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A Long-Term Evaluation of a Required Reproductive Health Training Rotation With Opt-Out Provisions for Family Medicine Residents

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BACKGROUND: Family physicians are critical to reproductive health care provision. Previous studies have evaluated the immediate impact of training family physicians in abortion and reproductive health care but have not conducted long-term follow-up of those trained.

METHODS: In a cross-sectional survey performed in 2009, all 2003–2008 graduates from four family medicine residency programs with a required abortion training rotation with opt-out provisions were asked to participate in a confidential online follow-up survey that was linked to rotation evaluations. The follow-up surveys addressed current reproductive health practice, desire to integrate services in ideal practice, perceived barriers, and desired support for provision of services.

RESULTS: Of 183 eligible graduates, 173 had contact information, and 116 completed the survey. The majority of respondents had provided a range of reproductive health services since residency. Of full training participants, many had performed IUD insertion (72%), endometrial biopsies (55%), miscarriage management (52%), and abortion (27%), compared to 39%, 22%, 17%, and 0% of opt-out training participants, respectively. Of those residents intending future abortion provision, 40% went on to do so. In multivariate analysis among full participants, procedural volume was positively correlated with future abortion provision after controlling for intention to provide abortions, gender, and residency program (adjusted OR=1.42 [95% CI=1.03–1.94]). While most respondents considered comprehensive reproductive health services including miscarriage management and abortion as important to include in their ideal practice, many faced barriers to providing all the services they desired.

CONCLUSIONS: Family medicine residency graduates fully participating in abortion training reported increased provision of most reproductive health services compared to opt-out graduates. Many intending to provide abortions reported a variety of barriers to provision. Training programs that provide assistance for overcoming obstacles to practice initiation may improve comprehensive reproductive health provision among graduates.

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Given the high US prevalence of unintended pregnancy, early pregnancy loss, and abortion, the vast majority of family physicians care for patients that face these issues. More than half of US pregnancies are unintended, up to 20% of recognized pregnancies end in



miscarriage,² and 22% of pregnancies end in abortion.³ Family physicians also have an important role in provision of contraception⁴ and addressing the underutilization of effective contraceptive methods, including intrauterine device (IUD) and contraceptive implant,⁵ which is an important contributor to the high rate of unintended pregnancy. The importance of family physicians in the provision of reproductive health services is augmented by the fact that they practice in diverse and underserved areas,⁶ are procedurally trained, and provide care for women throughout the lifecycle.

While various reproductive health skills are included in family medicine Accreditation Council for Graduate Medical Education (ACGME) requirements,⁷ many residents are inadequately trained in these areas. A recent national survey of chief residents showed 15% lacked clinical experience in pregnancy options counseling, 25%–30% in IUD placement, 80% in contraceptive implant placement, and 57% in aspiration management for miscarriage.⁸ The Family Medicine Residency Review Committee recommends all these as core skills for residents,⁹ in addition to induced abortion to 10 weeks as an advanced skill.¹⁰ With respect to IUD use specifically, four recent studies suggest family physicians used outdated selection criteria and were misinformed about the range of women who could benefit from IUDs.^{11–14} Considering the documented association between training, evidence-based knowledge, and provision of methods,^{15–17} these findings suggest patients of family physicians may not be receiving comprehensive reproductive health care.

Abortion training rotations in residency offer intensive exposure to reproductive health care. In previous studies of required abortion training rotations with opt-out provisions in family medicine, residents perceived training to enhance technical skills and continuity of care¹⁸ while residencies found training to be feasible, successful,¹⁹ and potentially helpful with recruitment,²⁰ although long-term studies are lacking.

Follow-up studies of obstetrician-gynecologists receiving abortion training show that both training availability and procedural volume were positively correlated with future abortion provision, regardless of previous intention to provide,^{21,22} although post-residency practice restrictions were associated with decreased odds of provision. Studies of obstacles to abortion practice among obstetrician-gynecologists suggest that policies imposed by employers and perceived strain on professional relationships serve as more common deterrents than threats of violence.^{23,24}

Between 2003 and 2005, the TEACH Program (Training in Early Abortion for Comprehensive Healthcare) began offering required abortion training with opt-out provisions in four California family medicine residencies in collaboration with Planned Parenthood and RHEDI—The Center for Reproductive Health Education in Family Medicine. Short-term outcomes were described previously, suggesting abortion training can be safely integrated into residency programs with a positive reception by both residents and patients.²⁵ This cross-sectional follow-up study was designed to evaluate (1) the incorporation of reproductive health skills into practice and (2) perceived barriers and desired support to assist with integrating skills into practice.

