

**Improving Access to Contraception in Rural Communities: An Educational Intervention for
Providers**

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Abstract

Background: In the United States, rural communities face barriers to accessing reproductive and contraceptive healthcare. Without access, patients in rural areas are not given full reproductive autonomy and family-planning options and have higher adolescent pregnancy rates. To improve access to reproductive healthcare and contraceptive counseling in rural communities in the United States, additional medical provider education on contraception use and counseling was implemented. The project aim is to increase comprehensive contraceptive care access for rural communities by implementing contraception education for clinicians in rural settings.

Methods: This quality improvement project is based on methodologies from the IHI Model for improvement, the Plan-Do-Study-Act (PDSA) Cycle, and pre- and post-intervention surveys adapted from the Reproductive Health and Beyond the Pill Webinar Series from UCSF. This intervention was implemented during an all-staff meeting for five rural primary care clinics in Oregon, all under the same organization. An interactive contraceptive education presentation was completed with healthcare providers, designed to increase provider comfort and knowledge on contraception, with a specific focus on the safety and efficacy of LARCs and emergency contraception. The pre-intervention and post-intervention surveys were used to evaluate and understand participant comfortability and knowledge and likelihood of use.

Results: The average Likert scale scores for all pre-intervention (mean score 3.04) and post-intervention (mean score 3.85) results increased in self-reported comfortability and knowledge after the intervention. The calculated p-value was statistically significant, $P = 0.00$.

Conclusion: After the intervention, rural health care staff reported an average increase in self-reported overall contraception knowledge and confidence, meeting the specific aim of this project. This highlighted the importance of educational interventions to improve access to contraception among rural communities.

Keywords: rural health, contraception access, education intervention, provider comfort, provider knowledge, quality improvement

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Problem Description

Equitable healthcare includes access to contraception and contraceptive counseling (Sutton et al., 2021). Contraception is used to prevent pregnancy and includes the use of hormonal pills, patches, implants, non-hormonal barriers, long-acting reversible contraceptives (LARC), and emergency contraception (Teal & Edelman, 2021). Without access to contraception and counseling, patients are not given full reproductive autonomy and family-planning options (Sutton et al., 2021). Communities with increased access to contraceptive counseling and use of modern contraceptive options, including medications and reversible implants, have shown to economically benefit (Kelly et al., 2023). Additionally, contraceptive access cannot be addressed without acknowledging maternal mortality rates. The United States has one of the highest maternal mortality rates compared to other countries with similarly developed healthcare systems, 32.9 per 100,000 live births in 2021; including disproportionately high rates of non-Hispanic black women compared to any other race or ethnicity (Joseph et al., 2024).

Rural communities in the United States face more barriers to accessing reproductive and contraceptive counseling and care (Okwori et al., 2022; Rodriguez et al., 2021). A study by Orimaye et al. (2021) found that rural counties in the United States had on average an additional 7.8 births per adolescent female (aged 15-19) compared to urban counties from 2017 to 2018. The Oregon Health Authority (2019) released adolescent pregnancy data for frontier and rural counties, revealing that for every 1,000 adolescents there were 15.5 and 14.4 pregnant teenagers on average. In comparison, urban counties in Oregon reported 12.2 pregnant teenagers per 1,000. Rodriguez et al. (2021) found that women in rural areas in Oregon were less likely to receive an intrauterine device for contraception than urban women. LARC includes the use of intrauterine devices (IUD), one of the most effective methods of pregnancy prevention (Teal & Edelman, 2021). Women in rural areas are also less likely to receive counseling on emergency contraception from their healthcare provider. Only 10% of women in rural areas have ever used emergency contraception compared to 19% of urban women (Janis et al., 2021).

Identifying the barriers that prevent individuals from utilizing or accessing reproductive care services allows healthcare workers to better serve rural communities. Addressing these barriers to

reproductive care is a step toward creating an equitable healthcare system (Sutton et al., 2021). The purpose of this DNP project is to improve contraceptive access for rural communities in Oregon by facilitating an educational intervention aimed to increase provider knowledge on contraceptive resources specific to rural communities.

