Family planning service provision among providers in the WWAMI region

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Abstract

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Family planning is a crucial component to comprehensive reproductive health care and access to full spectrum family planning services has been shown to help mitigate poor women's health outcomes. Geographic disparities in family planning service provision exist, especially between rural and urban practice settings; however, family planning service disparities in the WWAMI (Washington, Wyoming, Alaska, Montana, Idaho) region are unknown. This study aimed to assess for provider knowledge, practices, and perceived barriers in providing evidence-based family planning services in the WWAMI region, in addition to comparing service provision in rural and urban practice settings, as well as religiously affiliated with non religiously affiliated practices. Forty-six out of one hundred and sixty-eight obstetrician gynecologists and family medicine physicians were surveyed between March and April 2019. Proportions in various family planning practices, with an emphasis on contraception, abortion, and early miscarriage management, were calculated and reported. Notable findings included almost all providers were able to provide long acting reversible contraception (LARC), fewer were able to provide immediate postpartum LARC, and about half of providers reported prescribing ullipristal acetate (Ella) for emergency contraception. Only about 20-25% of providers reported personally performing either medical or surgical abortion. Half of providers offered manual vacuum aspiration (MVA) for early pregnancy loss (EPL) management and only about a 1/3 offered EPL management in an outpatient setting. Differences in family planning practices between providers in rural and urban practice settings were assessed using Fisher exact tests due to small sample size. Using a $p<0.05$ for significance, the difference in surgical abortion provision was statistically significant with a greater proportion of urban providers providing surgical abortion

compared to rural. We did not evaluate for practice differences based on religious affiliation due to a low proportion of responding providers who practice in such a setting. These results highlight the wide variation in family planning practices across a single geographic region, the potential for ongoing disparities between rural and urban practice settings, and the need for further studies with better provider recruitment, as well as recruitment that involves providers who work in a religiously affiliated practices.

Introduction:

Despite spending more per capita on healthcare than any other developed country, the United States continues to have some of the largest disparities in reproductive health outcomes. Nearly one-half (45%) of all pregnancies in the United States are unintended.[1] While the adolescent pregnancy rate has declined in recent years, the United State continues to have one of the highest adolescent pregnancy rates among developed countries.[2] Additionally, more women die in the United States from pregnancy-related causes than in any other developed country. While the global maternal mortality rate (MMR) decreased by 44% from 1990 to 2015, the MMR in the United States was one of few countries to see an increase in pregnancy-related deaths from 17 deaths to 26 deaths per 100,000.[3]

Family Planning and Reproductive Health Outcomes

Family planning, including but not limited to, contraception, abortion, and management of early pregnancy loss (EPL), is a crucial component of reproductive health care and has been shown to mitigate some of the poor health outcomes mentioned above. Contraception reduces unintended pregnancy rates.[4] This is evident in data from publicly-funded family planning centers where clients with access to a range of effective contraceptive methods have 78% fewer unintended pregnancies than expected among similar women who do not use of have access to these services.[5] By decreasing the number of births a woman will experience in her lifetime, contraception also plays a role in reducing pregnancy-related morbidity and mortality.[6] Approximately one-fourth of deaths during pregnancy in the United States are among women with underlying medical conditions.[7] Contraception helps these women prevent unintended pregnancies

and plan for healthy ones. Additionally, family planning helps improve birth outcomes. Short birth intervals have been linked to negative perinatal outcomes including low birth weight, preterm birth, and small for gestational age.[8] Family planning helps women time and space their pregnancies, avoiding short birth intervals, and ultimately improving birth outcomes. While abortion does not prevent unintended pregnancy, it does prevent unintended childbearing, which is associated with a number of adverse maternal behaviors and child health outcomes, including delayed prenatal care, lack of breast feeding, and negative physical and mental health effects for children.[9]

Quality Family Planning Services

There are a number of evidence-based resources that offer guidelines for the provision of family planning services. The CDC and HHS's Office of Population affairs (OPA) released "Providing Quality Family Planning Services" in 2014 which includes several recommendations related to clinical care, counseling, screening, and supportive services that should accompany the provision of family planning services.[10] These guidelines draw on existing recommendations as well as fill gaps on how family planning services should be provided, including information on contraceptive counseling, serving male clients, and addressing special needs of adolescents. It also defines family planning services within the broader context of preventive services, with the ultimate goal of improving reproductive health outcomes.[11] With the increasing number of effective contraceptive options becoming available to women and couples, there became a need for evidence-based guidance for health providers on the most appropriate and safe contraceptive method for individual circumstances and medical conditions. In 2010, the CDC released the US Medical Eligibility Criteria for Contraceptive Use (CDC MEC)[12] to provide evidence-based guidance on contraceptive safety in US women with underlying medical conditions.[13] In 1996, the National Abortion Federation first published its Clinical Policy Guidelines, which assists practitioners in providing quality, patient-centered abortion care.[14] Additionally, the American College of Obstetricians and Gynecologists (AGOG) releases Practice Bulletins on a number of family planning topics, such as Early Pregnancy Loss and First- and Second-Trimester Abortion Management, that provide evidence-based clinical management guidelines for

practitioners.[15] These guidelines exist not only for family planning specialists, but for any providers of women's health care, especially those who provide family planning services as a part of a larger primary care scope of practice.

Family Planning Service Provision

Several types of health care practitioners, including Obstetricians and Gynecologists, Family Medicine Physicians, Nurse Practitioners, and Physician Assistants, are trained to provide family planning services. For OB/GYN and family medicine physicians who desire additional training and research experience in family planning, a two-year post-residency fellowship in Family Planning is available.[16] Additionally, programs such as the Ryan Residency Training Program in Abortion and Family Planning for OB/GYN residents and Reproductive Health Education in Family Medicine (RHEDI) for family medicine residents have helped improve experience and competency for these residents' as future family planning practitioners.[1718]

As the Affordable Care Act (ACA) continues to improve access to primary care and reduce cost-sharing for many family planning services[19], and as 41% to 45% of preventative care visits among reproductive age women are made to family practitioners or internists[20], there has been a push to improve the integration of family planning services into the broader scope of primary care. The American Academy of Family Physicians (AAFP), the American College of Obstetricians and Gynecologists (ACOG), and the Center for Disease Control and prevention (CDC) have all made formal recommendations supporting the incorporation of preconception care for women of reproductive age into primary care practice.[212223] Preconception care is a set of interventions that aim to identify and modify biomedical, behavioral, and social risks to a woman's health or pregnancy outcome through prevention and management.[23] Preconception care visits can include contraceptive counseling tailored to patients' pregnancy intentions, STI screening, updating immunizations, assessing for use of teratogenic medications, and optimizing glycemic control for women with diabetes mellitus. Family planning is an essential component of preconception care, allowing

optimal opportunity for health promotion and preventative care before and between pregnancies.

Family planning services can be accessed in many settings including private practices, family planning clinics, public health departments, hospital and school-based clinics and health centers. Public programs such as Medicaid, Title X, and Section 330 of the Public Health Service Act (PHSA) have been invaluable in funding over 10,000 safety net clinics across the country that provide reproductive health to almost eight million low income individuals and teens.[24] One quarter of all US women who receive contraceptive services, and 44% of all low-income women, receive this care from a publicly-funded family planning clinic.[25] Additionally, 61% of women who visit Title X-funded clinics for contraceptive related services report that the clinic is their primary source for medical care.[26]

While many clinics offer family planning services, the scope and volume of family planning services provided varies considerably. For example, a survey of Federally Qualified Health Centers (FQHCs), which make up about 54% of the publicly funded clinics and serve 30% of the clients receiving contraceptive services from publicly funded clinics[27], found while almost all of the FQHCs reported providing at least one contraceptive method, only 51% of FQHCs offered long acting reversible methods (IUDs and implants) as an additional method.[28] A 2015 Guttmacher survey found that FQHCs that receive Title X funding were more likely to offer a range of contraceptive methods compared to the FQHCs that did not.[21] Additionally, disparities exist between clinic type and ability to offer direct access to many of the most effective contraceptive methods. For example, 83% of Planned Parenthood clinics and 76% of health department clinics can provide initial supply and refills of oral contraceptive pills onsite, compared to only 34% of FQHCs. Similarly, 81% of Planned Parenthood clinics report they can provide same day IUDs and dispense emergency contraception ahead of time (89%), while these practices are much less common at health departments and FQHCs.[26] Many factors likely contribute to these disparities in family planning service

provision, including clinic location, access to resources and training, as well as institution and state-level policies.

