Integrating Contraceptive Services into Primary Care at

Federally Qualified Health Centers: a Case Study

By

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DISSERTATION

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DEDICATION

To Todd, Solette and Lila: thank you for the unending love and support. I’m finally done!

And to my Maman.

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ABBREVIATIONS

ACA	Affordable Care Act
CDC	Centers for Disease Control and Prevention
CHCNRV	Community Health Center of the New River Valley
DrPH	Doctor of Public Health
ECP	Emergency Contraceptive Pill
EHR	Electronic Health Records
FDA	Food and Drug Administration
FQHC	Federally Qualified Health Center
HRSA	Health Resources and Services Administration
IUD	Intrauterine Device
LARC	Long Acting Reversible Contraceptives
PRAMS	Pregnancy Risk Assessment Monitoring System
PREP	Personal Responsibility Education Program
SRH	Sexual and Reproductive Health
STD	Sexually Transmitted Diseases
TPP	Teen Pregnancy Prevention Programs

SUMMARY

Although the integration of reproductive intention screening, contraceptive counseling and the provision of contraceptive services in primary care has been recommended, only some Federally Qualified Health Centers (FQHC) nationally have started systematically integrating these contraceptive services into primary care. It is important to understand system-wide implementation successes and challenges so that we can adapt recommendations and/or support other providers in implementation efforts ultimately uncovering new insights and strategies for reducing unintended pregnancy among low-income women.

The goal of this research was to document how integration is operationalized at one exemplar FQHC, the Community Health Center of the New River Valley, and to identify specific facilitators and barriers to integration. This research may offer insight into best practices for integration at other FQHCs, and potential ways to overcome certain barriers to integration.

A single mixed methods case study was conducted. Research methods included a 12-question survey administered to 84 patients at the CHCNRV, a document review, and 21 semi-structured interviews with CHCNRV patients, board members, providers and the management team.

Important factors were identified under the following constructs: organizational processes, leadership, communication, education, services and cultural. Findings highlight the importance of organizational, board and provider commitment to providing integrated services, steady funding, and the role of strong organizational and provider communication. The role of external community culture and associated barriers such as lack of education on birth control, and ensuing misconceptions, and the effect these may have on a clinic's ability to integrate services should not be underestimated.

Findings from this study have leadership implications beyond this single exemplar case. CHCNRV's integration of measuring reproductive intention, providing contraceptive counseling and the provision of contraceptive services in primary care is a model that can be replicated by other FQHCs, by local health departments, or by private physicians. This research has shown that this model has replicability and transferability potential beyond the provision of contraceptive services in primary care.

I. BACKGROUND AND PROBLEM STATEMENT

A. Background

Introduction

In the United States, approximately 45% of pregnancies are unintended [1]. Negative outcomes of unintended pregnancy can include delayed prenatal care, a reduced likelihood of breastfeeding, resulting in unhealthier children, and a higher risk for intimate partner violence during pregnancy [2]. Unintended pregnancy rates for low-income women are consistently higher than for other women [1]. Despite a multitude of interventions at the federal, state and local levels, unintended pregnancy rates steadily increased among low-income women from 1981 to 2008, with a slight decrease between 2008 and 2011 in the US [3].

Accessing quality contraceptive services can be a barrier for some individuals, especially low-income, uninsured, minority or younger women. These problems are exacerbated in rural areas [2]. Barriers to accessing services include cost of services, lack of insurance, clinic locations and hours that are not convenient, lack of awareness of contraceptive services, no or limited transportation, inadequate services for men, and lack of youth-friendly services [2].

Integrating reproductive intention screening, contraceptive counseling and the provision of contraceptive services into primary care is an approach recommended by the Centers for Disease Control and Prevention (CDC) [4] to ensure that all sexually active women seeking primary care services receive access to comprehensive contraceptive methods.

For the client, this integration means healthcare that is easy to navigate, reduces the number of stages in an appointments and reduces the number of separate visits required; it provides continuity of care [5]. For providers, integration means that separate technical services are provided, managed and

financed together, or in a closely coordinated fashion [5]. Offering integrated services is a way to increase access to reproductive health care services, especially for low-income populations that have a harder time getting to appointments.

Over the past five years, literature has been published on the scope of family planning services offered at Federally Qualified Health Centers (FQHCs), healthcare organizations serving primarily low-income populations [6-13]. However, to date there is nothing in the literature documenting the process of integrating the measurement of reproductive intention, contraceptive counseling and the provision of contraceptive services into primary care in an FQHC setting. This study aims to document how one FQHC in Virginia, the Community Health Center of the New River Valley (CHCNRV) is integrating these services into primary care, specifically how they are screening women for unmet contraceptive need, offering contraceptive counseling, and providing comprehensive access to contraceptive methods. The study aims to identify facilitators and barriers to this integration for potential replication.

Overall integration of Healthcare Services

"*We need a comprehensive, integrated approach to service delivery. We need to fight fragmentation*."

2007- WHO Director General

Alexander Blount, Director of the Center for Integrated Primary Care at the University of Massachusetts Medical School, offers a brief history on the integration of behavioral health care services into primary care, the first type of health care service to be integrated [14]. According to Blount, the first known instance of integration of behavioral health services into primary care occurred in the 1970s. In 1994, Dr. Blount published a paper in which the term "integrated primary care" was first used [15]. In it, he describes the creation of integrated primary care teams in which patient care responsibilities are shared among several providers.

In 1995, an article was published in the Journal of the American Medical Association, advocating collaborative management by the primary care provider and a consulting behavioral health

specialist as a means to increase patient outcomes. This was the first paper promoting integrated primary care [16]. In the 2000s, the military started integrating behavioral healthcare into primary care. Finally, according to Blount, the passage of the Affordable Care Act (ACA) cemented integrated care into actuality. Through the ACA, new healthcare delivery models hold providers more accountable for coordinated care and overall patient health. These types of coordinated models may help achieve the Triple Aim of improved patient experience, improved health and lower cost [17]. Blount, states that the term "integrated", as opposed to co-located, or coordinated care shows a deep level of commitment and collaboration that includes communication among team members [18].

According to the World Health Organization, integrated services means: "The management and delivery of health services so that clients receive a continuum of preventive and curative services, according to their needs over time and across different levels of the health system" [5]. Integrating healthcare services offers a systematic approach to care. It requires a healthcare organization to look at their whole system of care to ultimately provide a better patient experience, improve health and lower costs. It requires strong collaboration and communication within an organization.

Integration of contraceptive services into primary care

Although integrated services have been occurring for other public health issues such as mental and behavioral health, integration of contraceptive services into primary care is still a relatively new concept that some clinics are beginning to adopt. The integration of reproductive intention screening and contraceptive services into primary care is a novel approach that ensures that all sexually active women seeking primary care services (ie: for an annual exam, well woman visit, checkup, regular follow up for a chronic illness) receive reproductive life planning and contraceptive counseling and contraceptive services. Nationally, the integration of contraceptive services into primary care is recently coming into focus with the publication of the "*Providing Quality Family Planning Services: Recommendations of CDC and the US Office of Population Affairs*" in 2014 which promotes

reproductive life planning and the provision of comprehensive contraceptive methods, among other things [4]. Studying how this type of integration is being operationalized is timely and likely to contribute positively to the research on integration.

Systematically screening all women who come in to primary care for unmet contraceptive need, offering contraceptive counseling and access to contraceptive methods could be an effective way of reducing unintended pregnancy, addressing the barriers to care listed above. During the screening, if the patient is found to be sexually active and not on birth control, the provider asks if she is trying to become pregnant, or if she would like to discuss birth control options. If the patient would like to avoid a pregnancy, the provider reviews possible birth control methods available and they decide together what is best for the patient. The patient will either receive the chosen method, be given a prescription for a method, or make an appointment to come back later if needed for insertion of a contraceptive device. If a woman is trying to become pregnant, she is offered preconception care and vitamins. The CHCNRV is one FQHC that has adopted this model and has been implementing it for three years, although they have never formally documented their operations [19].

The aforementioned 2014 CDC/OPA guidelines offer concrete recommendations for providers, including primary care providers interested in providing more family planning services. Recommendations in the report encourage primary care providers to integrate family planning services for all persons of reproductive age [4]. In addition, they recommend that preconception health services (including contraceptive counseling) be integrated into primary care visits, including encouraging clients to develop their reproductive plan (ie: if and when they want to have children) [4].

A 2016 committee opinion from the Committee on Health Care for Underserved Women, part of the American College of Obstetricians and Gynecologists recommends that all providers conduct systematic reproductive life planning with clients [20]. The committee states that a reproductive life

plan- "a set of personal goals regarding whether, when and how to have children based on individual priorities, resources and values" can be a valuable tool in unintended pregnancy prevention [20]. They conclude that every woman who is capable of having children should have a reproductive life plan.

The Oregon Foundation for Reproductive Health launched their *One Key Question®* initiative in 2012 which encourages all primary care clinicians to ask women "Would you like to become pregnant in the next year?" [21]. It is now a part of the Power to Decide organization. According to *One Key Question®*, their goal is to "change the long-standing fragmentation of primary care and reproductive services" [21]. Providers around the country are slowly starting to adopt this method of systematically screening for reproductive intention and providing contraceptive counseling to those with an unmet need. Some clinics systematically screen their clients through their Electronic Medical Record (EMR) prompts. Other clinics ensure that all primary care providers routinely ask women about their reproductive health needs during primary care visits.

Over the past five years, much literature has been published on the scope of family planning services offered at FQHCs, mostly out the George Washington University Milken Institute School of Public Health, Jacobs Institute of Women's Health [6-13]. Although several editorials and recommendations promoting the integration of contraceptive services into primary care have been recently published, there is nothing in the literature to date specifically documenting the process of integrating contraceptive services into primary care, specifically in an FQHC setting.

About 70% of women opt to get family planning services at reproductive-health focused providers [22], but in doing so, they are intentionally seeking out those services. For those in need but not seeking out contraceptive services, integration of reproductive intention screening and contraceptive services into primary care may mean that they receive needed services and potentially avoid an unintended pregnancy. A recent study of patient experiences at FQHCs nationwide found that 70% of

women interviewed were not actively seeking to become pregnant in the next year and 20% were unsure. Among the women who reported that they do not intend to get pregnant in the next year, 28% were not using a contraceptive method. Among women who were unsure, 37% were not using contraception [11]. This study uncovers that clients at FQHCs have a huge unmet contraceptive need. Integrating reproductive intention screening and contraceptive services into primary care offers a way to reduce unintended pregnancies among low-income women in the United States. This is a systems level response to the adaptive challenge of unintended pregnancy.

While integrating reproductive intention screening and contraceptive services into primary care offers a potential strategy to reduce unintended pregnancies, barriers to integration may exist and may be similar to barriers encountered while providing and accessing contraceptive services and integrating other services. Some potential barriers to integration that need to be researched may include lack of time during appointments to provide multiple services [23], lack of provider training in insertion of Long Acting Reversible Contraceptives (LARC) or contraceptive counseling [7, 10, 24], and provider discomfort discussing sensitive topics such as sexual health [11]. Barriers also include the silo'ed nature of services offered at health clinics, which may impact billing issues [5].

This research aimed to understand what some of the facilitators and barriers to integration have been and specifically those encountered when one FQHC has integrated contraceptive services. Understanding these system-wide implementation successes and challenges can help develop recommendations and support providers in implementation efforts aimed at reducing unintended pregnancies among low-income women.

Unintended Pregnancy in the United States

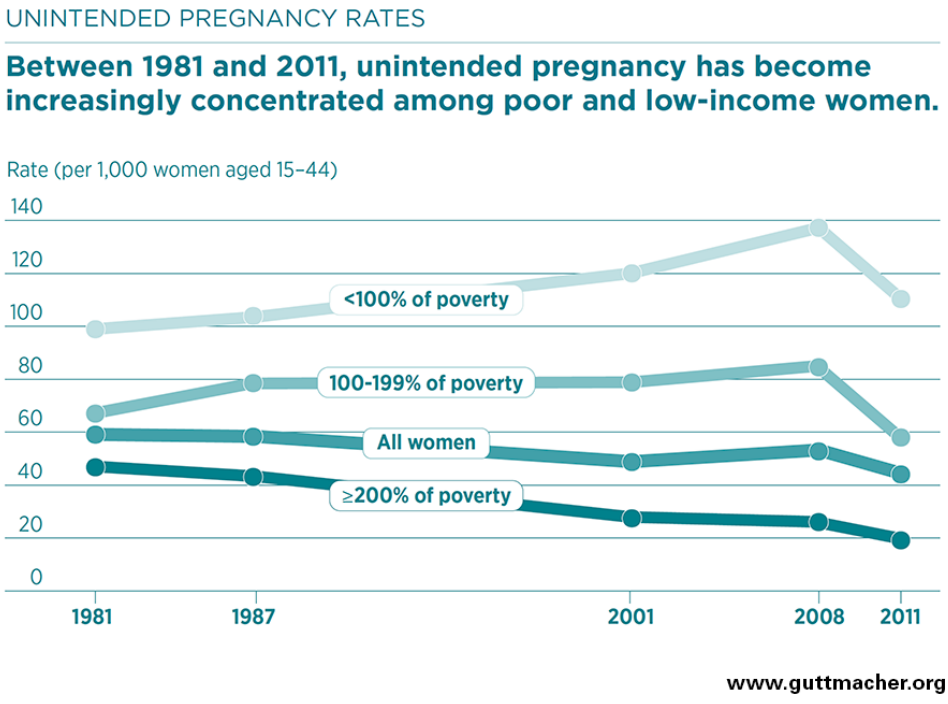
An unintended pregnancy is defined as being either mistimed or unwanted. In the United States in 2011, 45% of pregnancies were reported as unintended [3]. A pregnancy is defined as mistimed (27%

of pregnancies) if the woman did not want to get pregnant at the time the pregnancy occurred, but did want to become pregnant at some point in the future. If a woman did not want to become pregnant then or any time in the future, the pregnancy is defined as unwanted (18% of pregnancies). An intended pregnancy is one that was desired at the time it occurred or sooner (55% of all pregnancies) [3].

The unintended pregnancy rate in the United States is highest among low-income women, young women ages 18-24 years old, minority women and less educated women. In 2011, the unintended pregnancy rate among poor women (below federal poverty level) was 112 per 1,000. This is five times higher than the rate among women with incomes at least 200% over federal poverty level (20 per 1,000) [1]. From 1981-2008, the unintended pregnancy rate among low-income women rose, while the rate among higher income women declined steadily. From 2008-2011, the unintended pregnancy rate declined significantly among all women, including low-income (figure 1). Even with this decline, there is still a great disparity in unintended pregnancy rate between women of different income levels [1, 25].

In the United States in 2011, 42% of unintended pregnancies (excluding miscarriages) ended in abortion, and 58% ended in birth [1]. A lower proportion of poor and low-income women end their pregnancy than higher income women [1].

Figure 1. United States unintended pregnancy rate by income, 1981-2011.



The Cost of Unintended Pregnancy

Unintended pregnancy can be costly to society and has long been seen as an important public health, social and economic issue in the United States. In 2010, 68% of unplanned births were paid for by public insurance programs, compared to 51% of births overall and 38% of planned births. Total nationwide expenditures for unplanned births were $21 billion in 2010 [26].

The costs of unintended pregnancy are not only financial, there are also physical and social costs. Negative outcomes of unintended pregnancy to the mother can include maternal depression both during pregnancy and later in life [2, 27, 28]. Studies show that women experiencing an unintended pregnancy are more likely to experience physical violence from their partner during their pregnancy [2, 29, 30]. Women with an unintended pregnancies are less likely to seek prenatal care, and more likely to delay prenatal care if they do seek it, potentially resulting in low birth weight babies [2, 28]

In addition, births resulting from unintended pregnancies can have negative effects on the baby. Multiple studies have found that babies born as a result of an unintended pregnancy are less likely to be breastfed, or are breastfed for a shorter duration [2, 28]. Studies show that children resulting from unintended pregnancies are more likely to experience negative effects in their childhood and teen years. These include poor mental and physical health, lower educational attainment and behavioral issues as teenagers [2, 28, 31]. In addition, several studies found that unintended children were more likely to experience less favorable parenting styles and potential child abuse [28].

These negative consequences can be greater for younger parents. In 2011, 71 % of births to teens ages 18-19 were unintended. Teen mothers are overall less likely to graduate high school or obtain a GED by the time they reach 30. On average, teen mothers will get two fewer years of schooling than their non-parenting peers [2, 32]. Teen parents end up receiving twice as much federal funding for nearly twice as long [2].

Family Planning Services and Utilization

According to the CDC and the US Office of Population Health's "Providing Quality Family Planning Services" Recommendation and Report, family planning services include the following [4]:

- "providing contraception to help women and men plan and space births, prevent unintended pregnancies, and reduce the number of abortions;
- offering pregnancy testing and counseling;
- helping clients who want to conceive;
- providing basic infertility services;
- providing preconception health services to improve infant and maternal outcomes and improve women's and men's health; and

- providing sexually transmitted disease (STD) screening and treatment services to prevent tubal infertility"

Family planning is a goal established under the United States Department of Health and Human Services Healthy People 2020 initiative and has been recognized as one the of the greatest accomplishments of the 20th century [2]. The present study focuses specifically on the provision of contraceptive services.

In 2016, of all women at risk for unintended pregnancy in the United States, 68% used contraceptives consistently and correctly accounting for 5% of unintended pregnancies. Eighteen percent used contraceptives incorrectly or inconsistently, accounting for 41% of unintended pregnancies. Finally, 14% of women who did not practice contraception accounted for 54% of all unintended pregnancies [22]. These 32% of women utilizing contraceptives incorrectly, inconsistently, or not using contraceptives have an unmet need when it comes to access to care and education.

Accessing quality contraceptive services can be a barrier for some individuals, especially low-income, uninsured, minority or younger women. These problems are exacerbated in rural areas [33]. Barriers to accessing services include cost of services, lack of insurance, clinic locations and hours that are not convenient, lack of awareness of contraceptive services, no or limited transportation (especially in rural areas), inadequate services for men, and lack of youth-friendly services [2].

In a recent study on access to family planning services at FQHCs the most commonly reported barriers were unaffordability of care (38%) and lack of health insurance (46%). Other reasons for not obtaining needed family planning services included transportation barriers (20%) and not being able to get a convenient appointment time (16%) [11].

Unintended Pregnancy Prevention

Despite a multitude of interventions at the federal, state and local levels, unintended pregnancy rates nationally steadily increased among low-income women from 1981 to 2008, with a slight decrease between 2008 and 2011 in the US [3]. Unintended pregnancy prevention interventions and programs include federally funded programs including Title X [34], increased promotion and access to LARC [35-38], online birth control support networks [39], over the counter access to emergency contraception [40, 41] and a multitude of evidence based teen pregnancy prevention programs [42]. In 2014, publicly funded family planning services nationwide helped avoid 2 million unintended pregnancies [43].

Margaret Sanger opened the first family planning clinic in the United States in New York City in 1916. In 1965 birth control was legalized in the United States only for married people and in 1972, it became legal for everyone. In 1979, Planned Parenthood started their national sex education program [44]. Planned Parenthood has served millions of men and women throughout the United States and the world, offering low cost confidential comprehensive access to family planning services and abortion services and offering quality comprehensive sexual health education. Planned Parenthood remains at the forefront of the fight for women's rights to access comprehensive family planning services.

Family Planning at Federally Qualified Health Centers (FQHCs)

FQHCs, also known as Community Health Centers are community-based health clinics that provide healthcare services in medically underserved areas. FQHCs serve the underserved, underinsured, uninsured, non-citizens; mostly low-income populations. FQHCs are required by law to: "serve an underserved area or population, to offer a sliding fee scale, to provide comprehensive services, to have an ongoing quality assurance program, and to have a governing board of directors, made up of a majority of FQHC patients [45]." According to Wood et al, "FQHCs serve an estimated 24% of all low-income women of childbearing age in the United States [13]." FQHCs provide

comprehensive primary care services directly or through referrals including preventive services, dental services, mental health and substance abuse services, transportation services or hospital and specialty care [45]. FQHCs receive cost-based reimbursement from the US Federal government for Medicaid and Medicare patients. Federal funding to FQHCs increased with the passing of the ACA in 2010 [45].

FQHCs are mandated by law to provide "voluntary family planning" as a required primary care service, and with the passage of the ACA, are becoming increasingly important in the delivery of these services [22]. In 2010, 16% of all women obtaining contraceptive services did so at an FQHC [22]. This percentage has likely grown since the implementation of the ACA. However, there is wide variability among FQHCs as to the types of services that are offered. This is due to size of the FQHC, funding and priorities. Many FQHCs, especially small ones located in rural areas offer limited access to LARC and other family planning resources [6, 13]. Research on the availability of family planning in FQHCs and the organizational structure of FQHCs delivering family planning services is still emergent; what is clear, though is the lack of uniform provision of services among FQHCs nationally [13].

Personal communications with experts in the field elucidated some of the current facilitators and barriers related to family planning services offered at FQHCs and the need for integrated services. A conversation with Dr. Tishra Beeson, leading researcher in the field of contraceptives and FQHCs, in November 2016 confirmed findings in her peer reviewed articles that financial barriers are some of the most challenging for FQHCs. She emphasized that special populations such as teen and immigrants' needs must be taken into account, and that very little research had been conducted on the patient perspective of receiving contraceptive services at FQHCs [46]. Another notable barrier she mentioned was the lack of LARC training that providers received.

FQHCs provide a good environment to study the integration of contraceptive services into primary care, specifically when it comes to looking at access issues for low-income women.

Rural Health Disparities including Appalachia and Virginia

Appalachia is a mountainous and rural region located in the eastern part of the United States. It extends from northeastern Mississippi to southern New York. It includes thirteen states, including all of West Virginia and parts of Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee and Virginia. Forty two percent of Appalachia's population is rural, compared with 20% of the overall US population [47].

Twenty-five Virginia counties are considered part of Appalachia. A total of approximately 8 million people live in Virginia, about 1 million of which are living in rural areas [48]. Many of the people living in these rural communities lack adequate access to high quality primary and preventive health care services. Several studies indicate that rural residents experience more disparities, and are older, poorer, and have access to fewer primary care providers. Rural residents are less likely to have health care coverage provided by their employer, and often rely on safety-net programs and Medicaid, increasing this disparity [49].

Several factors are contributing to this inequality including: provider shortages, lack of specialty care, stigma with seeking and accessing services, distance to care, costs, and the inability to communicate with providers due to cultural competency issues [49]. In addition, residents of rural communities are less likely to seek medical care [50].

Socio-economic indicators in rural America are worse than for the rest of the United States. The unemployment rate in non-metro areas has been significantly lower than in metro areas for at least the past 10 years [51]. The poverty rate for non-metro areas has been consistently higher than in metro areas at least since the 1960s [52].

Central Appalachia has some of the worse economic indicators within Appalachia [53]. One study looking at self-reported health status in Virginia found that people living in Appalachian counties

of Virginia were significantly more likely to report their health status as poor or fair than those living in non-Appalachian Virginia counties [53].

While seeking FQHC status, the CHCNRV sought input from community stakeholders as part of a community needs assessment. CHCNRV serves low-income, medically underserved populations in Virginia's New River Valley, which is located in Central Appalachia. Findings from focus group discussions show that adult patients frequently neglected to seek care, and did not trust the care they received. Perceived barriers to care identified included lack of access to affordable care, limited hours of clinic operation, lack of transportation, distance from the clinic and issues navigating the healthcare system [33].

B. Study Purpose

The purpose of this case study is to explore the factors that facilitate or hinder the integration of reproductive intention screening and the provision of contraceptives services into primary care. This was conducted through a case study, documenting how one small FQHC in Appalachian Virginia serving mostly rural and suburban low-income populations, is integrating contraceptive services (specifically measuring reproductive intention, providing contraceptive counseling and access to comprehensive contraceptive methods) into its primary care services. The goal was to document how integration is operationalized and to identify specific facilitators and barriers to integration. This research offers a unique perspective on how an FQHC is offering integrated services to low-income Appalachian populations. Although all FQHCs are unique in the type and delivery of services they offer, this research may offer insight into best practices for integration at other FQHCs, and potential ways to overcome certain barriers to integration.

Because the unintended pregnancy rate among low-income women and the disparities between income levels mirror those found in the United States, Virginia offers a good location for a detailed case study. Conducting this research at an FQHC in Appalachia allows us to learn first-hand how the

integration of services is being operationalized and how a low-income mostly rural population uses the services.

C. Problem Statement

An estimated 45% of pregnancies in the United States in 2011 were unintended [1]. The unintended pregnancy rate in the United States has been consistently higher among low-income women[1]. Despite a multitude of interventions at the federal, state and local levels, unintended pregnancy rates in the US steadily increased among low-income women from 1981 to 2008, with a slight decrease between 2008 and 2011 [3].

Although the integration of reproductive intention screening and the provision of contraceptive services in primary care has been recommended [4, 20], only some FQHCs nationally have started systematically integrating contraceptive services into primary care [54]. There is no current research on how this has been operationalized. As we continue to try to implement recommended strategies, it is important to understand system-wide implementation challenges and successes so that we can adapt recommendations and/or support other providers in implementation efforts ultimately uncovering new insights and strategies for reducing unintended pregnancy among low-income women.

D. Research Questions

1. How has the integration of contraceptive services into primary care been operationalized at the Community Health Center of the New River Valley (CHCNRV)?
    a) What are organizational facilitators and barriers affecting the planning and delivery of integrated services at CHCNRV?
        i. How do these organizational facilitators and barriers affect integration?
    b) What are provider/staff facilitators and barriers affecting the planning and delivery of integrated services at CHCNRV?
        i. How do these provider/staff facilitators and barriers affect integration?

c) What are community and patient facilitators and barriers affecting the planning and delivery of integrated services at CHCNRV?

    i. How do these community facilitators and barriers affect integration?

d) What are some other facilitators and barriers affecting the planning and delivery of integrated services at CHCNRV?

    i. How do these other facilitators and barriers affect integration?

2. What are lessons learned and recommendations from CHCNRV on integration of contraceptive services into primary care that can be transferred to another FQHC?

E. Leadership Implications and Relevance

Nationally, the conversation surrounding the integration of reproductive intention screening and of integrating the provision of contraceptive services into primary care has recently come to the forefront in 2014 when the CDC and the US Office of Population Health's co-authored a "*Providing Quality Family Planning Services*" Recommendation and Report. This was the first time that the government was recommending the integration of contraceptive services into primary care. They recommend that both primary care and family planning providers should assess clients' reproductive life plan in order to identify unmet reproductive health care needs [4]. If an unmet contraceptive need is identified, they recommend contraceptive counseling and offering a full range of FDA- approved contraceptives methods, preferably on-site [4].

However, the systematic integration of contraceptive services into primary care is still infrequent at FQHCs around the country. A follow up study conducted two years after the release of the CDC and OPA recommendations found that only about 30% of primary care providers at FQHCs actually assessed clients' reproductive life plans and 36% presented clients with information regarding potential contraceptive methods with the most effective methods presented first [55]. One of the reasons that recommendations are not being adopted frequently at FQHCs nationally may be that FQHCs do not

know how to begin the process of integration, or do not know how to overcome certain barriers to integration.

A replicable integration approach needs to be documented. Although several editorials, articles, and national guidelines call for the integration of family planning into primary care settings [4, 10, 56-58], successful models showing how contraceptive services are integrated into primary care in the United States have not been documented, making it difficult to determine true success and making the model potentially challenging to replicate. This research aimed to understand and document some of the facilitators and barriers to integration at one FQHC with the potential to replicate the model.

The issue of unintended pregnancy is of common interest to public health leaders across the nation and internationally, and this model may inform decision-making at many different levels. Public health practitioners can benefit from this approach to unintended pregnancy prevention.

This research is relevant, as approximately 70% of women opt to get family planning services at reproductive-health focused providers [22], but in doing so, they are intentionally seeking out those services. For those in need but not seeking out contraceptive services, integration of contraceptive services into primary care may mean that they receive needed services and potentially avoid an unintended pregnancy. This is a systems level response to the adaptive challenge of unintended pregnancy in low-income populations. This research has the potential for broader implications beyond the context of women's behaviors and decision-making, as has traditionally been the case while researching unintended pregnancy and offering strategies. FQHCs and other healthcare providers or organizations may use the findings of this case study to inform their practices.