Search Strategy

A search for contraceptive access themes in rural communities was conducted in CINAHL and PubMed databases, searching English-language articles published in the United States between 2018 to present. Keywords and PubMed MeSH terms used included *rural, rural health, or rural populations, Oregon or United States, contraception, contraception access, LARC, reproductive health, or emergency contraception, improvement, education intervention, continuing education, provider comfort, training, knowledge, preference, or personal values*. Additional research was identified by reviewing current evidence and references cited by the most relevant articles within CINAHL and PubMed.

Available Knowledge

Researchers have identified several barriers and facilitators for accessing reproductive care among rural communities. These barriers include provider shortages in rural areas, provider preference and provider knowledge and comfortability with LARCs and emergency contraception (Burapa et al., 2022; McConnell et al., 2020; Ouyang et al., 2019; Sooin et al., 2022; Zhang et al., 2020). Additional barriers include financial constraints or patient awareness of contraceptive coverage or resources (Burapa et al., 2022, Rodriguez et al., 2022). Facilitators of contraceptive access in rural communities includes increased coverage for contraceptive care and public awareness of coverage and services (Burapa et al., 2022; Rodriguez et al., 2022). Provider education on contraception to increase comfortability and knowledge with LARCs and emergency contraception stood out as a common facilitator between studies (Boniface et al., 2021; Burapa et al., 2022; Ouyang et al., 2019).

An international systematic review on health workers' values and preferences on contraceptive use while counseling patients was negatively influenced by provider preferences and values (Sooin et al., 2022). Healthcare workers in the United States reported negative associations with emergency

contraception due to religious and personal beliefs. Some clinicians were also found to have outdated and incorrect general knowledge and safety information on emergency contraception and LARCs (Soin et al., 2022).

Burapa et al. (2022) evaluated the implementation of New Mexico's contraceptive access initiative that increased and expanded access for rural and frontier counties. Interventions by the state included the provision of low- or no-cost contraception, additional provider training and technical assistance, public awareness campaigns, and policy changes, expanding their reproductive education plan. Results from this initiative included increased contraception use for all Medicaid-enrolled women. LARC use among adolescent females increased by 75% (Burapa et al., 2022).

Rodriguez et al. (2022) completed a historical cohort study to evaluate reproductive care access after Oregon's Reproductive Health Equity Act took effect in 2018. Program coverage of contraception increased postabortion contraception use for women not desiring pregnancy, especially for lower-income individuals and immigrants, highlighting the importance of patient awareness of service coverage (Rodriguez et al., 2022).

A retrospective cohort study found that Title X clinic status Oregon School Based Health Centers, which require eligible medical providers to be trained on all contraceptive methods, including IUDs and implants, were more likely to counsel on, order and place LARCs than providers working in clinics without Title X status (Boniface et al., 2021). Ouyang et al. (2019) conducted a systemic review, highlighting the importance of provider comfort and training with IUDs. Although many healthcare providers in the United States are not comfortable placing IUDs, provider confidence improved after IUD continuing education training. Providers reported increased comfort with IUD placement, counseling, and determining eligibility of use (Ouyang et al., 2019).

Additional provider education on contraception counseling, including LARC placement and counseling and emergency contraceptive use and safety is needed for improved reproductive care services and access for rural communities (Boniface et al., 2021; Burapa et al., 2022, Ouyang et al., 2019). The financial implications of contraceptive coverage and access for patients are highlighted by several studies

and suggests the importance of provider awareness on contraceptive coverage and resources (Burapa et al., 2022; Rodriguez et al., 2022).

Rationale

The literature highlights lack of provider knowledge and comfortability and inconsistent continuing education or training on contraception for providers. Without additional training and updated guidelines, there is more uncertainty and discomfort with LARC placement and counseling and emergency contraceptive use and safety among providers in rural communities (Boniface et al., 2021; Burapa et al., 2022, Ouyang et al., 2019). Contraceptive education for providers is an evidence-based strategy for improving access to reproductive services for rural communities.

Guided by frameworks from the Institute for Healthcare Improvement (IHI), this project used a selected Model for Improvement (MFI) to implement changes to improve contraception access in rural communities. MFI supports the introduction of evidence-based tools and is the foundational quality improvement tool for organizational change (Langley et al., 2009). Additionally, a Plan-Do-Study-Act (PDSA) cycle was used to evaluate the impact of change, measure outcomes, and elicit improvements in the interventions used. The PDSA cycle rapidly evaluated clinical change with contraception education for providers and offered continuous improvement information.