Family Planning in Rural and Urban Communities

Several disparities in family planning service provision exist between rural and urban practice settings in the United States. In general, rural counties have fewer specialized providers, and fewer obstetrician-gynecologists per 10,000 women than do non-rural counties.[29] Obstetrician-gynecologists who practice in rural areas are less likely than their urban counterparts to provide abortion services.[30] This is important as previous research has shown that the further a woman lives from a provider, the less likely she is to obtain a wanted abortion.[31] While the median distance traveled in the United State to have an abortion is 15 miles, a third of women living in rural areas need to travel 100 miles or more for abortion care.[32]

There are also disparities in contraceptive provision in urban clinics compared to rural clinics. Urban clinics provide the greatest number of contraceptive methods while small isolated rural clinics have the fewest.[33] One study found a significant difference in IUD provision between urban areas and small rural towns, with 94% of urban clinics providing the method compared to only 40% in small rural clinics. The same study found similar differences in copper IUD provision for emergency contraception with 70% of urban clinics providing the method versus only 20% of small rural clinics.[33] In this study, the most commonly identified barriers for clinics that did not stock IUDs on-site included lack of trained clinicians, high cost of stocking devices, and low patient demand.[33]

Family Planning in Religious and Secular Institutions

Catholic-affiliated institutions are now among the largest nongovernment owners of hospitals.[34] Between 2001 and 2011, the number of Catholic hospitals in the United States grew by 16%, where secular nonprofits, religious (non-Catholic) nonprofits, and public hospitals all decreased in number.[34] These institutions adhere to a set of policies known as the Ethical and Religious Directives for Catholic Health Care Services (“the Directives”), issued by the United States Conference of Catholic Bishops (USCCB). The

Directives prohibit a range a reproductive health services, including contraception, sterilization, many infertility treatments, and abortion, even when a woman's health or life is endangered by a pregnancy.[35] While not all Catholic hospitals adhere to the Directives to the same degree, many Catholic hospitals prohibit their physicians from providing these services despite potential serious risks to patient health. Other institutions will break compliance with the Directives only after the patient has endured unnecessary harm. There are countless stories of women and the barriers faced when seeking reproductive health care at these institutions, including denial of medically appropriate and necessary care for miscarriages[36], refusal of tubal ligations at the time of a cesarean section, even when future pregnancy could endanger the woman's life[37], and refusal to treat ectopic pregnancies promptly or with the necessary standard of care.[38]

Despite the significant proportion and recent growth of religiously-affiliated health care practices in the United States, little is know about how these changes are affecting reproductive health outcomes.[39] What we do know is that a growing number of communities around the country, especially in rural areas, have access to just one hospital. These sole hospitals are becoming increasingly more religious. In 2011, at least 29 communities in the US had only a Catholic hospital to rely on for care and by 2016, this number has grown to 46.[40]

Family Planning Service Provision in the WWAMI region

The WWAMI region is a unique area made up of the states Washington, Wyoming, Alaska, Montana, and Idaho. These states are connected in partnership by the University of Washington School of Medicine (UWSOM), which created the five-state community-based program in response to the shortage of primary care physicians that have historically affected rural areas. The WWAMI area encompasses about 27% of the United States landmass with only 3% of the population.[41] Thus, with low population density over a relatively large area, the region is quite rural. In fact, in four of the five WWAMI states, more than 59% of the population lives in rural areas.[41]

Given the rural nature of the WWAMI region, we know that health disparities, including family planning disparities, exist within the region. In 2014, 95% of counties in Idaho, where 68% of Idahoan women live, had no clinics that provided abortions.[42] Women in counties throughout Montana and Wyoming need to travel 180 miles or more to reach an abortion provider.[43] From 2011 to 2014, Montana saw a 38% decrease in the number of providers that provide abortions.[44] Additionally, while 30 states in the country require insurance policies that cover prescription drugs to also cover all FDA-approved contraceptive drugs and devices, Alaska, Idaho, and Wyoming do not require coverage of prescription contraception.[45]

As previously mentioned, the growth of religiously affiliated hospitals and health systems in the United States has greatly impacted the accessibility of family planning services. The WWAMI region has not been immune to this trend. Alaska and Washington are two of five states in the country most impacted by the rise of Catholic hospitals and health systems, where more than 40% of acute care beds in both Alaska and Washington are operating under Catholic health restrictions.[40] In Montana and Idaho, 25.8% and 26.4% of acute care beds are owned or affiliated with Catholic hospitals respectively. Additionally, the WWAMI region contains several Catholic "sole" community hospitals, meaning the facility is located at least 35 miles away from other similar hospitals or located in a rural area, at least 45 minutes in travel time away from the nearest similar hospital. St. Joseph Regional Medical Center in Idaho, St. James Healthcare in MT, Providence Centralia Hospital and PeaceHealth St Joseph Medical Center in WA are a few examples. The presence and growth of these religiously affiliated hospitals and health systems are likely to only exacerbate family planning disparities, as they prohibit and deny women key reproductive health services such as contraception, abortion, sterilization and infertility services.

While some reproductive health outcomes in the United States have improved in recent years, including the declining teen birth rate[2] and implementation of the ACA improving access to contraceptive methods[19], many disparities still remain. We know that access to quality family planning services, including contraception, abortion, and management

of early pregnancy loss, can positively impact reproductive health outcomes, and improve the overall health status of women. However, we also know disparities and variation in evidence-based family planning practices exist among practices and providers throughout the country, particularly in rural areas and in practices that are affiliated with religious institutions. Little is known about the family planning practices or barriers to providing evidence-based family planning in the WWAMI region of the country. The region is made up of a mix of urban and rural communities, with a growing presence of religiously affiliated hospitals, thus, we predict disparities and variations in family planning service provision exist throughout the region.

In this study, we aim to evaluate the knowledge, clinical practice, and perceived barriers of family planning providers in the WWAMI region in providing evidence-based family planning services, while comparing the effect of practice location, and religious affiliation on knowledge and provision of quality, evidenced-based family planning services.

Materials & Methods:

We conducted a cross-sectional survey of providers including obstetricians and gynecologists (OB/GYNs) and family medicine physicians in the WWAMI region (Washington, Wyoming, Alaska, Montana, and Idaho) to evaluate family planning knowledge, practices, and perceived barriers to family planning service provision.

Participants

Providers were eligible for participation if they were a practicing OB/GYN or family medicine physician in one of the five WWAMI states.

Surveys for this study were sent via the Pregnancy-Related Care Research Network (PRCRN), a Health Services and Resources Administration (HRSA)-funded research network managed by the University of Washington Department of Obstetricians and Gynecologists. One of the PRCRN's primary activities is to build and query a nation-wide panel of Obstetrician-Gynecologists (OB/GYN) on their practice patterns, knowledge, and opinions. This survey was the first to be sent to a newly created

WWAMI-specific women's healthcare provider survey panel. At the time of the survey distribution, the panel included 168 physicians from around the WWAMI area who were recruited to participate in the WWAMI specific list via the following channels: 1) OB/GYNs were recruited from ACOG via an email inquiry to registered ACOG fellows in ACOG District VIII. ACOG District VIII leadership approved the email inquiry to recruit participants, and provided the comprehensive list of District VIII members. Participants were filtered out by state, and surveys were sent to the 830 providers who practice in the WWAMI region. One hundred and eight District VIII fellows agreed to participate; 2) Eleven members of the original PRCRN provider survey panel who indicated they practice in the WWAMI area were added to the WWAMI-specific list (these participants are all OB-GYN); and 3) We contacted 62 OB-GYN and Family Medicine Physicians from a current list of 2018-2019 University of Washington School of Medicine WWAMI clerkship site directors, 49 agreed to participate.