II. CONCEPTUAL AND ANALYTICAL FRAMEWORK

A. Literature Review

Measuring unintended pregnancy

The term "unintended pregnancy" and its measurement can be traced back to 1941, the first onset of population-based surveys in the United States that included questions on fertility behaviors [59]. The concepts of unwanted and mistimed births were first introduced in the 1965 National Fertility Survey [59]. In 1994, 49% of pregnancies in the United States were unintended [60, 61], with the prevalence of unintended pregnancy being highest in women who were young, unmarried, low-income and African-American [59]. Twenty five years later, these categories of women are still the populations that are at greatest risk for unintended pregnancy.

Measuring unintended pregnancy is a complex issue. Demographers debate which surveys are most valid, which surveys contradict each other, and how surveys can truly capture pregnancy intention status. Santelli et al. point out a major flaw of many of the surveys that measure pregnancy intention is that the women's intentions are measured retrospectively. The women's responses are potentially influenced by the fact they currently have an infant and the fact that retrospective intentions generally become more positive over time [59].

Another important issue is that for some women, the concept of planning a pregnancy might not be meaningful, potentially affecting their response to a survey question about intention. Many women are ambivalent about conception or contraception, however most pregnancy intention questions assume that women decide if they want to become pregnant or not at the time of sexual intercourse. Santelli el al. argue that "a pregnancy should be understood not as the product of an individual's intentions, but rather as the result of multiple, interwoven social and economic influences [59]."

Even though pregnancy measurement data may not be as accurate as we would like them to be, the disparity in unintended pregnancy rates among income levels remains striking, and a new model to

address these disparities that brings equity to the issue needs to be explored and documented. Integration of contraceptive services into primary care may be that model.

Unintended pregnancy prevention

Preventing unintended pregnancies, especially among young, low-income women, is a complex adaptive challenge. Several unintended pregnancy prevention interventions at all levels of the socio-ecological model have been undertaken over the years, some of which are highlighted below.

Individual level prevention

At the individual level, a wide range of interventions has been implemented with young people both in and out of school settings. Programs include abstinence-only education, abstinence-based education, and comprehensive sexual health education. These interventions have included classroom-based interventions, service-learning, and positive youth development programs. Before being able to properly prevent unintended pregnancy, men and women of all ages and incomes must first be aware of their reproductive system and methods to prevent unintended pregnancies, which can be learned through comprehensive sexual health education programs.

The Federal government provides funding for unintended pregnancy prevention education. One such source of funding is the Title V Abstinence Education which provides funding to states and territories to implement abstinence education [62]. Abstinence-only until marriage education is not an evidence-based strategy. Advocates for Youth, a nationally recognized non-profit organization advocating for youth and comprehensive sexual health education, reviewed the evaluations of several of these abstinence-only programs. Advocates for Youth found that: "some abstinence-only education programs showed mild success at improving attitudes and intentions to abstain", but no program showed a positive impact on sexual behavior over time [63]. Despite this, abstinence-only education grants continue to be funded, with no requirement that evidence-based programs be used.

The Federal government also funds successful comprehensive sexual health education programs through the Personal Responsibility Education Program (PREP) and Teen Pregnancy Prevention (TPP) Program [64]. PREP funds are formula grants that go to states and territories. TPP grants are highly competitive grants that require replication or adaptation of evidence based programs. TPP grants also allow for development of new innovative strategies. Both PREP and TPP programs require that curricula used be medically accurate and age appropriate [64]. Additionally, the CDC funds two teen pregnancy prevention projects through cooperative agreements with states and community-based organizations; these projects "enhance publicly funded health centers' capacity to provide youth-friendly services and increase the role of young men in preventing unintended pregnancy [64]." Provisions in the ACA provide $75 million annually for evidence-based teen pregnancy prevention and $50 million annually for abstinence-only programs [65].

Increasing access to emergency contraceptives is an effective way to prevent unintended pregnancies after an unprotected or inadequately protected sexual encounter [66]. Emergency contraception includes Emergency Contraception Pills (ECP) and the copper intrauterine device (IUD) [66]. After an 8 year legal battle over access to emergency contraception, in June of 2013, the FDA committed to making Plan B One Step (an ECP) available over the counter without age restrictions [67]. The copper IUD requires insertion by a trained professional, but provides ongoing contraception for 10 years; one study showed that for one year after use of emergency contraception those that had used an IUD were half as likely to get pregnant again than those who had used ECP [66]. However, cost is often seen as a barrier for women to use an IUD. A study conducted in 2014 found that there were still barriers to adolescents receiving ECP from pharmacies. Barriers included confusion on the part of pharmacists as to dispensing regulations, confidentiality issues, pharmacists using ethical terms to explain pharmacy policies, and finally pharmacists inventing false barriers to impede access to ECP [68].

One successful primary prevention program that reaches individuals directly is an online birth control support network, *Bedsider*, which was developed by the National Campaign to Prevent Teen and Unplanned Pregnancy, recently renamed Power to Decide [39]. The main purpose of this online tool is to educate women about birth control options and where to find them, and lets them set up appointments and reminders. In a randomized study, women exposed to *Bedsider* were: "less likely to have a pregnancy scare, an unintended pregnancy, or unprotected sex compared to the control group." In addition, women in the exposed group were "more likely to use a more effective birth control method [39]."

Another successful intervention that is widely used across the country is mail-order condoms. Various state and city health departments or sexual health non-profit organizations run these programs. Constituents can order condoms for free that are delivered directly to their door. These programs are targeted to youth who might otherwise feel nervous about purchasing condoms or obtaining them in person at a health center [69].

It is important to note when discussing unintended pregnancy the fact that not all sexual encounters are consensual, including some that lead to pregnancy. Approximately 5% of sexual assaults result in pregnancy. Women who are victims of intimate partner violence are also more susceptible to unintended pregnancy than those in non-abusive relationships [70]. Programs that promote women's empowerment, negotiation skills, self-efficacy, and healthy relationships are crucial to changing social norms around violence against women.

State-government level prevention

One successful state government level unintended pregnancy prevention intervention which recently passed in Oregon is pharmacy-prescribed birth control. As of January 1, 2016, women over the age of 18 in Oregon can obtain hormonal contraceptives at a pharmacy without first having to see a prescribing medical provider [71]. Several other states including California and Washington and New

Mexico are considering similar bills. This law allows pharmacists to prescribe and provide birth control, decreasing barriers to access for women who are healthy, but for one reason or another do not go see a prescribing provider [71].

States across the country have enacted broad policies intended to reduce unintended pregnancy rates. Colorado is an example of a state where policies have successfully reduced unintended pregnancy rates [72]. In 2008, the Colorado Initiative to Reduce Unintended Pregnancy was developed and implemented through the state health department. Funds were provided by an anonymous donor. Goals of the initiative included increasing access to family planning services and increasing the number of women choosing LARC as a pregnancy prevention method. To achieve their goals, the initiative funded 28 Title X clinics in Colorado, serving 37 counties which were home to about 95% of the state's low-income populations [72]. Data show an increase in women accessing contraceptive services and choosing LARC as a contraceptive method [72]. From 2009 to 2014, Colorado's birth rate in those counties participating in the initiative dropped 48% for 15-19 year olds and 19.4% for 20-24 year olds [73].

National level prevention

At the national level, several programs and policies have been implemented, easing access to contraceptives, reducing cost and reducing unintended pregnancy among all women. Still, many disparities in access to services remain. For more than 40 years, federally funded Title X family planning clinics nationally have ensured that all men and women, including low-income or uninsured women gain access to a broad range of family planning options. Title X of the Public Health Service Act is the only federal grant program dedicated exclusively to family planning. In 2015, Title X funded clinics served 4, 018 million clients, primarily low-income and adolescents [34].

Medicaid is a joint federal and state program that has been providing health coverage to low-income and disabled populations since 1965. Medicaid is the single largest source of health coverage in

the United States [74]. Family planning is included as a mandatory benefit under Medicaid, but services vary greatly across states and clinics.

The passage of the Patient Protection and Affordable Care Act (ACA) in 2010 has significantly increased both women and men's access to quality, affordable comprehensive family planning services. The ACA requires all new private health plans to cover the full range of family planning services with no out-of-pocket costs for patients [22].

The ACA was designed to increase the quality and affordability of health insurance by expanding insurance coverage and reducing the cost of healthcare [65]. CDC estimates show that the percentage of people without health insurance fell from 16% in 2010 to 9% in 2016 [65].

The ACA allowed states to broaden Medicaid eligibility (otherwise known as Medicaid expansion) "to include nearly all low-income Americans with incomes up to 138 percent of the federal poverty level [75]". In 2012, a supreme court ruling on the ACA made expanding Medicaid optional for states. This led to inconsistent healthcare coverage by state [75]. Virginia chose to adopt a Medicaid family planning waiver, and only recently voted to expand Medicaid services in 2019. The passage of the ACA in 2010 has significantly increased both women and men's access to quality, affordable comprehensive family planning services. The ACA was designed to increase the quality and affordability of health insurance by expanding insurance coverage and reducing the cost of healthcare [65]. The ACA requires all new private health plans to cover the full range of family planning services with no out-of-pocket costs for patients [22]. CDC estimates show that the percentage of people without health insurance fell from 16% in 2010 to 9% in 2016 [65].

The ACA has been widely criticized by its opponents and has been the subject of several repeal efforts. Opposition to the ACA has come from labor unions, conservative advocacy groups, republicans, and small business owners, among others [65]. As of August 2018, new government officials are discussing ways to repeal and replace the ACA. Eighty one percent of those losing coverage would

come from working class families [76]. Repealing the ACA could leave up to 24 million people nationwide with no access to quality affordable insurance coverage, therefore reducing their access to quality comprehensive family planning services [76].

In 2015, the American College of Obstetricians and Gynecologists Committee on Health Care for Underserved Women released a Committee Opinion encouraging "unhindered and affordable access to all US Food and Drug Administration (FDA)-approved contraceptives" [77]. The Committee reviewed barriers to care and offered a set of wide ranging strategies to increase women's access to contraceptives. Strategies addressed by the Committee include increasing access to contraceptives through implementation of the ACA, expanding Medicaid coverage, adequately funding Title X, providing comprehensive sexual health education, increasing access to emergency contraception, offering over-the-counter access to oral contraceptives, and decreasing barriers to care as a result of health insurance issues [77]. Some of these strategies have been implemented, but, as exhibited by the continuous high level of unintended pregnancy among low-income women, all of them could be strengthened and expanded.

Unintended pregnancy rates in the United States are much higher than in other developed countries, where unintended pregnancy risk is lower and use of LARC is much higher [41]. In a 2008 editorial, James Trussel, a renowned unintended pregnancy researcher advocated for policy level interventions on a broad scale to address the issue; these types of policy interventions impacting access and cost are needed more than ever.

Unintended pregnancy prevention in Virginia schools

Virginia Family Life education standards include abstinence-only until marriage education in all grades. All school districts in Virginia can decide to add evidence-based education to their curricula, but many do not. Currently, Montgomery County Public Schools (where the main CHCNRV clinic is

located) do not teach comprehensive pregnancy prevention methods. Political pressure from conservative groups to adhere to the strict abstinence-only until marriage guidelines means that many students do not get science-driven evidence-based family life education. The School Health Advisory Board has recently brought forth a comprehensive Kindergarten-12th grade sexual health curriculum for consideration, but the new curriculum coordinator has taken it upon herself to remove some graphics and what she deems to be inappropriate content, including references to oral and anal sex. In addition, all mention of vaginal sex was changed to "sexual intercourse." None of the other school districts in the New River Valley teach comprehensive sexual health education.

In Montgomery County, in 2017, 32% of High School students (ages 14-18 years old) reported having ever had sexual intercourse [78]. Of all High School students reporting ever having had sexual intercourse, 56% reported using a condom at last sexual encounter. Twelve percent of sexually active students reported not using any sort of method to prevent pregnancy or STDs at their last sexual encounter [78]. In Pulaski County, site of a CHCNRV satellite clinic, in 2017, 49.7% of High School students reported ever having had sexual intercourse, and of these, 52.3% used a condom at last sexual encounter [78]. In Giles County, site of another CHCNRV satellite clinic, 48.6% of High School students reported ever having had sexual intercourse, and of these, 55.7% used a condom at last sexual encounter [78]. These data show a potential unmet need for education and contraceptive services among High School students in the CHCNRV service region.

Contraceptive methods, including Long Acting Reversible Contraceptives (LARC)

The only 100% effective way to prevent pregnancy is through abstinence. For those that are sexually active, a wide variety of birth control options is available. The chart in Table 1 illustrates the wide range of birth control options available in the United States ranked by their efficacy. Type of birth control used varies widely by age, race, and income status in the United States [79]. For people that do not want to use any type of external method, the fertility awareness method and withdrawal may be

used, however, these are not very reliable (73-76%). Barrier methods such as condoms, the birth control sponge, the cervical cap, spermicide and diaphragms are somewhat reliable (71-88%). Hormonal methods such as the pill, the patch, the depo provera injection, and the nuva ring are fairly reliable (91-94%) [80]. Permanent methods include vasectomy for males and tubal ligation for females (99.8% and 99.5%).

Long Acting Reversible Contraceptives (LARC), including IUDs and implants, are among the most reliable methods of pregnancy prevention. LARC methods have a high efficacy rate (near 100%) due to being much less likely than barrier methods or other hormonal methods to be used incorrectly or inconsistently [81]. Once a LARC method is inserted, it can be in place for anywhere from 3-10 years, decreasing the potential for a missed appointment or lapse in birth control use, and decreasing the chance that a woman will experience an unintended pregnancy during that time [80].

Increasing use of LARC could reduce unintended pregnancy nationally. LARC are still infrequently used in the United States; with most IUDs being used by older women, and many providers still discussing more negative effects than positive outcomes [82, 83]. Several studies have found that women using a LARC method were less likely to become pregnant than those not using LARC [37, 84]. Recently, LARC has started being promoted as a safe and effective method for nulliparous women, including teens [85, 86]. Still, overall, few teens know about LARC as an effective method, as many providers still do not offer LARC to teens [81, 87-90]. More providers need to be adequately trained to provide LARC and counsel women to choose them [24, 91].

A recent survey conducted by the Virginia Department of Health's LARC Stakeholder Work Group with physician members of the Virginia Academy of Family Physicians found that there are still many barriers in Virginia for providing LARC [92]. The survey found that only 45% of primary care providers offered IUDs. Of those that didn't offer IUDs, the main reason, mentioned by 77% of providers was not having the right training to place an IUD. The survey also found that only 48%

offered the Nexplanon® contraceptive implant. Of those that did not offer Nexplanon®, the main reason, again, mentioned by 87% of providers, was not having the right training to place a Nexplanon®. When asked what barriers prevented them from placing an IUD or a Nexplanon®, most mentioned training issues such as lack of practice, lack of experience, never learning how to do so, or not being certified.

LARC uptake in the US will depend on increased knowledge, availability and accessibility of methods [93]. Still, some women will chose not to use LARC due to negative perceptions [94] and a wide variety of other reasons, including financial barriers, stigma or inadequate access to a trained provider.

Table I. Birth Control Options by Efficacy

Method	**Effectiveness**
IUD, Implant, male and female sterilization	98-99%
Pill, Patch, Ring, Diaphragm, Injectable	88-94%
Male and Female condom	79-82%
Withdrawal, Fertility Awareness Method, Spermicide	74-78%

(Source: Centers for Disease Control and Prevention)

Integration of specialty health care services into primary care

Integrating specialty health care services into primary care has been a growing trend with important national implications, and is seen as a way to eliminate some of the barriers to care addressed above. Accessing specialty services can be challenging for some families, especially those living in underserved, remote, or rural areas [95]. Families may lack the time to travel to services or the transportation means to get to specialty care. In addition, some patients may not want to seek specialty services such as mental health or family planning due to the stigma associated with receiving this care [95]. Offering integrated services may ease the burden on patients and families and may increase access

to needed care. Studies have shown that in rural areas, there is an increased patient and provider satisfaction for those participating in integrated care services [96]. The integration of service components may help strengthen health systems by facilitating coordinated service provision and cross-sector collaboration [97] .

One particular model that has been shown to be effective in increasing access to care, is the integration of mental health/behavioral health services into primary care services. Physical and mental health can be deeply intertwined [98], and integrating these two services can allow for easier access to mental health services, which are sometimes hard to access. Integration of services may allow for early assessment and screening which would otherwise not be sought. One study conducted in a rural area showed that young children receiving integrated services were given more information on mental health and spent more time with a provider, effectively increasing the likelihood that mental health issues may be discovered earlier [95].

Integration of Family Planning into health care

Family planning services have been successfully integrated into different types of other health care services, including Human Immunodeficiency Virus and Sexually Transmitted Diseases (HIV/STD) care. Research has shown an increase in contraceptive uptake in HIV/STD clinics that screened for need and offered birth control methods [99]. One way of doing this is through systematic eligibility reminders in EMRs [100]. One study showed that although STD counselors understood the value of offering preconception care to women seeking care at STD clinics, there was still a concern about whether or not this service should be offered, due to various constraints including time available per appointment, and perceived responsibility [101].

Another potential location for integration of family planning services is into pediatric care. An editorial in *Pediatrics* proposes to train pediatricians to counsel adolescents on family planning services

and to train providers to offer and insert LARC, reducing barriers to care that adolescent face and increasing access to quality birth control methods [35].

Todd et al. measured unintended pregnancy risk in an emergency department population [102]. They found that low-income female emergency department patients without a primary care provider were at greater risk for unintended pregnancy, and therefore suggest that the emergency department might be a possible site to offer contraceptive services [102]. In their study, they found that receiving contraceptives in an emergency department was acceptable to 44% of respondents and concluded that birth control received in nontraditional settings was acceptable, particularly to low-income women with little access to resources [103].

Internationally, family planning services have been integrated into various types of health services, including primary care [97, 104]. These different service modalities vary widely ranging from simple referrals to fully integrated community-based delivery of services and education. Integrating healthcare services is still a relatively new model internationally and little evaluation has been conducted on the benefits of integration of services.

A literature review conducted by Church et al. in 2010 found several examples of programs in developing countries integrating sexual health services into primary care [97]. Main findings include facilitators and barriers to coordinating the integration within health systems. There were many organizational and management issues identified including funding issues, human resources issues such as staff training, heavy workload and burnout and territorialism among staff. This research highlights the complexities and challenges of integrating sexual health services into primary care [97].

Integrating Family Planning Services into Primary Care

In the United States, clinics have started integrating family planning services into primary care, but research on the topic is still lacking. More documentation of how integration is operationalized is

needed. To date, the literature on the topic focuses mostly around the need for and acceptability of integrating family planning services into primary care, a call to action, and specific recommendations for integration.

In recent editorials, two family nurse practitioners who are also advocates for patient access to services, Denise Link and Judith Berg call for integration of family planning services into primary care settings. In her 2015 editorial in the *Journal for Nurse Practitioners,* Link makes the suggestion that family planning should be considered a primary care "vital sign", as part of routine health for women, men, and teens [57]. Using this approach, all primary care providers would consider family planning as a long-term health concern that requires periodic attention. Link recommends systematic screening for unmet contraceptive need and the use of reproductive life planning [57].

In her 2014 editorial in the *Journal of the American Association of Nurse Practitioners,* Berg argues that Nurse Practitioners need to be fully trained in providing sexual and reproductive health (SRH) services as part of primary care services. She offers up several ways to address educational and training needs for nurses [56].

The CDC and the US Office of Population Health's "*Providing Quality Family Planning Services*" Recommendation and Report recommends that both primary care and family planning providers should assess clients' reproductive life plan in order to identify unmet reproductive health care needs [4]. The report recommends doing this by asking a series of questions related to the client's desire to have children, and when.

A follow up study conducted two years after the release of the recommendations found that only about 30% of FQHCs actually assessed clients' reproductive life plans and 36% presented clients with information regarding potential contraceptive methods with the most effective methods presented first [55]. Thirty-five percent of FQHCs informed their clients of the safety and efficacy of LARC methods

[55]. Clinics with Title X funding were more likely to have and to follow contraceptive counseling protocols, which are a requirement for receiving that federal funding [55].

The Committee on Health Care for Underserved Women, part of the American College of Obstetricians and Gynecologists also recommends that all providers conduct systematic reproductive life planning with clients [20]. The committee states that a reproductive life plan- "a set of personal goals regarding whether, when and how to have children based on individual priorities, resources and values" can be a valuable tool in unintended pregnancy prevention [20]. They conclude that every woman who is capable of having children should have a reproductive life plan

A 2010 position paper in *Quality in Primary Care* recommends that sexual and reproductive health services in Europe be integrated into primary care in order to achieve "health equity and rights for all people of Europe" [105]. The authors posit that this approach is person-centered and not merely disease-centered. The position paper offers up solutions to make SRH services in Europe more effective, efficient and of higher quality, and emphasizes the need for a coordinating role from primary care providers.

Zephyrin et al. outline a model to integrate reproductive healthcare delivery into a national Veterans' healthcare system [106]. A reproductive health strategic plan for veterans was created to serve as a roadmap to enhance comprehensive reproductive health services for veterans. The plan focuses on promoting systems level collaboration across disciplines, interdisciplinary initiatives, provider trainings, establishing policies, use of EHRs, and overall engaging key stakeholders throughout the process.

Primary care providers are not routinely integrating preconception counseling into their patient visits, and few women actually seek out preconception counseling [107]. One way to circumvent this is to offer inter-conception care to women accompanying their children to pediatric visits. According to Rosener et al, integrating inter-conception care into well-child visits may help reduce maternal risk

factors for adverse birth outcomes, and potentially unintended pregnancy [108]. Using reproductive life plans is a good way to help women plan their pregnancies; this can be accomplished in a primary care setting.

In 2010, Dunlop et al. concluded that primary care practices should consider implementing reproductive life planning with their clients to facilitate client access to family planning services [107]. Contraceptive counseling has been shown to increase contraceptive use, specifically hormonal contraceptives. Several studies have shown that increasing the provision of contraceptive counseling and preconception care in primary care may be a way to reduce unintended pregnancy [109, 110].

In a 2011 commentary in the *Journal of the American Medical Association,* Saleeby and Brindis argue that the fragmented health care model in the US does not meet the contraceptive needs of women. Under the ACA, they hoped to see three components that would help drive change for accessing women's health services: patient-centered care, system integration, and value-driven service delivery. They commented that integration of services was still "an elusive goal of preconception health programs" and should become a priority under the ACA [58]. Although integration of services as they describe them has started, it is still a long way from the main goal described in this commentary.

After their comprehensive study on the provision of family planning services at FQHCs, Goldberg et al. recommended that the Health Resources and Services Administration (HRSA) "establish a family planning practice re-design and quality improvement effort as part of an overall primary care quality initiative"- to help address the integration of family planning into routine primary care [8]. Achieving integration between family planning and primary care services will not be an easy task, and they suggest utilization of EMRs to assess and adjust FQHC practices to accommodate integration [8].

There are still many barriers to integration. One study found that provider barriers included: "lack of knowledge, training, and comfort, assumptions about patient pregnancy risk, negative beliefs

about contraceptive methods, reliance on patient to initiate discussions, and limited communication between primary care providers and specialist [111]". Systems level challenges to integration include lack of insurance or family planning coverage, provider's time, access to method, competing medical priorities, or visit type [111].

One 2002 study found that women were more likely to receive comprehensive care if they had two physicians (both a generalist and an OB/GYN) versus those that only saw a generalist for all their heathcare needs [112]. Yet, the study also found that receiving care in this fashion may result in uncoordinated, costlier care as opposed to coordinated or integrated care. About half of the FQHCs participating in one study provided family planning services utilizing a segmented model, maintaining that their patients were better served within a specific family planning program, with distinct clinic times and specially trained staff [10].

The role of FQHCs in the integration of contraceptive services into primary care

FQHCs are a good location to integrate contraceptive services, specifically reproductive intention screening, contraceptive counseling and the provision of comprehensive contraceptive methods, into primary care. Some health centers, including the CHCNRV, have already started integrating services [10, 19], however little is known about how that integration is operationalized. Many potential facilitators and barriers to integration of contraceptive services at a FQHC emerged through a comprehensive literature review. The factors listed below were selected based on their prominence and recurrence in the literature. These factors will specifically be explored in this research because they emerged during a review of the literature on provision of family planning services at FQHCs. They are expanded on below and highlighted in detail as factors in the measurement table (table 2 of section III).

Governance of FQHCs/ Board support

Brad Wright has conducted extensive research on the governance of FQHCs and the role of patients in FQHC governance [113-119]. By law, FQHCS are required to have a governing board which is at least 51% customer comprised, in order to "represent the individuals being served by the center" (Section 330 of the Public Health Service Act, 42 U.S.C. § 254b (1996)). Having consumers on the board is meant to make FQHCs more responsive to community need [119]. However, in one of his studies, Wright found that many of the consumers on FQHC boards actually did not resemble the typical FQHC client, and there was a significant socioeconomic gap between consumer board members and actual FQHC patients [119]. This factor is included because it may be that patient voice on the board had an influence on the decision to integrate services.

Wright also found that although many FQHCs have consumers on their board, few of these consumers are ever elected to leadership positions within the board therefore having a less active voice on the board [114]. According to Wright, this discrepancy may lead FQHCs to be less responsive to community need, as the consumer representatives are not in a position to set the FQHC agenda. Wright found that the proportion of representative consumers in board leadership positions was associated with a significant increase in the scope of enabling services a health center provided [113]. Patient voice on the board may have served as a barrier or facilitator to the integration of contraceptive services into primary care at the CHCNRV and is included as a factor as it necessitates further study.

Goldberg et al found that a key to success for the delivery of quality family planning services was leadership support [10]. The organizational structure for the delivery of family planning services was based on the leadership's philosophy and commitment to providing those services. This is a factor that will be explored at the CHCNRV, with in-depth interviews conducted with the management team to gain a sense of their support for integration, both at the beginning, and in the form of ongoing support.

Funding

Financial challenges are most often cited as a barrier to offering a wide range of contraceptive services at FQHCs [7, 10, 13]. This includes FQHCs being able to purchase and offer a full range of contraceptives, and offering providers the type of training they need (such as training on LARC insertion, counseling, etc.) [10]. Lack of funding at FQHCs is directly associated with lack of properly trained staff [10]. The CHCNRV was fortunate to receive grant funding from a private foundation to purchase LARC for distribution through their women's health program [19]. The Federal Title X program is a significant source of funding for some FQHC family planning programs. Several different studies has shown that FQHCs having Title X funding are more likely to offer access to LARC methods, to offer more counseling services, and to offer a wider range of contraceptives [6, 10, 55]. One important issue to explore is the fact that the CHCNRV has been integrating successfully despite not receiving Title X funding.

Communication

Communication within an FQHC and with external partners is important to the success of integration. For those FQHCs not offering integrated services, and referring out some of their services, a well-established referral system and network has been shown to be key to success [7, 10]. Goldberg et al. suggest that FQHCs offering separate women's health and primary care services and those referring out services may need to provide additional communication and care coordination to ensure the best care possible [10]. Within FQHCs, communication between providers and leadership is key to programmatic success [10]. Understanding communication dynamics within CHCNRV may help identify potential facilitators and barriers to integration.

FQHC contraceptive services offered

The types of services offered at FQHCs depend heavily on funding, the types of providers available to offer the services, provider training, and patient demand for services [7, 10]. At many

FQHCs, the types of services offered depends on whether or not the clinic receives Title X funding, with those receiving the funding more likely to offer comprehensive services [6].

A brief poll of FQHCs in Virginia conducted in February 2017 to identify other potential case study sites, with 11 out of 29 Virginia health centers responding (38% response rate) found that services varied widely across the state. Size of the FQHC varied, from having 1 site to 10 sites, with annual client numbers ranging from 1,500 to 51,000. All sites prescribed oral contraceptives, 63% distributed oral contraceptives, 90% provided Depo Provera injections, 81% inserted IUDs, 27% distributed ECP, 90% distributed male condoms, 36% inserted hormonal implants, all of them provided STD testing and treatment, and none of them provided fertility services. One out of the 11 sites received Title X funding. The fact that despite being small and mostly rural CHCNRV offers all types of contraceptives is of interest to the research.

