

Attitudes and Intentions of Future Health Care Providers Toward Abortion Provision

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CONTEXT: Induced abortion is one of the most common procedures performed among women in the United States. However, 87% of all counties had no abortion provider in 2000, and little is known about the attitudes and intentions of future health care providers, including advanced clinical practitioners, regarding abortion provision.

METHODS: During March 2002, first- and second-year students in health sciences programs (i.e., medicine, physician assistant and nursing) at the University of Washington were anonymously surveyed. Univariate, bivariate and multivariate analyses were used to determine students' attitudes and intentions regarding provision of abortion services.

RESULTS: Of the 312 students who completed the survey, 70% supported the availability of legal abortion under any circumstances. Thirty-one percent intended to provide medical abortion in their practice, and 18% planned to offer surgical abortion. Fifty-two percent of all respondents agreed that advanced clinical practitioners should be able to provide medical abortion, and 37% agreed that they should be able to provide surgical abortion services; however, greater proportions of advanced clinical practitioners (45–83%) than of medical students (21–43%) expressed such support. Sixty-four percent of all respondents were willing to attend a program whose curriculum requires abortion training.

CONCLUSIONS: Although it may not be possible to require abortion training for every future health care provider, making abortion a standard part of clinical training would provide opportunities for future physicians and advanced clinical practitioners, and would likely ameliorate the abortion provider shortage.

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Women have long used various techniques to terminate unwanted pregnancies—whether abortion has been accessible, safe or legal.¹ Currently, more than one-fifth of all pregnancies² and half of unintended pregnancies in the United States end in abortion.³ Surgical abortion remains one of the most common surgical procedures for women of reproductive age;⁴ however, 87% of all U.S. counties did not have an abortion provider in 2000.⁵ Meanwhile, the number of abortion providers has been declining, and more than half of providers who have ever performed an abortion are at least 50 years old.⁶

Requirements that prohibit advanced clinical practitioners (i.e., physician assistants, nurse practitioners and nurse-midwives) from providing abortion services exacerbate the provider shortage.⁷ Despite evidence that trained advanced clinical practitioners are able to conduct safe abortions, 44 states have laws prohibiting them from doing so.⁸ However, health care providers have not extensively studied these restrictions. Furthermore, limited research has explored whether advanced clinical practitioners would be interested in providing these services, particularly since the Food and Drug Administration's September 2000 approval of the use of mifepristone and misoprostol for medical abortions.

The study on which this article is based examined the abortion-related attitudes of future health care providers

attending the University of Washington and their intention to provide abortion services in their practices. The primary outcome of this study was students' intention to incorporate abortion into their practice. Secondary outcomes were willingness to seek abortion training and attitudes toward advanced clinical practitioner provision of abortion services. On the basis of previous work, we hypothesized that students in medical programs, those in women's health-oriented programs and those who spent their first 15 years of life in an urban area would be more likely than others to intend to provide abortions, once age, sex and religion are controlled for. Also, we predicted that students would be more willing to perform medical abortions than surgical abortions, because medical abortions are limited to first-trimester terminations of pregnancy.

METHODS

Sample Selection

Students enrolled in the University of Washington School of Medicine, physician assistant program (MEDEX) or School of Nursing were eligible to participate. We selected our sample on the basis of student availability within each program. First- and second-year nursing and MEDEX students were offered the survey, as were second-year medical students; first-year medical students were not eligible to participate because they were geographically dispersed in

five northwestern states,* and it would have been too challenging to survey them without breaching confidentiality. The study was reviewed and approved by the university's institutional review board.

Questionnaire and Data Collection

Results of previous research exploring attitudes toward abortion informed the creation of our survey.⁹ The survey was developed by the study team and reviewed by several University of Washington faculty members, including representatives from the advanced clinical practitioner community. Ten allied health students who were not in their first or second year at the University of Washington pilot-tested the survey, and then we further refined it.

The 22-item self-report survey consisted of four parts: demographic information; attitudes toward abortion, abortion training and advanced clinical practitioner provision of abortion services; intention to provide abortion; and willingness to seek abortion training.

Using a five-point Likert scale, respondents were asked to specify their strength of agreement with eight statements regarding the availability and accessibility of abortion; response options ranged from “strongly disagree” to “strongly agree.” They were also asked to indicate on a five-point scale of “definitely yes” to “definitely no” whether they intended to provide medical abortions, to provide surgical abortions and to seek abortion training.