Specific Aims

The project aim was to increase comprehensive contraceptive care access for rural communities by implementing contraception education for clinicians in rural settings on September 25th, 2024. The primary goal of the intervention was for rural health care providers to report an increase in self-reported overall contraception knowledge and confidence in use.

Methods

Context

Contraception education was implemented during a virtual all-staff meeting for five rural primary care clinics in Oregon, all under the same organization. All locations provide primary care

services, behavioral health services, and offer telemedicine appointments. All locations see patients of all ages. Depending on the clinic location there are one to five providers (Physicians, Physician Assistants, and Nurse Practitioners), behavior health counselors, registered nurses, medical assistants, administrative staff, phlebotomy, and community health workers. Several clinic locations have providers and staff members that are bilingual, mostly English and Spanish speaking, to better meet the needs of surrounding communities. A letter of support from the healthcare organization granting permission for this project to take place was obtained prior to implementation (see Appendix A).

Intervention

With permission, the presentation content was adapted from the Reproductive Health and Beyond the Pill Webinar Series from the University of California San Francisco (UCSF) and the Clinical Training Center for Sexual and Reproductive Health's intrauterine contraception and emergency contraceptive educational content and training tools (Cason & Goodman, 2018; Clinical Training Center for Sexual & Reproductive Health, 2023). The Clinical Training Center for Sexual & Reproductive Health is funded by the Office of Population Affairs at the Department of Health and Human Services and tools used were developed by the University of Missouri -Kansas City, School of Nursing and Health Sciences. These original trainings were developed to enhance provider knowledge on contraception mechanism of action, efficacy, and appropriate use. The contraceptive education presentation was interactive and designed to increase provider comfort and knowledge on contraception, with a specific focus on the safety and efficacy of LARCs and emergency contraception.

Pre-intervention and post-intervention surveys were adapted with permission from the Reproductive Health and Beyond the Pill Webinar Series from UCSF. Surveys asked for the participant role at each clinic and for previous experience with LARCs and emergency contraception. A 5-point Likert-type response scale was used to understand participant comfortability with counseling patients and using IUDs and emergency contraception in practice.

Study of Intervention

Before completing the training, staff were asked to consent to participating in the project, with a detailed explanation of the project and use of participant anonymity, removing identifiers. Participants were asked to complete an online survey, designed to assess self-reported contraception knowledge and comfortability with use before and after the intervention. Providers and staff members at all five clinics were sent an email 24 hours prior to the contraception education presentation, inviting them to participate in the presentation and pre-intervention and post-intervention surveys (Appendix B). Providers and staff members were sent a reminder email one hour prior to the presentation as a reminder. The 30-minute contraception education presentation was done during a regularly scheduled, virtual staff meeting, with 15-minutes for pre- and post-intervention surveys. Participants were asked to complete the post-intervention survey immediately after the intervention and reminded via email 24 hours post-intervention.

One Plan-Do-Study-Act cycle (see Appendix C) was completed in September and October of 2024 to implement this project. The “Plan” phase was comprised of reviewing contraception education training research, specifically on IUD and emergency contraception. Evidence-based educational materials on this topic were reviewed for effectiveness prior to selection and use. Both pre-intervention and post-intervention survey questions were adapted from the Reproductive Health and Beyond the Pill Webinar Series from UCSF with permission (Cason & Goodman, 2018). The “Do” phase involved creating the contraception education presentation and survey materials based on the selected materials while planning. The educational intervention was then presented during a reserved staff-meeting time. Reminder emails to complete both pre-intervention and post-intervention surveys were sent out, four total. The “Study” phase was gathering and organizing data from the completed surveys. The “Act” phase reviewed the feedback and ideas elicited by surveys, to increase participant comfort with IUDs and emergency contraception.

Measures

Outcome measures were primarily evaluated by comparing the pre-intervention and post-intervention surveys and calculating the average change reported by participants. The specific aim was to increase self-reported overall contraception knowledge and confidence by an average overall increase.

Calculated average changes between pre- and post- intervention surveys were compared. Pre-intervention and post-intervention survey questions were also categorized into IUD focused and emergency contraception focused questions for analysis. The average change between IUD focused and emergency contraception focused survey questions were compared.