Provider facilitators and barriers

The type of provider used in FQHCs is directly related to the type of family planning services offered; larger, well-funded centers with more different types of providers were more likely to offer comprehensive family planning services. At most FQHCs, advanced practice nurses and physician assistants provide most of the family planning services [10]. Smaller centers have less types of providers offering services and may not have a physician dedicated to women's health [7, 13]. In addition, staff at smaller health centers are harder to recruit and retain. Understanding the utilization of different types of providers in the context of integration will help identify facilitators and barriers to integration at CHCNRV.

Lack of provider training is a barrier to providing complete contraceptive care. One way to reduce unintended pregnancy is to have highly trained medical providers who can insert LARC methods in a primary care or women's health care setting [24, 37, 120]. In their 2015 randomized study, Harper et al. found that women in intervention sites (where providers had been trained on LARC counseling

and insertion) were more likely to receive contraceptive counseling and more likely to select an IUD as a contraceptive method than those in the control group. After family planning visits, the pregnancy rate was lower for women who were part of the intervention group than for those in the control group [37]. Two subsequent commentaries on the article, in *The Lancet* and *Perspectives on Sexual and Reproductive Health* use the results of this study to promote provider training in LARC insertion [24, 120]. Provider training is included as a factor because it can be a strong facilitator or barrier to integration and the provision of comprehensive services.

Lack of clinic funding is associated with poor provider training. In one study, all case study sites that did not receive Title X funding stated that lack of staff training was one of the biggest barriers to offering comprehensive family planning services [10]. In addition, staff need to be trained on counseling and discussing sexual health. Staff with little family planning expertise are often seen as a barrier to providing quality services [7]. Some FQHC staff have a low comfort level discussing sexual health with patients, especially adolescents. For adolescents, privacy and confidentiality can be a big concern [7]. One study found that major provider barriers included lack of knowledge, training and comfort level on the part of providers, and an inability to initiate discussion on sexual health topics [111]. This factor is included because provider comfort level discussing sexual health with their patients can play a major role in the care that patients receive.

Time allotted per appointment may be a barrier to providers screening for contraceptive need and providing contraceptive counseling during primary care visits; providers often feel rushed and overwhelmed as is during their regular visits, that adding another topic to their already rushed schedule may feel like big barrier [23, 101]. Understanding how providers at CHCNRV have addressed this barrier, or if it remains a barrier will help further understand the issue.

Community level barriers

In some communities, the political and cultural climate of the community, along with conservative federal and state laws may impact the provision of family planning services. This may include providers refusing to provide certain contraceptives and having conservative values towards family planning. The perceived demand for services and local attitudes may influence health center decisions on what services to offer. [10] Several FQHCs have reported that the community political climate was often a challenge in providing services [7]. In rural communities, patient transportation to services, in addition to low patient literacy and patient adherence and compliance are also seen as barriers [11]. CHCNRV is located in a rural/suburban, very conservative region of the state and may experience some of these barriers to care that need to be further explored.

Community perceptions of FQHC services, as well as health center perceptions of community attitudes and beliefs are important to consider and document. FQHC boards, which consist of community members, may or may not support family planning services; yet health center staff may draw conclusions about the board's support, potentially making important decisions based on assumptions [7]. That said, research shows that provider beliefs often affect their health practice, especially in the case of family planning/reproductive health [7].

For many FQHCs, especially the smaller rural ones, community outreach and education are little to non-existent, due to a lack of funding [7, 10]. With many FQHCs having little resources, they are often not allocated to outreach or education. This results in many patients not knowing about family planning services that are offered; this low level of community knowledge about services is seen as a barrier to some FQHCs [7]. Systematically screening for reproductive intention and offering contraceptive counseling may reduce this knowledge barrier. In smaller FQHCs especially, dealing with confidentiality issues while working with adolescents can be tricky. In general, these is a still a lack of guidelines and overall provider confusion over relevant laws on providing confidential services to

adolescents [12]. Understanding how CHCNRV conducts patient outreach and education may help identify other facilitators and barriers to integration.

B. Conceptual Framework

The conceptual framework included in figure 2 represents an expected theory of change before the research was conducted. An updated version of the conceptual framework is presented in chapter V (figure 4). What follows is an explanation of the expected theory of change, before the research was conducted. On the left, in green, the adaptive challenge is listed; comprehensive contraceptive services are not always offered and are often silo'ed at FQHCs. This lack of coordinated services may be one of the reasons the unintended pregnancy rate among low-income women in Virginia has been consistently higher than for other women. The phenomena being studied, which may help address the adaptive challenge, is the integration of contraceptive services into primary care at one FQHC (CHCNRV). Specifically all women seeking primary care at CHCNRV are assessed for unmet contraceptive need, and are offered contraceptive counseling and methods (shown in yellow on conceptual framework).

An extensive literature review and environmental scan, highlighted in sections I and II above, have shown that there may be potential organizational, provider, community, and other facilitators and barriers affecting the integration process. Factors identified in the literature and through the environmental scan were used to develop the study's research questions and to create the conceptual framework. Facilitators and barriers for each of the four groups (shown in blue on the conceptual framework) were organized into categories for ease of description and measurement (organizational, provider, community and other).

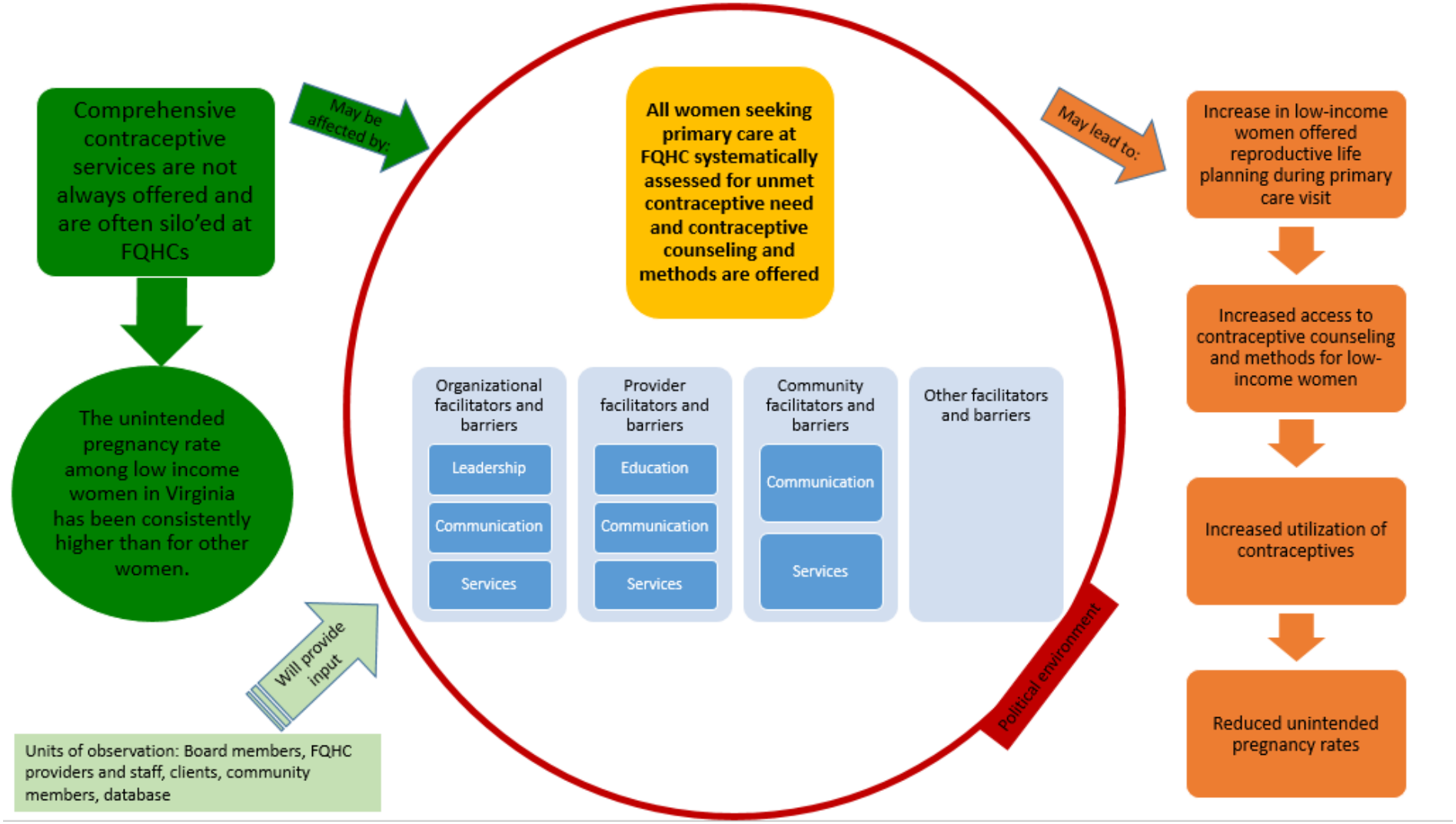
The organizational facilitators and barriers category includes factors in leadership, communication, and services constructs. Provider facilitators and barriers include factors in education, communication and services constructs. Community facilitators and barriers include factors in communication and services constructs. The "other" facilitators and barriers category is currently empty

to allow for yet to be identified constructs and factors that may emerge during the research. A comprehensive list of constructs, factors and associated measures is included in the updated measurement table in Appendix B. A red circle was added around the phenomena after the November 2016 election, as the current political climate may affect the research. At the time this conceptual framework was developed, the fate of the ACA was still unknown, and funding priorities at the national level may have a trickle-down effect on delivery of healthcare services at FHQCs.

Finally, the expected outcome in the theory of change (shown in orange on the conceptual framework) is an increase in low-income women being offered reproductive life planning during their primary care visit, which may lead to increased access to contraceptive counseling for low-income women, which may lead to an increase in utilization of contraceptives, which may lead to a reduction in unintended pregnancy rates among low-income women in Virginia.

There are several assumptions in this conceptual framework that must be taken into account. One such assumption is that patients were receptive to being screened for unmet contraceptive need during primary care services and making a reproductive life plan. Another assumption is that increasing access to contraceptive counseling and methods will lead to increased utilization of contraceptives, and finally that increasing the use of contraceptives will lead to reduced unintended pregnancy rates.

Figure 2. Preliminary conceptual framework



III. STUDY DESIGN, DATA, AND METHODS

A. Analytical Approach

A descriptive case study approach was used to provide a detailed look at how the CHCNRV is integrating reproductive intention screening and contraceptive services into primary care. According to Yin, a case study is an appropriate research design to use if the researcher seeks to answer "how" and "why" questions [121]. The method is also a good one to use to ask questions that require an "in depth" description of a certain phenomenon. This research aimed to document a particular process in depth, which was best studied using a case study research design. This is an exemplar case. An exemplar case "examines an issue in depth and over time through a single case that manifests the important major dimensions of the issue and that is accessible for intense longitudinal study [122]."

A mixed methods data collection was used. Methods were chosen based on careful consideration of all potential data collection approaches, after review of the literature and upon discussion with colleagues and professors. In a case study design like this one, using mixed methods research enabled the researcher to capture as much information as possible and helped make the data collection as strong as possible. Morgan [123], Bamberger [124] and Kitchenham [125] discuss the benefits of using mixed methods research for a case study design for this type of project.

Quantitative methods were used to capture the breadth of the topic, and included a patient survey. Qualitative methods were used to capture certain topics in depth and included a document review, a website review and interviews with current and past board members, patients, providers, and the management team. One of the strengths of a case study approach is

that it can combine multiple forms of data to research a case. A mixed methods approach offered a stronger research design and data.

Quantitative data (patient surveys) was collected first, and results from the data analysis informed the development of the qualitative interview questions. The qualitative interviews were used to go more in depth on certain topics that arose in the survey results, among others. Using a sequential exploratory design provided insights and helped get more specific details, as part of an inductive approach. This study design provided a complete, credible perspective on the problem. Although according to Morgan, the more common reason for using a quant/qual sequential method is to locate good qualitative data sources, another reason to use this particular methodology is to provide a broader context and generate issues for further data collection and analysis [123]. Both of these reasons are valid in this particular mixed methods study. The breadth of data collected in the surveys provided the context needed to inform the design of the qualitative interview guides. Survey data pointed to some issues that needed to be further investigated through qualitative methods to gain more in depth knowledge and seek further answers. In this sense, the quantitative data helped inform the development of the qualitative survey instruments.

An Appreciative Inquiry lens was used throughout the case study, including during the design of the semi-structured qualitative questionnaires [126]. Appreciative Inquiry assumes the best in people and in organizations and suggests that every organization has something that works well, that is successful and gives it life [126]. Questionnaires focused on assets and facilitators first, with the current strengths of the organization emphasized. After that, barriers were addressed, within the positive atmosphere established by the opening questions.

Case Study Selection

The case study site, the Community Health Center of the New River Valley, (CHCNRV) was identified through purposeful sampling. According to Patton, purposeful sampling means that a case was selected because it is "information-rich and illuminative, and offers useful manifestations of the phenomena of interest. Sampling is aimed at insight about the phenomena, not empirical generalizations from a sample to a population [122]." This site was selected because it offers an example of how a healthcare organization has been integrating contraceptive services into primary care (the phenomena of interest). As described above, an exemplar case must "manifest important major dimensions of the issue and that is accessible for intense longitudinal study"[122]. The CHCNRV does so by offering a unique setting where reproductive intention is measured, contraceptive counseling is offered, and birth control methods are offered on site. The CHCNRV also lent itself well to an intense longitudinal study, due to the fact the executive director made both her staff, her board (and past board members) and patients available for interviews, allowing for institutional and historical knowledge to be shared. The CHCNRV also offers the unique perspective of an FQHC integrating services in an Appalachian county.

The researcher has been familiar with the site since 2014, and learned more about their integration of services during an environmental scan conducted as part of a class project in the Fall of 2015. The goal of the environmental scan was to assess potential adaptive challenges in the New River Valley that could be addressed through dissertation research.

During that environmental scan, the researcher talked to several healthcare professionals in the area to get their take on potential systems level challenges facing the provision of contraceptive services. One of the people that she talked to was the clinic manager at CHCNRV.

Through the conversation, it was determined that CHCNRV consistently integrates contraceptive services into primary care through prompts in their EMRs and provider training. The clinic uses a tailored gynecological EMR template that captures patients' reproductive intention, sexual activity, and birth control use. From there, they tailor their contraceptive counseling and education to their patients' needs.

In 2016, the CHCNRV saw 1707 medical patients. Of these, approximately 100 visits were for family planning services. CHCNRV is a small FQHC, and serves a majority of rural/suburban residents. CHCNRV has three clinic sites. The main clinic is located in Montgomery County; satellite clinics are located in Giles and Pulaski Counties. These counties are located in south-central Appalachia [47].

CHCNRV does not receive Title X funding, as the local health department is the designated Title X site in the area. CHCNRV has been offering comprehensive contraceptive services since 2014 thanks to a grant from the Secular Society (www.thesecularsociety.org)[1], a non-profit organization based in Virginia with a philanthropic mission. Per their website, their mission is to: "*advance the interests of women and the arts in Virginia and beyond*." This funding is used to purchase LARC for low-income women. CHCNRV provides most contraceptives on site.

Research shows that most small, rural FQHCs receiving no Title X funding are less likely to offer a wide range of contraceptives and to follow the National Quality Family Planning Guidelines [6, 10]. The CHCNRV offers a unique perspective on a site that is small, rural and receives no Title X funding, yet has successfully integrated their contraceptive services into primary care and offers a wide range of contraceptives. Other than the funding it receives from The Secular Society to purchase LARC, what is it that makes this site successful? The

[1] Accessed 2018

organizational practices that have helped them successfully integrate services need to be explored and further understood.

In an effort to select multiple study cases that integrate contraceptive services into primary care, the researcher, through the support of the Virginia Community Healthcare Association, conducted a state-wide poll of all FQHCs in Virginia in February 2017. Eleven of 29 Health Centers responded (38% response rate). None of the respondents, apart from CHCNRV, met the study inclusion criteria which included:

- Serve mostly rural/suburban populations
- Small (less than 5,000 clients per year)
- Must fully integrate contraceptive services into primary care (at every primary care visit, a women's reproductive intention is measured, contraceptive counseling is offered, and if desired, birth control methods are offered.)
- Must not receive Title X funding

These criteria were chosen because according to Goldberg et al., small, rural sites with no title X funding are more likely to experience hardships in providing contraceptive services to individuals and the researcher wanted to show an example of another FQHC that was successful despite these limitations [10]. Because none of the other respondents met the inclusion criteria, a multiple case study was not conducted.

B. Data Sources, Data Collection and Management

Data Sources

Data sources included the following (a rationale for inclusion is included for each data source):

Phase I

- Patient survey to gain a patient perspective on obtaining contraceptives services at the CHCNRV, assess barriers to care, understand reasons for choosing CHCNRV for contraceptive services, assess preference in who provides care, and assess unmet contraceptive need among patients at CHCNRV.
- Review of board meeting minutes that pertain to the inception of the integrated services to gain a historical perspective of how decisions about adopting the integration of services were made and who made them. This helped understand board and management team support.
- Website review to gain a sense of how services are advertised, to whom, etc. and what possible facilitators and barriers arise from services being advertised.
- Statement from CHCNRV past Chief Medical Officer to board members about misinformation regarding contraceptive methods, to better understand the board's role in decision making
- Secular Society Quarterly reports to understand the inner workings of the Women's Health Program and the main funding source for the LARC
- Agreement with Kroger pharmacy to better understand the external referral process for obtaining birth control pills
- Guidelines for administration and determination of eligibility of the Patient Assistance Fund to better understand how the fund works

- Secular Society Women's Health Program overview to better understand how the program works and operates

Phase II:

- Key informant interviews with current and past board members to identify organizational and provider facilitators and barriers to the integration of contraceptive services into primary care
- Key informant interviews with providers (including the management team) to identify organizational and provider facilitators and barriers to the integration of contraceptive services into primary care
- Key informant interviews with patients to gain a deeper understanding of the patient perspective and go more in depth than the broad reach of the patient survey.

Data Collection

Data collected was within the confines of the case boundary and answered the research questions. The main research question asked: "How has the integration of contraceptive services into primary care been operationalized at the Community Health Center of the New River Valley (CHCNRV)?" Sub questions focus on identifying facilitators and barriers to integration.

The units of analysis were all units within the FQHC that are involved in the integration of contraceptive services into primary care. Specific units of analysis identified to date include the CHCNRV board, the clinic, and patients. As a part of this, units of observation include the current and past advisory board members, FQHC providers and management team, and patients.

Data sources and collection methods were selected because they address the organizational, provider, and patient/community constructs being explored in this research.

The measurement table details all research questions, along with corresponding constructs and factors (and associated supporting literature), data sources and measures identified. All of the a priori factors and constructs listed below were carefully selected as deemed important to the research study, based on an extensive review of the literature.

At the end of data collection, this measurement table was reviewed, and constructs and factors were re-evaluated, refined and reorganized based on emerging findings and an updated conceptual framework. The measurement table was updated to reflect actual constructs and factors, to include those that emerged, to reword the factors whose names changed, to split up the factors that were teased out into two factors from one original factor, and to exclude the factors that were not prominent. Several notable changes were made to the measurement table, upon completion of data analysis. Both the original measurement table (included in the dissertation proposal) and the updated version (with emerging constructs and factors highlighted) are included as Appendix B.

Sampling

Patients- surveys

All women ages 18-54 years seeking care at the CHCNRV were given a survey to complete when they checked in for services at the CHCNRV. This included all women of childbearing age, but did not include minors, as they were not included in the study due to a variety of reasons, including potential issues with the Institutional Review Board. Survey collection lasted from January-May 2018. All women who took the survey were eligible to win one of two $25 gift cards; their name and contact information was not linked to their survey answers. A total of 84 women completed a survey. A response rate was not collected.

Patients- interviews

All women patients who had received contraceptive services through primary care were invited to participate in a semi-structured phone interview. Women were asked by the clinic, by letter, if they were interested in participating in a study and were given the researcher's contact information and asked to contact her to set up an interview. Only two women out of 22 women that were contacted chose to contact the researcher to set up a phone interview (response rate: 9%). Both women received a $25 gift card for their time.

Due to the low response rate using the first patient recruitment method, a new sample of patients was sought, to gain a deeper patient perspective. Over the course of three afternoon visits in June and July of 2018, all women aged 18-39 seeking primary care at the CHCNRV at the time the researcher was present, were asked if they were interested in speaking to a researcher after their appointment. A total of 5 women out of ten participated in interviews, and received a $10 gift card for their time (response rate: 50%).

Board members

There are currently 13 active board members for CHCNRV but not all of them were active when the decision to integrate was made. A sample of current and past board members who were board members when the decision to integrate was made were invited to participate in semi-structured interviews. A total of 5 board members were identified by the executive director. An email was sent to them stating the nature of the research and asking if they would like to participate. All 5 board members agreed to participate. When they agreed, an in-person or phone interview, depending on their preference was scheduled. Five board members participated in in-

person interviews, and one interview was held over the phone, due to the geographic location of the interviewee.

Staff/providers

There are currently 49 part and full-time employees at CHCNRV. This includes all staff, including those that do not offer contraceptive services. A sample of five primary care providers and nurses who interact with women receiving contraceptive services was identified by the executive director and invited to participate in a semi-structured interview. In addition, the executive director, the clinic manager, the current medical director and the medical director who was present at the time the funds from the Secular Society were first accepted were interviewed. An email was sent to them stating the nature of the research and asking if they would like to participate. All 9 respondents agreed to participate. Once they agreed, an in-person interview was scheduled.

Data Collection Instruments

A patient survey that was adapted from one used by Wood et al. in 2015 and that captures patient experience receiving family planning services at FQHCs [11] was used. Although the questions in this survey are not yet considered validated, the survey has been pre-tested in multiple languages and used in a national sample [46]. This survey was implemented during phase I of data collection. The design of the survey was also informed by guidance found in Dillman et al. and ensures that constructs and research questions relevant to patients in general are addressed in the survey [127].

Based on the results of the survey, semi-structured interview guides for patients, board members, providers/staff, and the management team were developed. The survey was piloted

with nurses and patients at the local health department. The board and management interview questionnaires were pilot tested with professionals working in the public health/healthcare field, the provider questionnaire was pilot tested with nurses at the health department and the patient questionnaire was pilot tested with patients at the health department. Adjustments were made according to comments received.

Data Management

A comprehensive data management plan was developed in order to ensure data integrity. A "Dissertation Data" folder was created on a personal laptop, along with sub-folders for surveys, interview data, and document/website review data. All data was automatically backed up every evening, which avoided the loss of data.

Surveys

Surveys were collected on paper and entered into SPSS for analysis. An SPSS sub folder was created to house all the data.

Interviews

Interviews were recorded and transcribed and kept in Word files in the interviews sub-folder. There was a separate Word file per interview. The researcher transcribed all of the interviews.

Document Reviews

For the website review, the website was thoroughly reviewed and extensive notes were taken and compiled in a Word file. All documents were uploaded into the sub folder, either as Word documents of PDFs.

C. Analysis

Quantitative (surveys)

Quantitative survey results were collected on paper. Before being entered into any data analysis software, data were cleaned- all illegible survey answers or incomplete surveys were not included. Surveys were cleaned for consistency (ie: woman indicated that she was not using birth control, but indicated somewhere else in the survey that she had her tubes tied, which does count as a method of birth control.) Completed surveys were entered into IBM SPSS Statistics® for analysis.

Data analysis was exploratory and the Exploratory Data Analysis (EDA) method, advocated by Tukey and described in Robson and McCartan was used at first [128]. Data were displayed using a simple, pictorial approach to understand the data. To better illustrate the data and for ease of comprehension, frequency distributions and other graphical displays were used. This helped provide needed answers during data analysis. One reason to use this method is to see all the data points and to avoid "the ecological fallacy of making inferences about individuals from the group data provided from summary statistics" [128].

After that method was used and a general sense of what the data looked like was gained, frequency analyses and cross tabs were performed to describe survey results. Data analysis was mostly descriptive and summary statistics are displayed and explained in Chapter IV.

As there are three locations offering integrated services through the CHCNRV, differences and similarities in answers between the sites were sought. Unfortunately, there were not enough respondents from the two smaller sites to determine any similarities or differences in care.

All qualitative data collected in the surveys as part of open-ended questions were analyzed according to the qualitative methods described below and included in that results section.

The analysis of the quantitative survey and associated qualitative data informed the design of the semi structured interview questionnaires for the providers, management and board members.

Qualitative (interviews, document review and website review)

For analyzing qualitative data, pattern matching, as described by Yin, was used [121]. In pattern matching, an empirical pattern based on findings from a research study is compared with a predicted pattern made before the data collection begins. If the empirical pattern and the predicted pattern are similar, the results can help the study strengthen its internal validity [121]. The findings from this research study were compared and matched to the theory of change first introduced in the conceptual framework, designed before data collection.

All interview documents were transcribed and uploaded as Word documents into Atlas.ti. A hybrid of grounded theory and a priori methods was used for theme generation for all of the qualitative data. In following the a priori method, a series of potential codes to look for was determined ahead of time to help identify emerging themes based on a preliminary data analysis of the survey.

Following a grounded theory model, new themes that emerged during the data analysis process were coded, compiled and summarized. Two coders looked for emerging themes common to all questions, between documents and between respondent categories. Important points and themes were summarized and presented as evidence to document the functioning of

the FQHCs. In addition to codes developed using a grounded theory, and assigned by the researchers, in vivo coding, as described by Miles, Huberman and Saldana, was used [129]. In Vivo coding uses words or phrases directly from the participants' vocabulary, and is especially useful in studies that want to capture the participants' voice [129]. In vivo codes are differentiated from the a priori and other codes generated by the researchers by being placed in quotation marks.

Case study data was organized according to the conceptual framework, and referred back specifically to the constructs identified in the original measurement table (Appendix B) that relate directly to the research questions. A codebook was developed, detailing a list of final codes used during the data analysis phase, a brief description of the code, if they were a priori or emerging, and which factor in the measurement table/conceptual framework they are associated with. The codebook is included in Appendix C.

In addition to the primary researcher, another coder was trained in both a priori and grounded theory coding methods and followed a data coding protocol established by the researcher. This included how to look for coding patterns, how to assign a priory codes, how to look for similarities and differences in interview data, how to look at the frequency of themes and determine their importance. It also included training on how to develop codes using grounded theory, and how to apply in vivo coding methods. The other coder is a PhD graduate student in the Virginia Tech Department of Human Development and has prior experience in qualitative data analysis and coding.

Once both coders completed coding and assigning themes, these were compared. A final list of themes was developed that encompasses the main codes from both coders. The

researcher's coding was a lot more in depth, and generated many more emerging codes than the student's coding. This is likely due to the researcher's intimate knowledge of the interview material and of the subject matter, and active participation in data collection.

Additionally, this research explored the relationships between and among factors. After all codes were finalized, co-occurrence tables, including correlation coefficients, were developed using Atlas.ti®. Finding co-occurrences is an approach to identifying themes, specifically to determine how factors are related across constructs. According to Ryan et al. finding co-occurrences is "based on the idea that a word's meaning is related to the concepts to which it is connected."[130] Co-occurrence coefficients help identify bigger relationships between themes that might otherwise be hidden within the text.

This relationship between and among factors is discussed in the discussion chapter and reflected in a relationship network (Appendix H). The co-occurrence tables that include a co-efficient of more than 0.10 [codes co-occurred 10% of the time] are included in Appendix G.

For the website review, careful notes were taken on all findings and were entered into a Word document. All documents reviewed were analyzed for themes using a method similar to the one described above. All document were entered into Atlas.ti® and analyzed in a similar fashion to the qualitative data above.

Triangulation

In order to confirm findings, four different types of triangulation were conducted, as explained by Miles, Huberman and Saldana [129]. The hope was to get corroboration from different sources, which enhances the trustworthiness of the analysis [129].

By data source: At least some of the questions that were asked of board, staff and patients were the same across the three groups, which allowed for a chance to triangulate answers. Fact was differentiated from perceptions this way. This is highlighted in the measurement table above, under the data sources column.

By method: Triangulation occurred by data collection method, such as by interviews and review of documents.

By data type: Triangulation occurred by different data type [qualitative and quantitative]. An example of this is triangulation between the patient survey and the patient interviews. Quantitative components of constructs were identified, and then validated and expanded upon with the qualitative data. Results from the quantitative survey with patients was used to build the semi structured interview questionnaires in an attempt to triangulate data as much as possible.