All students completed surveys during a two-week period in March 2002. The survey took approximately five minutes to complete, and we offered students candy bars as a gesture of gratitude for donating their time to the study; candy was offered to nonparticipants as well to ensure that no incentive would be seen or interpreted as coercion to participate. We promised students total anonymity and confidentiality before they agreed to participate.

The majority of students attended classes at the Seattle campus of the university. The lead author administered the surveys in person at the end of a class or seminar; students were approached only once during one class or seminar. First-year physician assistant students in Yakima and Spokane received the same survey, verbal introduction and instructions from two volunteer faculty instructors. A pre-paid self-addressed, stamped envelope allowed each student to securely return the survey.

Data Analysis

Responses for general attitudes were transformed from a five-point scale to a three-point scale (“agree,” “neither agree nor disagree” and “disagree”). Likewise, responses for intentions and willingness to seek abortion training were coded “yes,” “undecided” and “no.” We combined family nurse practitioner and nurse-midwifery students into one category labeled as “nursing,” as there were few participants in these categories.

We used univariate analysis and frequency distributions to describe the overall pattern of responses to survey questions, and bivariate analysis to describe attitudes and in-

TABLE 1. Percentage distribution of respondents to a survey of University of Washington health sciences students, by selected characteristics, according to program of study, 2002

Characteristic	All (N=312)	Medicine (N=147)	Physician assistant (N=136)	Nursing (N=29)
Intended specialty				
Family practice	39.8	24.1***	54.1	51.7
Obstetrics-gynecology/ women's health	7.4	3.5	5.2	38.0***
Pediatrics	5.5	8.9	3.0	0.0
Internal medicine	13.3	22.8***	5.9	0.0
Other†	34.0	40.7	31.8	10.3
Intended location of practice‡				
Rural	35.3	23.1	50.7***	24.1
Urban	50.3	60.5***	41.2	41.4
Other	15.4	17.0	10.3	31.0*
Residence through age 15‡				
Rural	38.5	34.7	43.4	34.5
Urban	52.6	55.1	48.5	58.6
Other	11.5	12.2	11.0	10.3
Age				
18–23	6.7	13.6***	0.0	3.4
24–29	45.5	74.2***	18.0	27.6
30–35	22.3	10.2***	34.3	27.6
≥36	25.5	2.0***	47.7	41.4
Sex				
Female	55.0	51.7	51.1	92.6***
Male	45.0	48.3	48.9	7.4
Religion				
Protestant	26.7	28.6	23.5	31.0
Catholic	19.6	23.1	17.6	10.3
None	31.5	33.3	29.4	31.0
Other	22.2	15.0***	26.5	27.6
Total	100.0	100.0	100.0	100.0

*Differs from percentages in other groups at $p \leq .05$. ***Differs from percentages in other groups at $p \leq .001$. †Includes “undecided.” ‡Percentages may add to more than 100% because some participants intend to practice in or lived in more than one geographic area. Notes: In cases where responses were missing, these were excluded from the denominator.

tentions by program type. We used Pearson's chi-square tests to compare categorical variables for differences among programs; a p-value of 5% or lower was considered to be statistically significant.

To identify factors associated with intention to provide abortion, we conducted multinomial regression analyses, adjusting for selected characteristics (i.e., intended specialty, intended location of practice, age, sex, religion and place of residence in formative years).

RESULTS

Demographic Characteristics

Of the 363 eligible students, 312 completed our survey, for a response rate of 86%. Forty-seven percent of the sample were medical students, 44% physician assistant students and the remaining 9% nursing students. Consistent with

*The University of Washington's WWAMI program—dedicated to providing medical education to students from Washington, Wyoming, Alaska, Montana and Idaho—gives first-year medical students the option of taking their basic studies at their state institutions, attending the University of Washington School of Medicine for their second year and then completing their third and fourth years in community settings.