Process measures included engagement tracking of participants in the intervention and number of participants that completed the pre- and post- intervention surveys. Another process measure was emailing reminders and tracking what participants were notified of the educational training. Process measures were used to identify areas of improvement or deficiency. Balancing measures included time spent completing surveys, time spent collecting data, duration of the training intervention, and monitoring of project timeline.

Analysis

The pre- and post-intervention survey was collected as qualitative and quantitative data, using a 5-point Likert-type response scale as interval data. Data was recorded in Excel for each response and the average change in response for each question was analyzed using the mean scale score to measure central tendency and project outcomes. IUD focused and emergency contraception focused questions were grouped together and the average change between these groups was compared.

Ethical Considerations

Prior to implementation of the project, clinical sites endorsed the project by signing and reviewing a letter of support. Participants were asked to consent to project participation before the pre- and post-intervention surveys and information about the project was shared through meetings and emails prior to starting. Participation was emphasized as voluntary, educational, and interactive. This project did not involve patients directly, and openness and transparency was used to uphold ethical considerations. Project processes adhered to Health Insurance Portability and Accountability Act (HIPPA) guidelines. Additionally, this quality improvement project was reviewed by Oregon Health & Science University Institutional Review Board (IRB) and was categorized as exempt (see Appendix D) .

Results

Out of 28 staff members in attendance of the virtual meeting, 50% (14) completed the pre-intervention survey and 39% (11) completed the post-survey. The roles of participants who completed the pre-intervention survey varied: one registered nurse, two behavioral health counselors, and eleven providers (nurse practitioners and medical doctors). The roles of participants who completed the post-intervention survey was similar: one behavioral health counselor, two registered nurses, and eight providers. The difference between participation in surveys is expected variation due to participant time constraints, schedules, and availability.

Of those that completed the post-survey, 81% of participants shared that the educational presentation was helpful and 55% expressed the desire and need for future hands-on IUD placement and removal training. There were no additional consistent themes of improvement for future interventions, however, several survey findings were significant when pre-intervention and post-intervention scores were analyzed. Comparing survey Likert scale scores for all pre-intervention and post-intervention results, the average comfortability and knowledge increased after the intervention (see Appendix E). The mean pre-intervention score is 3.04 with a standard deviation of 0.46 and mean post-intervention score is 3.85 with a standard deviation of 0.24. The calculated *p*-value was statistically significant, $P = 0.00$.

The mean score of pre-intervention survey questions focused only on IUDs was 3.01 [95% CI(2.48, 3.55)], while post-intervention IUD questions is scored an average of 3.92 [95% CI(3.64, 4.20)]. This change was also statistically significant, $P = 0.03$. Similarly, the mean score of pre-intervention survey questions focused only on emergency contraception use was 2.86 [95% CI(2.73, 2.99)], while the post-intervention questions is scored an average of 3.73 [95% CI(3.57, 3.88)], a statistically significant change of $P = 0.00$.

Summary

The aim for this project was an average increase of self-reported overall contraception knowledge and participant comfort with LARCs and emergency contraception use. Key findings suggest that the educational intervention was helpful and increased provider comfort with IUD and emergency contraception use and counseling. After the intervention, rural health care staff reported an average

increase in self-reported overall contraception knowledge and confidence, meeting the specific aim of this project. Project outcomes imply contraception education for providers will lead to better use and will potentially lead to increased contraception access. While this project implies the need for contraception education for providers to decrease barriers to access, it also highlights the need for hands-on IUD training. Research also emphasizes policy changes to address contraception cost and contraceptive resources, that were not addressed in this project (Burapa et al., 2022; McConnell et al., 2020; Ouyang et al., 2019; 2022; Zhang et al., 2020).

Interpretation

Both overall self-reported knowledge of contraception and comfortability with IUD and emergency contraception use increased among participants and outcomes were statistically significant, meeting the aim for this project. Ouyang et al. (2019) used a systemic review to evaluate a larger sample pool and outcomes highlighted the value of continued educational training on contraception. Providers reported increased comfort with IUD placement, counseling, and determining eligibility after completing an educational intervention on contraception (Ouyang et al., 2019). This finding is consistent with previous research, a larger retrospective cohort study found that providers at Title X clinic status Oregon School Based Health Centers, which requires training and additional education on all contraceptive methods, were more likely to counsel on, order and place LARCs (Boniface et al., 2021). This outcome is also aligned with New Mexico's contraceptive access initiative, that implemented provider contraception training with cost-reduction, public awareness campaigns, and policy changes to increase contraception access (Burapa et al., 2022).