By researcher: Although there was one main researcher, another coder conducted parallel coding of qualitative data, which helped corroborate themes generated. Very similar codes were generated across coders, with the main researcher going into greater detail and developing more emerging codes than the parallel coder.

The results of the triangulation are detailed in chapter IV under each factor. A table detailing all of the final constructs and factors, associated data sources, and divergences and convergences among sources is included in Appendix I.

D. Validity Considerations

The quality of the study was addressed in the following manner:

Construct Validity: The researcher ensured that there was a strong foundation to build on- this meant conducting a thorough literature search, and having a clear framework grounded in theory.

Internal Validity: To the extent possible, triangulation between method, data source, and coder occurred. Data collected supported the research questions as much as possible. Triangulation occurred between different sources, methods and researcher, and any divergence or convergence was explained.

In addition, member checking was conducted. For board members and providers, the researcher went back to a subgroup of participants early on in the data collection process and presented preliminary data back to them to see if it was consistent with what there were saying.

External Validity: Although it is difficult to ensure transferability in a qualitative study, every effort was made to describe a persuasive case that offers meaning and resonance to other readers [129].

Reliability: The researcher attempted to ensure consistency of results. This was difficult with a qualitative study and a convenience sample. Every effort was made to ensure that the study process was "consistent, reasonably stable over time and across researchers and methods" [129].

Conclusional Validity: Consistent and thorough data collection methods, analysis and reporting methods as described above were used.

IV. RESULTS

The data collected through this dissertation research provided answers to two research questions. Research question 1 was "How has the integration of contraceptive services into primary care been operationalized at the CHCNRV?" and it included 4 sub-questions that addressed facilitators and barriers from the organizational, provider, community/patient and potential "other" perspectives. Research question 2 was "What are lessons learned and recommendations from CHCNRV on integration of contraceptive services into primary care that can be transferred to another FQHC?"

A single mixed methods case study methodology was used. Three methods were employed to address the research questions including a patient survey, a document review and semi-structured interviews.

A 12-question patient survey was administered to 84 women from January through June 2018 at the CHCNRV. The survey aimed to identify the types of clients at the CHCNRV, their willingness to seek contraceptive services there, their unmet contraceptive need, and their preferences for seeking care. By providing an overview of patient practices and preferences, the survey helped assess the feasibility and acceptability of the phenomena being studied and helped inform the interview questions.

A document review (N=13) was conducted in the Spring of 2018 to help triangulate findings and obtain important background on the organization and the Women's Health Program. The document review included:

- Board meeting minutes (2)

- Written statement made by the Chief Medical Officer at the time funding from the Secular Society was accepted (1)
- Website review (1)
- Agreement with a local pharmacy to provide no cost birth control (1)
- Quarterly reports from the CHCNRV to the Secular Society (6)
- The original Women's Health Program Overview (1)
- Patient Assistance Fund guidelines (1)

Document reviews helped answer research question 1, including 1a and 1c.

Twenty-one semi-structured interviews were conducted with patients, board members, providers and the management team at the CHCNRV from April-July 2018. Each interview lasted an average of 45 minutes (range 15 minutes-90 minutes). Patient interviews were notably shorter due to the timing of conducting the interviews by phone or at the clinic. Patient age ranged from 19-35 years old with a mean of 26. The interviews aimed to answers question 1 and all associated sub-questions, and question 2. Details of interviewees are listed in tables II and III. Findings from each of these methods, and the research questions they addressed are presented in this chapter.

Table II. Interviewees

Interviewee
Executive Director
Clinic Manager
Family Nurse Practitioner
Family Nurse Practitioner
Licensed Practical Nurse
Current Chief Medical Officer (DO)
Nurse (Patient Care Technician)
Former Chief Medical Officer
Part time Gynecologist
Board member 1
Board member 2
Board member 3
Board member 4
Board member 5

Table III. Patient interviewees

Patient Interviewee	**Age**
Patient 1	19
Patient 2	27
Patient 3	21
Patient 4	26
Patient 5	33
Patient 6	35
Patient 7	23

A. Survey Findings

From January through June 2018, a 12 question survey was administered to women patients aged 18-49 at CHCNRV. Six questions focused on location of birth control services received, one question focused on satisfaction of services received, one question focused on patient preferences in receiving care, one measured pregnancy intention, two focused on specific birth control use, and asked for patient age. The survey instrument was adapted from one used by Wood et al [11] and had been piloted earlier at the local health department. The goal of the survey was to describe the current population of women patients at CHCNRV, to understand their preferences when it comes to obtaining birth control through primary care, their pregnancy intentions, and current birth control use. The survey results helped frame the questions used in the qualitative portion of this research.

The survey was distributed by CHCNRV nurses at the time of intake. No response rate was calculated, as the nurses did not take note of each time a patient declined to take the survey. Consent was implied by returning the survey. With a minimum sample size of 82, at a 95% confidence level, the margin of error on estimates would be +/- 10%. IBM SPSS™ was used to analyze the data. A total of 84 women took the survey, with a mean age of 32 (range 20-48 years) (table IV).

Table IV. Number and percentage of responses by age category

Age Category	**Number**	**Percentage**
20-29 years	29	39.2%
30-39 years	31	41.9%
40-49 years	14	18.9%

Sixty (72.3%) respondents took the survey at the Christiansburg clinic, 22 (26.5%) took it at the Dublin clinic, and 1 (1.2%) took it as the Pearisburg office.

Of the 84 women who responded, 13 (15.5%) had ever obtained/received birth control at the CHCNRV. Of the seventy women who did not receive birth control at CHCNRV 16 (23%) already received it from another provider, 44 (63%) did not use birth control and 16 (23%) gave other reasons including having a permanent birth control method, not being able to afford it, being a new patient, and "never thought about getting it here". Responses totaled more than 100% since respondents could check more than one response for this question.

Of the 13 women who ever received birth control at CHCNRV, 12 reported that CHCNRV was their regular site for birth control, and one did not respond. Among the 13 women who received birth control at CHCRNV, 12 reported a high level of satisfaction with services (table V). A table that includes actual counts per statement is included as Appendix F.

Table V. Satisfaction of services for those receiving birth control at CHCNRV

Services received	**Number of responses**	**Median** **1: strongly agree** **4: strongly disagree**
The staff treat me respectfully	13	1
The services are confidential	13	1
I can get free or low- cost care	13	1
I can use my Medicaid card	3	1
The location is convenient	13	1
The hours fit my schedule	13	1
I don't wait long for an appointment	13	1
It is easy to talk to staff about sex and birth control	13	1
I can get the birth control method I want, not just the prescription	13	1
I feel comfortable with my provider	13	1
I have enough time with my provider during an appointment	13	1
I can get all my health care needs including birth control taken care of here	13	1
I do not have to make multiple appointments to get all my care	13	1
Other, *please specify:* -Love it here -So far in all the years, I've always had an easy experience. If there's ever been an issue, the staff has always went the extra mile to work it out properly	2	1

Provider and service preferences

Women were asked a series of questions to determine their preferences when it came to where they received birth control, what provider they received their birth control from, patient

education preferences, and appointment time. Results are highlighted in tables VI-IX. These questions were asked to ascertain patients' amenability to receiving birth control services, including contraceptive counseling, through primary care.

Table VI- Patient preference on where they want to receive birth control services

	N	Option A: I prefer getting birth control care in the same place that I usually get my general health care	No preference	Option B: I prefer to get birth control in a different place than I usually get my general health care
All women	63	65.1%	28.6%	6.3%
20-29 years	26	80%	19%	1%
30-39 years	25	60%	32%	8%
40-49 years	10	60%	30%	10%
Women whose regular place for BC was the CHCNRV	11	100%	0%	0%

Overall, the majority of respondents reported preferring to get birth control in the same place they received their general health care 65.1% (n=41), with a lot less showing no preference at 28.6% (n=18). Similarly by age, the majority of women in the 20-29, the 30-39 and the 40-49 year age groups preferred getting their birth control in the same place as they got their usual care, at 80% (n=20), 60% (n=15) and 60% (N=6), respectively. Only 6.3% of women overall (N=4) preferred getting their birth control in a different place than they usually received their general health care. All women whose regular place for birth control was the CHCNRV preferred getting their birth control in the same place they usually get their general healthcare.

Table VII. Patient preference on provider they see to receive birth control services

	N	Option A: I prefer to see a specialist in women's health, such as an OB/GYN for my birth control needs	No preference	Option B: I prefer to see a general practitioner for my birth control needs
All women	64	43.8%	46.9%	9.4%
20-29 years	26	46.2%	38.4%	15.4%
30-39 years	25	40%	56%	4%
40-49 years	10	40%	50%	10%
Women whose regular place for BC is CHCNRV	11	54.5%	36.4%	9%

Overall the largest percentage of respondents reported no preference at 46.9% (n=30) with slightly less preferring to see a specialist for their birth control at 43.8% (n=28). Similarly by age, the majority of women in the both the 30-39 and 40-49 year age group showed no preference with 56% (n=14) and 50% (n=5), respectively. Nearly half (46.2%, N=12) of 20-29 year olds respondents reported preferring receiving their birth control from a specialist. Slightly more than half (54.5%, N=6) of the women whose regular place for birth control was the CHCNRV preferred to see a specialist.

Table VIII. Patient preference on how to receive education on birth control

	N	Option A: I prefer to have my birth control questions answered during an in-person visit with my doctor or nurse	No preference	Option B: I prefer to get my questions answered in other ways, like reading pamphlets or searching the internet
All women	63	73%	25.4%	1.6%
20-29 years	26	84.6%	15.4%	0%
30-39 years	24	75%	25%	0%
40-49 years	10	50%	50%	0%
Women whose regular place for BC is CHCNRV	11	91.6%	8.4%	0%

Overall the vast majority of respondents reported preferring to have their birth control questions answered during an in-person visit with a provider at 73% (n=46) with a lot less showing no preference, at 25.4% (n=16). Similarly by age, the majority of women in both the 20-29 and 30-39 year age group preferred having their birth control questions answered during an in-person visit with a provider, at 84.6% (n=21) and 75% (n=18), respectively. For women in the 40-49 age group, they were evenly split on preferring to have their birth control questions answered during an in-person visit with a provider (50%, N=5) and showing no preference (50%, N=5). Most (91.6%, N=10) of women whose regular place for birth control is the CHCNRV preferred having their questions answers during an in-person visit.

Table IX. Patient preference on scheduling appointments

	N	Option A: I prefer to schedule a same-day or next-day visit for birth control needs	No preference	Option B: I prefer to schedule a birth control visit well in advance, on a day and time that works for me
All women	66	39.4%	47%	13.6%
20-29 years	26	46.2%	38.5%	15.4%
30-39 years	27	33.3%	51.9%	14.9%
40-49 years	10	30%	60%	10%
Women whose regular place for BC is CHCNRV	12	41.7%	25%	33%

Overall the largest percentage of respondents showed no preference at 47% (n=31) with slightly less showing a preference for scheduling same day or next day birth control visits at 39.4% (n=26). Similarly by age, the majority of women in both the 30-39 and 40-39 year age group showed no preference at 51.9% (n=14) and 60% (n=6), respectively. For women in the 20-29 age group, the largest percentage reported preferring a same day or next day appointment for their birth control needs at 46.2% (N=12). For women whose regular place for birth control is the CHCNRV, preferences were fairly evenly split among the three categories, with slightly more (41.7%, N=5) preferring a same-day or next-day visit.

Pregnancy Intention and Birth Control Use

Of the 74 women who answered the question on pregnancy intention, 59 (79.7%) did not want to become pregnant in the next year, 14 (18.9%) were "unsure" or "ok either way", and 1 (1.4%) did want to become pregnant in the next year. Of the 59 women who did not want to become pregnant in the next year, 19 (**32**%) reported not using any birth control method. Among the women who were unsure or ok either way, 4 (29%) were not using a method.

Twenty-one (72%) women ages 20-29 used any form of birth control, as did 22 (71%) women ages 30-39, and 7 (50%) women ages 40-49.

Table X- Type of birth control used, for those using birth control

	N	**Hormonal, non LARC**	**LARC**	**Barrier method**	**Permanent male**	**Permanent female**
All women	54	33.3%	20.4%	9.3%	3.7%	33.3%
20-29 years	21	57%	28.6%	14.3%	0%	0%
30-39 years	22	18.2%	18.2%	9%	9%	45.5%
40-49 years	7	14.3%	14.3%	0%	0%	71.4%

Type of birth control used varied by age (table X). Overall, 33.3% (N=18) of women used hormonal, non-LARC methods and 33.3% (N=18) used permanent female sterilization. Only 20.4% (N= 11) used a LARC. The majority of women in the 20-29 age group used a hormonal, non- LARC method at 57% (N=12), with the greatest percentage of women both in

the 30-39 and the 40-49 age group using permanent female sterilization at 45.5% (N=10) and 71.4% (N=5), respectively.

Summary

Overall, women were satisfied with the family planning services they had received at the CHCNRV. The majority of respondents reported preferring to get birth control in the same place they got their general health care. The largest percentage of respondents reported no preference in the type of provider they saw (family planning specialist vs. primary care provider.) The vast majority of respondents reported preferring to have their birth control questions answered during an in-person visit with a provider. Survey results showed a high unmet need for contraceptive use, with 32% of women who did not want to become pregnant in the next year, reporting not using any birth control method.

B. Qualitative Findings

This study investigated organizational processes, leadership, communication, services, education, and cultural constructs that support and/or inhibit the integration of contraceptive services into primary care. Where appropriate, these constructs were examined from the organizational, provider, and community/patient perspective.

Correlation coefficients were calculated for all factors that were closely related, showing the intricate relationship between factors. Coefficients tables are included as an appendix (Appendix G) for reference, and explained visually in as a relationship network (Appendix H).

Research Question 1: How has the integration of contraceptive services into primary care been operationalized at the Community Health Center of the New River Valley (CHCNRV)?

Organizational Processes

ORGANIZATIONAL PROCESSES is a construct that emerged during data analysis. This construct includes how the CHCNRV integrates medical, behavioral and dental services into their clinic (*Integrating Services*) as well as the process they use to integrate contraceptive services across the entire clinic (*Process of Integrating Contraceptive Services*). These processes are described in detail below.

Integrating all services at the Community Health Center of the New River Valley

Integrating services is a new factor that emerged from the interviews and serves to describe the way that the CHCNRV providers integrated medical, behavioral and dental services all under one roof and puts the rest of the results into context.

The CHCNRV offers behavioral, mental and medical services (including family planning) all under one roof at three different locations in the New River Valley. The Christiansburg site sees the most people, followed by Pulaski, and the Giles Center has been struggling to maintain an adequate number of patients, despite the high need in the area.

The CHCNRV became a Federally Qualified Healthcare Center from a Free clinic in 2014 and has seen services grow since then, including to a new clientele. One provider explains this growth:

> *"…we are growing just at an exponential rate. Um, our patients are growing as well, we started out as a free clinic with just patients with no insurance and now we have, I'm not sure of the exact unique number of patients, but we have so many patients. We have insured, we have uninsured, we have some that have a little bit of insurance, like Medicaid gap that doesn't cover everything but just covers certain things and it's, that's probably our biggest success."*

With that expansion, including accepting patients with private insurance, there has been some confusion while providing services, with insured patients being asked if they are "*on the slide*" –sliding fee scale- and not understanding what that means.

One of the benefits of offering integrated services is that all services are provided under one roof, increasing the likelihood that someone will get screened for and receive services that they didn't necessarily come in seeking. At the CHCNRV, integration of services works by offering medical, dental and behavioral services all under one roof, with providers that communicate closely, and a shared EMR per patient. This way, if a potential symptom is identified by one provider that can be addressed by another (for example, a primary care patient experiencing physical pain caused by a mental health issue, or a behavioral health patient needing dental work), the provider will provide a "warm hand-off", in which they invite someone from the other medical profession to come introduce themselves to the patient, provide a brief screening, and invite the patient to make an appointment with them. A warm hand-off is described by the Agency for Healthcare Research and Quality as: "a handoff that is conducted in person, between two members of the health care team, in front of the patient (and family if present). It includes the patient as a team member so that he or she can hear what is being discussed about the clinical problem, current status, and plan of care[131]." CHCNRV has been practicing the warm hand-off as part of offering integrated services since becoming an FQHC.

One board member, who is also a patient describes this experience:

> *"I didn't even realize until I needed it that they have behavioral health here and there's nothing like when a doctor's talking to you and realize your physical symptoms are manifesting from a mental and emotional aspect. Uh, it was great for me, Dr […] said, do you have a few minutes? I'll let somebody come and talk to you and we call it a warm handoff and you know, a young girl's over coming there and talk to me a few minutes and said: Would you like to set up an appointment time and we can talk about this further?"*

The clinic manager describes the benefits of an integrated clinic:

> *"I think working in this environment, knowing that the patients come here, we are a safety net provider and the patients come here because they need to come here and we also like them to come here. We encourage them to come here. But um, I think this really is where they can get all their, their affordable health care for the whole person. "*

Process of integrating reproductive intention, reproductive life planning, contraceptive counseling and provision of contraceptive services

Within the CHCNRV, there is also a process in place for the integration of contraceptive services into primary care, which includes assessing reproductive intention, providing contraceptive counseling and providing comprehensive low or no cost contraceptive services. The process became explicit through a review of relevant documents and interviews with board members, providers, the management team and patients.

It is important to understand the process that the health center and individual providers have put into place for measuring reproductive intention, providing reproductive life planning, providing contraceptive counseling and providing low or no cost contraceptive services. This factor, *Process of integrating Contraceptive services* emerged from the document reviews and the interviews. It explains how the integration of contraceptive services into primary care has been operationalized at the CHCNRV, in effect, answering research question 1.

The Women's Health Program at the Community Health Center of the New River Valley was created in 2014 with funding from The Secular Society a local non-profit organization. Funding was specifically earmarked for purchasing LARC and promoting the Women's Health Program. A document review of the Women's Health Program Overview helped inform the description of the processes followed, and was confirmed through interviews with the CHCNRV management team and providers.

The Women's Health Program overview document states that the long term goals of the program are to 1. Prevent unintended pregnancies and provide universal access to reproductive health services, 2. Increase access to reproductive health services, including contraceptives, and reproductive health education, 3. Improve the quality of life of women in the NRV community and 4. Increase access to health care providers and regular health care screenings.

A woman who accesses services through primary care, either for a chronic disease follow-up visit or a preventive visit at the CHCNRV is routinely asked about her reproductive intention, and offered contraceptive counseling and patient education if the provider determines that there is an unmet contraceptive need. A flow chart detailing this process is included in figure 3. Each of the medical providers uses a different tool to measure reproductive intention; some use a prompt in the EMRs to remind them to screen for unmet need, others assess the need in their conversation with the patient by asking a series of questions. In some cases, the nurse assesses the need and provides the contraceptive counseling, but in most cases the provider does so. There is no official organizational protocol on how to screen for unmet contraceptive need, but all primary care providers do so as part of the care they give their patients. For those providers not using the EMR prompts, they always go back and fill out the information in the EMR so there is a record of the conversation and outcome. As one nurse puts it:

> *"So with everybody's annual visit, they should be getting asked the questions of do you want to get pregnant in the next year or are you interested in family planning, are you on birth control, are you interested in birth control? So that would be part of just your regular primary care, not a visit specifically for birth control. They should be getting asked that at their annual preventative visit every year."*

Once a woman's reproductive intention has been assessed, and an unmet contraceptive need has been identified, comprehensive contraceptive counseling takes place. An unmet contraceptive need is defined here as a woman who is sexually active, not wanting to become

pregnant, but not using a reliable form of birth control. One of the nurse practitioners describes the process taken with each female patient:

> *"Um, say they come in, we ask them those questions, you know, do you want, are you interested in family planning? Are you planning on getting pregnant in the next year? If they say no, and then typically I say, are you on a form of birth control? Are you interested in getting on one? If they say yes at that point, I have a handout that has all of the different forms of birth control, the pros and cons and you know what might be best for them, so we had to go over each of those on that little handout that shows them also shows them the efficacy of that. Then typically if they have an interest in one particular area, I will get like the brochures for those things that they're really interested in. Some people know what they want when they come in, some people have not the slightest idea and then we'll just kind of go through what might be best for them…"*

Another nurse explains a similar, yet slightly different process for screening for reproductive intention. This process takes into account each individual's personal story and reflects on the patient centered care philosophy of the health center.

> *"In reviewing GYN/OB History of a female patient, I always start with questioning when her last menstrual period occurred, or as close estimation as she is able to provide. This typically leads into further questioning if pertinent. "Are you sexually active?" and if of a possible childbearing age and she says yes, then "are you currently using birth control? / What is your preferred method of birth control?" This type of questioning, I find, is typically not intrusive to most patients during an annual, overall health exam setting…. If the female patient mentions she is not currently on birth control, not using condoms, natural cycle planning method... - but is sexually active with a male partner, it can then be gently led into questioning regarding if she is currently planning a pregnancy or would like more information on becoming pregnant. Is this in her current or future goals? Has she thought of a practical plan. Each depends on the patient and their circumstances before deciding how to continue the conversation... We also strive to accomplish this while doing our best to remain culturally sensitive and nonjudgmental."*

As an FQHC, the CHCNRV is mandated to provide family planning services, but that mandate is not explicitly defined and left up to each center to implement as they see fit. Measuring reproductive intention in primary care is not mandated. As the executive director says:

"…so as a result of that, we get to choose whatever we want to do under that umbrella...and that's one of the advantages of being an FQHC is that although we do end up following a lot of mandates, those- my experience now has been that those are so general in nature, that they really want you to do what's best for the community that you're serving. So we can pick and choose, you know whether it's the LARC or whatever or if it's mental health services we can kind of pick and choose the type that we want to provide based upon you know the community that we're residing in."

A full range of contraceptive services are available at the clinic or through a prescription program with a local pharmacy. For a device such as an IUD or a Nexplanon®, a follow up visit for insertion is scheduled, as most of the time these need to be ordered when they are not in stock. There is a protocol for ordering devices that all nurses follow. Same day services for LARC are rare and only offered on certain conditions, such as if a patient cannot come back for another visit due to extenuating circumstances such as lack of transportation. The clinic protocol states that LARC should be inserted during the patient's menstrual cycle and after one negative urine pregnancy test. In addition, providers like the women to have time to review the information given to them during contraceptive counseling, so that they can make an informed choice, as for many of them, this initial conversation might be the first time that they have been explained how LARCs work. They are given information while at the clinic, and given time to weigh the pros and cons of each method after the conversation with their provider.

Prescriptions for pills or other hormonal methods can be given on the day of the initial visit. These can be given to women who are considering a LARC to avoid an unintended pregnancy in the meantime. When asked who is responsible for providing contraceptive services to women, one nurse's answer explains the overall philosophy of the health center:

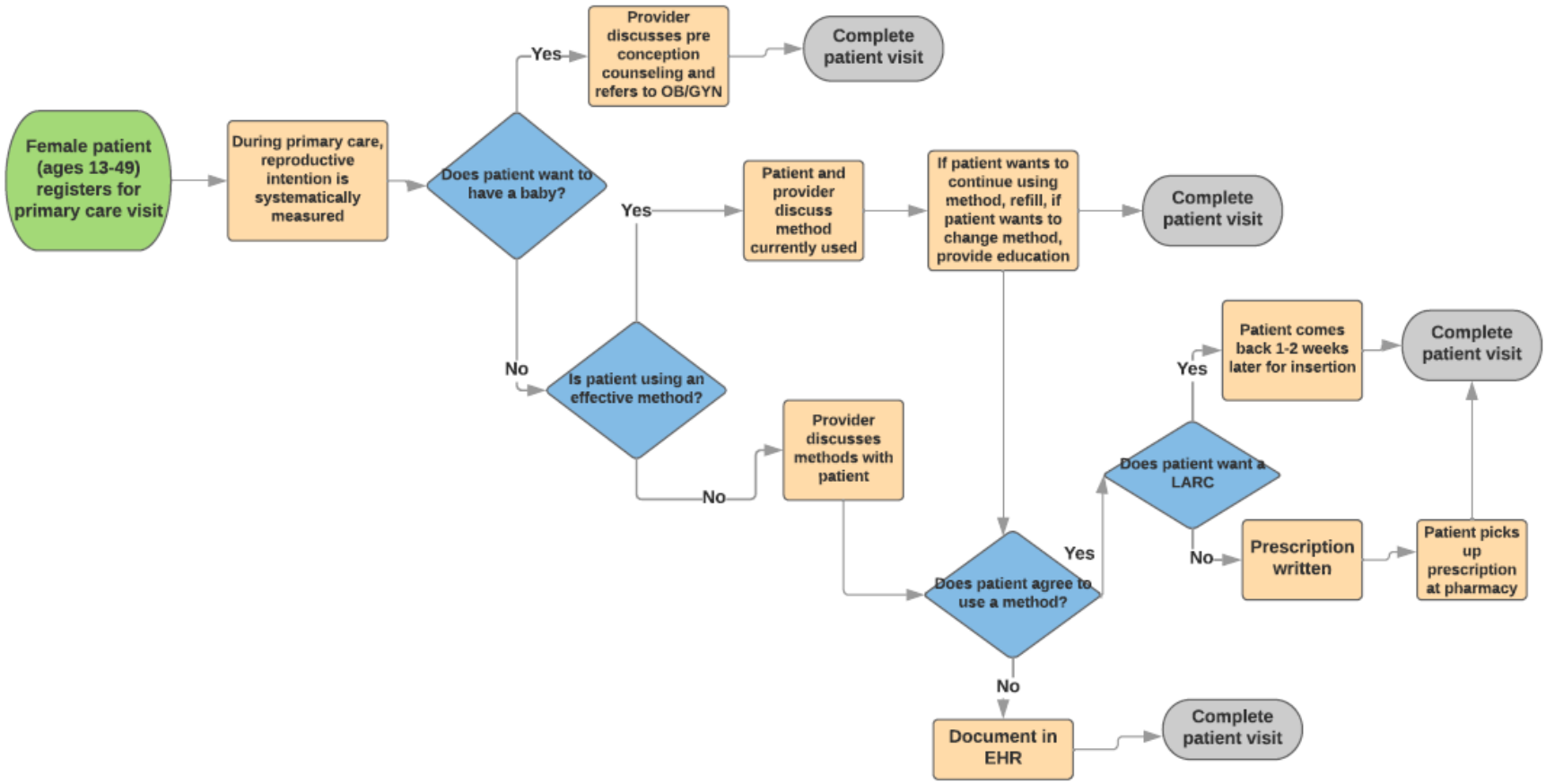
"Everyone. Because we don't, I mean we don't have anybody that is not providing, um, women's healthcare in these, any of these offices."

The clinic manager describes the main philosophy of the health center's providers, which offers integrated services in family, dental and mental health:

> *"Having that whole person integrated mindset that tells them I can't just treat this part of the person, their head or their diabetes or something. I need to treat the whole person, which includes women's healthcare, family planning, dental, behavioral health, it all needs to be treated and they have a wonderful mindset about being integrated with that."*

In the patient survey, women reported preferring getting all of their healthcare services in the same place. In addition, in the question on satisfaction of services, women expressed a high level of satisfaction at the statement: "I can get all my healthcare needs including birth control."

Figure 3. Flow diagram for receiving contraceptive services through primary care.



Facilitators and barriers to the process of integrating contraceptive services into primary care were identified a priori. These facilitator and barriers were identified through an extensive literature review and environmental scan. A conceptual framework and theory of change (figure 2) were developed to guide the research process. In addition, factors emerged from the research. Combined, these factors help explain the facilitators and barriers to integration and help explain why this integration process works at the CHCNRV.

The constructs and factors can be classified under three main categories: barriers and facilitators from an organizational perspective (research question 1a), provider perspective (research question 1b) and community/patient perspective (research question 1c).

Research Question 1a. What are organizational facilitators and barriers affecting the planning and delivery of integrated services at CHCNRV? How do these organizational facilitators and barriers affect integration?