TABLE 2. Percentage distribution of survey respondents, by agreement with statements reflecting general attitudes toward abortion, according to program of study

Statement	All			Medicine			Physician assistant			Nursing			Total
	Agree	Neither agree nor disagree	Disagree	Agree	Neither agree nor disagree	Disagree	Agree	Neither agree nor disagree	Disagree	Agree	Neither agree nor disagree	Disagree	
Elective abortion should be legal and accessible under any circumstance	69.8	3.2	26.9	72.1	3.4	24.5	64.7	3.6	31.6	82.8	0.0	17.2	100.0
It's acceptable for a woman to choose abortion because of a fetal anomaly or congenital disorder	72.8	9.6	17.6	70.1	10.2	19.7	74.3	9.6	16.2	79.3	6.9	13.8	100.0
I am more comfortable with medical abortion than surgical abortion	35.1	43.4	21.5	36.0	39.5	24.5	36.3	43.7	20.0	24.1	62.1	13.8	100.0
Advanced clinical providers should be able to provide medical abortion	52.4	15.4	32.2	42.5***	15.1	42.5	56.6	17.7	25.7	82.8	6.9	10.3	100.0
Advanced clinical providers should be able to provide surgical abortion	36.6	18.1	45.3	21.4***	16.5	62.1	45.2	22.2	32.6	72.4	6.9	20.7	100.0
Every program that addresses women's health should include abortion training	64.7	9.5	25.8	63.6	9.8	26.6	65.7	9.0	25.3	65.5	10.3	24.1	100.0

***Differs from percentage agreeing in other groups at p<.001. Notes: "Strongly agree" and "somewhat agree" were combined and labeled "agree." "Strongly disagree" and "somewhat disagree" were combined and labeled "disagree." In cases where responses were missing, these were excluded from the denominator.

the University of Washington's emphasis on primary care and rural health, 40% of participants planned to pursue a career in family practice and 35% intended to practice in a rural area (Table 1, page 59). Significantly greater proportions of physician assistant and nursing students than of medical students planned to go into family practice (52–54% vs. 24%); a greater proportion of nursing students than of others planned on specializing in obstetrics, gynecology or women's health (38% vs. 4–5%), whereas a greater proportion of medical students intended to specialize in internal medicine (23% vs. 6%). A greater proportion of physician assistant students than of those in other programs planned on practicing in a rural area (51% vs. 23–34%), and a greater proportion of medical students than of those in other programs intended to practice in an urban area (61% vs. 41%).

colony or women's health (38% vs. 4–5%), whereas a greater proportion of medical students intended to specialize in internal medicine (23% vs. 6%). A greater proportion of physician assistant students than of those in other programs planned on practicing in a rural area (51% vs. 23–34%), and a greater proportion of medical students than of those in other programs intended to practice in an urban area (61% vs. 41%).

TABLE 3. Percentage distribution of survey respondents, by agreement with statements reflecting intention to provide abortion services, according to program of study

Statement	All			Medicine			Physician assistant			Nursing			Total
	Yes	Un-decided	No	Yes	Un-decided	No	Yes	Un-decided	No	Yes	Un-decided	No	
I plan to incorporate medical abortion into my practice	31.2	23.1	45.7	32.9	21.9	45.2	25.7	24.3	50.0	48.3	24.1	27.6	100.0
I plan to incorporate surgical abortion into my practice	18.0	24.1	57.9	19.2	26.7	54.1	16.2	22.1	61.7	20.7	20.7	58.6	100.0
I plan to perform abortion for my patients regardless of their reasons for terminating a pregnancy	28.6	17.4	54.0	30.8	19.2	50.0	22.8	16.9	60.3	44.8	10.3	44.8	100.0
I would be willing to refer patients inquiring about an abortion to other clinics or providers if necessary	90.4	4.5	5.1	91.8	3.4	4.8	89.0	5.9	5.1	89.7	3.4	6.9	100.0

Notes: "Probably yes" and "definitely yes" were combined and labeled "yes." "Probably not" and "definitely not" were combined and labeled "no."

Half of all students reported living in an urban area during their first 15 years of life. Slightly more than half of the students were younger than 30 (52%) and were female (55%). Medical students tended to be younger than those in other programs, and a greater proportion of nursing students than of those in other programs were female. Thirty-two percent of participants did not report a religious affiliation; 27% were Protestant, 20% were Catholic and 22% were adherents of other religions.