Procedure

We developed a survey tool based on our objectives which included questions on demographic information, current clinical practice setting (including size, rural or urban, and affiliation with a religious organization), knowledge and current practices around contraception, abortion, and management of early pregnancy loss, and barriers to provision of various evidence-based family planning services. Survey questions were adapted from multiple sources including the Office of Population Affairs (OPA) Contraceptive Care Measures (performance measures of contraceptive care for health care providers)[46], a survey developed for a recently published paper in Contraception by Castleberry, Grossman, et al[47], and a questionnaire used by the Training, Education, and Advocacy in Miscarriage Management (TEAMM) program in the Department of Obstetrics and Gynecology at University of Washington[48]. Four health care providers tested the survey draft and feedback was elicited and incorporated. The survey was built, stored, and distributed to participants via email using a secure, web-based survey platform, Qualtrics (Qualtrics®, Provo, UT). See complete survey in appendix A. Participants had 4 weeks to complete the survey with survey reminders sent to

participants at 2 weeks, 1 week, and 3 days prior to the survey closing. Data collection was complete in April 2019.

Measures

Our primary outcomes measured included ability to provide various evidence-based family planning services, focusing on three main areas of family planning: contraception, abortion, and management of early pregnancy loss, in addition to assessing knowledge of evidence-based contraception practices. Provision of family planning services was assessed through questions such as “Which of the following contraceptive methods are you able to provide to women ages 15 through 44 at risk of unintended pregnancy” or “Do you personally provide medication abortion services” and if not, “what are the reasons for not offering such a service”. Assessment of knowledge of evidence-based practices was only asked as in regards to contraception, with questions such as “What type of tests do you run prior to starting a patient on the following contraceptive methods…”, or “In what situation is ullipristal acetate (Ella) more effective than levonorgestrel (Plan B) for emergency contraception”. Covariates included state of practice, clinical type, practice size and location (rural vs urban), and religious-affiliation of practice site. Practice location in terms of rural or urban setting was based off of the U.S. Census Bureau definition of “Urbanized Areas” (UAs), which include areas of 50,000 or more people.[49] Thus participants who identified as practicing in a rural (<10,000) or mid-size (<50,000) town were classified as “rural” for the purposes of this study, and participants who identified as practicing in an area >50,000 (suburban, urban inner-city vs non inner-city) were considered urban.

Data Analysis

Statistical analysis on the data set was conducted using R statistical software. Frequencies of provider demographics, knowledge of evidenced-based family planning guidelines, practice patterns, and perceived barriers to family planning practices were calculated. Given our small sample size, Fishers exact test was used for univariable analyses in determining whether rural practice locations differed significantly from urban

practice locations in regards to various family planning practice patterns and knowledge. Tests were performed with a significance level of 0.05.

Results:

A total of 46 participants completed the survey of 168 physicians (response rate 27%). About 54% of the participants were from Washington State with an additional 43% from surrounding WWAMI states (Wyoming 8.7%, Alaska 10.9%, Alaska 10.9%, Montana 10.9%, Idaho 13%). 52% of participants described their primary practice location as being in an urban/suburban setting, while about 43% described their primary practice location as being in a rural/midsize town. 78% of the survey participants were obstetricians and/or gynecologists and 17.4% were family medicine physicians. 8.7% of the survey participants (n=4) reported working at a practice site that was either religiously affiliated or owned, and of those, 50% (n=2) reported following Ethical or Religious Directives of the Catholic Church when providing care to patients.

Table 1. Participant Characteristics (N=46)

	n (%)
Gender	
Female (n= 32)	69.60%
Male (n= 14)	30.40%
Race/ethnicity	
Black (n= 0)	0.00%
White (n= 44)	95.66%
Asian (n= 3)	6.50%
Native Hawaiian or Other Pacific Islander (n= 1)	2.20%
American Indian/Alaska Native (n= 0)	0.00%
Other (n= 0)	0.00%
Hispanic (n= 0)	0%
State of Primary Practice	
Washington (n= 25)	54.30%
Wyoming (n= 4)	8.70%
Alaska (n= 5)	10.90%
Montana (n= 5)	10.90%
Idaho (n= 6)	13%
Other (n= 1)	2.20%

Type of Provider	
Obstetrician and Gynecologist (n= 31)	67.40%
Obstetrician only (n= 3)	6.50%
Gynecologist only (n= 2)	4.30%
Family Medicine Physician (n= 8)	17.40%
Other (n= 2)	4.30%
Time in Clinical Practice, years, (post-residency if physician)	
Less than 5 (n= 11)	23.90%
5-10 (n= 10)	21.70%
11-20 (n= 13)	28.30%
>20 (n= 12)	26.10%
Primary Practice Location	
Urban/Suburban (n=24)	52.1%
Urban- inner city (n= 10)	
Urban- non-inner city (n=8)	
Suburban (n= 6)	
Rural/Mid-sized town (<50,000) (n= 20)	43.4%
Mid-sized town (10,000-50,000) (n= 10)	
Rural (<10,000) (n= 10)	
Military= 1	2.20%
Other= 1	2.20%
Primary Practice Site	
Community health center (n= 9)	19.60%
Academic medical center (n= 6)	13.00%
Small private clinic (<10 providers) (n= 16)	34.80%
Large private clinic (>10 providers) (n= 9	19.60%
Public Health department clinic (n= 0)	0.00%
Indian Health or Alaska Native Health Service clinic (n= 2)	4.30%
Veterans Hospital (n= 0)	0.00%
Family Planning Clinic (n= 0)	0.00%
Other (n= 4)	8.70%
Religious Affiliation	
Main practice site is *owned* or *operated* by a religious healthcare organization (n= 3)	6.50%
Main practice site is *affiliated* with a religious healthcare organization, but operates independently (n= 1)	2.20%
No (n= 42)	91.30%
Main practice site follow the Ethical and Religious Directives (ERD) of the Catholic Church when providing care to patients?	
Practice strictly adheres to ERDs= 0	0%
Practice selectively interprets ERDs= 2	50%

No= 2	50%

Contraception

Almost all providers were able to provide all contraceptive methods to women ages 15-44 at risk of unintended pregnancy (Table 2.1). The contraceptive implant (Nexplanon) was the method with most providers stating they were unable to provide (3 of 46 were unable to provide this method), with lack of training on insertion and/or removal stated as the most common reason for not providing the implant. Additionally, 88.9% of providers were able to provide an IUD the same day a patient requests the method.

Table 2.1. General Provision of Contraceptive Methods

	% of Participants	% who answered question (n)
Ability to provide method to women ages 15-44 at risk of unintended pregnancy		
IUD (Mirena, Liletta, Kyleena, Skyla, Paragard)	97.80%	100%
Contraceptive Implant (Nexplanon)	93.50%	
Injectables (Depo Provera), oral pills, patch, vaginal ring	97.80%	
Permanent methods (tubal ligation, hysteroscopic sterilization)	95.60%	
Ability to provide IUD same day a patient requests method?		
Yes	88.90%	97.8% (45)
No	11.10%	
Ability to provide subdermal implant same day a patient requests method?		
Yes	86.00%	93.5% (43)
No	13.90%	
Ability to provide shot, pill, patch, or ring same day a patient requests method?		
Yes	100%	97.8% (45)

No	0%	

In regards to postpartum contraception (Table 2.2), 73.9% of providers were able to provide women with a LARC method (IUD or implant) within 3 days of delivery. The most cited reasons for not being able to provide immediate postpartum contraception were inadequate insurance reimbursement (8.75%) and concerns about IUD expulsion (6.5%).