Through an environmental scan and extensive literature review, three over-arching constructs were identified as including potential facilitators and barriers from the organizational perspective. They include LEADERSHIP [factors: *Board support, Organizational commitment, Funding, Board lack of support, Patient voice*), COMMUNICATION [factors: *Internal referrals, External referrals, Internal communication, Advertising/outreach and "Still a free clinic*"] and SERVICES [factors: *Contraceptive methods offered, Billing*]. An exploration of these constructs and associated factors follows.

Organizational facilitators

Leadership

The LEADERSHIP construct encompasses organizational commitment, the role of the board, the importance of funding, the role of patient representatives on the board, and includes the board's decision-making authority and capacity for leadership.

Board Support

Board Support was defined as how supportive board members were of integrating services and of accepting the funding from the Secular Society which helped create the Women's Health Program.

Most of the board members that were interviewed had been on the board for at least two years, with some current members having been on the board up to 6 years, and past members reporting they had been on the board of the organization when it was still a free clinic for 9 years. As a requirement for all FQHCs nationally, at least 51% of board members must also be patients.

All of the board members that were interviewed valued the contraceptive services offered by the health center and believed that they were offering a crucial service. The board overwhelmingly voted to accept the funding from the Secular Society, with only two members voting against- this vote will be discussed further in the barriers section. Several of the board members interviewed expressed concern at their board colleagues who voted against accepting the funding. One board member described this concern:

> *"What happened is board members who just left because the majority of board members wanted to move forward and provide the services."*

As one board member states, the board and the organization are committed enough that even if the funding from the Secular Society were to disappear, it is likely the board would find a way to fund the Women's Health Program.

> *"…the services are so well integrated into by the practitioners that I think it would be very difficult to give it up, so I'm sure the board would continue the funding. I think we'd find a way to do it."*

A review of the board meeting notes shows an involved board, dedicated to the success of the Women's Health Program. During the meeting to vote on accepting the funding from the Secular Society, board members stated the importance of accepting the funding as a way to "*enhance and further develop healthcare services to offer this population.*"

Organizational commitment

The *Organizational commitment* factor was defined as how committed the organization as a whole was to supporting the integration of contraceptive services into primary care.

The CHCNRV management team has shown great dedication to implementing and supporting the integration of contraceptive services into primary care, including the provision of comprehensive services as evidenced throughout this research. The CHCNRV is directed by an active board and the

executive director shows strong leadership skills and commitment. Board members describe the executive director as "*a very good administrator*", "*super dedicated*", "*a powerhouse*", "*fantastic*", and deserving of "*a star on the wall*." When needed, the executive director is responsive to board requests. As one board member states: "*The only worry the board has on an annual basis is [executive director] finds another job. She's been very good*."

The organization is committed to their providers and staff. All providers are offered time during their work hours to complete necessary trainings and to obtain CMU credits, helping them be more successful at their jobs. More on this will be included in the *provider training* factor. All new staff (from front office to providers) participate in an onboarding process, given them the opportunity to receive appropriate training, shadow other professionals, and receive mentorship. They also are treated to lunch by a co-worker right after they start, to encourage congeniality. All new staff are assigned a peer mentor as a way to learn the culture of the organization and be able to ask questions freely:

> *"They're assigned a mentor within their department. So throughout their onboarding process and even after they start working at their, at their position, they still have this mentor that they can go to and ask questions and follow up. They don't always have to run to the supervisor. It's usually a peer, it's not a supervisor. It's not a manager. It's somebody who has been here for a while, understands our culture, our, you know, our mission, our vision, and they can go there and go to them and ask questions."*

As the executive director explains, promoting good relationships among the providers helps improve employee morale and helps with retention:

> *"…and you know that leads to building relationships and when you have those relationships then it's easier to work together. And you have better patient care and hopefully people who want to stay here longer too and not be looking for the next big job on the horizon that they want to jump off to, if they feel like they're part of a community, then you know maybe they'll stay longer."*

To encourage retention even more, the executive director has tried as much as possible to retain employees by showing them that there are growth opportunities within the organization: "*I've tried to*

promote from within very strongly because that also is going to be one of the things that's going to attract patients and keep them here." She continues:

> *"And so it's examples like that where someone's showing me that they have an interest in their work and, and that they're vested in, you know, in the program and in the mission. And, so I think certainly I've identified a few people, who fall into that category and who've grown progressively up through the ranks…and so I think keeping your mind open and communicating with your staff to find out what their interests are and what they're really good at is important, and giving people opportunities to do other things that, um, maybe they weren't expecting you to hand them…I think just as a manager, you learn that, you know, valuing your employees is going to make for a happier workplace."*

It is clear that the organization is dedicated to its patients as well. The CHCNRV recently received a Patient Centered Medical Home (PCMH) designation. According to the American College of Physicians, a PCMH is "a care delivery model whereby patient treatment is coordinated through their primary care physician to ensure they receive the necessary care when and where they need it, in a manner they can understand [132]." As the executive director states, this is a validation of the quality services that they provide, and provides accountability in the eyes of the community and patients:

> *"So that allows us to kind of put up the little stamp, PCMH stamp, that says you know we're, we're functioning from a quality perspective and everything we do is very quality. And all of our initiatives you know have that- with the patient in mind."*

Through a care coordination team, comprised of a care coordinator and several nurses, nurses follow up with patients to ensure that they are accessing the necessary medication, and to determine if they need any help accessing services, such as transportation. The care coordination team meets individually with patients in need (as determined by their medical team) to explain care plans, explain medication, provide basic health education, life style management and counseling. The team also educates patients on the importance of preventative screenings such as colonoscopies of Pap smears. The care coordination team would also be the one to help a patient get to secondary family planning appointment for the insertion of a method.

The patient centered approach comes through in all the services they deliver. Another example of the organization being committed to patients is the creation of the Patient Assistance Fund, which is created for those neediest clients. The fund was created when the CHCNRV went from being a free clinic to being an FQHC, and the board realized that there might be some clients who were not able to pay, and they wanted to ensure that all patients could receive services. A document review of the Patient Assistance Fund guidelines determined that to be eligible to receive funds from the Patient Assistance Fund, patients need to meet with the CHCNRV finance department and meet a certain set of criteria showing financial need, as determined by the finance department. Patients are eligible to use the fund up to twice per year. Patient can use the funds for medical, behavioral or dental services. Funds are often used as part of a partnership the CHCNRV has with the Radford Women's Resource Center, a local domestic violence shelter. Women who are clients at the shelter can access the funds to receive needed medical care.

One board member describes this fund:

> *"Plus we've created, um, a fairly sizable fund that we use to cover patients who can't meet even our minimal costs. We did that about two years ago. The board was uncomfortable with the idea that we were still doing a significant amount of fundraising, but that, that money was just going into operations and so we set up this patient reimbursement fund with certain guidelines, it can't get over, I think it's $5,000 or something. And patients can draw on it if they need to and we inform them when they come in and so on. And part of it, it was, um, several members of the board who have been on it during it's free clinic days and have a real strong commitment to that, and they were uncomfortable with the notion that we were charging, even though a minimal fee, for certain kinds of things, so we created this one…."*

One provider states that if a patient had no money to pay for services, they would still provide the services, and then figure things out: "*But I feel like that, that there would be a fund that we could draw from to help that patient now*."

Funding

The *Funding* factor was defined as where the funding for the contraceptive services came from, how funding was used, and any problems associated with losing the funding.

One of the biggest organizational facilitators that has helped the CHCNRV integrate contraceptive services into primary care is the funding that they received from the Secular Society to be able to purchase and provide LARC at no cost to uninsured women. This funding helped establish the Women's Health Program, under which the integrated services operate. According to one board member, the funder has been very satisfied with the way the CHCNRV is using the funding:

> *"He remains happy with it. He normally…funds something for two, maybe three years. He's funded us now since the beginning because he thinks it's a valuable program. We're doing a good job and quite frankly we report to him in detail what's going on."*

Secular Society reports were reviewed as part of the document review, and were very thorough and timely- submitted on a quarterly basis, echoing this board member's sentiments.

Before the creation of the Women's Health Program, the CHCNRV did not offer contraceptive services. As part of becoming an FHQC, providing contraceptive services was required by law. For the chief medical officer at the time, one of the big facilitators was this new requirement: "*Uh, the secular program funding- no cost, and the mandates that were before us that let, that took away any debate about whether or not it would be done- it was going to be done*." This happened right around the time the funding from the Secular Society came through, so the CHCNRV took advantage of this to start offering comprehensive services and screening all women patients during primary care.

When this funding comes to an end, the board and management will have to determine how best to continue funding the Women's Health Program. The executive director is ready: "*Eventually if we lose the funding, that's a barrier obviously. So what I will be tasked with doing moving forward is looking to see if we can replace that funding*."

Some board members are slightly concerned about the day the funding will end: "*So I hope we don't come to the day where we say, do we have to trade this service against this service? We're not there yet. It's going to be a difficult decision if we have to.*" This is a divergence from the statement made from another board member, and alluded to earlier, referring to the board finding funding for the program should the Secular Society funding come to an end.

Communication

Under the organizational perspective, the COMMUNICATION construct refers to how the organization communicates both internally and externally with partners, and how they advertise their services to the community.

Internal referrals

The *Internal referrals* factor was defined as how the organization promotes internal referrals from one CHCNRV service to another and how and why the providers refer internally.

In the medical portion of the clinic, the CHCNRV has both primary care providers and gynecologists on full time staff. All medical providers provide contraceptive services. Although the main purpose of this research is to see how measuring reproductive intention and providing contraceptive services is integrated into primary care, the nature of the CHCNRV's integrated services is such that internal referrals to other types of providers are also important. Screening for reproductive intention and the contraceptive counseling happens in primary care for those women not specifically seeking out contraceptive services, but patients can be referred to the onsite gynecologist for specific services once they decide what method they want. This is especially the case for patients who choose a more intrusive method like a LARC, and if their primary care provider does not provide that specific service (one provider does not insert IUDs yet.) As that provider states:

"I typically do everything but the IUDs, if I have an IUD I may do the consultation and then refer to Dr […]and he will kind of go through with her, you know, what it, what she needs to do about the IUD and he will actually do the placement. So we do a lot of collaborative care in the aspect that we refer to him and Dr […]"

In March 2018, the CHCNRV hired a full time gynecologist who has slowly been incorporating some of the primary care providers' patients. The executive director seems to think that he is starting to get more internal referrals from primary care, although they have not formally tracked this perceived increase in referrals: "*I have a feeling the doctors and FNPs are kicking people over to him- which is fine and makes sense."* The providers with more experience are also called upon for assistance and consultation as needed. The advantage of having all of the services under one roof means that if a patient is already in the system, providers can coordinate patient care service:

"If they had a preference, for example, maybe I'm a male provider [primary care]… I can ask all the questions, but when it comes to the actual inserting of a, of a device and they feel more comfortable with a female provider, then I'll redirect, but with this integration piece, they don't have to do the whole song and dance, they can just come in and see Dr. […] who's one of our female GYNs or […] who is one of our female nurse practitioners. They can have my notes. They don't have to go and do the urine test and then counsel the patient and all that. They can come in and get the device placed. No questions asked. Done."

Primary care providers are embracing this relationship and collaborating with colleagues throughout the institution to offer services to patients as needed. As the executive director states:

"I think just across the board, that's a nice thing that we can offer is, you know, we, we have all these services here and so you make a decision about what you need and what's going to benefit you right now, all under one roof."

These internal referrals between primary care providers and the gynecologist happen in a several different manners. They may come as a follow-up appointment scheduled with a gynecologist, a consult where the gynecologist will assist the primary care provider, or a warm hand-off as described earlier.

Internal communication

The *Internal communication* factor looks at communication at the organizational level, the board level, and from a giving/receiving feedback perspective. Internal communication refers to how

providers, board members and staff within the organization communicate with each other, and seek and receive feedback.

Board communication

The board has set a high standard of communication with the management team. As part of receiving an FQHC designation, the CHCNRV holds monthly meetings, where the board is briefed by the executive director and the chief medical officer. One board member details this interaction:

> *"They both provide very detailed reports to the board at each monthly meeting and um, during those reports, the board is, you're free to ask questions or ask for further explanation and they have never wavered on any question posed to them by the board. So I think that, uh, you cannot, you cannot ask for two more transparent people though than [executive director] or Dr […]."*

Providers state that they have never attempted to be in touch with board members, that instead they communicate through the executive director and the chief medical officer. The board, in turn, communicate to providers the same way. The executive director indicates that the board is very active and involved, but does not micromanage her decisions. In turn, she engages them for important decisions, but not for the day to day operations of the clinic:

> *"So I am not going to involve them in picking the color of paint here. But if we have a donor who wants to give us a hundred thousand dollars a year for LARC, that's different and that's unusual, and that may ruffle some feathers."*

Ultimately, the executive director does whatever the board wants her to do: *"you know whatever they need me to do, I do because I'm their employee. So that communication has to be really strong.*"

Organizational communication

As an organization, the CHCNRV values communication and uses multiple modes of communication to interact on a daily basis. Providers have weekly or bi-weekly meetings, including specialty meetings like nursing staff meetings or leadership team meeting. Emails are used regular to communicate new procedures or information, and any urgent matters. If very urgent, providers will talk

to each other face to face. The entire staff and providers get along well and communicate openly. A board member had this to say:

> *"[…] is, is a great CEO, she's very visible. She will always go greet somebody or talk to somebody or email. So we all, we all are very close and communicating via email or personally, either one."*

In the words of the executive director, it does take a little more time to be integrated, and requires a little more communication than in an ordinary setting.

> *"…we do so much here from services and it kind of…everything in an integrated setting of course intertwines, and so it is important that we focus on communication so that we all know what we're doing at any given time. So we just spend a little time doing that- just talking."*

Feedback

The CHCNRV has built in several opportunities for feedback at all different levels of the organization. Patients fill out surveys every 6 months. The surveys allow the organization to collect valuable feedback from patients. Until last year, the clinic used paper surveys, and has just started implementing electronic surveys, and was going to seek feedback on use of that method. As the executive director states:

> *"So I think our surveys are probably the single best way to get and people like them because they're anonymous. You have a little bit of a point to tell what you might not say to someone's face."*

Employees fill out a survey as a way to measure employee satisfaction in their position. That feedback is taken into account by the management team. If something comes up in that anonymous survey, the management team will consider the issue and address is appropriately.

The management team receives an annual review from the board. According to board members, management is very receptive of the feedback that they receive. The management team also receives feedback from providers through the team leads. And finally, the board self-evaluates regularly. If negative feedback is received at any level, corrective measures are immediately taken. A past board

member recounts how they received and took actions when they received feedback, always careful not to overstep their boundaries as a board.

> *"Uh, we took it very seriously and um, we would look for opportunities to improve and um, we would discuss this at the board meetings and um, give [executive director] our recommendations, but we always let [executive director] implement those changes. We were very much of a board who took [executive director]'s executive responsibility as her executive responsibility. We tried not to micromanage."*

If problems arise in the patient surveys, immediate actions are taken. According to several of the patients interviewed, most of the problems that have arisen in the past, although limited, have been towards front office staff and the scheduling of appointments, or a front office staff was rude to them. If this is the case, that is immediately addressed by a member of the management team. Similarly, if a problem arises with a provider, the chief medical officer is in charge of addressing that immediately.

External Referrals

The *External referrals* factor was defined as how the organization refers services out to external partners and coordinates services with community partners. It emerged during the coding of the data as an important facilitator to the provision of services.

Agreements with external partners are an important piece of providing quality services at the CHCNRV. Anytime someone comes in for a service that is not offered at the CHCNRV, such as urology, abortion or sterilization services, a provider refers the patient out to the appropriate community partner. If an established patient is referred out for services, the CHCNRV has a feedback mechanism, where medical information is faxed back in so the patient can have all of their medical records accessible in one spot. The clinic manager explains the process:

> *"We ask for it to be faxed to us. Once the consult has been completed, we would appreciate the notes. Um, so the doctors are usually pretty good about getting them back to us and then like I said, that referral, we attach them to the chart and then the providers are able to see them."*

As a requirement for being a FQHC, the CHCNRV has set up business agreement with the two local major hospital systems to refer out services that they do not perform. One of the most important external referral sources the CHCNRV has that is relevant to this research is the Women's Health Program Voucher, that is funded by the Secular Society. The clinic manager provides a detailed explanation:

> *"For those products, we will prescribe and we actually have a program with Kroger in Christiansburg. We call it the women's health program voucher. Um, and we have a contract with them to provide medications, oral contraceptives, emergency contraceptives, even antibiotics for women who need it for STDs or just, you know, because they need it, at no cost to these women. So Kroger, um, they fill the prescription and then they invoice us at the end of the month for anything that these women have purchased through them."*

A document review of the agreement with the Kroger pharmacy confirms the clinic manager's description of the program. Several interviews with providers who write prescriptions for oral contraceptives also confirm the agreement with the pharmacy and how it works.

Services

Under the organizational perspective, the SERVICES construct refers to how services are provided, what services are provided, and how services are billed.

Contraceptive methods offered

The *Contraceptive methods offered* factor is defined as the type of contraceptives that the clinic offers.

The CHCNRV offers a wide range of contraceptives. They will provide prescriptions for birth control and emergency contraception pills which patients can get free of cost at a local pharmacy. They will provide the Depo shot in house, as well as IUDs and Nexplanon®. They offer condoms in the office for those who request them, although several of the providers and board members disagreed on this, with some stating that they have never seen them be distributed, and other stating that they did so

regularly as part of their practice. The provision of contraceptives is accompanied by comprehensive contraceptive counseling to ensure that the patient receives the best method for her. The executive director describes the satisfaction in being able to provide services to women in need:

> *"Yet to be able to give somebody something that they don't have to be concerned with for years has such a greater impact on the community downstream… You know, that, it just needs to be priority for everybody. I wish I could see the state legislature, the General Assembly kind of carve this out as something for us to focus on. Because it has such repercussions downstream for our community and especially for those families that are affected by, you know, poor care, poor education, multiple births that they don't want, you know. So we're so fortunate that we have this ability to be able to have these costs offset. And, and I have been told, although I haven't of course been in the exam room, that when a woman comes in and then is told we can do this for her for free, you know that just, she changes, you know, her eyes light up, and fireworks go off because she had no idea that was going to be even an option for her. And so it's life changing, right. It's life changing. And so to be able to offer this to somebody who never thought that that would even happen to them. Yeah I've been I've been told- it's just you know, it's it's one of the better parts of the job experience. And I can understand that."*

In the patient survey's satisfaction question, patients reported that they liked that they could get the birth control they wanted at the CHCNRV, not just the prescription.

Billing

The *Billing* factor emerged from data collection as an important facilitator to the integration of services. The manner in which contraceptive services are coded and billed is important to people that cannot afford to come in to see their providers often due to financial hardships, transportation issues, or any number of barriers to receiving services. The FHQC does not include a separate billing code when providing a contraceptive visit during a primary care visit. Providers will go out of their way to ensure that the patient does not get billed more than once for one single visit. The chief medical officer, who is a primary care provider, describes the billing practice:

> *"So, um, we attempt to, number one, do right by the patient, billing-wise and then obviously two, we want to make sure that we code, that would give us the most opportune reimbursement as well. However, I'll say again, oftentimes these appointments, you come in for one and we ended up addressing multiple things in one visit… We would- we're not going to say to you come back in three weeks because you don't have the money nor the transportation…"*

The interview continues:

> *"Usually for a family planning visit, most of the time it'll be in conjunction- this just happened the other day, it'll be in conjunction with their chronic disease management and then family planning will be another code that we add on there."*

The clinic manager describes the final outcome*:*

> *"…well you can put in multiple codes. So, um, but you're only going to get, you can put it in multiple diagnosis codes, which would include, um, diabetes encounter or contraceptive discussion, but then when you bill it out, it's only going to be one code for an evaluation and management."*

Even though multiple codes are used to describe the services the patient receives, the *billing* is just for the single original encounter. Usually, "*it's coded for whatever they came in for to begin with*" says the chief medical officer.

Organizational barriers

Leadership

Lack of board support

The *Lack of board support* factor is defined as any time a board member did not support the integration of contraceptive services or the implementation of the Women's Health Program. This factor emerged during data analysis when it became clear that the lack of board support needed to be documented separately from board support.

Although, as highlighted above in the organizational facilitators section, most of the board members fully supported accepting funds from the Secular Society and providing comprehensive contraceptive services, two board members were opposed to accepting the funding- they were so opposed that they actually left their board positions due to moral objections.

These two board members were uneducated about how LARC worked and, according to a provider "*were not comfortable with us offering IUDs, because it was tantamount to abortion*." The board tried to educate these board members, but their misconceptions and moral values were too deeply engrained to sway them. More on misconceptions and the role of religion and culture follows in the cultural barriers section.

One board member describes how the events unfolded:

> *"We had rather a heated meeting when it was suggested that funding was going to be asked to start providing contraceptive services. And two board members actually left shortly afterwards, one said that was the reason he left and the other said other things, but that was obviously what had happened and there was some contention about the source of the funding that we've requested. Some people were not happy that the money was coming from the organization that it was coming from."*

A review of the board meeting minutes confirms the statement from board members that there was concern about the name of the funding organization and that the word Secular might connote a negative meaning in Southwest Virginia. At this board meeting, the goal was to vote on accepting the funds. First off, a fact sheet about the Secular Society was shared with the board, and a discussion ensued. Several concerns were brought up by board members, including the name of the funding organization "Secular", and the possibility of the community's negative perception of this, leading to women not seeking services through the program due to its connotation. This particular board member thought the name was inappropriate as it gave an appearance of the health center associating itself with a particular atheist ideology. The board discussed some ways in which the health center could assure stakeholders who inquired about the meaning of the term secular that any negative connotations would be addressed. One board member discussed his concern regarding the donor's statement that the donor could withdraw at any moment. A decision was made to notify the donor that the health center wanted the opportunity to opt out at any time as well. After a long discussion, the vote passed 8-2, with two board members voting against accepting the funding and creating the Women's Health Program.

Several of the board members interviewed felt remorse at their two colleagues' decision to depart the board, wishing instead that they could have educated them about LARC and reached a consensus vote.

> *"Politically, that was really tricky to navigate. You'd hate to see people leave because of a decision. I would have loved for it to be a consensus. I would've loved for people to see the value that it provides. I would've liked for it to have been more of a collaborative conversation, but there was no negotiating that it was very clear that these people would leave, that it was inappropriate to provide."*

According to one board member, "*since that time, um, the board has never experienced any real pushback against it.*"

After the contentious meeting explained above, the chief medical officer at the time sought to clarify some comments made by several board members about how IUDs and implants work. An explanatory memo was written, which was included in the document review. The memo states that it wants to clarify erroneous medical statements regarding device placement, removal and continuation of care. The memo states that if the funding were to end in three years, the health center could not purchase new devices, but could continue to care for those women who received a device, including device removal if necessary.

Patient representation and voice

The *Patient representation and voice* factor is defined as how much patient representatives on the board feel that they have a voice in board decision-making, and how many patient representatives are true patient representatives (ie: they were patients before becoming board members.)

According to most of the board members interviewed, patient voice on the board is crucial and valued. The fact that patient voice is acknowledged may have helped influence the board to make the decision on accepting the funding from the Secular Society. As one past board member stated:

"I think that if anything they are listened to more than anybody because they bring that patient perspective and to me they are more than a token, they are very much ingrained."

The only board member who felt that patient voice was not as valued as it could be was a true patient representative. This is the only current board member who was a patient first, and then was asked to become a board member.

"I don't think I felt like I was being heard or like perhaps being placated, you know, oh you're just like getting the minority info something or whatever. You check the box...so it took a little while of just feeling insecure."

Eventually, after getting over the initial intimidation, this board member grew to find her voice on the board. When asked about how this person represents patients on the board currently, a sense of pride at having been chosen is conveyed: *"I'm the voice of the people... there's no other way the board members will know what it's like when someone can't meet a co-pay or something. Twenty dollars might be prohibitive, so it's a good perspective."*

There was some divergence in these statements, as the other board members characterized the role of true patient representatives as having an active voice on the board and being an important part of the equation, but this true patient did not initially seem to feel that sense of importance. This divergence might be due to the fact that this board member initially felt uncomfortable in her role, but then gained confidence.

All of the other board members that are CHCNRV patients became patients after becoming board members, which is not truly the intent of the 51% requirement. The intent of that requirement is to have people on the board that truly represent the FQHC patients, which the current board members of the CHCNRV do not fully. All board members chose to seek selected services at the health clinic, such as dental or osteopathic care. As one board member puts it: "*One of the problems that I have with the board is the heavy sort of weight on PhD sort of members on the board and that becomes really*

problematic." That same board member continues: "*I'm an example of someone who was a board member and then converted to a patient, right. I am an example of what should probably not be happening*." The true patient representative on the board that was interviewed had never held an elected position.

Communication

Advertising/outreach

The *Advertising/outreach* factor is defined as how the CHCNRV advertises and promotes their services in the community.

The CHCNRV conducts regular outreach in the community by setting up tables and providing information at community events. At the time the Secular Society was created, someone was hired to promote the new Women's Health Program, but she did not stay long. A document review of the Quarterly Secular Society Reports was conducted. The Community Outreach and Awareness section of the reports showcases the events at which the program was highlighted in the community, date, and number of contacts. Service statistics are included, including number of devices dispersed, screening tests conducted, and STD visits. Although the Reports state that many outreach events happened, the information gathered during the interviews tells a different story, one of a continued lack of outreach in the community and a continued lack of knowledge of services in the community.

According to board members and providers interviewed, the CHCNRV has not done an outstanding job of promoting their services, and their organizational changes to the community. Although they do conduct some outreach, in one of the smaller clinic sites in Giles County, they are still having a hard time enticing patients to come to the clinic and have low patient numbers- some of the board members believe this is due to poor advertising. Even at the Christiansburg site, patients still do not have a sense of the availability of services. One of the nurse practitioners explains this:

"a lot of patients that are uninsured or low income, they don't think they can see a provider. So when they come in and see us, they're all excited now "I can finally see a doctor"- we've been here the whole time, but they just didn't know that. So there's a, there's that piece that makes it complicated."

One of the patients that was interviewed stated that she did not know that the clinic had expanded hours in Christiansburg on Thursdays, or she would have taken advantage of them before.

Perhaps the biggest barrier related to communication is that there has been a dearth of advertising around the Women's health program, mostly due to perceived cultural barriers and the sensitivity of the topic. As one board member states: "*my sense is we don't showcase it in public and it may be because of the sensitivity of it.*" Another board member asked the question: "*how do we make it [the program] palatable for the community, um, that we are not providing abortions, right?"*

That board member continues:

"I don't think there is too much advertising going on about the Secular Society. There are these brochures. I'm, but I'm not sure those get circulated widely because there's this really tricky balance, right? Because if you bring too much attention that becomes problematic because then you've got protesters outside the door saying you provide abortions. Right. So it's this really delicate balance of making sure you know who your audience is."

With the recent closing of the local Planned Parenthood office, many women may not even know where they can turn to for comprehensive contraceptive services. One board member explains:

"Now we need to start saying we have, you know, contraceptive care such that "spread the word" have women know this is a safe place because without your planned parenthoods and such, a lot of people are probably not going to know where do I turn."

Another board member agrees, hoping that that CHCNRV may one day become the go-to place for women's health care, but acknowledges that more advertising and outreach are needed to reach that stage. When asked what could be changed in terms of the provision of contraceptive services at the CHCNRV, the answer was:

"I think we would be able to provide contraceptive services to those who want them. I think that the center has grown and evolved into a place that could be a central place for women's health in general It's just getting the word out and attracting the patients to do so. So you know, again,

promotion of the service in whatever way... continued advertising or, or whatever method seems to be the best."

One board member did remember seeing an ad on a bus in Blacksburg promoting the women's health program, and when asked, several of the patients interviewed at the clinic said that they found the services listed on the website. Yet, another patient states that services could be better advertised:

"I feel like it could be promoted a tad more for women that don't have that kind of... not knowing that knowledge and stuff…like where to get services along with like being taught what the services will do for them."

A review of the CHCNRV website, as part of the document review shows that services for women's health are advertised under the "patient services" tab. There is a Women's Health Program webpage. It states that it is funded by The Secular Society. The list of women's health services includes: "family planning, contraceptive devices, cervical cancer screenings, treatment of STIs, complete women's exams and tests". Both of the gynecologists on staff have their picture included, and a there is a short explanation of the program. LARC is not used as a term, but family planning and contraceptive devices are advertised.