Attitudes Toward Abortion

Overall, 70–73% of respondents agreed that “elective abortion should be legal and accessible under any circumstance” and that “it’s acceptable for a woman to choose abortion because of a fetal anomaly or congenital disorder” (Table 2); large majorities of students in each program agreed with these views. Forty-three percent neither agreed nor disagreed that they are more comfortable with medical abortion than with surgical abortion. Eighty-three percent of respondents in the nursing program and 57% of respondents in the physician assistant program agreed that advanced clinical practitioners should be able to provide medical abortion, compared with 43% of medical students; overall, 52% agreed with the statement. Similarly, a greater proportion of nursing and physician assistant respondents (72% and 45%, respectively) than of medical students (21%) agreed that advanced clinical practitioners should be able to provide surgical abortion; 37% of all respondents agreed. Sixty-five percent of students agreed that “every program that addresses women’s health should include abortion training,” without any differences in opinion by program type.

Intention to Provide Abortion

Thirty-one percent of all respondents intended to provide medical abortion, 23% were undecided and 46% said they would not provide medical abortion (Table 3). By contrast, 18% intended to provide surgical abortion, 24% were undecided and 58% said that they would not provide this service. Twenty-nine percent of respondents reported planning to provide abortions regardless of the patient’s reason for terminating the pregnancy, and 90% indicated they would refer a patient to another provider if they were unable or unwilling to provide abortion services.

Thirty-four percent of all respondents reported that they would not provide abortion services because it would be outside the scope of their practice (Table 4). Twenty-four percent reported that it is against their religious beliefs, 31% that it is against their personal values and 10% that they will not have the opportunity to be trained in abortion techniques. Small proportions of students believed that they could be ostracized or discriminated against by colleagues (1%), or they or their families might be harassed or threatened (5%) if they performed abortions. The reasons participants were reluctant to provide abortion services were similar across programs, with one exception: Significantly greater proportions of physician assistant and nursing students than of medical students indicated that they would

TABLE 4. Percentage of survey respondents giving selected reasons for not intending to provide abortion services, by program of study

Reason	All	Medicine	Physician assistant	Nursing
It will be outside the scope of my practice	33.7	35.4	34.6	20.7
It’s against my religious beliefs	24.0	24.5	24.3	20.7
It’s against my personal values	31.4	32.7	32.4	20.7
I will not have the opportunity to be trained in abortion techniques	10.3	3.4**	16.2	17.2
I may be ostracized by my colleagues and/or discriminated against in my profession	1.3	0.01	1.5	3.5
I fear that either I or my family may be harassed and/or threatened by others	4.8	4.1	5.2	6.9

**Differs from other groups at $p < .01$. Note: Respondents could give more than one answer.

not have the opportunity to be trained in abortion techniques (16–17% vs. 3%).

Sixty-four percent of all respondents indicated a willingness to attend a program with a curriculum that requires abortion training (Table 5, page 62), and 55% were willing to take elective courses in abortion training. A quarter of students indicated an intention to seek a residency program or practicum site that includes abortion training.

In the fully adjusted multinomial model, the likelihood of intending to incorporate surgical abortion into practice was strongly associated with an intention to pursue a career in obstetrics and gynecology or women’s health, as well as the belief that advanced clinical practitioners should be allowed to provide surgical abortions (not shown). The beliefs that abortion was “outside the scope of practice” and “against personal values” were significantly associated with not intending to provide surgical or medical abortions; however, religious affiliation was not associated with these outcomes. A marginally significant difference suggested that women may be more likely than men to intend to provide medical and surgical abortions.

DISCUSSION

To our knowledge, this study is the first of its kind to compare attitudes and intentions of different types of future health care professionals regarding both medical and surgical abortion, and to specifically examine the potential role of future advanced clinical practitioners in providing these services. Strikingly high proportions of future health care providers at the University of Washington indicated an intention to provide medical abortions and surgical abortions in their practices.

