be excluded from analyses related to current service provision.) The primary analytic sample (population 1,  $n=56$ ) thus included MAP alumni currently in residency, fellowship or practice in a field whose scope includes reproductive health. We also examined the subset of respondents (population 2,  $n=32$ ) currently in practice rather than in training (i.e., excluding residents and fellows), and among these, we looked specifically at Family Medicine providers ( $n=26$ ).

### 2.2. Survey instrument and outcome measures

The survey took approximately 15 min to complete, with up to 34 questions (fewer for some participants due to skip logic). The survey asked both closed-ended (check-box) and open-ended (free-text) questions. Responses were anonymous unless the respondent opted to complete a voluntary question with their name and contact information for future follow-up.

The primary outcome was report of current provision of any abortion service. Secondary outcomes were provision of specific abortion options (medication, first-trimester aspiration, second trimester) and other reproductive health services (contraception counseling, insertion and removal of contraceptive devices, outpatient miscarriage management, pregnancy options counseling). To derive these outcome measures, we asked participants how frequently they provide specific services (never, rarely, occasionally or frequently) and then dichotomized responses to never versus ever. For the primary outcome, we collapsed medication abortion, first-trimester aspiration abortion and second-trimester abortion into a composite outcome: any abortion. The survey also asked, "Are you the sole provider of any reproductive health services for your practice or community?" Respondents were also asked about their involvement in reproductive justice or advocacy, and about whether MAP impacted their intention and preparation to provide reproductive health care.

Participants were also asked about their current occupation, specialty, practice location and type of facility where they provide care, as well as the number of MAP rotations they completed, their stage of training during their MAP rotation(s) (student, resident, fellow, attending physician, advance practice clinician or other) and the level of educational exposure to different reproductive health services they received during their MAP training (no experience, didactic education only, clinical observation only with no hands-on training, or hands-on training).

### 2.3. Data analysis

We identified factors associated with reporting provision of any abortion (ever versus never) using the  $\chi^2$  test and Fisher's Exact Test where any cell had count  $\leq 5$ , with significance set at  $p=.05$  for all analyses. We conducted multiple logistic regression to identify the association between MAP training factors and provision of abortion controlling for potential confounders. To assess for selection bias, we compared survey respondents to nonrespondents on characteristics that MAP could ascertain based on its programming database.

The study was deemed exempt by the University of Chicago Institutional Review Board.

## 3. Results

### 3.1. Participant characteristics

Of 135 alumni, MAP had valid email addresses for 127 and received survey responses from 77, for a response rate of 61% (Table 1). Most

**Table 1**  
MAP alumni survey respondent characteristics, n=77<sup>a</sup>

Occupation	n (%)
Students	12 (16.9)
Residents	23 (32.4)
Fellows	1 (1.4)
Attending physician	28 (39.4)
Advanced practice clinician	2 (2.8)
Other	5 (7.0)
Number of MAP rotations	
One	69 (89.6)
More than one	8 (10.4)
Stage of training at the time of first MAP rotation <sup>b</sup>	
Student	43 (55.8)
Resident	29 (37.7)
Fellow	1 (1.3)
Attending physician	2 (2.6)
Advanced practice clinician	1 (1.3)
Other	1 (1.3)
Received hands-on training in abortion (categories not mutually exclusive)	
Medication abortion	38 (54.3)
First-trimester aspiration abortion	50 (71.4)
Second-trimester abortion	15 (21.4)
Specialty <sup>c</sup>	
Family medicine	39 (68.4)
Obstetrics-gynecology	13 (22.8)
Other	5 (8.8)
Region <sup>c</sup>	
Northeast	7 (13.5)
South	4 (7.8)
Midwest	27 (51.9)
West	13 (25.0)
Outside US	1 (1.9)
Religiously affiliated practice site <sup>c</sup>	
Yes	19 (33.9)
No	36 (64.3)
Not sure	1 (1.8)

<sup>a</sup> Of 135 MAP alumni, the survey was sent to 127 for whom MAP had active email addresses. Seventy-seven alumni responded to the survey (60.6%). Responses do not all sum to 77 due to item nonresponse.

<sup>b</sup> Eight participants had multiple MAP rotations. Their stage during the first MAP rotation is shown.

<sup>c</sup> Only nonstudent participants were asked these questions (n=59).

reported Family Medicine as their specialty (68%), and the majority (52%) were from the Midwest. Respondents did not differ significantly from nonrespondents in any characteristic we were able to assess, including geographic region, stage of training at the time of their MAP rotation or year of training.