Limitations

Limitations on generalizability for project findings include the small sample size and variable response rates between pre-intervention and post-intervention surveys. Potential confounding factors include participant bias or personal perspective on contraception use among providers. The self-reflection tools used, may also lead to imprecision due to the nature of personal reflection. To address these limitations, participants were reminded by email to complete surveys and clinic leadership encouraged

participation verbally during staff meetings. Educational content also discussed the barrier of personal bias among providers as a barrier to contraception access to bring awareness to participants.

Conclusion

The educational lecture on contraception, highlighting LARCs and emergency contraception, provided to rural healthcare workers increased contraception knowledge and comfortability with use, meeting the general aim of this project. Participants reported increased comfortability with IUDs and emergency contraception between pre-intervention and post-intervention surveys. Project findings highlight the importance of educational interventions to support increased access to contraception among rural communities and similar strategies can be used to target specific health inequities.

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Appendix A. Letter of Support

Letter of Support from Clinical Agency

Date: [05/20/2024]

Dear *Emma Beuerman*,

This letter confirms that I, Shelby Lee Freed, allow *Emma Beuerman* (OHSU Doctor of Nursing Practice Student) access to complete his/her DNP Final Project at our clinical site. The project will take place from approximately *May 20th, 2024* to *December 20th, 2024*.

This letter summarizes the core elements of the project proposal, already reviewed by the DNP Project Preceptor and clinical liaison (if applicable):

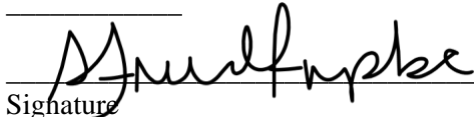
- **Project Site(s):** Orchid Health Sandy Clinic (37400 Bell St, Sandy, OR 97055), Orchid Health Fern Ridge Clinic (24934 Fir Grove Ln. Elmira, Oregon 97437), Orchid Health McKenzie River Clinic (54771 McKenzie Hwy Blue River, OR 97413), Orchid Health Wade Creek Clinic (535 NE 6th Ave Estacada, OR 97023), Orchid Health Oakridge Clinic (47815 Highway 58 Oakridge, Oregon 97463)
- **Project Plan: Use the following guidance to describe your project in a brief paragraph.**
 - **Identified Clinical Problem:** Rural communities in the United States face more barriers to accessing reproductive and contraceptive counseling and care. Women in rural areas in Oregon are less likely to receive an intrauterine device for contraception than urban women. Women in rural areas are also less likely to receive counseling on emergency contraception from their healthcare provider.
 - **Rationale:** The literature highlights lack of provider knowledge and comfortability and inconsistent continuing education or training on contraception for providers. Without additional training and updated guidelines, there is more uncertainty and discomfort with LARC placement and counseling and emergency contraceptive use and safety among providers in rural communities. Contraceptive education for providers is an evidence-based strategy for improving access to reproductive services for rural communities.
 - **Specific Aims:** The project aim is to increase comprehensive contraceptive care access for rural communities by implementing contraception education for clinicians in rural settings. By December 2024, rural health care staff at multiple clinic sites are projected to report a 15% average increase in self-reported overall contraception knowledge and confidence using pre-intervention and post-intervention surveys, including the safety and efficacy of LARCs and emergency contraception.
 - **Data Management:** No patient information or data will be collected. Pre- and post-survey data will be managed using password protected excel spreadsheet
 - **Site(s) Support:** Allow student to facilitate pre- and post-intervention surveys. Allow student to conduct educational intervention for staff with content pre-approval from DNP project preceptor.

During the project implementation and evaluation, *Emma Beuerman* will provide regular updates and communicate any necessary changes to the DNP Project Preceptor.

Our organization looks forward to working with this student to complete their DNP project. If we have any concerns related to this project, we will contact *Emma Beuerman* and *Rebecca Martinez* (student's DNP Project Chairperson).