Although some of the decrease in the number of abortion providers may be because of the high-profile incidence of clinic violence in recent years,¹⁰ surprisingly small proportions of survey respondents believed they or their family would be harassed, or they might be discriminated against by colleagues, if they provided abortion services. Thus, the targeted violence against abortion providers may not impact future health care providers’ willingness to incorporate abortion services into their practice. However, our findings may also reflect the relatively liberal laws governing abortion provision in the state of Washington, and

TABLE 5. Percentage distribution of survey respondents, by agreement with statements reflecting willingness to seek abortion training, according to program of study

Statement	All			Medicine			Physician assistant			Nursing			Total
	Yes	Un-decided	No	Yes	Un-decided	No	Yes	Un-decided	No	Yes	Un-decided	No	
I am willing to attend a program that requires abortion training in the curriculum	63.8	10.9	25.0	69.4	11.6	19.1	57.0	11.1	31.9	69.0	6.9	24.1	100.0
I am willing to take elective courses in abortion training	54.8	9.3	35.9	54.4	12.2	33.3	52.2	8.1	39.7	69.0	0.0	31.0	100.0
I will seek a residency program or practicum site that specifically includes abortion training	24.0	22.8	52.6	28.1	25.3	46.6	17.0	22.2	60.7	37.9	13.8	48.3	100.0

Notes: "Probably yes" and "definitely yes" were combined and labeled "yes." "Probably not" and "definitely not" were combined and labeled "no."

the relatively low incidence of violent activities of anti-abortion extremists there.¹¹

Our finding that a substantial proportion of students believed that abortion training should be a standard part of women's health training was unexpected, given the largely marginalized status of abortion education in academic medical centers.¹² Although a greater proportion of future health care providers planned to provide medical abortion than surgical abortions, the majority of students did not indicate being more comfortable with medical abortion than with surgical abortion. This may be because medical abortion is a newer and less familiar option. Alternatively, students may not differentiate between types of procedures. Students' intentions to provide medical rather than surgical abortion and their endorsement of advanced clinical practitioners' provision of medical abortion may also reflect the perception that medical abortion requires less complicated clinical training than surgical abortion.

Perhaps the most notable findings of our study were the avid interest among advanced clinical practitioners in providing both medical and surgical abortions, and their belief that they should be permitted to provide these services. Such change will likely require support from the physician community. However, medical students were less enthusiastic than respondents from other programs about supporting nonphysician provision of abortion, possibly because they perceive this procedure to be outside the scope of training for advanced clinical practitioners or they are concerned about protecting their own clinical territory. Laws restricting provision of abortion procedures to physicians were originally intended to protect women from providers of unsafe abortions after the legalization of abortion in 1973; they were not meant to limit the services of qualified health care practitioners. However, as the use of advanced clinical practitioners is becoming increasingly common in health care, these laws may no longer be well justified and, instead, may contribute to the lack of abortion providers in the majority of U.S. counties, particularly in rural areas.

Our study has several limitations. Foremost, intention to provide abortion services may not directly predict provision, and we cannot track the students' careers, given the anonymous nature of this study. Furthermore, the constant flux in policies regarding abortion and health care providers'

scope of practice may impact providers' ability to perform abortion. This issue may be especially relevant to physicians in specialties other than obstetrics and gynecology, and to nonphysician providers.

Second, the findings may not be generalizable to other future health care providers. The WWAMI program at the University of Washington Health Sciences campus provided an excellent opportunity to access a large student body representing a vast geographic area. However, the university has a greater focus on primary and rural health care than most health professional schools and a history of offering abortion training to obstetrics, gynecology and family practice residents. Therefore, these students may not represent all health sciences students across the country. In addition, attitudes toward abortion may be more liberal in the Pacific Northwest than in other regions of the United States.¹³

Finally, in our sample, there were fewer nursing students than physician assistant or medical students. The nursing students in this study were recruited from the family nurse practitioner and the nurse-midwifery programs, both of which are highly specialized. However, overall findings of the study were essentially unchanged when we excluded nursing students from the analyses; moreover, given their focus on women's reproductive health, their inclusion was important to the study.

In conclusion, this study demonstrates that the majority of future health professionals in the allied health sciences at the University of Washington believe that abortion should be legal, accessible and a standard part of clinical training. Many also believe that advanced clinical practitioners, such as physician assistants, nurse practitioners and nurse-midwives, should have a role in expanding access to abortion services, especially medical abortion. Although it may not be possible or desirable to require abortion training for every future health care provider, making abortion a standard part of clinical training will open avenues for both future physicians and advanced clinical practitioners who are in favor of providing these services. More important, expanding abortion training in the allied health professions will likely alleviate the abortion provider shortage.

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