Methods

In 2009, all 2003–2008 graduates from four family medicine residency programs with a required opt-out abortion training rotation were asked to take part in a confidential online follow-up survey, regardless of participation level in training. All programs provide care to underserved populations, serving a mix of urban and agricultural communities in northern and central California. One residency is in an urban public

hospital, two are in public county hospitals in smaller cities, and one is in a nonprofit community hospital in a smaller city.

The rotation consisted of 4–8 day- long training sessions at Planned Parenthood, integrated into the core gynecology rotation of each program. Didactic teaching focused on public health aspects of unintended pregnancy, contraception, options counseling, abortion, and its complications. Procedural training included IUD and implant placement, first-trimester ultrasound, cervical block and dilation, miscarriage management, and medical and aspiration abortion. The curriculum used TEACH's Early Abortion Training Workbook, ²⁶ including case reviews with faculty. In two of the four programs, the rotation also included abortion provision in the residency clinic site.

Residents at all four programs could opt out of the experience at Planned Parenthood but were required to participate in training on values clarification, options counseling, contraception, and early pregnancy loss. For this analysis, residents were classified as either opt-out (those declining any portion of the curriculum) or full participants, as supported by studies describing a range of opt-out experience.^{27,28}

Contact information came from alumni lists, referral sampling, and publicly available sources. Graduates without known current email addresses were excluded.

An email with a follow-up survey link was sent to potential participants. Informed consent was implied by survey completion; participants could decline simply by not responding. Communications were collected with coded identifiers to link follow-up surveys with rotation evaluations. Email and phone reminders were used to improve response rates.

The follow-up survey inquired about current and ideal reproductive health service provision, perceived competency, perceived barriers, and desired support for integrating reproductive health into practice. This study was IRB approved through the UCSF Committee on Human Research Committee.

Analysis was conducted using STATA 10.1 (College Station, TX) and SAS 9.1 (Cary, NC). Estimation of difference between groups was undertaken with t test, chi-square, or Fischer exact tests reporting one or two-sided P values, as appropriate. Logistic regression was used to evaluate whether procedural volume was associated with future abortion provision regardless of intention to provide abortions at the time of rotation completion among those participating in training. This analysis also controlled for the pre-specified covariates of gender and residency program.

Results

Of 183 eligible graduates, 173 had contact information, and 116 replied, for a 67% response rate among those contacted, and 93% of surveys (n=108) were linked to previous rotation evaluations. Of respondents, 84% participated fully in abortion training, and 16% opted out of full participation.

At the time of the follow-up study, the majority of respondents were women (74%), married (76%), without children (52%), in urban practice (44%), and average age 35 (Table 1).

Table 1: Demographic and Practice Characteristics of Respondents*

Characteristic	Percent (n)
Age (n=109)	
30–34	51% (56)
35–39	33% (36)
40–44	14% (15)
>44	2% (2)
Female (n=115)	
Marital status (n=114)	
Married	76% (87)
Single	17% (19)
Cohabiting	6% (7)
Divorced	1% (1)
Children (n=114)	
Years since graduation (n=114)	
1	25% (28)
2	23% (26)
3	24% (27)
4	18% (21)
5	10% (11)
6	1% (1)
Primary practice location (n=111)	
Urban	44% (49)
Suburban	37% (41)
Rural	18% (20)
Outside of US	1% (1)
Primary practice setting (n=73)	
Nonprofit or community clinic	33% (24)
Private practice	21% (15)
Private hospital	5% (4)
County hospital	21% (15)
Academic center	14% (10)
Other	7% (5)

Percent clinical work (n=112)	
67%–100%	79% (88)
34%–66%	10% (11)
0%–33%	12% (13)

* Number of respondents to individual survey questions varied (range 109–115)

There were no significant differences in survey response by gender, residency program, or years since graduation, although more full (75%) than opt-out (43%) participants responded ($P<.0001$) as did more anticipating future abortion provision (82%) than not (57%, $P<.05$).

Reproductive Health Practice

Most graduates reported providing reproductive health services since residency. The majority of both full and opt-out participants reported providing contraceptive and pregnancy options counseling since residency (Table 2). There were significant differences in provision of all reproductive health services between full participants and those who opted out, with the exception of contraceptive and pregnancy options counseling and contraceptive implant. The majority of full participants reported performing IUD insertion (72%), endometrial biopsies (55%), and miscarriage management (52%), compared to 39%, 22%, and 17% of opt-out graduates, respectively. Of full participants, 39% had managed abortion complications, and 27% provided abortion (including medication and/or aspiration abortions unless otherwise specified).