Table 2.2. Provision of Postpartum Contraception

Ability to provide method to women 15-44 who have had a life birth within 3 days of delivery/60 days of delivery	% of participants *3 d / 60 d*	% who answered question
LARC	73.9.% / 95.6%	100%
Injectables (Depo Provera), oral pills, patch, vaginal ring	84.8% / 91.3%	
Permanent methods (tubal ligation, hysteroscopic sterilization)	78.3% / 86.9%	
I do not care for postpartum patients	6.5% / 0	
I do care for post partum patients, but I am not able to provide the methods above within 3 days of delivery	6.5% / 0	

Most providers (95.6%) were able to provide the most common emergency contraception option, levonorgestrel or Plan B. However, only 56.5% of providers reported being able to provide the most effective emergency contraceptive pill, ullipristal acetate or Ella (Table 2.3).

Table 2.3. Provision of Emergency Contraception

Ability to provide emergency contraceptive options	% of participants	% who answered question
Prescription of Plan B (levonorgestrel)	95.60%	100%
Prescription for Ella (ullipristal acetate)	56.50%	
Copper IUD placement within 5 days of unprotected intercourse	86.90%	
Does not prescribe any form of emergency contraception	4.3%	

In assessing provider contraceptive knowledge in regards to what types of tests are run prior to providing various contraceptive methods (Table 3.1), most providers run a pregnancy test for each method and almost all providers, 95.6%, run a pregnancy test prior to placing an IUD. 80.4% of providers run a pregnancy test prior to providing the pill, patch, or ring. For providers providing IUDs, 56.5% run screen for gonorrhea and chlamydia. 58% of providers screen for BMI before providing a contraceptive implant, and 65.2% of providers screened for BMI before providing Depo. Lastly, 86.9% of provider screened for a history of migraine with aura prior to providing combined contraceptive methods (pills, patch, ring).

Table 3.1. Contraception Knowledge Reponses

Types of tests run by providers for the following contraceptive methods	Pg test	GC/CT	BP Check	HIV test	BMI	Screen for hx of migraine with aura	Pap test	Breast exam
Intrauterine Device (Mirena, Liletta, Kyleena, Skyla, Paragard)	95.6	56.5	65.2	8.7	56.5	15.2	30.4	13
Subdermal implant (Nexplanon)	93.5	27.8	69.5	4.3	58.7	13	17.4	10.8
Injectable (Depo Provera)	95.3	19.5	71.7	4.3	65.2	13	17.4	10.8
Combined contraceptive methods (pills, patch, ring)	80.4	21.7	89.1	4.3	56.5	86.9	19.5	12.2
Progestin only contraceptive pills	80.4	19.5	67.4	4.3	56.5	15.2	17.4	10.8

GC/CT- gonorrhea/chlamydia test; HIV- human immunodeficiency virus; BMI- body mass index

In assessing provider knowledge of effectiveness of ullipristal acetate (Ella) in comparison to levonorgestrel (Plan B) (Table 3.2), 56.5% providers knew Ella was more effective than Plan B beyond 72 hours after unprotected sex. Only 23.9% of providers reported that Ella is more effective than Plan B for women with a BMI >25. About 40% of providers stated they did not know when Ella was more effective than Plan B. Only 1 provider got the correct response that Ella is more effective than Plan B in all instances

listed—after unprotected sex >72 hours ago, for women with a BMI >25, and for adolescents.

Table 3.2. Emergency Contraception Knowledge Responses

	% of Participants	% who answered question
In what situation is ulipristal acetate (Ella) more effective than levonorgestrel (Plan B One-Step) for emergency contraception (select all that apply)		
Unprotected sex >3 days ago	56.50%	100
Women with BMI >25	23.90%	100
For adolescents under age 19	4.30%	100
It is never more effective than levonorgestrel	0	100
I don't know	39.10%	100

In comparing contraceptive practices between providers in rural and urban practice settings (Table 4.1), the most notable difference was in providers' ability to provide same-day IUDs. In urban practice settings, 95% of providers reported providing same-day IUDs, while in rural practice settings, 80% of providers provided same-day IUDs. However, this was not a statistically significant difference (p= 0.16). Additionally, there was a difference in provision of Ella between rural and urban providers with 60% of rural providers reporting the ability to provide Ella as a part of their practice, compared to 54% of urban providers who reported providing Ella, though this difference was not statistically significant (p= 0.76).

Table 4.1. Rural vs Urban Comparison of Contraceptive Practices

	Rural (%) N=20	Urban (%) N= 24	p-value (Fisher's exact)
Provides LARC (IUD/Implant)	19/20= 95%	22/24= 91.6%	1
Provides same-day IUD	16/20= 80%	23/24= 95.8%	0.16
Provides immediate post-partum LARC (w/in 3 days)	15/20= 75%	17/24= 70.8%	1

Provides Ella	12/20= 60%	13/24= 54%	0.76

There were no statistically significant differences in contraceptive knowledge between providers in rural practice settings compared to urban practice settings (Table 4.2). 91.6% of providers in urban practice settings and 85% of providers in rural practice settings reported screening for a history of migraine with aura prior to prescribing combined hormonal contraceptive methods (pill, patch, ring) (p=0.6). 70% of rural providers and 45.8% of urban providers knew that Ella was considered more effective than Plan B > 3 days after unprotected sex (p=0.13), and 30% of rural providers and 20.8% of urban providers knew that Ella was more effective than Plan B for women with BMIs > 25 (p=0.5). 45.8% of urban providers and 30% of rural providers reported they did not know when Ella was more effective than Plan B.

Table 4.2. Rural vs Urban Comparison of Contraceptive Knowledge

	Rural (%) N= 20	Urban (%) N= 24	p-value (Fisher's exact)
Migraine w/ aura screen for CHCs	17/20= 85%	22/24= 91.6%	0.6
GC/CT for IUD	9/20= 45%	16/24= 66.7%	0.2
Correct: Ella most effective >3 days after unprotected sex	14/20= 70%	11/24= 45.8%	0.13
Correct: Ella most effective BMI >25	6/20= 30%	5/24= 20.8%	0.5
Did not know when Ella was most effective	6/20= 30%	11/24= 45.8%	0.35

CHC- combined hormonal contraception; GC/CT- gonorrhea/chlamydia testing

Abortion

With regards to abortion service provision (Table 5.1), 20% of the respondents reporting providing medical abortions while 26.6% reported providing surgical abortions. Of the providers providing medical abortions, 77.8% provided abortions up to 10 weeks

gestational age (LMP dating). For the 80% who reported not providing medical abortions, the most common reasons stated for not doing so included religious or moral beliefs against abortion (28.2%), inability to stock medications in the clinic (19.5%), and lack of training in use of mifepristone (17.4%). Of providers providing surgical abortions, 33.2% provide abortions between 20-24 weeks gestation age. No providers provided surgical abortion beyond 24 weeks. The most common reasons for not performing surgical abortion include religious or moral beliefs against abortion (30.4%), other practice setting restrictions against providing abortions (30.4%), and no demand/other clinics available (26.1%).

Table 5.1 Provision of Abortion Services

	% of participants	% who answered question (n)
Provider personally provides medical abortion services (using misoprostol alone or combined with mifepristone or methotrexate)		97.80% (45)
Yes	20%	
No	80%	
Provider personally provides surgical abortion services (D&C, electric, or manual vacuum aspiration)		
Yes	26.6%	100%
No	73.3%	

In urban practice settings, 30.4% of providers reported providing medical abortion services, compared to 10% of providers in rural practice settings. This was not a statistically significant difference (p=0.14). There was, however, a statistically significant difference in providers who provide surgical abortion services in urban practice settings (47.8%) compared to providers who provide surgical abortion services in rural practice settings (5%) (p=0.002). (Table 5.2)

Table 5.2. Rural vs Urban Comparison of Abortion Service Provision

	Rural (%) N= 20	Urban (%) N= 23	p-value (Fisher's exact)
Provides medical abortion services	2/20= 10%	7/23= 30.4%	0.14
Provides surgical abortion care	1/20= 5%	11/23= 47.8%	0.002

Early Pregnancy Loss

The most common management options for early pregnancy loss (EPL) providers reported were expectant management (95.6%), medical treatment with misoprostol (86.9%), and electrical vacuum aspiration (EVA) (65.2%). In terms of setting for surgical management of EPL, most providers reported managing EPL in a hospital operating room (73.9%) or ambulatory surgical center (45.6%). (Table 6.1)