<u>"Still a free clinic"</u>

The "*Still a free clinic"* factor is defined as patients in the community still thinking that the CHCNRV is a free clinic. The *"Still a free clinic"* factor is included in quotations, as it is an *in vivo* code- an emerging factor generated from language used by interviewees.

A big barrier in communication is that there are still many people out in the community who think the CHCNRV is still *The Free Clinic of the New River Valley*, even though it became an FQHC in 2014. With that thought comes a set of pre conceived notions and assumptions about the services they offer, fee scale, and eligible patients. When asked what one of the biggest barriers facing the center was, one board member replied:

> *"It's lack of awareness at all that the place is there. That's the biggie and the lack of awareness that it's no longer a free clinic that it's open to people with insurance, a lack of awareness that you get all the integrated services I think."*

This become a barrier when it comes to finances and expected payment for services received. Patients do not know if the services they receive are going to be free or if will cost them a lot of money. Many patients also do not know that the CHCNRV sees clients with private insurance. As another board member recounts:

> *"I don't think people know, I think people still identify us as a free clinic and so they assume all services are going to be free. Um, so part of it is just a branding thing. Uh, the other pieces, I don't think they know we provide these services. I see clients in my practice pro bono and they aren't aware that they can access those services at the community health center."*

Some patients also incorrectly assume that since the CHCNRV is no longer a free clinic, that they are going to have to cover their costs, leading to patients not coming in for care. The chief medical officer explains it: "*I mean they know us from being an old free clinic, but when you say community health center, "well I got to pay so I can't come", which isn't necessarily true."* The executive director agrees that they are still trying to battle this misconception, and they are currently conducting outreach to the Medicaid population to let them know that they do accept Medicaid.

In the entire website (www.chcnrv.org)[2], there is no mention of the CHCNRV being a Federally Qualified Health Center. The Center is referred to as "a non-profit healthcare organization that serves uninsured individuals, as well as people who are insured with Medicaid, Medicare, and private insurance." There is a lot of information about accessing the marketplace, how to get a free consultation, and a video about the marketplace, but no mention of them being an FQHC, perhaps reinforcing the perception of the Center being "*still a free clinic*."

[2] Accessed 2018

Research Question 1b. What are provider/staff facilitators and barriers affecting the planning and delivery of integrated services at CHCNRV? How do these provider/staff facilitators and barriers affect integration?

Three constructs were identified ahead of time as including potential facilitators and barriers from the provider perspective. They include EDUCATION [factors: *Types of providers*, *Provider training* and *Staff training*], COMMUNICATION [factors: *Provider comfort level*, *Patient education*, *Provider communication*], and SERVICES [factors: *Use of EMRs, Provider commitment, Time per appointment, Time until next appointment*].

Provider facilitators

Education

As part of the provider perspective, the EDUCATION construct refers to how the providers and staff at the CHCNRV are trained, and the types of providers that are used to provide services.

Types of providers

The *Types of providers* factor is defined as all of the types of providers that provide primary care and contraceptive services at the CHCNRV.

In the medical wing, the CHCNRV employs a variety of providers, including licensed practical nurses, two family nurse practitioners, one family practice doctor (DO) and two gynecologists. All of the providers interviewed had been working there at least 1.5 years. One of the family nurse practitioners has been volunteering at the CHCNRV for 15 years.

One of the gynecologists was just hired full time within the past year, offering expanded services and appointment opportunities to women. The other one is very part time and a volunteer, which is traditionally how gynecological care was offered in the past at the CHCNRV.

As part of providing integrated services, the CHCNRV also employs behavioral health specialists and dentists. Although they do not have a direct role in providing contraceptive services, they will refer their patients to primary care services as needed.

In the patient survey, women stated that they preferred either getting birth control from an OB/GYN or showed no preference between an OB/GYN and a primary care provider.

Provider training

The *Provider-training* factor is defined as any training the providers have received to help them perform their job or any arrangements that are made to help the providers obtain training. The clinic manager explains the training process that occurs as part of onboarding:

> *"Every staff member within the facility has to have center wide training such as your HIPAA, your EMR training, um, cultural competencies, certain things everybody needs. But according to the department, you have your department specific trainings. You're scheduled to shadow, to observe, to start to learn, sit with other people, sit in other departments to understand what each department does. Because it's very important for the front desk to understand what the nurses go through in the back and the nurses to understand what the front desk deals with so that… you know, they understand what the other departments dealing with."*

As part of provider contracts, the CHCNRV offers time during work hours for providers to complete CMU credits or to participate in trainings. All of the primary care (including the FNP) and GYN providers have received training in LARC insertion, and all of them, when asked, conveyed a high comfort level in LARC insertion. One part time volunteer nurse practitioner was not entirely comfortable providing LARC, so either referred those services out to other providers, or asked another provider to be in the room as the procedure was performed in case something went wrong. This provider only practices once a week and sees established clients, so this is not a problem faced very often.

When hired, the family nurse practitioner was not trained in Nexplanon® insertion, and that was one of the first trainings that was required to take. The clinic manager explains:

> *"I do find that when we've had new providers here, we do have to get them trained on the Nexplanon, um, because you have to have a certificate, so I always find a training class for them when they first come on, but they all get trained with a certificate for them."*

The family nurse practitioner explains the Nexplanon® training received:

> "*It was a really informative class. It's, I mean it was really detailed. They actually gave us like booklets and all kinds of stuff to take home to kind of read even more about it, but we did have to actually insert the Nexplanon during the class on a dummy."*

This provider is still not trained in IUD insertion, but is observing the physician until she can start inserting them on her own. According to the chief medical officer, many nurse practitioners do not place IUDs because their supervising attending doesn't, so they don't know how and won't be covered if something goes wrong. The chief medical officer explained the training process for nurse practitioners practicing under a physician's supervision:

> *"Um, they usually have hours of experience so you can finish nurse practitioner school and then go into whatever specialty you choose, so they're going to get their experience or their knowledge from the provider who they work alongside. That has recently changed, um, as far as the number of hours they need for training, um, to increase access to care for patients, uh, and in rural areas and things of that nature. So they are going to be trained under the provider who was their supervising, attending. And then once they are deemed proficient by that attending, um, then they're able to place devices on their own."*

The clinic manager immediately notifies all of the employees if there is a change in policy regarding any medication or procedure by sending an email or talking directly to employees. The clinic takes provider training very seriously. Providers are regularly asked to participate in trainings and webinars to keep up to date on latest practices. These may include the latest updates from the American College of Obstetricians and Gynecologists (ACOG), or a training on new recommendations and clinical guidelines. Providers also participate in cultural competency trainings as described below in the staff training factor. In addition, primary care providers are encouraged to attend trainings outside of their immediate work area, such as behavioral health trainings. As the clinic manager puts it:

"We've sent our providers to a behavioral health conference, so that they get that extra training, because a lot of primary care doctors don't, they don't have behavioral health, they're not integrated, but it's very important within this facility or any FQHC to understand that piece that they're going to be working with more. So we'll, we'll make sure that they get that extra training."

All providers' certifications are up to date. None of the providers interviewed were familiar with the Center for Disease Control and Prevention and the Office of Population Affairs' Quality Family Planning Guidelines, but all of them state that they were very familiar with the ACOG recommendations and protocols.

Staff training

The *Staff-training* factor is defined as how non-provider clinic staff are trained in such things as customer service and cultural competency.

All front office staff receive training on how to best work with patients and offer the best possible customer service. Every few months, an outside facilitator is brought in to meet with all of the front office staff. They review proper phone etiquette, training on how to deal with angry or aggressive patients, how to de-escalate a tense situation, and how to provide excellent service with a smile. As the clinic manager puts it:

"…all administration does have customer service training. We do that at an all staff meeting and then when our departments meet, customer service is one thing that we all do… courtesy and polite and just being able to, you know, red carpet your patients"

Most of the phone interactions are scripted, so front office staff know exactly what to say in different situations. Having a script to follow allows the front office staff to provide better customer service, as they don't have to put a patient on hold and call a provider for an answer, or have the provider call the patient back. As the executive director says:

"We try to script everything so that at least there's a, again, we're speaking with the same voice and we're saying what the clinicians want us to be able to say at that point, so you know it's hard when your front office person, especially you're putting someone who has no clinical

background into a situation where they're often asked clinical questions from the patient and the patient doesn't necessarily understand that they shouldn't be asking that person. We don't want to endanger either party, so scripting things out is really the best way to go."

The clinic manager adds:

"It also provides customer service for the patient. They don't have to be switched back and forth. They don't have "The nurses can't talk to you right now so they can get back to you in four hours." It gives them the immediate answers and the service they need."

If at any point there is a patient complaint about a front office person, that person is given additional training, and receives coaching from the executive director. The staff training factor is important in providing that warm welcoming atmosphere that will entice patients to come or stay at the CHCNRV.

Clients echo the fact that staff members are well trained, referring to the front office staff as "*usually pretty great*", "*really wonderful*", "*really nice to me*" and "*very courteous to patients*".

Staff and providers also receive cultural competency training, to know how to respectfully communicate with people specifically from Southwest Virginia and international populations. For the past six years, all staff have gone to an off-site retreat to receive a day of Appalachian cultural competency training taught by a specialist in Appalachian studies. As a service to the greater community, the training has been opened up to other health related safety net providers in the region. Over the course of the years, the instructor has:

"*changed her presentation and her style and incorporated more medical discussion and about how to, you know, where is the Appalachian resident at if they're very rural and they have medical needs, how do we deal with that? How do we approach that if they come to you and they say this, what are they actually meaning?"*

According to the executive director, that training received rave reviews, and has since been adopted by numerous other organizations.

As the FQHC has grown, so has the population they serve, including a new diverse international population. With this new population, staff and providers have received training on working across cultures: As the executive director states:

> *"So you know, initially when we started this and we were a free clinic, it was, we were very Appalachian focused, right? Because that's the culture that we're in, and there's not a huge minority here, to any degree. It's a, very white population, but we're very Appalachian focused. Well, but as we've developed, um, and our patient population has changed, we've become very international much more so than ever before."*

The clinic manager continues:

> *"When they walk in the door, they're not our values. So how do we understand that and honor that and respect that and can provide appropriate treatment-because something we might feel is appropriate treatment might not be appropriate for them."*

The executive director shared an example of when they were a free clinic and served the Amish population in Giles County, providers needed to make culturally competent adaptations to make the patients feel comfortable. These adaptations included giving patients extra time to undress, as they needed to take pins off of their dresses since they didn't use modern buttons.

In the patient survey's satisfaction statements, patients reported that they liked that the staff treated them respectfully.

Communication

As part of the provider perspective, the COMMUNICATION construct refers to how providers communicate with each other and with their patients, including providing patient education at the clinic, and their comfort level doing so.

Provider comfort level

The *Provider comfort level* factor is defined as how comfortable providers feel in discussing sexual health with patients.

All of the medical providers interviewed relayed a high level of comfort in speaking to patients about their sexual health, reproductive intentions, and birth control needs. All say they provide reproductive life planning and contraceptive counseling as part of the primary care services they offer. As one provider said about providing contraceptive services: "*it's bread and butter, it's what I do…*" One board member seemed to think that this level of comfort was not typical of primary care providers in other healthcare settings:

> *"Like, doctors don't want to have the conversation, so it's pretty conservative and sex negative… it's primary care providers, in general and especially older adult sexuality as well is a real issue. Getting primary care providers to talk with clients."*

Upon being asked about her provider's comfort level discussing sexual health, one of the women patients interviewed said: "*She seemed really open and kind of upfront about whatever she's talking to me about. So that's really refreshing."*

In the patient survey's satisfaction statements, patients reported that they felt comfortable talking to their provider about sexual health.

Patient education

The *Patient education* factor is defined as the sexual and reproductive health education that providers offer patients at the clinic, the time spent on patient education including contraceptive counseling, reproductive life planning, and the tiered approach for teaching patients about available birth control methods.

All of the primary care providers interviewed conducted comprehensive patient education at the clinic as part of offering integrated services. Education is offered to all women of childbearing age. Although many primary care providers in other healthcare settings do offer contraceptives, the executive director seemed to think that the level of patient education offered at the CHCNRV was above

and beyond what other primary care providers offered, and one of the things that differentiated them from others was the level of screening and education they offer:

> *"We put more effort into taking the time with the woman to really thoroughly educate her, and then allow her to take home materials- written materials, and then come back and talk about it again. And that's, that part of it is what I understand is not that common for a family practice doctor to do."*

Even though some of the nurses are the ones to initiate the conversation on reproductive life planning, the primary care providers are the ones who actually conduct the contraceptive counseling, after being notified by the nurse that the patient is interested in having the discussion. One of the providers explains the process and the reasoning behind providing comprehensive contraceptive counseling:

> *"I think we provide pretty good education for all of the patients here because I mean, I go into depth about this stuff- they are very aware of what they're getting themselves into before they do it and, we're pretty open about making sure that we provide that for all of our patients. I think is very well implemented in this office in particular."*

Most of the providers interviewed used some sort of tiered approach while providing patient education, which is recommended in the Quality Family Planning Guidelines. One of the providers uses a modified version of the tiered approach: "*I present, um, you know, the methods, probably in the order that I think would be most beneficial to the given patient*." Another provider uses a more standard tiered approach, starting with the most efficient methods:

> *"I have a handout that has all of the different forms of birth control, the pros and cons and you know what might be best for them, so we had to go over each of those on that little handout that shows them also shows them the efficacy of that."*

The interview continues:

> *"So this, I will go through and say, you know, these are methods but this is where we're focused is up here, on like the pills, patches, rings, IUDs, implants."*

All of the providers take into account the particular patient's situation as they discuss birth control options with them- if it is difficult for the patient to access the clinic, or if they have a forgetful

patient, they might recommend a LARC so the patient does not have to come back to the clinic or remember to take a pill every day. According to the providers, board members and management team, there are several important cultural reasons why providing education at the clinic is so important.

The low-income rural nature of the CHCNRV's patient population makes it slightly more difficult, yet more important to offer patient education. One nurse states:

> *"Um, I mean, you know, our area's very rural, very under-educated, um, so there's not a lot of understanding as to why you need contraceptives, no matter whether it's a depo shot or something, someone may get a depo shot and think that it will prevent an STI. It's just a lot of, you have to do a lot of education with our patients, which is good for us as well because it keeps it fresh in our minds."*

One of the main goals of the providers is to alleviate fears and misconceptions that patients might have about different types of methods. This will be covered in more detail in the Community/Patients barriers section.

All of the patients interviewed confirmed receiving education while at the clinic and being given options about the type of birth control that would best suit their needs. As one patient stated: "*She went down the list and she said that I believe that will be the best option for you*." Although some patients receive a method at the end of their initial visit, patients are also offered the time to go home and think about the options they were given and take time to make a decision. The clinic manager explains the process:

> *"And not always is a decision made at the end of that visit. They're given all the information they need, their questions are answered, but then they can call us back and let the nurse know that now I have decided on this. And if they have any questions, additional questions are answered and then we can go forward with whatever is needed."*

Most of the women in the patient survey responded that they preferred having their questions about birth control being answered in person by a provider vs. reading about it online or in a pamphlet.

Provider communication

The *Provider communication* factor is defined as how providers communicate amongst each other at the clinic. This is an emerging factor that developed during coding when it became clear how important provider communication was to run an integrated program well.

The management team seems to be very accessible and open to any type of communication. All of the providers interviewed referred to the team-based approach that is part of working in an integrated facility. This team-based approach sets the scene for communication amongst the providers, across disciplines within the organization and among the front line staff.

The providers have a morning huddle and regular meetings to stay informed. At this morning huddle, each provider meets with the nursing team, and discusses each client that they will see that day. Discussions focus around client needs, topics the provider needs to cover with the patient during the appointment, reasons for potential missed past appointments. As the clinic managers puts it: *"huddles are where you figure out what your game plan is for the patient, but you can also identify possible needs- other resources and staff members you might need to bring in for the patient that day."* A front office staff and a patient care specialist also attend morning huddles, so they are informed and ready in case there is a missed appointment or the need for a warm hand-off to behavioral healthcare.

Although they can and do communicate through patient EMRs the providers all stated that they prefer to talk to each other in person. As the chief medical officer states:

> *"We're not a big office so that's nice. We can just say, hey, I've got a patient coming to you, and we can send that in a message within the EMR, so if we can't do it verbally, which I prefer, then we put it through the EMR."*

Another method that providers use to communicate quickly with each other is what they refer to as "telephone encounters", which is like an internal email that providers use to share urgent patient information. One important aspect that facilitates provider interaction is the location of the provider

offices. The executive director purposefully placed all the providers in one small office with cubicles, during the last renovation of the building, to encourage their teamwork and communication:

> *"So their communication, I think is strong and has grown stronger over the course of the last four years because of these processes that they put in place to talk to each other. And I think that feeds into the team environment that they have. So you know, where they're set up here in the building was purposeful for me not, not just a space thing but to have them in cubicles. In that war room, so to speak, back there so that they all are with each other and not in their own private room and private offices. So that they have to be together and have to converse and will feel comfortable about conversing."*

Services

As part of the provider perspective, the SERVICES construct refers to the types of services that providers offer, tools that help them provide better services, and certain factors that might impede providers from offering integrated services.

Use of EMRs

The *Use of EMRs* factor emerged during the course of data analysis as an important facilitator to integrating contraceptive services. Although all FQHCs are required by law to use EMRs, the CHCNRV has managed to integrate EMRs into their patient education, provider communication, and integration of contraceptive services. When it was a free clinic, the CHCNRV used paper charts, so the process of going to an EMR had to be rapid.

Providers are able to use the EMRs for help with the integration of measuring reproductive intention, providing contraceptive counseling, and providing contraceptive methods. The EMR has a specific GYN template built in, which can help providers to remember to screen for unmet contraceptive need. According to one of the providers, all of the EMR templates, except those for a sick visit, specifically ask about birth control. Sticky notes and side bars are also tools within the EMRs that are used as reminders. Although most providers at the CHCNRV use the templates to assess their

patients' needs, the chief medical officer prefers to go in and have a conversation with his patients, choosing to forego the template.

EMRs are also used to record all patient medication, including their birth control choice- which can be accessed by all of the providers, regardless of discipline, in the organization. Providers do use the EMRs to communicate with each other, either through telephone encounters, sticky notes or a note in the patients' chart. All referrals are also included in the EMR. EMRs are a good way for nurses to document all patient encounters. As the executive director states:

> *"Since patients have one medical record, one chart, that everybody has access to across the system, it's important that everybody understand what's going into it, and the work that's involved in updating it and keeping it."*

EMRs are also used for patient education. The EMR allows the provider to download educational pamphlets that can be shared with the patient, in multiples languages. Although the EMR comes with a portal that may enable patient communication, the CHCNRV has found that most of their patients do not use it to access their health information.

Provider commitment

The *Provider commitment* factor is defined as how specific providers are dedicated to the organization, to their patients and to each other. This factor emerged during the interviews due to the number of times providers mentioned their commitment to their patients.

The providers at the CHCNRV are working there because they care. As one of the nurses puts it*: "I think we're all here because we want to be here and I think the patients see that when they come in."* All of the providers go out of their way to help each other as needed, to serve as backup, and to provide assistance or feedback whenever they can.

Providers care for the patients, and will offer each patient specific attention according to their particular needs. As one provider describes his philosophy:

> *"Um, you know, with our patients sometimes just gas to get here is an issue, and the co-pay is an issue, so I take all those factors into consideration and if I think it's in their best interest for them to leave here with a plan, I'm going to take that on."*

When asked what one of the biggest facilitators to integration was, the chief medical officer answered: "*the desire of the providers to want to be a part of it, I guess. I mean, I don't know of any other way…"*

Over the years, there has been very little provider turnover, except for the person who had actually been hired to promote the Women's Health Program and was never replaced. When asked what they look for in providers and staff members, the executive director explained the process that she goes through during the hiring process to ensure that the new staff members that she brings on the team are fully on board with the CHCNRV's mission:

> *"this is true for everybody that I go through the hiring process with, clinician or not. And that is that we're a different animal, you know, our business works with a different population than maybe they've been used to working with before. And I want to be transparent with them. I mean, I even say that. I say I want to be transparent with you. I see on your resume where you've come from. Let me tell you about who we are and unless you're that individual who wants this type of role, who wants to work within this mission, this may not be the place for you. And I say that through the hiring process, you know, you need to be aware that our patients are difficult because they may come with multiple chronic conditions to the table and you may not have been faced with that before. And we may have a higher illiteracy rate than, other places that you've worked before. Um, you know, we are a rural clinic so we don't have, and we're a nonprofit, so we don't have all the resources that you may have been used to in private practice… I give a lot of examples like that. I talk about how those of us who are here are mission driven, typically that's why we enjoy our job because we do, we came to this place because that's who we are. In essence, we are individuals who receive fulfillment from service in some capacity."*

Provider barriers

Services

Time per appointment

The *Time per appointment* factor is defined as the actual time that each provider has with a patient during a primary care appointment.

The way the clinic schedule is organized, Family Nurse Practitioners spend 30 minutes with their patients, while the physicians spend 15 minutes. This need may be individualized, such as when some patients get two consecutive time slots as needed for a longer appointment. In general, when a reproductive intention is assessed during primary care, and contraceptive counseling is offered, the providers like to let the patient go home to make a decision, and come back later to receive their preferred method. Patients are asked to be abstinent, to use condoms, or to use another method during that time. This is especially true for those patients getting a LARC method. This is generally the case, because the clinic has few LARCs in house and most of them need to be ordered. In addition, the clinic protocol states that LARC should be inserted during the patient's menstrual cycle and after one negative urine pregnancy test. Several of the providers did say that if a woman knows the method she wants and it can be easily prescribed, they will write the prescription for a non-LARC hormonal method such as birth control pills on the day of their visit.

Although most of the providers feel that they have enough time to measure reproductive intention and provide adequate contraceptive counseling, some of them do describe it as a balancing act. They acknowledge that sometimes they feel rushed, but they "*just gotta make it happen*." The chief medical officer describes this balancing act:

"that's one of the problems we have with integrated clinic- there's so much stuff that we do and you can't fit it all in one appointment, but then you don't want to have patients have multiple appointments… it's a balance"

The clinic manager shares her thought:

"It's a balancing act for the providers. They walk a tight rope with these things. So I, I'm sure they wished they had much longer appointments and ample time to give to these patients. But, but they do a great job of juggling it."

Finally, the clinic manager acknowledges that sometimes, there just is not time to provide all the services in a short amount of time, given some of the patients' high needs. When asked if providers have the time to measure reproductive intention, provide contraceptive counseling and provide the actual services, the answer was:

"Well, not all the time. I'll be honest. A lot of our patients here have a lot of co-morbidities. So when you're handling diabetes, depression and hypertension in one visit, and then they want to know about, I don't think I need to get pregnant, I need to discuss contraceptives, it doesn't, it doesn't all fit into a half an hour. So they decide, they try to talk to the patient about where, what are you looking at... then what they'll do is they will ask them to make another appointment so they have the time to dedicate to that conversation because it isn't a quick conversation. There's so many different options out there, so instead of rushing through it and making a half informed decision, they'll ask them to come back."

The patients interviewed confirmed that they had more time when meeting with a Family Nurse Practitioner vs. a physician, most likely due to the time allocated per patients. One patient said that when she met with the Family Nurse Practitioner, she "*doesn't rush me or anything*", but that when meeting with a physician, who has since left, "*I kind of felt rushed*".

In the patient survey's satisfaction statements, patients reported that they had enough time with their provider during an appointment.

Time until next appointment (rare same day LARC)

This factor is defined as how much time it takes to schedule a follow up contraceptive appointment, and the resulting fact that few women receive a same day LARC. The *Time until next appointment* factor emerged as an important barrier to providing integrated contraceptive services.

On many occasions, there just is not enough time to provide all of the services in one appointment, and another appointment is warranted, especially for LARC insertion. In addition, protocol at the CHCNRV dictates that for LARC insertion, women need to have a negative urine pregnancy test in order to receive a LARC and insertion must occur during a woman's menstrual cycle. Another one of the barriers related to this factor is that the CHCNRV does not have many IUDs and Nexplanon® in house and once a woman has decided that she wants one, it must be ordered. For hormonal non-LARC, the providers will give a woman a prescription on the day of the initial visit.

Providers are willing to bend the rules on occasion to get a woman on a method if she really can't get back for another appointment due to transportation or other issues. If getting to the clinic is not a barrier, the providers prefer to give them plenty of time to think about the method that they want, and to come back when they have chosen and want the method.

Patients interviewed did confirm that they usually have to wait at least a week in between appointments, and at least one week to schedule an appointment. One patient did say that from the time she made the decision to get the Nexplanon®, it was only 3 days until she got it implanted.

The lowest scoring statement of the survey question assessing satisfaction of services at the CHCNRV was "I do not have to make multiple appointments to get all my care." (Appendix F). Less women were likely to agree to this statement than other satisfaction related statements.

In the patient survey's satisfaction statements, women did not express a preference for same day vs. scheduling an appointment ahead of time.

Research Question 1c. What are community and patient facilitators and barriers affecting the planning and delivery of integrated services at CHCNRV? How do these community facilitators and barriers affect integration?

Two constructs were identified ahead of time as including potential facilitators and barriers from the community/patient perspective. They include COMMUNICATION [factor: *Patient comfort level*] and SERVICES [factors: *Willingness of get integrated services, Access to services (2), Insurance/cost issues, Time to get an appointment*]. Although not identified as a construct relating to the community/patient perspective ahead of time, EDUCATION [factors: *Lack of knowledge of services offered, Lack of knowledge on birth control and reproduction, Education on birth control,* "*Misinformation and misconceptions*"] emerged as a relevant construct from this perspective when these factors emerged as barriers..

One new construct emerged as playing a major role in the clinic's ability to offer integrated contraceptive services. That construct was labeled CULTURAL [factors: *Cultural context of SW Virginia, Fear/mistrust, Rurality*], and was included in the barriers section.

An exploration of these constructs and associated factors follows.

Community/Patient Facilitators

Communication

As part of the community/patient perspective, the COMMUNICATION construct refers to how the community and patients perceive communication with providers and the organization, including comfort level talking to providers.

Patient comfort level

The *Patient comfort level* factor is defined as how satisfied the patient was with the care they received from their provider, and how comfortable they were discussing sexual health with them.

Most of the patients interviewed showed a high level of satisfaction with their provider. Patients mostly described providers who were eager to help, took time to listen to them, and offered them education on all the methods, including pros and cons of each method and helped them figure out the best method for them. They described friendly, caring providers. Patients also described a high comfort level discussing their sexual health needs with their providers, saying that the providers were "*really knowledgeable*", "*really open*", "*nice*", "*very thorough*" and "*courteous*". One patient added about her provider: "*I like her a lot*". Only one patient interviewed reported a provider who did not seem to care much for her needs, was rushed and did not listen to her well.

In the patient survey, most patients reported feeling comfortable talking with their provider.

Services

As part of the community/patient perspective, the SERVICES construct refers to how services are offered and accessed by patients, how services are viewed by patients and the greater community.

Willingness to get integrated services

The *Willingness to get integrated services* factor is defined as how willing patients were to receive the integrated contraceptive services through primary care.

All of the patients interviewed reported a high level of willingness and gratitude at receiving integrated services. As one patient describes it: "*I'm just glad I didn't have to go somewhere else to get it*", referring to being able to access her birth control in the same place she went to for primary care. Several of the patients spoke of the ease of accessing birth control services at the CHCNRV. One

patient commented: "*I'm very impressed at how easy it was to get birth control, it's definitely needed, there are people that are having kids so young*."

Patients also commented on the fact that being able to access LARC for free reduced the cost barriers that they were accustomed to. When asked what was the best part about being able to access contraceptives as part of primary care, one patient said:

> *"I think it's just really reliable for me and I get it for free because I'm part of a program and that's really great because I'm a student, a part time worker, so I just feel like it's really accessible and reliable for me and that's really great."*

Access to services

The *Access to services* factor occurs both as a facilitator and a barrier under the community/provider perspective. One of the reasons is because most of the patients interviewed had accessed services, so they spoke of the relative ease of accessing services. However, many of the patients, the board members, the management team and providers all spoke of access to service as a barrier in the area. Here, this factor is defined as how easy it is to access contraceptive services at the CHCNRV.