Regards,
Shelby Lee Freed, DNP, FNP-BC, APRN _____

DNP Project Preceptor (Name, Job Title, Email, Phone):_Family Nurse Practitioner,
shelbylf@orchidhealth.org, (971) 220-2701 _____


Signature _____ Date Signed 5/30/2024 _____

Appendix B. Pre- and Post- Intervention Surveys

Contraception Pre-Survey

Dear Participant, Thank you for taking 5 minutes to complete this survey. Your responses will be kept confidential and reported only in the aggregate. If you have any questions about this study, please feel free to contact Emma Beuerman BSN, RN, at beuerman@ohsu.edu Survey was adapted with permission from the Reproductive Health and Beyond the Pill Webinar Series from UCSF

Reference: Cason, P. and Goodman, S., (2018) Protocol for provision of intrauterine contraception. San Francisco: UCSF Bixby Center Beyond the Pill.

Q1 First some questions about your practice (free text) :

1. My role at the clinic is (may leave blank if not comfortable answering):

Q2 What are potential barriers you face with IUD initiation?

Q3 What are potential barriers you face with emergency contraception initiation?

Yes/No Questions:

Yes (1)

No (2)

Q4 I have personally placed an intrauterine device

Q5 I have assisted someone else with placing an intrauterine device

Q6 I have counseled a patient on IUDs while discussing all contraception options

Q7 I have prescribed and/or given a patient emergency contraception in clinic

Q8 I have counseled a patient on emergency contraception use

Q9 I have received additional education on IUD use (outside of schooling)

Q10 I have received previous training on emergency contraception (outside of schooling)

Please rate your perceived level of comfort from 1 (lowest) to 5 (highest) for the following questions:

1 (Lowest)

2 (2)

3 (3)

4 (4)

5 (Highest)

Q11 Counseling patients on all contraception options

Q12 Assessing patient eligibility for IUD use

Q13 Reviewing IUD side effects or risks of placement with patients

Q14 Reviewing follow-up care and guidance after IUD placement with patients

Q15 Determining that you can be reasonably certain a patient is not pregnant

Q16 Determining risk of IUD insertion if patient has a current or history of STI

Q17 Assessing patient eligibility for emergency contraception use

Q18 Counseling patients on emergency contraception

Q19 Selecting type of emergency contraception

Q20 Reviewing follow-up recommendations with patients after emergency contraception use

Q21 Identifying community and online contraceptive resources

Contraception Post-Survey

Dear Participant, Thank you for taking 5 minutes to complete this survey. Your responses will be kept confidential and reported only in the aggregate. If you have any questions about this study, please feel free to contact Emma Beuerman BSN, RN, at beuerman@ohsu.edu Survey was adapted with permission from the Reproductive Health and Beyond the Pill Webinar Series from UCSF

Reference: Cason, P. and Goodman, S., (2018) Protocol for provision of intrauterine contraception. San Francisco: UCSF Bixby Center Beyond the Pill.

First some questions about your practice (Free text):

Q1 My role at the clinic is (may leave blank if not comfortable answering):

Please rate your perceived level of comfort from 1 (lowest) to 5 (highest) in the following questions:

1 (Lowest)

2 (2)

3 (3)

4 (4)

5 (Highest)

Q2 Counseling patients on all contraception options

Q3 Assessing patient eligibility for IUD use

Q4 Reviewing IUD side effects or risks of placement with patients

Q5 Reviewing follow-up care and guidance after IUD placement with patients

Q6 Determining that you can be reasonably certain a patient is not pregnant

Q7 Determining risk of IUD insertion if patient has a current or history of STI

Q8 Assessing patient eligibility for emergency contraception use

Q9 Counseling patients on emergency contraception

Q10 Selecting type of emergency contraception

Q11 Reviewing follow-up recommendations with patients after emergency contraception use

Q12 Identifying community and online contraceptive resources

The following questions are yes or no and free text:

Q13 Do you feel that this educational session was helpful for your understanding of IUD use and/or emergency contraception?

yes (1)

No (2)

Q14 Please explain:

Q15 Did this presentation increase your comfort level for counseling patients on LARCs and/or emergency contraception?