Table 6.1. Provision of Management of Early Pregnancy Loss

	% of participants	% who answered question
Management options offered to patients with early pregnancy loss (<12 weeks)?		
Expectant management	95.60%	100
Electrical vacuum aspiration (EVA)	65.20%	100
Manual vacuum aspiration (MVA)	50%	100
Dilation and sharp curettage (D&C)	45.60%	100
Medical treatment with misoprostol alone	86.90%	100
Medical treatment with mifepristone and misoprostol	17.40%	100
Refer patient to another provider	8.70%	100
Other	2.20%	100
Setting of surgical management of early pregnancy loss (<12 weeks)		
Ambulatory surgical center	45.60%	100
Hospital operating room	73.90%	100
Outpatient office setting	28.30%	100
Emergency room	15.20%	100
Does not perform surgical management	0	100

Comparing providers in rural practice settings with providers in urban practice settings (Table 6.2), there was not a statistically significant difference in proportion of providers who offer manual vacuum aspiration (MVA) as an option for management of early pregnancy loss (p= 0.5) or in proportion of providers who offer surgical early pregnancy loss management in an outpatient setting (p=0.49).

Table 6.2. Rural vs Urban Comparison of Management of Early Pregnancy Loss

	Rural (%) N=20	Urban (%) N= 24	p-value (Fisher's exact)
Offers MVA for EPL management	11/20= 55%	10/24= 41.6%	0.5
Offers sx EPL management in outpatient setting	4/20= 20%	8/24= 33.3%	0.49

Discussion:

This survey highlights the knowledge, practice patterns, and perceived barriers of OB/GYNs and family medicine physicians providing family planning services in the WWAMI region.

Contraception

In regards to contraceptive practice patterns, we learned that 88.9% of providers in our study were able to provide an IUD the same day a patient requests the method, which is much higher than a prior 2014 study of OB/GYNs which found 86.9% of providers required two or more visits of IUD insertion.[50] In evaluating the practice of immediate postpartum LARC insertion, we learned that insurance reimbursement was stated as the main reason for providers' inability to provide this service, which is consistent with existing data. While immediate postpartum LARC is a safe and evidence-based option for most women[5113], insurance reimbursement for the device and insertion often exceeds the global OB package fee at many hospitals, and thus is often not covered by insurance. Many state Medicaid programs and commercial insurers have worked to develop their own reimbursement procedures, however, many states, including Wyoming which was surveyed in this study, do not have such reimbursement

procedures in place yet.[52] Only 56.5% of providers reported being able to provide the most effective emergency contraceptive pill, ullipristal acetate (Ella), compared to 95.6% who were able to provide the more widely known emergency contractive pill, Plan B. While these data show a large disparity between the provision of Plan B and a more effective oral emergency contraceptive option, a 56.5% provision rate of Ella as demonstrated in our study is actually much higher than previous data has suggested, where only 52% of providers surveyed had even heard of Ella and only 14% actually provided it.[53]

Evaluating provider knowledge in regards to tests run before providing various contraceptive methods, we observed providers often ran more tests than were necessary or required according to CDC US Selected Practice Recommendations for Contraceptive Use, 2016.[54] For example, 80.4-95.6% of providers ran a pregnancy test before offering any type of contraceptive method. According to CDC guidelines, a detailed history can provide the most accurate assessment of pregnancy risk prior to starting a contraceptive method, and if a woman meets the highly accurate criteria (NPP 99-100%) of "How to be reasonably certain that a woman is not pregnant", routine pregnancy testing in every woman is not necessary according to these guidelines (See Appendix C). Furthermore, we observed that 56.5% of providers run GC/CT testing prior to providing IUDs. Women should receive routine screening for sexual transmitted infections (STIs) according to national guidelines.[55] If a woman is up-to-date on her STI screening, most women do not require additional screening at the time of IUD insertion. However, for women who have not been screened according to national guidelines, screening is appropriate at the time of IUD insertion and insertion should not be delayed. Only women with an actively symptomatic (purulent cervicitis) gonorrhea or chlamydial infection should not undergo IUD insertion at that time.[54]

Appropriately, more providers reported screening for BMI (65.2%) prior to initiating injectable methods such as Depo Provera, compared to other methods. While obesity screening is not necessary for safe initiation of Depo Provera, there is a body of evidence that suggests Depo Provera users, especially those who experience early weight gain on the method, are at higher risk for excessive weight gain over time.[56] Thus, while not required, BMI screening is appropriate and may be helpful for

counseling women who may be concerned about this side effect associated with Depo Provera use.

89.1% and 86.9% of providers reported screening women for blood pressure and history of migraine with aura respectively prior to providing combined hormonal contraceptive (CHC) methods such as oral contraceptive pills, vaginal ring, or patch. This is very appropriate as women with severe hypertension or vascular disease should not use CHCs, thus blood pressure screening is required before initiating these methods.[54] Additionally, having a history of migraine with aura is a contraindication for CHC use given the increased risk of stroke, thus screening for such a condition is appropriate and required.[57]

Lastly, anywhere from 10.8-30.4% of providers reported performing a pap test or breast exam prior to initiating various contraceptive methods. There are no specific guidelines that require either test or screening prior to starting a method, however, these responses may reveal some ambiguity in the way this knowledge assessment question was perceived. Providers likely responded to this question by reporting tests and screening that are usually conducted within the broader context of a well women visit where contraception is often provided, and not perceived as what tests do you "require" before prescribing a method. Thus, providers may run a pap or GC/CT screen during an IUD insertion out of convenience and completeness, but may not see those tests as prerequisites to inserting an IUD.

Abortion

Twenty percent of our sample reported personally providing medical abortion services, and 26.6% reported providing surgical abortion services. These numbers are consistent with current data that suggests abortion provision may be increasing among practicing OB/GYNs. An older national survey in 2008-2009 reported that only about 14% of practicing OB/GYNs provided abortions, however a recent 2019 study by Grossman et al. found that 23.8% of their sample reported performing an induced abortion in the prior year.[58] Additionally, our survey found that common reasons for not providing medication abortion were personal beliefs, practice restrictions, and inability to provide mifepristone, which are consistent with the reasons Grossman et al. reported in their

study. These results are encouraging as 2/3 of the primary perceived barriers to providing abortion care are either institutional or policy barriers, which can be addressed through continued advocacy and lobbying efforts to improve abortion access.
Our study showed a significant difference rural versus urban providers who reported performing surgical abortions (p=0.002), with 47.8% of urban providers providing surgical abortion compared to 5% of rural providers. There was also large disparity in medication abortion services (30% urban versus 10% rural), though this difference is not statistically significant. Thus, while these results are encouraging that abortion provision may be increasing overall, as consistent with other studies, it is clear that geographic disparities remain between urban and rural practice settings in regards to abortion access.

Management of Early Pregnancy Loss

We found that while 95.6% and 86.9% of providers offer expectant management and medical treatment for early pregnancy loss management respectively, only 65.2% of providers offer electrical vacuum aspiration (EVA) and 50% offer manual vacuum aspiration (MVA) as treatment options. There is evidence to suggest that there are many advantages to offering surgical management of miscarriage over medical and expectant management. Primarily, surgical management offers quick resolution of the miscarriage with a shortened duration of bleeding.[59] Additionally, in-office MVA management of early pregnancy loss has been shown to be more cost-effective and with higher patient satisfaction than OR-based management[59], however, only 28.3% of providers reported providing surgical miscarriage management in an outpatient office setting. Most (73.9%) reported managing early pregnancy loss in a hospital operating room. However, in comparing rural and urban practice settings, 55% of rural providers reported offering MVA management for early pregnancy loss compared to those in urban practice settings (41.6%). Though this was not a statistically significant difference, these data suggest that under-resourced, rural settings may have potentially realized the benefits of a cost-conscious, efficient, and effective method for managing miscarriage where urban settings may rely more on OR-based surgical management. Lack of equipment and/or supplies was cited as the main reason (30.4%) for not offering

surgical miscarriage management in an outpatient setting, which suggests that ongoing provider education and training as well as modification of office procedures and protocols for early pregnancy loss management is needed to help provide women with a wider array of options for managing such a common, often difficult experience.