Table 2: Reproductive Health Services Provided Since Residency*

Service	Proportion Provided Since Residency			P Value
	Total	Full Participant Respondents	Opt Out Participant Respondents	
Contraceptive counseling	97% (111/115)	97% (93/96)	95% (18/19)	NS
Pregnancy options counseling	87% (100/115)	90% (86/96)	74% (14/19)	NS
IUD insertion	66% (75/113)	72% (68/95)	39% (7/18)	<.01
Endometrial biopsy	50% (56/112)	55% (52/94)	22% (4/18)	<.01
Miscarriage management	46% (52/112)	52% (49/94)	17% (3/18)	<.01
Abortion complication management	39% (43/111)	43% (40/93)	17% (3/18)	<.05
First trimester ultrasound	37% (42/114)	43% (41/96)	6% (1/18)	<.01
Obstetrical ultrasound	32% (36/111)	37% (34/93)	11% (2/18)	<.05
Cervical block	32% (36/111)	39% (36/93)	0% (0/18)	<.001
Cervical dilation	28% (31/110)	33% (30/92)	6% (1/18)	.01
Contraceptive implant	21% (23/111)	23% (21/93)	11% (2/18)	NS
Abortion (medication and/or aspiration)	23% (26/115)	27% (26/96)	0% (0/19)	<.01
Medication abortion	22% (24/111)	26% (24/93)	0% (0/18)	<.01
First-trimester aspiration abortion	20% (22/111)	24% (22/93)	0% (0/18)	<.05

* Number of respondents to individual survey questions varied (range 110–115)

NS—not significant

There was a trend toward increased post-residency provision of all reproductive health services with more training sessions (data not shown). This trend was significant for abortion provision, with 20% of full participants with fewer than five training sessions providing abortions compared to 50% with over eight training sessions ($P<.01$). Among full participants, procedural volume was positively correlated with future abortion provision, both in bivariate and multivariate analysis controlling for intention to provide at the end of the rotation, gender, and residency program (unadjusted OR=1.55 [95% CI=1.19–2.018], $P=.001$, adjusted OR =1.42 [95% CI=1.03–1.94], $P=.03$).

Self-perceived skill competency did not change significantly with time since graduation for any reproductive health skill listed in Table 2. Among those with higher self-perceived competence for aspiration abortion, there was a significant increase in abortion provision following residency ($P<.0001$).

Of those residents who anticipated future abortion provision, 40% had done so. Sites of post-residency abortion provision included family planning clinics (63% of providers), residency practice sites (38% of providers), and/or continuity clinics (13% of providers). While family planning clinics were not the primary practice site for any graduates, 22% reported them as secondary sites (data not shown).

Ideal Reproductive Health

Practice

While respondents provided various reproductive health services, their vision of “ideal practice” was often more expansive than the actual services provided. While 96% would include long-acting contraception in their ideal practice, only 66% placed IUDs and 21% placed implants. In addition, 85% of respondents would ideally include miscarriage management, yet only 46% have done so. Finally, 65% would ideally include medication and 61% aspiration abortion, but only 22% and 20%, respectively, have done so.

Perceived Barriers

Among respondents anticipating future abortion provision at the time of their rotation evaluation, many subsequently reported barriers to provision (Table 3). The majority of respondents providing abortion since residency reported lack of authority or time to implement services, restrictions from clinics/hospitals, medical liability coverage, and strength of competing practice interests as barriers to abortion provision. Staff resistant (48%), lack of ultrasound (46%), and lack of adequate facilities (42%) were also reported to be significant barriers to those that had provided abortions. Although two thirds of all barriers were more frequently reported among graduates who were abortion providers than non-providers, the difference was significant only for staff resistance and reimbursement issues.

Table 3: Perceived Barriers to Abortion Provision Among Those Intending to Provide

Perceived Barrier	% of Those Providing Abortion After Residency (n=26)	% of Those Not Providing Abortion After Residency (n=40)	P<.05
Individual barriers			
Strength of competing interests	64% (16)	69% (20)	NS
Lack of authority to set up	60% (15)	45% (14)	NS
Lack of time to set up services	60% (15)	32% (10)	NS
Time since training	24% (6)	37% (11)	NS
Inadequate training	29% (7)	23% (7)	NS
Concerns of family members	0% (0)	13% (4)	NS
Anti-abortion harassment	0% (0)	13% (4)	NS
System barriers			
Clinic/hospital doesn't allow it	52% (13)	48% (15)	NS
No ultrasound	46% (11)	45% (14)	NS
Lack of adequate facilities	42% (10)	45% (14)	NS
Medical liability coverage	52% (13)	27% (8)	NS
Lack of back-up for comps	29% (7)	27% (8)	NS
Staff resistance	48% (12)	10% (3)	<.005
Administrative obstruction	39% (9)	17% (5)	NS
Reimbursement issues	36% (9)	7% (2)	<.05
Colleague resistance	25% (6)	6% (2)	NS

NS—not significant

Desired Postgraduate Support

Survey respondents indicated the desire for varied levels of support to expand the integration of reproductive health care into ongoing practice. Many graduates requested assistance to integrate contraceptive methods such as IUD (23%), further training in medication (25%) or aspiration abortion (20%), assistance finding a clinic to provide services (23%), or being matched with a mentor in reproductive health care provision (20%).