### 3.2. Reproductive health service provision

Among MAP alumni currently in residency, fellowship or practice in a field whose scope includes any reproductive health (population 1), 50% reported providing any abortion service. In responding to questions

about specific abortion services, 46% said that they provide medication abortion, 41% provide first-trimester aspiration abortion, and 28% provide second-trimester abortion (Table 2). Nearly all said they provide pregnancy options counseling (98%), contraception counseling (98%) and contraceptive device insertion/removal (96%), and 84% provide outpatient miscarriage management. Looking at those in practice (population 2, included in Table 2 but not shown separately), 29% reported that they are the sole provider of some reproductive health service for their practice or community; 43% said that they provide any abortion, 42% provide medication abortion, 29% provide first-trimester aspiration abortion, and 7% provide second-trimester abortion. Pregnancy options counseling and contraception counseling were reported as universally provided (100%) by this group, while nearly all provide contraceptive device insertion/removal (97%), and 81% provide outpatient miscarriage management. One third said that they are currently involved in reproductive justice or advocacy.

Looking at practicing Family Medicine providers (included in Table 2 but not shown separately), 100% provide pregnancy options counseling and contraceptive device insertion/removal, 75% provide outpatient miscarriage management, and 44% provide abortion.

### 3.3. Impact of MAP training

MAP alumni who reported receiving the highest level of medication abortion training during their MAP rotation (i.e., checked the box “hands-on training” when asked about their MAP training in medication abortion) were more likely to report providing any abortion than those who reported that they did not receive hands-on training in medication abortion (63% vs. 32%, p=.027, see Table 3). Alumni who completed more than one MAP rotation were also significantly more likely to report providing abortion compared to those who completed one MAP rotation (100% vs. 44%, p=.009). Stage of training during MAP rotation was also significantly associated with current provision of abortion, with training during residency associated with the lowest likelihood of providing (28%), compared to training as an attending physician (50%) or student (69%, p=.007). Finally, specialty and region were significantly associated with current abortion provision, while working at a religiously affiliated practice site was not. In multivariable logistic regression controlling for stage of training, region and specialty, having received hands-on medication abortion training from MAP remained significantly associated with a trainee's odds of current abortion provision (adjusted odds ratio 21.9, 95% confidence interval 2.10–228.0, p=.010).

When asked if MAP directly impacted their intention to provide any reproductive health service, 60% of nonstudent respondents and 82% of student respondents (i.e., those still in school at the time of the survey) said yes (p=.15). In the open-ended question that asked respondents to explain their answer, one person commented, “MAP provided me with my earliest exposure to abortion and planted the seed of interest to focus my education towards reproductive health services.”

When asked if MAP helped prepare them to provide reproductive health services, 98% of nonstudent respondents and 83% of student

**Table 2**  
How often do MAP alumni currently provide specific reproductive health services?<sup>a</sup>

Service	Never	Rarely	Occasionally	Frequently
	n (%)	n (%)	n (%)	n (%)
Contraception counseling (n=55)	1 (1.8)	0	3 (5.5)	51 (92.7)
Insert/remove contraceptive devices (n=55)	2 (3.6)	3 (5.5)	7 (12.7)	43 (78.2)
Pregnancy options counseling (n=53)	1 (1.9)	5 (9.4)	11 (20.8)	36 (67.9)
Medication abortion (n=54)	29 (53.7)	8 (14.8)	10 (18.5)	7 (13.0)
First-trimester aspiration (surgical) abortion (n=54)	32 (59.3)	5 (9.3)	7 (13.0)	10 (18.5)
Second-trimester abortion (n=54)	39 (72.2)	4 (7.4)	7 (13.0)	4 (7.4)
Outpatient miscarriage management (n=55)	9 (16.4)	14 (25.5)	18 (32.7)	14 (24.5)
Inpatient miscarriage management (n=55)	36 (65.5)	7 (12.7)	4 (7.3)	8 (14.6)

<sup>a</sup> Table shows responses from alumni who are residents, fellows, practicing attending physicians or APCs in a field whose scope of practice includes reproductive health, n=56. Responses do not all sum to 56 due to item nonresponse.

**Table 3**  
MAP alumni who provide any abortion services<sup>a</sup>

Occupation	n (%)	p value
Residents (n=23)	14 (60.9)	.26 <sup>b</sup>
Attending physician (n=26)	12 (46.2)	
Advanced practice clinician (n=2)	1 (50.0)	
Fellow/other (n=3)	0 (0)	
Number of MAP rotations		
One (n=48)	21 (43.8)	.009
More than one (n=6)	6 (100.0)	
Stage of training at the time of first MAP rotation		
Student (n=26)	18 (69.2)	.007 <sup>b</sup>
Resident (n=25)	7 (28.0)	
Attending physician (n=2)	1 (50.0)	
Other (n=1)	1 (100.0)	
Received hands-on training in medication abortion		
No (n=22)	7 (31.8)	.027
Yes (n=32)	20 (62.5)	
Received hands-on training in first-trimester aspiration (surgical) abortion		
No (n=10)	7 (70.0)	.16
Yes (n=44)	20 (45.5)	
Received hands-on training in second-trimester abortion		
No (n=41)	19 (46.3)	.34
Yes (n=13)	8 (61.5)	
Specialty		
Family medicine (n=37)	15 (40.5)	.010 <sup>b</sup>
Obstetrics-gynecology (n=13)	11 (84.6)	
Other (n=4)	1 (25.0)	
Region		
Northeast (n=7)	6 (85.7)	.045 <sup>b</sup>
South (n=4)	1 (25.0)	
Midwest (n=26)	10 (38.5)	
West (n=13)	9 (69.2)	
Outside US (n=1)	0 (0)	
Religiously affiliated practice site		
Yes (n=19)	9 (47.4)	.78
No/not sure (n=35)	18 (51.4)	

<sup>a</sup> Table includes alumni who are residents, fellows, practicing attending physicians or APCs in a field whose scope of practice includes reproductive health, n=56. Responses do not all sum to 56 due to item nonresponse.