One of the access issues described by a board member centers on the fact that since CHCNRV is an integrated clinic, contraceptive services there can be sought with anonymity versus accessing services at a family planning clinic or at an OB/GYN's office. The board member stated:

> *"I think because it's a place where all services are provided, you're not necessarily going there just to get contraceptives…and there are barriers to contraception in this area, religious, social, all sorts of things. So people don't necessarily know why you're going in there. If you're going into the family planning clinic, it's obvious why you're going there."*

Access to contraceptives has been increased with the creation of the Women's Health Program. According to one provider*: I think our patients have benefited tremendously from us being able to offer*

that service, especially those without insurance. The executive director shares an example of how CHCNRV is increasing access to contraceptives throughout the New River Valley:

> "*One of the newer initiatives around that for example is they have very little GYN care in Dublin, in that area- and Pulaski County Hospital- they don't have GYN services so we're now talking with them about them sending their GYN patients our direction to the Dublin clinic because Dr. […] is now practicing part time over there. So that, you know, that just is an example of how our being there and doing what we do now has been able to sort of just open the door a little bit wider for those people who didn't have access otherwise or afford it, you know the key is really affordable access."*

The CHCNRV accepts walk-in clients every day for those that are unable to make an appointment ahead of time. The clinic tries as much as possible to schedule around the patient, not to have the patient schedule around the clinic's time, to the extent possible. One patient shares her experience with accessing services in the area:

> *"I think that it's mostly after when kids are born that there's not a lot of help, but I also feel like there's not a lot of help for like preventative measures or anything. I think the community center is the only place where like I feel like I can go to get help and family planning. Um, so I just feel like there's not a lot of resources in this area."*

Another patient states that if a patient knows about the services offered, it's easy to access them, but continues that one of the problems is that people don't know about the services offered (more on that in the barriers section below):

> *"Honestly, I find it pretty... I've always had an easy time getting birth control, but I've always known the services that are offered to me like here and other places. So. And that also comes from having a nurse mom because she also knows all the services around the area. I feel like it could be promoted a tad more for women that don't have that kind of... not knowing that knowledge and stuff."*

In the patient survey, women reported that the clinic location was convenient and that the clinic hours fit their schedule.

Community and patient barriers

Education

As part of the community/patient perspective, the EDUCATION construct refers to community and patient knowledge about birth control and reproduction and where to access services, and the type of sexual health education received by community members and patients. Lacking knowledge about services or methods, or having erroneous knowledge is a barrier to accessing contraceptive care.

Lack of knowledge of services offered

This factor is defined as how much community members and patients know about the services that the CHCNRV offers, including birth control services, and the lack of advertising and outreach of said services leading to this lack of knowledge.

There is still a noted lack of knowledge about available services on the part of many community members, as reported by board members, providers and patients. It seems to be a combination of not knowing the exact services that the CNHNRV offers, a general sense of shyness about accessing services, along with a lack of knowledge about what services are available to them and at what cost. One board member who also has a mental health private practice, states that these private practice clients don't seem to be aware of the services that are offered at the CHCNRV: "*I don't think they know we provide these services. I see clients in my practice pro bono and they aren't aware that they can access those services at the community health center*."

Most of the patients interviewed echoed these thoughts, with several of the patients stating that services are not promoted well in the community, that women need to know "*where to get services along with like being taught what the services will do for them.*" Another patient stated that many community members "*don't know of this place*". One patient did say that she thought that women knew

where to access birth control services, but somehow didn't access them, perhaps due to the perceived cost of the services: "*I honestly, I think they know where to get it. I honestly think they don't care. They don't have the money for it."*

In addition, both providers and patients reported that many community members don't seem to know what services are available to them, and what services are covered by certain programs. One of the family nurse practitioners describes it this way:

> *"Once they come in, we typically talk to them about like the women's health program that we offer to get them free stuff, especially long term birth control. So I just think a lot of it is just more lack of education within the community…because they just don't know what they can get or what they can't get and how much it's going to cost, which is a big fear in the population that we take care of."*

The interview continues:

> *"I just think the biggest issue is patient education of like when they come in, you're a new patient you have no, you just don't know what, you know, what you're asking for, what you want."*

This lack of knowledge about the services being offered is in part due to the lack of advertising about services. According to several board members, one of the reasons behind the lack of advertising about the provision of birth control services, is due to the sensitive nature of the topic. One board member states that the CNCHRV needs to "*let a broader audience know about the services*" and "*if people don't know of the service, they're not going to use it*." Another board member echoes these sentiments:

> *"Now we need to start saying we have, you know, contraceptive care such that "spread the word", have women know this is a safe place because without your planned parenthoods and such, a lot of people are probably not going to know where do I turn."*

Another board member states that he thinks the CHCNRV is poised to become a go to place for women's health, but many people still don't know about all of the birth control services that they offer:

> "*I just think that... I think we would be able to provide contraceptive services to those who want them. I think that the Center has grown and evolved into a place that could be a central place*

for women's health in general. It's just getting the word out and attracting the patients to do so. So you know, again, promotion of the service in whatever way... continued advertising or, or whatever method seems to be the best."

There seems to be some divergence between what is reported as far as outreach conducted in the reports to the Secular Society with the image that board members, providers and patient paint of a community that does not seem to know about services available. The progress reports state that community outreach is being conducted, yet the interviews clearly suggest that there is still a serious lack of knowledge about services in the community. The website has a page dedicated to the Women's Health Program that is accessible from the front page of the site, leading anyone that accesses the website to find information relatively easily.

When asked why they hadn't gotten birth control services at CHCNRV, one of the respondents to the patient survey stated: "never thought about getting it here" reinforcing the interviewees' statements that people don't know that CHCNRV provides contraceptive services.

Lack of knowledge about birth control and reproductive health

The factor *Lack of knowledge about birth control and reproductive health* is defined as the type of knowledge, or lack thereof, that both community members and patients have about reproduction and birth control. It emerged during the coding of the data as being a significant barrier to care.

According to several of the board members, for some women, one fundamental barrier might simply be a basic lack of understand about their anatomy and basic principles of reproduction.

Most of the discussion in the interviews focused on the lack of knowledge in general that people in the region had when it comes to birth control, reproduction and sex. From a clinic perspective, providers see this lack of knowledge when women patients come in and are screened for unmet birth control need and are then counseled on different options. Several of the providers mentioned the fact

that some of the patients they see have little to no contraceptive knowledge. For those that do have some knowledge, it's not always accurate. One of the nurses describes this:

> *"Um, I mean, you know, our area's very rural, very under-educated, um, so there's not a lot of understanding as to why you need contraceptives, no matter whether it's a depo shot or something, someone may get an depo shot and think that it will prevent an STI. It's just a lot of, you have to do a lot of education with our patients…"*

When asked what was one of the biggest barriers to women access family planning services in the region, the executive director mentioned a lack of education as one of the biggest issues:

> *"It always seems like well, health education, right kind of rises to the top. One of those things that the community feels is lacking across the board for everyone in the community. I think sliced out of that though, what you tend to see also is a lack of education around women's services and family planning I think. So I think that's, this topic is absolutely something that the community hones in on. And you know we have a lot of rural communities in the New River Valley specifically…I think that, I think the people there really do see it as a need and patient education is lacking. So I think that's something that we are trying more so ourselves to focus on…"*

One of the reasons, according to several of the providers interviewed, might be that in schools, many women in the area hear a message of abstinence, and therefore do not come to the clinic to get preventative services. The other issue might be that they have seen their mothers, sisters or friends have multiple unplanned pregnancies, and that they, according to a provider "*thought it was meant to be".* This same provider continues:

> *"They've just not been educated to, you know, you do not have to have children if you do not want them right at this time in your life. So education is definitely the biggest barrier even though we're trying to provide it, it should be provided I think within the schools a little bit more and things like that. They're talking about how it works, but not how to get it."*

Patients interviewed had similar stories to those told by providers and the management team. When asked if women knew about all the types of birth control available, several of the women responded that they didn't think many women did, or if they did, they might have wrong information. After one woman stated that she knew many women who had both had abortions and unplanned pregnancies, she was asked if the issue was if people didn't know about birth control methods, or they

couldn't access them. She answered: "*They probably just thought that they didn't need it or they weren't educated enough about using it before...you know, preventative."*

Another patient corroborated this idea that the thought of prevention was just not present for some people:

> *"I had a friend told me about her other friend, who has like three kids because like oh, this idea that she should be on birth control just wasn't there and they were like using the withdrawal method and that doesn't work."*

When women patients at the CHCNRV filled out the patient survey, several of them indicated in writing that they had their tubes tied, but did not indicate that they were using a method of birth control in that specific question, in effect showing their misunderstanding that having their tubes was not considered a birth control method.

Education on birth control

The *Education on birth control* factor is defined as what kind of education about sexual health patients and community members in general have received. This is an emerging factor that emerged after a preliminary coding of the provider and board member interviews revealed the extent of the lack of knowledge about birth control and reproduction. Several questions were then added to the patient questionnaires to gain a further understanding of this perceived barrier from a patient perspective.

One provider thought that the fact that many of the schools in the region teach abstinence only was one of the biggest barriers to women accessing services. Even though they might want the services, the stigma associated with accessing those services might be too much, and they end up with an unwanted pregnancy:

> *"People aren't preventing us from providing services but in places where women need to hear about contraception they are hearing abstinence. And that may as well be considered a barrier, because if they hear abstinence, they're not going to come to the clinic seeking birth control,*

even though in their minds they want that and, and in their hearts they want that, but they're being fed this, this line that abstinence is the only way to go."

Another provider echoed this statement by stating that sexual health education in local schools needs to go beyond abstinence only education.

"And I think education, people just need more education about, um, you know, sexual health, sexuality, um, all of those things, you know, abstinence is not the way to go in my opinion, um, because kids are going to have sex and so give them what they need to prevent the pregnancies and STIs and all those things. So I think education is kind of lacking in our area."

Some sexual health education is happening in schools, but according to one patient, the education started happening once kids were already experimenting with sex: "*I feel like it might be too late, whenever they provide education*." One of providers complained that even though schools teach kids about contraceptives, they don't teach them about where or how they can access them, which is an important component of teaching comprehensive sexual health education.

When asked where they first learned about birth control, many of the women had differing answers, but the common theme was that they did not remember much about what they learned, even though for some of them it was not that long ago. None of them had received comprehensive sexual health education, although most of them had received some sort of basic education on methods available, but not in depth.

One woman stated that she first learned about sexual health at church. Two women stated that they first learned about sexual health from their mother, one stated that she first learned about sex from her peers, and three first learned about sexual health at school.

For those that learned about it at school, some thought that the knowledge they were given was adequate, and others wished that they had learned more in depth about each method in particular. When asked if they would have liked to learn more about sexual health at school, several of the women

responded that yes, they would have like to receive more detailed information about both contraceptive methods and about sex.

Most of the women spoke of learning about birth control methods, but none of them reported learning about sex, including mechanics of sex, consent, healthy relationships, etc. As far as content, several of them reported being taught the "*just say no*" method. When one patient was asked if she remembered being taught about different methods in school, she answered: "*No, it was more of just saying no and not having sex instead of more teaching you what to do in case you do have sex*." Another patient though, thought that her school had done a good job at teaching them prevention: "*I feel like it was more always prevention, like... they were like this could happen if you have sex. It wasn't like this is going to happen*." Increasing access to information will lead women to make "*informed choices*", which according to one patient is what is needed.

"Misinformation and misconceptions"

The "*Misinformation and misconceptions*" factor emerged during the coding of the interview data. It is listed in quotations as it's an *in vivo* code. It is defined as how inaccurate information about birth control or reproduction in general may lead to misconceptions. This can in turn work as a barrier to accessing care, if women do not have the correct information about birth control methods.

There is still a lot of erroneous information out there when it comes to birth control methods and reproduction- both how contraceptive methods work, and general mechanics of reproductive health and anatomy. One of the women interviewed stated that she would have liked to have more sexual health education: "*I guess a little bit more, maybe about just sex in general because there's a lot of like sort of misconceptions there."* Another patient spoke of the misinformation she saw on television, about the damage done by IUDs and implants, causing women harm:

"It's like, I mean, even in my experience, I didn't know all about the different technology and so some of the things that I heard were a little bit like frightening, right? Like, um, like, like when Phil Donahue. I don't know that he's still a thing, but back in the nineties when I was a kid watching Phil Donahue, uh, there were these women talking about how these implants were terrible, they had scars and all sorts of things."

One patient spoke of the potential detrimental role of inadequate information or rumors that can end up harming you if you do not take medication as prescribed:

"So, um, but I think when you're sort of a young person, you get all of these rumors from your friends and uh, there is a story about this girl that lived in a college dorm and she was like, I'm gonna go have sex, let me borrow your pills. And it's like you can't just take one and it works. So there's even like that sort of misconception like, you know, uh, how long do you need to be on it before you can be sexually active, how long are the facts good for."

Several of the board members spoke about the two board members that departed at the time the Women's Health Program was created, a decision which was mostly driven by a misconception of how LARC work. One past board member spoke of this:

"I know that, um, when I was on the board and we wanted to implement the Women's Health Program, I think there was a lot of concern that we were going to be offering abortions, which was totally a misconception and a lot of education needed to be provided to board members regarding what contraception is."

Several of the women interviewed still erroneously believed that there was no option that would work for them: "*I just personally, it doesn't work well with me so I don't take it, but it's nice to be able to have the option if I wanted to."*

Finally, one patient showed frustration at the fact that many people have misinformation about the services that Planned Parenthood and similar organizations provide and may use that information to continue spreading misinformation about them:

"I think Planned Parenthood is a great thing. People don't understand it. They're afraid of what they don't understand. The whole general population needs to be better educated on them, what they're out there doing, and how they're helping instead of... They think it's a free abortion clinic or something."

Services

Access to services

The factor *Access to services* as presented in the community/patient barriers section is defined as how difficult it is to access birth control and women's health services, both because of the scarcity of healthcare organizations that cater to low income populations, and the actual physical or geographic barriers to accessing the clinic.

One of the biggest barriers in the region is the low number of facilities that offer low/no cost birth control for un or under insured women. As one board member states: "*without facilities like this, there's not a lot places for women to turn to*". The CHCNRV provides comprehensive care, including behavioral, dental, and medical care, including comprehensive family planning services to people that otherwise would not be able to access these services due to cost issues. One patient echoed the board member's thoughts:

> *"I think the community health center is the only place where like I feel like I can go to get help and family planning. Um, so I just feel like there's not a lot of resources in this area."*

One of the biggest barriers to accessing services is the lack of transportation that many low income individuals experience. Patients and providers alike spoke of this as a barrier to accessing care. From a provider perspective, providers try to take patient transportation issues into account, by offering more services in one appointment so that patients don't need to come back more than once. As one provider explains it:

> *"Um, you know, with our patients sometimes just gas to get here is an issue, and the co-pay is an issue, so I take all those factors into consideration and if I think it's in their best interest for them to leave here with a plan, I'm going to take that on."*

At the same time, providers feel a certain sense of frustration when this lack of transportation leads to missed appointments when patients can't get to the clinic:

"It's a little frustrating, you know, today everybody that was on my schedule came, but um, you know, there's a lot of times we have no shows out here [Giles] and oftentimes I'm not as booked as heavily here."

According, to this same provider, an OB/GYN, one of the benefits of LARC is that women do not need to come back for an appointment, and risk missing the appointment due to transportation issues, and with that, missing a birth control pill, resulting in an unintended pregnancy:

"Um, this is one of the reasons that the LARC is so nice is that, you know, then you don't have, um, you know: "I'm three days late starting my birth control pills because I couldn't get in and pick them up either because I couldn't, didn't have the money or you know, the car was broke down or something like that…, and, uh, you know, nd then I got pregnant because I started my birth control pills late."

For several of the women interviewed, transportation to the clinic was a barrier. Two of them relied on boyfriend to drive them to their appointments, and one of them relied on a friend. As one patient puts it: "*Sometimes transportation's a little bit of a thing for me since I don't drive anymore.*" Some of the patients interviewed expressed some problems with the fact that there were few outside of business hours appointments, limiting the time that they could see a provider. One of the women actually stated that this visit was the first time she had heard about the clinic's expanded Thursday afternoon hours.

Time to get an appointment

The *Time to get an appointment* factor emerged during the data analysis. Although it was not extensively described by patients, it was valuable factor to include, as a potential barrier to care due to the sensitive nature and timeliness of receiving birth control services.

Several of the patients interviewed expressed a concern over the amount of time it took them to get an appointment to see a provider, specifically a primary care provider. The patients did think that it is not necessarily always the clinic's fault, for some women, it's because of the barriers mentioned above like actually getting to the clinic at a certain time. As one patient states: "*sometimes I have to wait*

a long time for an appointment, scheduling is difficult around my job." Two of the patients interviewed expressed no concern at all over scheduling an appointment.

Overall, in the patient survey, women reported that they liked that they did not have to wait long for an appointment.

Insurance/cost issues

One of the biggest barriers to accessing care for the population that the CHCNRV serves is lack of insurance, or prohibitive cost of services (or perceived prohibitive cost of services). The factor *Insurance/cost issues* is defined as anything referring to the prohibitive cost of services and issues with insurance coverage.

For some patients, the perception that something might not be covered by their insurance, their lack of insurance, or being underinsured is enough to delay seeking healthcare services. Some insurances don't pay for certain contraceptive methods, and some deductibles are so high that it's as if the patient didn't have insurance. When asked what one of the biggest barriers to women receiving care was in the area, one provider referred to this confusion around insurance and what it covers:

> *"I would just say a lot of the patients don't know whether what's covered, what's not. They don't know whether it's free, whether it's like their insurance will cover it. And the insurance thing has actually been kind of a big deal because an insurance company might cover one thing but not the other. They like this, they like that. So insurance coverage is a big one of like patients who are paranoid about not having insurance coverage, it won't cover their meds."*

Both the actual cost of receiving healthcare, including birth control methods and the fear of the cost of methods are seen as one of the main barriers to patients accessing services. Providers, board members, and patients alike commented on this as a barrier to care. People in the community not only don't know where they can get services, but they also don't know what to expect-what it's going to cost them- if they do access services. That can be frightening to many people who do not have a big experience accessing services. One of the main functions of CHCNRV is to serve these populations.

Both providers and patients spoke about women making a choice of either using a birth control method or spending money on something else, such as food, gas or housing. One provider described it as a patient making "*a decision of whether I put food on the table for my family or I go out and buy a $12 pack of condoms…I'm going to buy food*." For a patient, the comment came as she was describing the high price of condoms: "*So it becomes this like, it becomes this sort of like economy of like, you know, can I afford to have sex*?"

This sentiment was echoed by several of the other patients who reinstated that even though some people know about available methods, they just don't have the money to spend on them, or don't know that they can get them for free: "*The future consequences aren't as pressing as like, okay, I need to eat now."* As the executive director puts it, when referring to the high cost of an IUD:

> *"So there's no way a woman who is uninsured and low income is going to be able to afford that ever ever ever. You're never going to save for it. I mean it's not a priority right?"*

In the patient survey, most women reported that they liked that they could get free or low cost care.

Cultural

The CULTURAL construct emerged from the analysis of the data. The construct is defined as the cultural context, including geography and fear or mistrust of methods that may have an influence on community and patient's access to care.

Cultural context of Southwest Virginia

This factor is defined as the cultural context in Southwest Virginia that may have an impact on women accessing contraceptive services, and includes such things as Appalachian culture, conservatism, stigma and religion. Sub-categories have been included throughout this factor, as it is large and encompasses several sub-themes.

As is the case for describing any region, including its people, one needs to keep in mind that Appalachia, and Southwest Virginia as part of Appalachia, is a large and diverse region with people who all have individual thoughts and feelings and follow different cultural norms. What follows is strictly a reporting of the data that was collected through interviews, and in no way constitutes an interpretation or description of Appalachian people from the researchers' perspective.

Political

Some of the cultural landscape in Southwest Virginia is shaped by current US politics. Several of the board members and providers described the current (as of summer 2018) political climate in the United States as detrimental to women's health. As one board member put it: "*in my opinion, we're going backwards since Roe v Wade. We are not progressing forward*." There was general consensus that women's health was not being prioritized at the national level. Another board member stated that the issue of poverty and how it intersects with access to reproductive devices is a political issue with cultural ramifications that needs to be discussed. Some of the services that the CHCNRV can perform, as a federally funded site are restricted by national laws. The most notable prohibition is that CHCNRV is forbidden from performing abortions.

No culture of health

Board members and providers described the culture of Southwest Virginia, and the culture's influence on health and access to services. One of the board members used the term "*Culture of Health*", borrowed from the Robert Wood Johnson Foundation to describe Southwest Virginia. He doesn't think that the culture of Southwest Virginia prioritizes health and access to healthcare.

> *"I don't think we can underestimate the role of culture in terms of healthcare in this part of the world quite frankly…I'm a firm believer and I'm sure you are aware of a Robert Wood Johnson has now put their emphasis on culture, and culture of health, and I firmly believe that's a critical thing…. We have a significant number of people in this region who don't have a culture of health. They don't think of it- and how you change that culture."*

This lack of a culture of health was echoed by other board members and providers. Several of the board members agreed with the thought that healthcare is not prioritized in this region, specifically preventive care. As part of that, women's health services and birth control are not prioritized. One board member stated that she thinks that birth control is not high on many people's agendas, and that people don't "*think of contraception and various women's sexual health issues as real health issues.*" One board member described the people of Southwest Virginia as very closed and private, and that their shyness in discussing issues of sexual health may lead to them not wanting to talk about it with a provider. This board member also thought that many of the women in the region were "*not very empowered*", which hinders their access to services.

Role of family/intergenerational norms

The family structure and intergenerational norms for childbearing seem to have an important cultural role and influence when it comes to accessing birth control services. As one provider states, unwanted pregnancies are one of the biggest community barriers in Southwest Virginia, probably more so than in other parts of the state: "*it's an Appalachian culture thing as well*." Conversations about pregnancy prevention are started early with this population. As another provider states, it is not uncommon to see a woman whose mother has many children, and never gave it a second thought. This provider states:

> *"A lot of people are not [on birth control] and a lot of people are like, well, you know, my mom has eight kids. I just never thought about it even though I didn't want them. I just thought if it was meant to be, it would be…"*

The chief medical officer reinforces this idea of intergenerational norms and the influence of the family on contraceptive choices:

> *"In this area, there's a long lineage of family members, you know, they'll stay; grandma's here, mom's here and the daughters are here. Um, so you, you have to fight against tradition. Um, what is socially acceptable depending on whatever the type of contraception is."*

Another provider stated that several women have referred to themselves as "*a breeder*", and hypothesized that some women have more children in order to get another government welfare check, and that providing birth control to low income women means putting less strain on the welfare system.

Patient echoed some of the statements made by providers. At least three of the patients interviewed referred to the number of children that women had, even if they could not provide for them, and the young age at which they started having children. One 27-year-old patient put it in the context of accessing birth control, and that she was happy she was able to obtain access so that she would not have kids so young like so many others had:

> *"I'm very impressed at how easy it was to get birth control, it's definitely needed, there are people that are having kids so young."*

Another patient, who states that she usually spends time with people of a higher economic status, reinforces this idea of early childbirth:

> *"…locally I have a person I like to see in a shop, and her daughter was pregnant in high school and that like kind of blows my mind away, but you know, I don't think that that might not necessarily be that uncommon, but I just don't really hear about it."*

Finally, one 23-year-old patient mentioned the number of people she knows that are having babies and unable to care for them:

> *"… there's more people out here that are having babies that don't have the means to keep up their baby or to keep up anything like that …"*

She continued later on in the interview: "*All I know is my generation's keep popping out babies and that's not the best thing."*

Conservatism/stigma

Due to some conservative (defined as: "a commitment to traditional values and ideas with opposition to change or innovation" [133]) cultural values present in Southwest Virginia (and in many other rural parts of the country), talking about sex and birth control, or engaging in sex outside or

marriage carries a stigma with it. Board members, providers and patients referred to this as a barrier to accessing contraceptive services.

Providers and board members agreed that conservative values in the region are "*hindering access to good care*". According to one board member, "*there is still a hesitancy about birth control in this part of the state*." The interview continues: "*the cultural barriers [to providing reproductive health services] are still really strong*." One board member referred to the culture in Southwest Virginia as "*pretty sex negative*."

Several patients interviewed referred to the concept of stigma when discussing sex or accessing birth control services. Sex outside of marriage is stigmatized, and according to one patient, going to a gynecologist or discussing sex with a provider can be stigmatized. Another patient reinforced this idea of stigma while talking about sex: "*I think a lot of it might be sort of education, maybe a stigma because I was 17 when I first started having sex and it wasn't something that was easy to talk to my mom about and definitely not my dad.*"

Several of the patients observed this conservatism and stigma as it relates to accessing birth control. One patient says that she had never run into a barrier or stigma at this health center, but she has outside of the health center in her personal life. When asked to explain this, she stated:

> *"Um, I know that there's just people that believe that women shouldn't have birth control and everything, but I mean that's just their belief and it is our right to have it and so I mean they can just keep believing that while I go get my birth control."*

Another patient reinforced this thought: "*And so some people are really against it too*." She concludes by stating that "*I guess I wish birth control was a little bit more normalized because it's really like an important issue.*"

Staff conservatism at CHCNRV

In addition, some of the conservatism of the organization's staff might have an influence on the provision of services. According to one board member, the front desk employees, although trained in cultural competency measures and customer service are not necessarily creating what is referred to as a "sex positive" culture that is amenable to women asking for sexual health services:

> *"I see the women who are working at the front desk, they're not going to be handing out condoms, right? Like I get it. It's the same thing that happens with the university, right, at Radford, there is a little old lady when you go to the front desk and you have to ask someone, right? They're not just sitting available. You have to ask for them. She goes to a drawer, you feel totally shamed when you're asking for them. Right? She picks out four, for you. This is horrible. Right? And I think the same thing would happen with the front desk."*

Board members are the first to admit that the CHCNRV has approached the outreach for the women's health program with trepidation due to fears of community uproar. One board member states: "*my sense is we don't showcase it in public and it may be because of the sensitivity of it*." Another board member shared the same thought, using slightly different terms:

> *"…if you bring too much attention that becomes problematic because then you've got protesters outside the door saying you provide abortions. Right? So it's this really delicate balance of making sure you know who your audience is…"*

At the same time, this may an unfounded fear. As the executive director puts it, upon initiation of the Women's Health Program, there was a fear of community perceptions of the provision of services and of the association the Secular Society, in this very religious part of the state:

> *"I think those board members were concerned that tagging the Secular Society name would have a negative impact down the line but that has not happened. And I felt really confident that that wasn't going to happen but time really needed to pass for us to be able to see that. So you know nobody was- we haven't had any you know, large mass gatherings with pitch forks at the clinic which I literally thought was- kind of the communication that they were saying was going to occur, because all of a sudden we're seen as secular, which, you know, in many countries does not have a negative connotation. And that hasn't happened, so there were some initial concerns I think about that that you would call barriers. But they've evaporated."*

Religion

According to board members and providers, religion may also play a role in access to contraceptive services. One of the board members who resigned was a minister, and although he supported the general idea of providing services, he did not want to be associated with the Women's Health Program due to perceptions. According to a board member: "*I mean, he's, he supported taking the money and doing the service, but said "I really can't in good conscious now serve on the board."*"

There is a still a certain stigma associated with having non-marital sex in some religions that may have an influence on women accessing birth control services. As one board member puts it:

> *"And the next one [barrier] is just the stigma. Certain people, you know, if you're ultra conservative or ultra religious, and you think you shouldn't have sex, but it happens. Not always, not for some people, but for most people turns out it seems to happen."*

As one board member puts it, sexual health and birth control are not often discussed in this part of the country: "*It's, it's not, it's not discussed. It's not polite. You know, cause we're in the Bible belt and you know, you get shocked about stuff like that."* One of the providers reinforces this statement:

> *"Politically, we're kind of in a weird spot politically. Um, cause I think this area tends to be more towards Republican, conservative Christian. So a lot of times you put those things together and contraceptives, it doesn't really match."*

Role of providers

Two of the board members alluded to the potential role of providers while sharing their conservative or religious biases with patients. One mentioned that he had seen several providers (not at the CHCNRV) not want to have a discussion about sex with their patients:"*…doctors don't want to have the conversation. So it's pretty conservative and sex negative…"* Another board member speculated that some providers with conservative values might not want to give patients birth control or talk to them about it.