Discussion

This is the first long-term study of family medicine residency graduates from programs with required abortion training with opt-out provisions. Many full and opt-out participants have provided a range of reproductive health services, including contraceptive counseling, pregnancy options counseling, IUD insertions, and miscarriage management since residency. Overall, a higher proportion have provided reproductive health procedures compared to available national statistics. While a recent national study showed less than 25% of family physicians inserted IUDs in the last 12 months,¹³ 66% of our graduates report IUD insertions. Although equivalent statistics do not exist for all skills, limited comparisons can be made for ultrasound, reported among 15% of family physician practices nationally²⁹ compared to more than 30% of our graduates.

Our study supports the positive effect of training on provision of reproductive health services in two ways. First, graduates who participated

fully in the abortion training rotation were more likely to provide a broad range of reproductive health services, including miscarriage management, IUD insertions, endometrial biopsies, and abortions than those who had opted out of the training. While the finding regarding abortion is not surprising, given the demonstrated lack of interest in this service by opt-out residents, the relationship of training to provision of core reproductive health services suggests that exposure to the abortion training curriculum enhanced reproductive health skills more generally. Second, graduates with more extensive procedural training were more likely to provide abortion services, even after controlling for intensity to provide, gender, and residency. While our study design does not allow us to determine a causal relationship, as interested residents may have sought more training, it provides support for a similar relationship between intensity of training and service provision found among obstetrician-gynecologists.²¹

Our finding that residents opting out of full participation still gained many counseling and procedural skills from the rotation is consistent with previous studies showing that even for graduates not intending provision, residency exposure is correlated with more accepting attitudes and increased likelihood of offering options counseling and referrals.^{28,30,31}

While most respondents considered comprehensive reproductive health services including miscarriage and abortion as within their ideal practice, many perceived barriers to providing all the services they desired. Among those anticipating future abortion provision, non-providers may have been deterred by some of the obstacles reported. The finding that obstacles were more frequently reported among subsequent providers than non-providers suggests they may have had more experience encountering and resolving these obstacles. Similar to findings among obstetrician-gynecologists,^{23,24} frequently reported practice barriers suggests that new physicians lack both the professional support and the autonomy needed to readily integrate abortion services and will likely need additional assistance.

These findings are consistent with existing data on continuing medical education programs, which suggest that information alone has limited impact on clinician practice.^{32,33} Residents are rarely given training on how to accomplish practice change,³⁴⁻³⁶ so their skills to negotiate the addition of new services into clinical practice may be limited. While curriculum²⁶ and graduate support programs have begun bringing attention to practice barriers,²⁴ additional focus and infrastructure may help more physicians approximate their ideal clinical practice.

Limitations

Our response rate was reasonable for a post-residency follow-up study, but the regional distribution of residency programs may limit the ability to generalize results, as residents attracted to programs offering abortion training may be more likely to provide reproductive health services regardless of training. Because requests for survey participation came from former faculty members, subjects may have been susceptible to social acceptability bias. Full participants having a higher response rate may potentially overestimate post-residency service provision. Although more extensive training during residency was associated with post-residency reproductive health service provision, our study design does not demonstrate a causal relationship.

Conclusions

Our study shows the majority of family medicine graduates offered required abortion training with opt-out provisions during residency went on to provide a broad range of reproductive health services, with a higher proportion of participants providing reproductive health procedures compared to available national statistics. Procedural volume was positively correlated with future abortion provision among full

participants, even after controlling for intention to provide, gender, and residency. While most respondents considered comprehensive reproductive health services including miscarriage management and abortion as within their ideal practice, many perceived barriers to providing all the services they desired. Training in comprehensive reproductive health care has the potential to expand family physicians' ability to provide contraception, pregnancy options counseling, and care for early pregnancy loss and termination. Training designed to help residents navigate barriers and build buy-in within a post-residency practice may be helpful.³⁷ Advanced clinical opportunities, leadership skills, postgraduate mentoring, and directed technical assistance for overcoming barriers may continue to build on personal and programmatic investments in residency training. Potential benefits to patients include improved prevention of unintended pregnancy, access, and continuity of reproductive health care within the medical home.

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