<sup>b</sup> Fisher's Exact Test. All others are  $\chi^2$ .

respondents said yes (p=.08). In explaining their response, one alum wrote in, "Because of my MAP rotation, I feel very confident in my ability to describe different types of contraception, the options of termination, and even the limitations set by policy."

#### 4. Discussion

Excluding students still in school, nonpracticing clinicians and those in out-of-scope specialties, we found that half of MAP's ICT program alumni reported current provision of some abortion care. Nearly all reported providing comprehensive counseling and contraceptive services. Hands-on training with MAP and repeat MAP rotations were significantly associated with going on to become an abortion provider.

This study is the first to report outcomes of an opt-in reproductive health training program since the closure of the RHP at the University of Rochester. The study's strengths include a response rate >60%, ability to assess for selection bias, and exploration of both training and current practice factors as predictors of abortion provision. Its limitations include the possibility of recall bias and social desirability bias since all results were self-reported by MAP alumni, and limited generalizability to other training programs. We were also unable to analyze results based on how much time each alum participated in MAP as we did not ask this in the survey.

Rochester RHP alumni reported 59% abortion provision [6], and Ob-Gyn residency graduates from opt-out abortion training programs report 37% provision [7]. We are unable to make direct comparisons,

and outcomes may reflect differences in study methods. For example, Greenberg et al. asked if RHP alumni had ever provided abortion since training, whereas we asked alumni about current provision. Compared to an opt-out approach to training, it is possible that the MAP and RHP opt-in model leads to a higher percent of alumni becoming abortion providers because it requires trainees to proactively seek out training, thus attracting a self-selected population of trainees who are highly motivated to become abortion providers. In a survey of Ob-Gyn residents, Turk et al. found that preresidency intention to provide abortion was significantly associated with the number of abortions performed during residency, controlling for multiple resident and program characteristics [8]. However, our findings also suggest a direct effect of MAP's training program itself, which seemed to work by mechanisms involving both increased intention and skill acquisition. For example, being a student at the time of an alum's first MAP rotation was significantly associated with a greater likelihood (compared to being a resident) of going on to provide abortion care, and students were also more likely to report that MAP directly impacted their intention to provide. At the same time, trainees who received hands-on medication abortion training had greater odds of providing abortion care, even controlling for potential confounders. (Although "hands-on" is a less relevant description for training about medication abortion than for procedures, we expect that respondents understood that this meant direct involvement in the delivery of medication abortion, and this response was significantly associated with the likelihood of current abortion provision.) MAP's effectiveness may derive from offering trainees the opportunity for a combination of early modeling (e.g., for preclinical students), exposure and direct training, which meets trainees' needs at different stages of training and helps advance them forward along a pathway towards service provision.

MAP provides an opt-in training opportunity for those where opt-out is not available and those for whom opt-out has not been sufficient. By coordinating rotations with multiple clinical location options, assisting with malpractice and licensing issues, and supporting resource-limited providers who are willing to train, MAP makes opt-in training easier for trainees and training sites, thus filling an important need. In prior research, the logistical challenges posed by opt-in programs have been identified as barriers to abortion training, especially in restrictive settings [9,10]. MAP's infrastructure created an opt-in model to remove common training barriers, establishing it as an opportunity that complements opt-out training programs and plays an important role in the overall training landscape. Expanding or replicating MAP's model is likely to be beneficial by increasing access to opt-in training for diverse learners at various stages of learning.

Although our methodology did not allow us to directly assess whether MAP alumni made a difference in access to abortion and other reproductive health services in underserved areas, it demonstrates that MAP alumni provide these services at higher rates than the national population of providers. For example, Holt et al. found that only 26% of primary care physicians in the United States provide routine options counseling when caring for a woman with an unintended pregnancy [11]. In addition, our survey examined two proxy measures of alumni increasing access to reproductive services: geographic region of practice and self-reported sole provider status. A quarter of MAP alumni who work in the South and nearly 4 in 10 of those who work in the Midwest provide abortion services, and nearly 1 in 3 MAP alumni reported being the sole provider of some reproductive health service for their practice or community. We acknowledge that self-report of being a sole provider is not a validated measure, and it is unknown whether MAP's location and emphasis on the Midwest led to a differential impact on trainees based on their ultimate practice location. Future research could assess whether the location of training matters for future service provision in order to inform training program development and policy. However, our findings suggest that MAP alumni are increasing access to services their patients would otherwise not receive or only receive by traveling farther.

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