Q16 Would hands-on training for LARC (Nexplanon and IUD) insertion and removal increase your comfort and willingness to use these methods in your practice?

yes (1)

no (2)

not sure (3)

Q17 What additional topics related to reproductive health would you be interested in:

Appendix D. IRB Determination



IRB MEMO

Research Integrity Office

3181 SW Sam Jackson Park Road - L106RI
 Portland, OR 97239-3098
 (503)494-7887 irb@ohsu.edu

NOT HUMAN RESEARCH

June 12, 2024

Dear Investigator:

On 6/12/2024, the IRB reviewed the following submission:

Title of Study:	Improving Access to Contraception in Rural Communities
Investigator:	Rebecca Martinez
IRB ID:	STUDY00027354
Funding:	None

The IRB determined that the proposed activity is not research involving human subjects. IRB review and approval is not required.

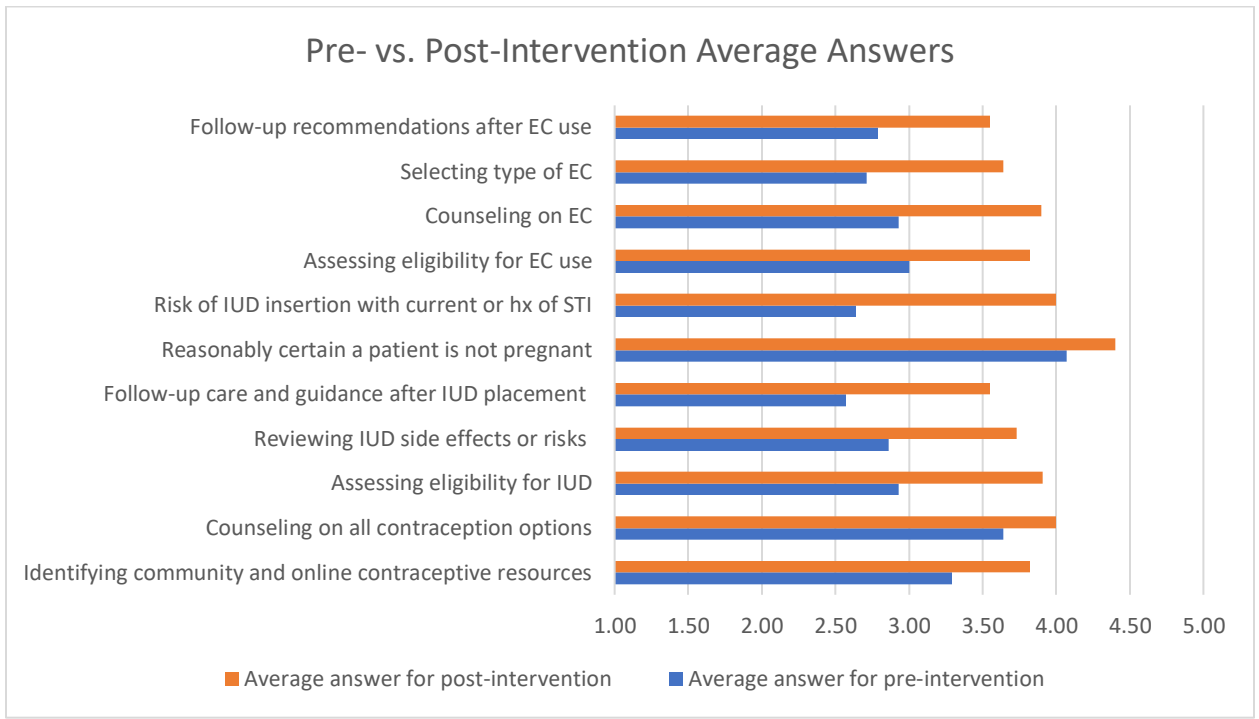
Certain changes to the research plan may affect this determination. Contact the IRB Office if your project changes and you have questions regarding the need for IRB oversight.

If this project involves the collection, use, or disclosure of Protected Health Information (PHI), you must comply with all applicable requirements under HIPAA. See the [HIPAA and Research website](#) and the [Information Privacy and Security website](#) for more information.

Sincerely,

The OHSU IRB Office

Appendix E.



Cause and Effect Diagram

Template: Cause and Effect Diagram

Team: Emma Beuerman

Project: Improving Access to Contraception in Rural Areas

- 1) Input the effect you'd like to influence.
- 2) Input categories of causes for the effect (or keep the classic five).
- 3) Input causes within each category.