Limitations and Future Considerations

There are several limitations to this study. We used a convenience sample of providers who were already either established with a research network or had an affiliation to a large academic institution, University of Washington. Additionally, a response rate of 27% resulted in a small sample size, which significantly decreased our statistical power and made effects between rural and urban practice settings more difficult to detect.

We also were not able to produce any statistically meaningful data on one of our sub-aims, which intended to evaluate differences in practice patterns of religiously affiliated practices with non-religiously affiliated practices. Only a total of four out of 46 responses practiced in a religiously owned or affiliated practice, and only two of those followed the Ethical and Religious Directives of the Catholic Church in providing care to patients. We know according to current literature that religiously affiliated hospitals and practices make up a large proportion of practices in WWAMI, specifically in Washington State and Alaska. However, we were unable to capture these providers in our study.

Another limitation was our ability to get providers to fill out an online survey. Many factors contributed to this, including lack of funding in order to compensate busy providers for their already overbooked time. Additionally, some providers, particularly in rural areas, were especially difficult to access due to their lack of reliance on e-mail communication. We did not plan to mail paper surveys, thus, we limited the survey population we were able to reach by delivering our survey exclusively via email.

Another limitation was our inability to include advanced care practitioners (APCs)--nurse practitioners and physician assistants—in our study. APCs provide a large proportion of primary care, including family planning services, especially in rural settings. Thus, without including APCs, we are not capturing a complete picture of family planning service provision, especially in rural WWAMI states.

Future studies involving this research could include expanding the survey to a larger, more representative sample in the WWAMI region. This could include a recruitment strategy to gain access to more providers who work in religiously affiliated practices and advanced care practitioners. A state-by-state comparison could also be performed, assessing for differences in knowledge and practices between individual WWAMI states. Lastly, results from this and future studies could be used to implement new protocols and procedures to help expand evidence-based practices into settings that are not yet implementing these practices due to institutional barriers.

A wide range practices in family planning exist throughout the WWAMI region, with many findings of this study either improved or consistent with the current literature. While overall, contraception, abortion, and management of early pregnancy loss appear to be at or above existing standards of care, disparities between urban and rural practice settings continue to exist, especially as it pertains to abortion care.

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Appendix A:

WWAMI Family Planning Survey Questions

Objective: Evaluate women's healthcare provider **knowledge** of evidence-based family planning guidelines, **current family planning practices**, and **perceived individual and institutional barriers** related to the provision of evidence-based family planning services in the WWAMI region.

Demographics

1. What state do you primarily practice in?
    a. Washington
    b. Wyoming
    c. Alaska
    d. Montana
    e. Idaho
    f. Other
        i. Please specify: ____free text_____

2. What type of provider are you?
    a. Obstetrician/Gynecologist
    b. Obstetrician only
    c. Gynecologist only
    d. Family Medicine Physician
    e. Nurse Practitioner
    f. Physician Assistant
    g. General Practitioner
    h. Other
        i. _____

3. How long have you been in clinical practice (post-residency)? (select one)
    a. Less than 5 years
    b. 5-10 years
    c. 11-20 years
    d. Greater than 20 years

4. Which of the following best describes your primary practice location? (select one)
    a. Urban – inner city
    b. Urban – non-inner city
    c. Suburban
    d. Mid-sized town (10,000-50,000)
    e. Rural (<10,000)
    f. Military
    g. Other (please specify):_____

5. Which option best describes your primary practice site? (select one)
    h. Community health center
    i. Academic medical center
    j. Small private clinic (< 10 providers)
    k. Large private clinic (> 10 providers)
    l. Public health department clinic
    m. Indian Health or Alaska Native Health Service clinic
    n. Veterans Hospital
    o. Family Planning Clinic
    p. Other
    - Please describe: _____

6. Is your main practice site affiliated with, owned, or operated by a religious organization?
    a. Yes
    b. No
    c. Not Sure
        i. If yes, does your main practice site follow the Ethical and Religious Directives (ERDs) of the Catholic Church when providing care to patients?
            1. Yes, our practice strictly adheres to the ERDs
            2. Yes, but our practice selectively interprets the ERDs
            3. No
            4. Not sure

Contraception

1. Which of the following contraceptive methods are you able to provide to women ages 15 through 44 at risk of unintended pregnancy (defined as those that have ever had sex, are not pregnant or seeking pregnancy, and are fecund): (check all that apply) **[MATRIX]**

    a. An Intra-uterine device (IUD) (Paragard, Mirena, Liletta, Kyleena, Skyla)
        i. Yes
        ii. No (go to 1a)
            1. If yes: I am able to place an IUD on the same day the patient requests the method
                D. Yes
                E. No
    b. A contraceptive arm implant (Nexplanon)
        i. Yes
        ii. No (go to 1a)
            1. If yes: I am able to place a contraceptive arm implant the same day the patient requests the method
                D. Yes
                E. No
    c. methods such as injectables (Depo Provera), oral pills, patch, or vaginal ring
        i. If yes: I am able to provide these methods on the same day the patient requests the method
            1. Yes
            2. No (go to 1b)
    d. permanent methods of contraception (tubal ligation, hysteroscopic sterilization)
        i. Yes
        ii. No
    e. I am not able to provide any highly or moderately effective contraceptive methods (go to 1a and 1b)

1a. If you do not offer long-acting reversible contraceptives (IUDs and/or implants) what are the reasons? (select all that apply)

a. Do not provide contraceptives
b. I provide implants but not IUDs
c. Do not stock IUDs or implants onsite
d. Lack of training in IUD insertion
e. Lack of training in implant insertion
f. Concern about medical safety
g. Concern about liability
h. Insufficient time
i. Expense
j. Lack of patient interest/request
k. Concerns about management of side effects
l. Concern that the IUD acts as an abortifacient
m. Lack of training in IUD or implant removal
n. Concerns about reproductive coercion
o. Insufficient personnel
p. Inadequate insurance reimbursement
q. Few of my patients are candidates for the IUD or arm implant
r. Provided by other colleagues in my practice
s. My institution does not offer IUDs because they are not in line with the Ethical and Religious Directives of the Catholic Church
t. Other (please specify): _____

1b. If you do not offer methods such as injectables (Depo Provera), oral pills, patch, vaginal ring, what are the reasons? (select all that apply)

a. Do not provide contraceptives
b. Do not stock methods onsite
c. Lack of training in contraceptive provision
d. Concern about medical safety
e. Concern about liability
f. Insufficient time
g. Expense

h. Lack of patient interest/request
i. Concerns about management of side effects
j. Concern that the contraceptive method acts as an abortifacient
k. Concerns about reproductive coercion
l. Insufficient personnel
m. Inadequate insurance reimbursement
n. Few of my patients are candidates for contraception
o. Provided by other colleagues in my practice
p. My institution does not offer contraception because it is not in line with the Ethical and Religious Directives of the Catholic Church
q. Other (please specify): _____

2. (for providers who answer yes to contra Q1 a,b,c ,or d) Among women ages 15 through 44 who have had a live birth, I am able to provide the following contraceptive methods within **3 days of delivery**: (select all that apply)

    a. a long-acting reversible method of contraception (IUD or subdermal implant)
    b. methods such as injectables (Depo Provera), or progestin-only pills (go to 2a if only option selected)
    c. permanent methods of contraception (tubal ligation, hysteroscopic sterilization)
    d. none of the above (go to 2a)

within **60 days of delivery**? Check all that apply

a. a long-acting reversible method of contraception (IUD or subdermal implant)
b. methods such as injectables, oral pills, patch, vaginal ring
c. permanent methods of contraception (tubal ligation, hysteroscopic sterilization)
d. none of the above

2a. If you do not offer long-acting reversible contraceptives (IUD or implant) **within 3 days of delivery**, what are the reasons? *(check all that apply)*

a. Do not provide contraceptives

b. Concerns about IUD or implant effect on breastfeeding
c. Concerns about IUD expulsion
d. Do not stock LARC methods onsite
e. LARC methods available for outpatient use only
f. Lack of training in IUD insertion
g. Lack of training in implant insertion
h. Concern about medical safety
i. Concern about liability
j. Insufficient time
k. Expense
l. Lack of patient interest/request
m. Concerns about management of side effects
n. Concern that the IUD acts as an abortifacient
o. Lack of training in IUD or implant removal
p. Concerns about reproductive coercion
q. Insufficient personnel
r. Inadequate insurance reimbursement
s. Few of my patients are candidates for LARC methods
t. Provided by other colleagues in my practice
u. My institution does not offer IUDs or implants because they are not in line with the Ethical and Religious Directives of the Catholic Church
v. Other (please specify): _____

3. What emergency contraceptive options are you able to provide to your patients? (select all that apply)
    a. Prescription for Plan B (levonorgestrel)
    b. Prescription for Ella (ulipristal acetate)
    c. Copper IUD placement within 5 days of unprotected intercourse
    d. I do not prescribe or provide any form of emergency contraception
        i. If no, why not
            1. I am not trained to do so
            2. We do not have the staff or equipment available
            3. Personal objection
            4. It is not allowed by the Ethical and Religious Directives of the Catholic church
            5. Other (please specify):_____

4. In what situations is ulipristal acetate (Ella) more effective than levonorgestrel (plan B) for emergency contraception? (select all that apply)

a. unprotected sex that occurred longer than 3 days ago
b. for women with BMI >25
c. for adolescents under age 19
d. it is never more effective than levonorgestrel
e. I don't know

5. (for participants that answer yes to contra Q1 a,b,c only) When starting a woman on the following contraceptive methods, ***what types of tests do you perform?*** Check all that apply

	Pregnancy test	Chlamydia and Gonorrhea test	Blood pressure check	HIV test	BMI	Screen for history of migraine with aura	Pap test	Breast exam
Intrauterine Device (Mirena, Liletta, Kyleena, Skyla, Paragard)	X	X						
Subdermal implant (Nexplanon)	X				X?			
Injectable (Depo Provera)	X				X			
Combined Contraceptive methods (pills, patch, ring)	X		X		X	X		
Progestin only contraceptive pills	X							

6. (for Obgyn only) I am able to offer tubal ligation to patients seeking permanent sterilization in my practice
   a. Yes
   b. No
   c. Unsure

i. If no, why not
    1. I am not trained to do so
    2. We do not have the staff or equipment available
    3. It is not allowed by the Ethical and Religious Directives of the Catholic church
    4. Personal objection
    5. Other
        a. Please specify:_____
ii. If yes, what criteria must the patient meet in order to qualify for a tubal ligation (check all that apply)
    1. The patient must already have children
    2. The patient must be approaching or in menopause
    3. The patient must be of a certain age
        a. Please specify what age: _____
    4. Other
        a. Please specify:_____
iii. if yes, are you able to offer immediate postpartum tubal ligation (within 3 days of delivery)
    1. Yes
    2. No
    3. Unsure
        a. If no, why not
            i. I am not trained to do so
            ii. We do not have the staff or equipment available
            iii. It is not allowed by the ethical and religious directives of the Catholic church
            iv. Other
                1. Please specify:_____

Abortion

1. Do you personally provide medical abortion services (using misoprostol alone or combined with mifepristone or methotrexate) in your practice?
    i. Yes (go to 1a)
    ii. No (go to 1b)

1a. if yes, up to how many weeks gestation (LMP dating)?

1. 8 weeks
2. 10 weeks
3. 12 weeks
4. Other (please specify): _____

1b. If you **do not** perform medical abortions, what are the reasons? (select all that apply)

a. Personal, religious or moral beliefs against abortion
b. Lack of training in use of mifepristone
c. Lack of ultrasound in office
d. Lack of experience in obstetrical ultrasound technique
e. Office staff members' attitudes against abortion
f. No demand / other clinics available to patients
g. Lack of surgical back up (i.e., if D&C/uterine aspiration is required)
h. Concern about side effects of mifepristone
i. Unable to stock medications in clinic
j. Unable to sign agreement with Danco, the manufacturer of Mifeprex®
k. My institution does not perform medical abortions because it is not in line with the Ethical and Religious Directives of the Catholic Church
l. Other (please specify): _____

2. Do you personally provide surgical abortion services (D&C, electric or manual vacuum aspiration) in your practice?
    a. Yes (go to 2a)
    b. No (go to 2b)

    2a. if yes, up to what gestational age (LMP dating)?

        i. 8 weeks
        ii. 10 weeks
        iii. 12 weeks
        iv. 16 weeks
        v. 20 weeks
        vi. 24 weeks
        vii. beyond 24 weeks

    2b. If you did not perform surgical abortions, what are the reasons? (select all that apply)

        a. Personal, religious or moral beliefs against abortion
        b. Lack of training in abortion techniques
        c. Lack of ultrasound in office
        d. Lack of experience in obstetrical ultrasound technique

e. Community attitudes against abortion
f. Office staff attitudes against abortion
g. Concern for safety (of self, family, office staff, etc.)
h. Practice setting restrictions against providing abortions
i. Malpractice insurance restrictions
j. No perceived need among patients
k. My institution does perform surgical abortions because it is not in line with the Ethical and Religious Directives of the Catholic Church
l. Other (please specify): _____

Early pregnancy loss

1. In general, which of the following management options do you offer to your patients with early pregnancy loss (<12 weeks)? (select all that apply)

    a. Expectant management
    b. Electrical vacuum aspiration (EVA) (go to 2a)
    c. Manual vacuum aspiration (MVA) (go to 2a)
    d. Dilation and sharp curettage (D&C) (go to 2a)
    e. Medical treatment with misoprostol alone
    f. Medical treatment with mifepristone & misoprostol
    g. Refer patient to another provider
    h. Other (please specify): _____

2a. Where do you perform surgical management of early pregnancy loss (<12 weeks)? (check all that apply)

a. Ambulatory surgical center (go to 2b)
b. Hospital operating room (go to 2b)
c. Outpatient office setting
d. Emergency room
e. Do not perform surgical management (go to 2b)

2b. If you do not offer surgical management of early pregnancy loss in the outpatient setting what are the reasons? (select all that apply)

a. Insufficient technical training
b. Concern about managing complications
c. Inadequate reimbursement
d. Patients prefer general anesthesia
e. Concern about pain management
f. Insufficient time
g. Insufficient personnel
h. Lack of equipment and/or supplies
i. Lack of protocols
j. Not in my scope of practice
k. My institution does perform surgical miscarriage management because it is not in line with the Ethical and Religious Directives of the Catholic Church
l. Other (please specify): _____

3. Do you offer genetic testing to patients experiencing a miscarriage (i.e. testing the tissue to determine if there is a genetic/chromosomal cause)?
    a. Yes (go to 3a)
    b. No
    c. Only if they have had a previous miscarriage (go to 3a)
    d. Only if they have had at least two previous miscarriages (go to 3a)
    e. Not sure
    f. Other: _____

    3a. For patients who desire genetic testing to determine the cause of a miscarriage, what management option do you recommend? (Choose all that apply)
    a. Expectant management
    b. Surgical management (electrical vacuum aspiration, manual vacuum aspiration, dilation and sharp curettage (D&C)
    c. Medical management (misoprostol +/- mifepristone)
    d. Other: _____

Appendix B.

Reasons for not offering IUD	**% of participants**	**#respondents /answer**
Does not provide contraception	0	
Provides implants but not IUDs	2.20%	1
Does not stock LARCs onsite	0	
Lack of training in IUD insertion	0	
Lack of training in implant insertion	0	
Concern about medical safety	0	
Concern about liability	0	
Insufficient time	0	
Expense	0	
Lack of patient interest/request	0	
Concerns about side effects	0	
Concern that IUD acts as abortifacient	0	
Lack of training in IUD or implant removal	0	
Concerns about reproductive coercion	0	
Insufficient personnel	0	
Inadequate insurance reimbursement	0	
Few of my patients are candidates	0	
Provided by other colleagues in practice	0	
My does not offer IUDs because they are not in line with the Ethical and Religious Directives of the Catholic Church	0.00%	
Other	2.20%	1
Reasons for not offering implant	**% of participants**	**#respondents / answer**
Does not provide contraception	2.20%	1
Does not stock implants onsite	2.20%	1
Lack of training on implant insertion/removal	4.30%	2
Concern about medical safety	0	
Concern about liability	0	
Insufficient time	0	
Expense	0	
Lack of patient interest/request	0	
Concerns about side effects	0	
Lack of training in implant removal	0	
Concerns about reproductive coercion	0	
Insufficient personnel	0	
Inadequate insurance reimbursement	0	
Few of my patients are candidates	0	
Provided by other colleagues in practice	0	

My does not offer IUDs because they are not in line with the Ethical and Religious Directives of the Catholic Church	0	0
Other	4.30%	2
Reasons for not offering methods such as injectables (Depo Provera), or al pills, patch, vaginal ring	**% of participants**	**#respondents / answer**
Do not provide contraceptives	0	
Do not stock methods onsite	0	
Lack of training in contraceptive provision	0	
Concern about medical safety	0	
Concern about liability	0	
Insufficient time	0	
Expense	0	
Lack of patient interest/request	0	
Concerns about management of side effects	0	
Concern that the contraceptive method acts as an abortifacient	0	
Concerns about reproductive coercion	0	
Insufficient personnel	0	
Inadequate insurance reimbursement	0	
Few of my patients are candidates for contraception	0	
Provided by other colleagues in my practice	0	
My institution does not offer contraception because it is not in line with the Ethical and Religious Directives of the Catholic Church	0	
Other	2.20%	1

Reasons for not offering LARC (IUDs and/or implants) within 3 days of delivery	**% of participants**	**#respondents /answer**
Concerns about IUD or implant effect on breastfeeding	0	0
Concerns about IUD expulsion	6.50%	3
Does not stock LARCs onsite	2.20%	1
LARC methods available for outpatient use only	4.30%	2
Lack of training in IUD insertion	0	0
Lack of training in implant insertion	0	0
Concern about medical safety	0	0
Concern about liability	0	0
Insufficient time	0	0
Expense	0	0
Lack of patient interest/request	2.20%	1

Concerns about side effects	0	0
Concern that IUD acts as abortifacient	0	0
Concerns about reproductive coercion	0	0
Insufficient personnel	0	0
Inadequate insurance reimbursement	8.70%	4
Few of my patients are candidates	0	0
Provided by other colleagues in practice	0	0
My does not offer IUDs because they are not in line with the Ethical and Religious Directives of the Catholic Church	2.20%	1
Other	6.50%	3

Ability to offer tubal ligation to patients seeking permanent sterilization		% who answered question (n)
Yes	78.20%	100%
No	21.70%	
Ability to offer immediate postpartum tubal ligation (within 3 days of delivery)		78.2% (36)
Yes	80.5%	
No	19.4%	

Criteria must patient meet in order to qualify for a tubal ligation	**% of participants**	**% who answered question**
Patient must already have children	2.20%	100%
Patient must be approaching menopause	0	
Patient must be at least 30 yo	0	
Other	43.50%	
Privately insured patients must be at least 18 years of age	36.90%	
Reasons for not offering tubal ligation to patients seeking permanent sterilization		**#respondents /answer**
Not trained to do so	0	0
Does not have staff or equipment available	0	0
Not allowed by the Ethical and Religious Directives of the Catholic Church	0	0
Personal objection	0	0
Other	0	0

Reasons for not offering immediate postpartum tubal ligation		**#respondents /answer**
Not trained to do so	0	0

Does not have staff or equipment available	4.30%	2
Not allowed by the Ethical and Religious Directives of the Catholic church	2.20%	1

If provider provides medical abortion, up to how many weeks gestation (LMP dating)	**% of participants**	**% who answered question (n)**
8 weeks	11.10%	20% (9)
10 weeks	77.80%	
12 weeks	11.10%	
Other	0	
Reasons for not performing medical abortions	n= 37	**#respondents /answer**
Personal, religious or moral beliefs against abortion	32.4%	12
Lack of training in use of mifepristone	21.6%	8
Lack of ultrasound in office	0	0
Lack of experience in obstetrical ultrasound technique	5.4%	2
Office staff members' attitudes against abortion	21.6%	8
No demand/ other clinics available to patients	40.5%	15
Lack of surgical back up (ie if D&C/uterine aspiration is required)	0	0
Concern about side effects of mifepristone	2.7%	1
Unable to stock medications in clinic	24.3%	9
Unable to sign agreement with Danco, the manufacturer of Mifeprex®	8.1%	3
Institution does not perform medical abortions because its not in line with the Ethical and Religious Directives of the Catholic Church	8.1%	3
Other	32.4%	12

If provider provides surgical abortion, up to how many weeks gestation (LMP dating)	**% of participants**	**% who answered question (n)**
8 weeks	0	26.6% (12)
10 weeks	8.30%	
12 weeks	33.35%	
16 weeks	25%	
20 weeks	16.60%	
24 weeks	16.60%	
Beyond 24 weeks	0	
Other	0	
Reasons for not performing surgical abortions	n=33	**#respondents/ answer**
Personal, religious or moral beliefs against abortion	42.4%	14
Lack of training in abortion techniques	21.2%	7
Lack of ultrasound in office	0	0
Lack of experience in obstetrical ultrasound technique	0	0
Community attitudes against abortion	30.3%	10
Office staff attitudes against abortion	27.3%	9
Concern for safety (of self, family, office staff, etc)	9.1%	3
No demand/other clinics available	36.3%	12
Malpractice insurance restrictions	3.0%	1
Institution does not perform surgical abortions because it is not in line with the Ethical and Religious Directives of the Catholic Church	9.1%	3
Other practice setting restrictions against providing abortions	42.4%	14
State laws make it impossible or unfeasible to provide abortions	0	
Other	21.2%	7

Reasons for not offering surgical management of early pregnancy loss in the outpatient setting	n=33	**#respondents/ answer**
Not trained to do so	0	0
Concern about managing complications	6.0%	2
Inadequate reimbursement	3.0%	1
Patients prefer general anesthesia	30.3%	10
Concern about pain management	18.2%	6
Insufficient time	6.0%	2
Insufficient personnel	24.2%	8
Lack of equipment and/or supplies	42.4%	14
Lack of protocols	18.6%	6
Not in scope of practice	0	0
Institution does not perform surgical miscarriage management because it is not in line with Ethical and Religious Directives of the Catholic Church	0	0
Other	66.67%	22
Genetic testing offered to patients experiencing a miscarriage	**% of participants**	**% who answered question (n)**
Yes	26.60%	
Only if they had a previous miscarriage	26.60%	
Only if they had at least two previous miscarriages	28.30%	97.8% (45)
No	8.90%	
Other	8.90%	
Recommended management option for patients desiring genetic testing to determine cause of miscarriage		
Expectant management	31.1%	97.8% (45)

Surgical management (EVA, MVA, D&C)	93.30%	
Medical management (misoprostol +/- mifepristone)	26.6%	
Other	2.2%	

Appendix C.

BOX 2. How to be reasonably certain that a woman is not pregnant

A health care provider can be reasonably certain that a woman is not pregnant if she has no symptoms or signs of pregnancy and meets any one of the following criteria:

- is ≤7 days after the start of normal menses
- has not had sexual intercourse since the start of last normal menses
- has been correctly and consistently using a reliable method of contraception
- is ≤7 days after spontaneous or induced abortion
- is within 4 weeks postpartum
- is fully or nearly fully breastfeeding (exclusively breastfeeding or the vast majority [≥85%] of feeds are breastfeeds), amenorrheic, and <6 months postpartum