> *"A male dominated society in Appalachia in general is a problem and it may well be, although we've never encountered it, some providers are loathe to do it for their reasons, whatever they may be."*

This same board member referred to the "*male-oriented chauvinistic culture*" in Southwest Virginia, and speculated that this chauvinism might have something to do with women not accessing birth control- that men did not want women to access it. This thought was not reinforced by other board members or providers and not mentioned by any of the female patients.

Education

Finally, according to several providers and the management team, the lack of educational opportunities in rural Southwest Virginia may play a role as a barrier in accessing healthcare. This is both an educational and a cultural issue, but is included here due to the context in which the statements were made. In the context of explaining how the Women's Health Program was first formed, the executive director emphasized the importance of providing comprehensive education at the clinic to women who otherwise might not have been exposed to this information:

> *"You know taking that extra time, providing that education. We knew that would be a challenge especially for a population that isn't maybe as literate or well versed in having those type of higher level discussions. But that's why you as the clinician or the nurse…would take that extra time. So that we could make sure that the patient is really getting what she deserves, what she wants, you know, from us."*

From a knowledge perspective, one provider seems to think that lack of education and poverty (which in this case are listed as cultural barriers) are contributing to the fact that people don't have contraception at the top of their list of daily concerns (for many of the reasons included as barriers in the narrative above.)

> *"I think primarily we are in a very poor area. Um, and maybe, and I don't mean this in a horrible way, maybe in a less educated area than maybe a more suburban area or urban area. So I think contraception is one of those things that may not be the top of everybody's list of concerns.*"

The interview continues: "*And so a lot of times I think the contraceptive is one of those things that's not really on people's radar."*

Programs in school would help address this lack of education, according to one provider, but fears that these types of programs would not be welcomed in schools: "*Um, and I don't know that in this culture, those programs would be welcomed.*"

Fear/mistrust

The factor *Fear/mistrust* emerged during coding. It is defined as being afraid of using a certain birth control method, not trusting the method, or the provider offering it.

Several of the providers interviewed alluded to the fact that some women with a lower education level that are not familiar with many of the methods have a fear of some of the non-traditional methods such as IUDs or implants. According to one provider, women often mention this fear: "*I think a lot of times contraceptives can kind of be scary. Um, you know, I don't want something inside me. Um, I don't want pills because I just don't want pills*." Other providers have heard women say that they are afraid of using hormonal methods, because they have heard that the potential side effects can be very bad. The family nurse practitioner has seen this often:

> *"A lot of people I think are afraid of more like just the hormone part of it. They're like, well I've heard that you go, you'll be crazy if you get on that. It'll, it'll make you have mood swings and it'll make you depressed or you know, they'll say, well my friend had this birth control and she was having a lot of spotting. And you're like: was that a week out, was that a month out? They don't know…So they're more afraid of the side effects of the birth control than anything else."*

When asked "what is a major barrier to family planning in the region?" a fear in general is described- fear of the methods, fear of lack of confidentiality, and general mistrust of the system.

> *"I would say it's um, patients' lack of just knowing about like, I think it's just their education on knowing anything about the birth control. A lot of people that are scared of it, they're afraid to have it. So I think that's more the issue. They definitely have access, we have tons and tons of access and tons of ways to help them, but I think a lot of them are afraid to get on it or you*

know, of course the younger population that might be sexually active and don't want mom to know, are afraid to come in. They're afraid it's not really all private. So that's also a barrier I think with some of the younger student."

One of the providers notes that trust needs to be built over time in order for patients who first receive contraceptive counseling to start a method:

"Once you educate them, they kind of... It all depends on the patient. Some patients take a little education, some patients take multiple, multiple visits to educate and to accept that..."OK, got it, yes, I do need that, or I should consider this."...[Trust] is a big thing in this area…Building, building that trust. Because if they don't trust who they're talking to, they're not going to listen at all."

Patients agree that for some women, not seeking contraceptives might come from a place of fear- they may have heard stories about methods that are untrue, leading them to be frightened of using a certain method. Some of these fears are driven my misinformation and are highlighted in that section above.

Rurality

The *Rurality* factor is defined as how being from a rural area can serve as a barrier to accessing contraceptive services.

For some patients, living in a rural area means living far away from healthcare services, and that means transportation issues, including paying for gas to get to an appointment, and not being able to make it to two consecutive appointments.

According to several of the board members, the rural nature of the region that the CHCNRV is located leads to "*hesitancy about contraception*". For providers, rurality and living in Appalachia are associated with lower levels of education and lower income levels, which have both been previously shown to be big barriers to accessing care. According to providers and board members, people living in the rural areas are less likely to have been exposed to prevention messages and education about birth control. As one board member puts it:

"Well the people in the outliers, the Pulaski and the Giles, it's getting that access and it's getting that information, it's getting that, you know, just that cultural difference, you need checkups each year, you need to know about unprotected sex and you need to be able to protect yourself from not getting pregnant and from not picking up a disease."

One of the providers describes it in a similar fashion: "*I mean, you know, our area's very rural, very under-educated, um, so there's not a lot of understanding as to why you need contraceptives".*

Although, as described above, several of the patients referred to the cultural differences and barriers in access care in Southwest Virginia, none of them referred to the rural aspect as being a barrier *per se*.

Research Question 1d. What are some other facilitators and barriers affecting the planning and delivery of integrated services at CHCNRV? How do these other facilitators and barriers affect integration?

The original intent of Research Question 1d was to identify any "other" facilitators and barriers. However, the main emerging construct was the concept of a CULTURAL barrier, which was placed under the Community/patient facilitators and barriers perspective. Therefore, that construct was incorporated as part of the results of research question 1c. No new perspective was added, therefore Research Question 1d does not have results associated with it.

Research Question 2. What are lessons learned and recommendations from CHCNRV on integration of contraceptive services into primary care that can be transferred to another FQHC?

Research question 2 was aimed at identifying lessons learned and recommendations for the CHCNRV that could also potentially be transferred to another FQHC aiming to provide similar services. The results to this question will be incorporated into the recommendations sections in Chapter V below.

V. DISCUSSION

In the United States, approximately 45% of pregnancies in 2011 were unintended [1]. Unintended pregnancy rates for low-income women are consistently higher than for other women [1]. Despite a multitude of interventions at the federal, state and local levels, unintended pregnancy rates steadily increased among low-income women from 1981 to 2008, with a slight decrease between 2008 and 2011 in the US [3]. Unintended pregnancy rates overall are still falling, but there remains a discrepancy among income levels [1].

Accessing quality contraceptive services can be a barrier for some individuals, especially low-income, uninsured, minority or younger women. These problems are exacerbated in rural areas [2]. Systematically integrating reproductive intention screening, contraceptive counseling and the provision of contraceptive services into primary care is an approach recommended by the Centers for Disease Control and Prevention (CDC) [4] to ensure that all sexually active women seeking primary care services receive information about and access to comprehensive contraceptive methods. One of the main goals of this DrPH research was to document how one FQHC was integrating services as described above, with the hopes of offering a replicable model. In addition, facilitators and barriers to integration were discovered and shared. To date, there is a dearth of research documenting successful approaches to the integration of contraceptive services into primary are and the associated facilitators and barriers to integration.

A. General Discussion

Twenty-one in depth interviews were conducted, as well as a patient survey [N=84 respondents] and a document review [N=13 documents.] This mixed methods research generated a large amount of new data, helping to answer the research questions and allowing for a set of recommendations to be developed. A priori codes were developed based on a comprehensive literature review, the original measurement table and conceptual framework. The a priori codes helped frame the research questions, and qualitative methods allowed for the in depth exploration of constructs. During qualitative data

analysis, several new important constructs and factors emerged, providing insight into processes and potential facilitators and barriers to integration. A new, more refined conceptual framework was developed, allowing for a better understanding of how the facilitators and barriers to integration are related to each other and how as a whole they address the long-term outcome of reduced unintended pregnancies. A qualitative approach to this research allowed for a deeper understanding of the range of factors influencing the integration of services and how they relate to short and long-term outcomes. The use of emergent codes was crucial to allow for rich and in depth data analysis.

A set of a priori constructs and factors was identified through the literature as potential facilitators and barriers to the integration of contraceptive services into primary care. The constructs are listed in the original conceptual framework (figure 2), and organized by organizational, facilitator and community perspective. The original conceptual framework did not detail the individual factors that serve as facilitators and barriers.

Through the research, it became clear that this conceptual framework lacked specificity regarding how the constructs were defined (including the factors that occurred under each construct), as well as a clear articulation of how the constructs were related to one another. The updated conceptual framework shows this new, clearer understanding of the phenomena and factors affecting it.

In addition, at the onset of this research, it was unclear the extent to which the political environment played a role in the integration of contraceptive services into primary care, the phenomena under study; however, this relationship became more clear through the research. The concept of political context was re-conceptualized into an emerging construct entitled CULTURAL. The factors defining this construct emerged as clear barriers to the integration of contraceptive services into primary care. The CULTURAL construct extends beyond the original intent of the red circle denoting political context, to address the local cultural context of Southwest Virginia. There is a unique cultural context

present in Southwest Virginia that is different from the greater United States political context. Understanding the unique cultural setting is an important factor to consider in this work.

The initial conceptual framework did not include ORGANIZATIONAL PROCESSES as a construct. Through this research, the organizational processes that are in place to allow the CHCNRV to integrate overall services and those that support the integration of contraceptive services into primary care were explicitly articulated, addressing a gap in the literature.

A revised conceptual framework was developed as a visual representation of the research findings, providing a more detailed depiction of how a set of a priori and emergent constructs and factors interact to influence the successful integration of services, their complex relationship, and how they may influence final expected outcomes. Factors are organized under six main constructs: ORGANIZATIONAL PROCESSES, EDUCATION, COMMUNICATION, SERVICES, LEADERSHIP, and CULTURAL. The revised conceptual framework includes all of the factors that occur under each construct, including those developed from both emerging and a priori codes. The revised conceptual framework is included as Figure 4.

In the new conceptual framework, the phenomena being studied is placed on the left (in the yellow box), with an arrow pointing to all of the factors that either describe the process or have enabled or inhibited the phenomena from occurring. Factors are organized by construct. ORGANIZATIONAL PROCESSES, as a construct describing the processes the clinic follows to support the integration of services including the integration of contraceptive services into primary care, is placed under all the constructs in a double-headed arrow. This shows that these processes are influenced by a range of factors, and also that these processes serve as the foundation for the integration of contraceptive services into primary care. The CULTURAL and LEADERSHIP constructs are placed under the other three constructs, to show that they serve as the pillars under which the factors listed under EDUCATION,

COMMUNICATION and SERVICES support or hinder the integration of contraceptive services into primary care.

The arrows between the constructs represent the fact that the factors under each construct are related to each other, influencing each other as they support or hinder the integration of contraceptive services into primary care. Factors under the EDUCATION construct are related to factors under the COMMUNICATION construct. *Types of providers* is related to *Internal referrals*. *Lack of knowledge of services* is related to *Advertising/outreach*. *"Misinformation and misconceptions"* is related to *Advertising/outreach*. *Provider training* is related to *Provider comfort level* and *Patient education at the clinic.*

Factors under the EDUCATION construct are also related to factors under the SERVICES construct. *Types of providers* is related to *Range of methods. Provider training* is also related to *Range of methods*. *Lack of knowledge of services* is related to *Access to services.*

Factors under the COMMUNICATION construct are also related to factors under the SERVICES construct. *Internal referrals* is related to *Time per appointment*. *Patient education* is related to *Use of EMRs*. *Patient education* is also related to *Provider communication*. *Patient comfort level* is related to *Willingness to get integrated services*.

Factors that occur under the LEADERSHIP construct are related to factors that occur under the EDUCATION, COMMUNICATION and SERVICES constructs. This includes *Board support* being related to *"Misinformation and misconceptions*" and *funding*. *Funding* is related to *Range of methods offered*. *Organizational commitment* is related to *Internal communication, Patient education, Provider training, Provider communication, Types of providers, Staff training* and *Internal referrals*.

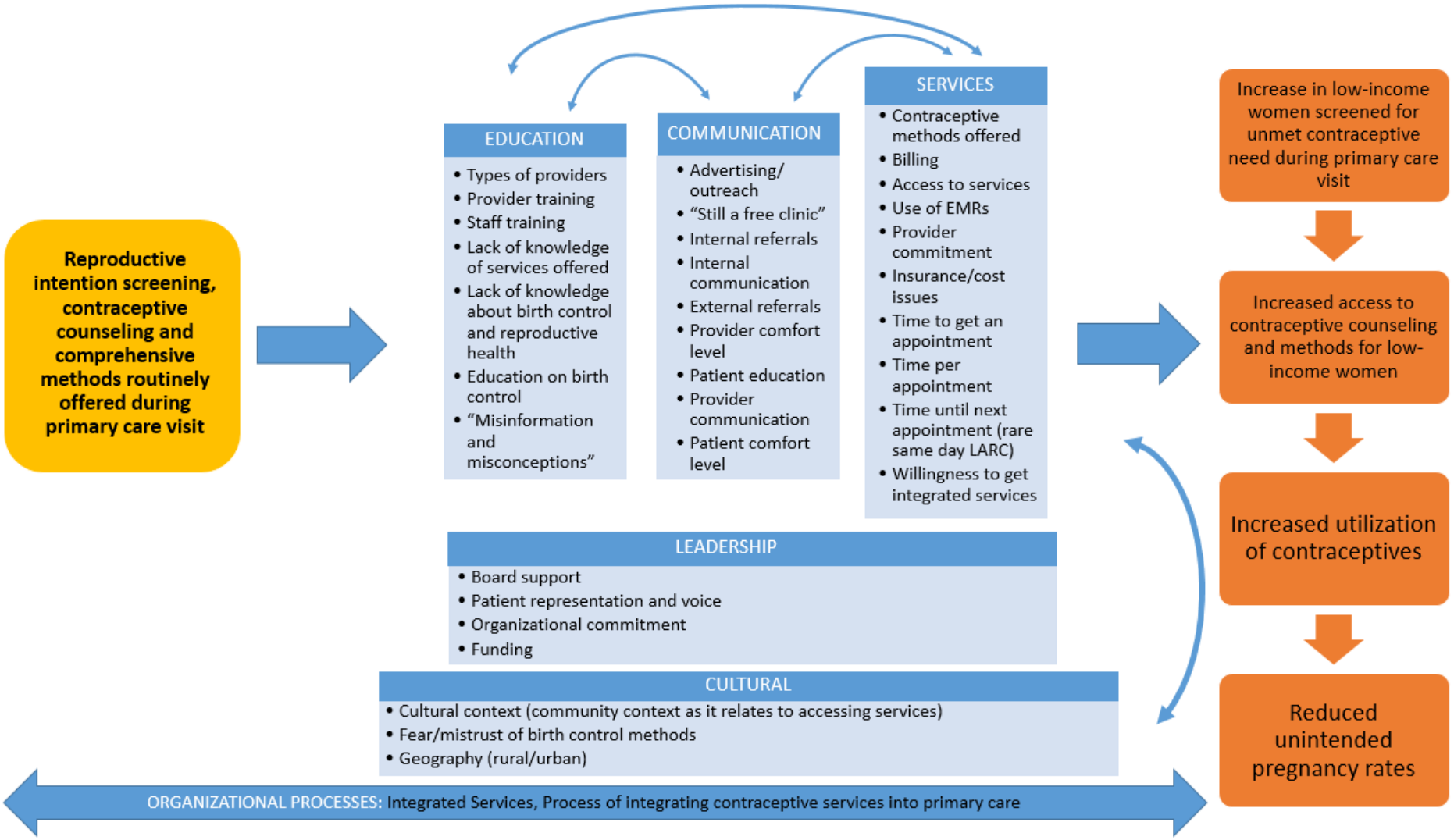
Factors that occur under the CULTURAL construct are related to factors that occur under the EDUCATION, COMMUNICATION and SERVICES constructs. These include *Cultural context* being related to *Board support, Lack of knowledge of services offered, "Misinformation and misconceptions", Lack of knowledge of methods*, and *Education on birth control*. *Fear/mistrust* is related to *"Misinformation and misconceptions", Lack of knowledge of methods,* and *Education on birth control. Rurality* is related to *Access to services.*

Factors that occur under the LEADERSHIP construct are also related to those that occur under the CULTURAL construct. *Board support* is related to *Cultural context.* Factors are also related to each other within the construct under which they occur.

The integration of contraceptive services into primary care is a complex issue, with complex interrelated facilitators and barriers. It is impossible to visually include all of these intricate relationships in the conceptual framework. A relationship network detailing a visual representation of the relationships between factors was developed to showcase these relationship. These relationships are important to understand the complexities of the phenomena being studied and include all the factors identified as organizational, provider, and community/patient facilitators and barriers. This figure is included as Appendix H; a line is drawn between those factors that relate to each other, as determined by the co-occurrence tables and the qualitative data.

This relationship network may prove to be valuable to a reader as they are trying to understand the complex relationship between the factors affecting the integration of contraceptive services into primary care. The relationship network may be used as a guide while determining what may facilitate or hinder the integration of contraceptive services into primary care and help decision-making processes

Figure 4. Revised Conceptual Framework



A discussion of the facilitators and barriers to the integration of contraceptive services into primary care is included below. This discussion also describes how the research findings support or diverge from what is articulated in the literature. It also includes a discussion on the relationship among these factors and how these relationships affect the integration of services. The discussion is organized by construct, to follow the updated conceptual framework.

Need for integrated contraceptive services (ORGANIZATIONAL PROCESSES)

The patient survey reinforces numbers found in the literature on the percent of women with an unmet birth control need (who do not currently want to become pregnant, but are not using any form of birth control). Of the 74 survey respondents who answered the question on pregnancy intention, 59 (79.7%) did not want to become pregnant in the next year. Of the 59 women who did not want to become pregnant in the next year, 19 (**32**%) reported not using any birth control method. In 2015, Wood et al. [11] found that among women at FQHCs nationwide who reported that they did not want to get pregnant in the next year, **28**% reported using no contraceptive method at all. Because so many women who do not want to become pregnant are also not using birth control, a new way of providing information about and access to birth control services needed to be explored and documented.

The CHCNRV was selected for this case study as an exemplar case due to the manner in which they integrate their contraceptive services into primary care. It was important to document how they did this, to inform any potential replications. As part of the integration of services, all women who access primary care services at the CHCNRV are screened for reproductive intention, receive contraceptive counseling as needed/wanted, and may receive comprehensive birth control methods at the same location. Although many primary care providers nationally do

provide contraceptive services, many do not initiate the conversation with patients, provide comprehensive contraceptive counseling, nor are they trained to insert LARC.

A study published by de Bocanegra et al. found that in a Medicaid Managed Care setting, only 12% of patient charts had documentation of pregnancy intention and 59% documented contraceptive use [134]. Systematically screening patients for pregnancy intention is still not a widely used practice in primary care settings.

Shah et al. found that in an FQHC setting, there was high acceptability of a family planning EMR screening prompts for support staff to ask primary care patients about pregnancy intentions [135]. CHCNRV has demonstrated that they are an FQHC that has been able to adopt this model successfully.

The research uncovered that event though all providers at the CHCNRV do measure reproductive intention, provide contraceptive counseling and contraceptive methods as needed, the clinic does not have an official protocol that all providers must follow nor is there a systems-level approach to integration. Organizations such as Power to Decide, which supports *One Key Question*® [21], recommend having a standard set of questions to ask women to measure reproductive intention.

By asking questions on barriers to integration, it was uncovered during the research that although the CHCNRV overall provides excellent services when it comes to measuring reproductive intention and providing contraceptive counseling in primary care, there are also some areas in the provision of services where they lag behind what is currently considered a best practice. These areas will be discussed in detail in the recommendations section.

LEADERSHIP

Board support/Organizational commitment

The board of the CHCNRV and the management team are very supportive of providing comprehensive contraceptive services integrated into primary care. By actively promoting comprehensive integrated services, CHCNRV has instilled a culture where all primary care providers are expected to measure reproductive intention among female patients, provide comprehensive contraceptive counseling, and be trained and comfortable in providing a wide range of contraceptive methods including LARC. They were also supportive of receiving the funding from the Secular Society.

According to Goldberg et al. [10] who have conducted extensive research on the provision of contraceptive services at FQHCs, one of the keys to successful implementation of family planning programs at FQHCs is leadership support. The philosophy of the organizational leadership can have an impact on what contraceptive services are offered, what providers are hired, and the overall environment that is created to make family planning clients feel welcomed. CHCNRV has shown that the board, the management team and the providers are committed to providing contraceptive services.

Without board support or organizational commitment, it would have been impossible to secure the funding from the Secular Society necessary to initiate the Women's Health Program.

The commitment of the CHCNRV is shown through the levels of internal communication, the amount of time providers spend educating patients at the clinic, the amount of time allocated for training providers (and the requirement for all primary care providers to be trained in LARC insertion), the commitment of the providers to the CHCNRV, the different

types of providers employed at the CHCNRV, and the cultural competency and customer service training required of all staff members.

Lack of board support

Although most board members showed a high level of support for the Women's Health Program, two of the board members showed strong opposition to accepting funds from the Secular Society, due to cultural values and misconceptions about how IUDs worked. As indicated above, board support has been shown to be important to an FQHC's functioning and ability to provide comprehensive contraceptive services. Had the majority of this board been against accepting the funds, the services would likely not have been provided.

The relationship between lack of board support and the cultural context of Southwest Virginia is important, as the lack of support from the two members who voted against accepting funds from the Secular Society and who left the board after the decision to accept the funds was made, was influenced by their cultural values and misconceptions about how IUDs work, as indicated in the results chapter. These board members' religious and cultural values entered into their decision-making process, and they could not be persuaded to vote in favor of accepting the funds. The literature has shown that a community's political and cultural climate may impact the provision of services, including their decision on what services to offer [7]. More on the role of religion and culture, and misperceptions is included in the CULTURAL construct below.

Patient voice and representation

The concept of patient voice and representation was originally included because the literature revealed that the composition of an FQHC's board was important to addressing community need; Wright found that the proportion of representative consumers in board

leadership positions was “associated with a significant increase in the scope of enabling services a health center provided [113].”

The interviews revealed that, in keeping with the literature, most of the patient representatives on the CHCNRV board were actually board members first, and then became patients, in effect circumventing the law that 51% of board members need to be patient representatives. Although they are patients, they do not represent the population that they serve. At the time of the interviews, only one board member was a patient first, and she did not hold an elected position on the board. Ideally, at least 51% of board members will be pulled directly from the patient population, representing the majority of the client population. Even though it is listed as a barrier, this did not seem to have a negative effect on the integration of services. It can be hypothesized that having more true patients on the board could either have a positive effect (they see the need and want to promote LARC) or a detrimental effect (if they are culturally conservative and do not approve of the CHCNRV promoting LARC).

Funding

Through the Secular Society, a non-profit organization serving the New River Valley of Virginia, the CHCNRV has been able to provide free or low cost contraceptives to women since 2014. Research shows that financial challenges are most frequently reported as a barrier at FQHCs when it comes to offering a wide range of contraceptive options at FQHCs [10, 13], but the CHCNRV has not experienced funding as a challenge, as they have a private donor. Beeson et al. [136] found that FQHCs receiving Title X funding were a lot more likely than those not receiving it to offer LARC methods. CHCNRV does not receive Title X, yet is able to offer both

IUDs and Nexplanon® through the private donation they receive that funds the Women's Health Program.

Goldberg et al. [10] found that all case study sites (FQHCs) without Title X funding listed a lack of provider/staff training as a barrier to providing a wide range of contraceptive methods. Even without Title X funding, CHCNRV has managed to ensure that all of their staff receive training as appropriate, as that has been prioritized.

Board support was crucial to obtaining the funding for the Women's Health Program, and the funding was crucial to being able to offer the wide range of contraceptive methods that the CHCNRV currently offers.

COMMUNICATION

Internal communication

Internal communication is a strength of the CHCNRV, and comes in many forms (meetings, emails, phone calls, informal chats, etc.). The providers, board and management team described an organization that communicates efficiently, and through this communication, puts the needs of providers and patients first by prioritizing them, listening to them, and making them feel welcome and important.

Both employees and patients fill out regular feedback surveys, and the management teams takes the feedback seriously and addresses it promptly. The board members described an executive director who communicates effectively and is very willing to take feedback, and make changes accordingly.

This detailed level of communication is crucial to the functioning of an integrated organization. Goldberg et al. emphasize that communication between providers and the management team is seen as a critical component of providing contraceptive services [10]. According to Blount, using the term "integrated", as opposed to co-located, or coordinated care shows a deep level of commitment and collaboration that includes communication among team members [18]. This communication and commitment is apparent among providers and the board at CHCNRV. Communication at the organizational and board levels were intricately linked, as well as how the organization received and acted upon feedback.

Provider communication

Provider communication emerged during the research as being an important facilitator to integration, due to the level of communication among providers needed in an integrated setting, when multiple providers are seeing one patient in a coordinated setting. In an article detailing providers' perceived challenges to providing contraceptive services in a primary care setting, Akers et al. found that one of the biggest perceived barriers to care was a lack of communication between primary care providers and subspecialists [111].

The small size and organizational culture at the CHCNRV, in addition to the integration of OB/GYNs with primary care providers has made communication across providers seamless. The way that the office space was designed during recent renovations is conducive to frequent conversation among the providers. Four of the providers (including the chief medical officer, family nurse practitioner, the full time OB/GYN and the part time OB/GYN) share a small office space with cubicles. The executive director purposefully set it up this way to encourage communication among the providers. Providers regularly discuss patients, including referrals, in

this office space. This set up is typical of integrated models, where behavioral health specialist might sit with dentists and family practice doctors that serve the same patients, in one office space. Providers mentioned the ease of conversation with their colleagues, always preferring face-to-face conversations over email or using the EMRs.

Having strong communication among providers could not happen without the level of organizational communication and support found at the CHCNRV. For example, if the executive director had not been so attune to the best office layout to promote provider communication, that set up might not have been put into place. In addition, a high level of provider interaction and good communication is crucial in order to have an active internal referral system.

Internal referrals

Internal referrals (referrals among providers at the CHCNRV) ended up being important to the provision of birth control services within the CHCNRV. All women primary care patients are screened for unmet birth control need when they are seen by their primary care provider. Because there are both OB/GYNs and primary care providers at the CHCNRV, for women who need to come back for an appointment (such as to get a LARC inserted) they can choose if they see an OB/GYN or stay with their primary care provider, who can also offer those services. For confidentiality and personal reasons, some women prefer to see a separate doctor for women's health issues, so having both of these doctors under one roof allows for a woman to be screened during primary care, receive contraceptive counseling from their primary care provider, but then receive services from a specialist through what CHCNRV calls a "warm handoff" if that is what they prefer. One study found that women with separate providers for women's health services

and general health services were more likely to receive clinical preventive services, including "screening, counseling, and preventive services related to heart disease [112]."

In the patient survey, patients showed a preference for receiving their birth control services in the same place that they get their general healthcare. They showed either no strong preference, or a preference to see a specialist for their birth control needs. Having the opportunity to provide internal referrals from primary care to a women's health specialist may be a good way to integrate contraceptive services into primary care, at least partially, even though it was not the original model being studied (one provider measuring pregnancy intention, providing contraceptive counseling and providing the contraceptive method). This way, women still are screened for unmet birth control need, but then can receive services from an OB/GYN if that is what they prefer. This entails making a second appointment, which is not ideal, and not considered a best practice, especially for high-risk patients that risk missing a follow up appointment.

Internal referrals are successful at the CHCNRV because of the level of provider communication, the types of providers that are available at the CHCNRV, and the commitment of the organization to promote the "warm handoffs" as needed. Unfortunately, a primary care provider may not have time to address all of a patient's need during one appointment, and the provider will ask the patient to come back for a women's health appointment at a later date, especially if they have chosen a LARC method; this is when the internal referral (a warm handoff) may happen.

External referrals

External referrals (referrals and relationships with non-CHCNRV providers and organizations) emerged during the coding process as providing important context to the provision of contraceptive methods. The CHCNRV does not dispense birth control pills on site. If a patient chooses this method, their provider writes them a prescription, and they need to go fill it at a pharmacy. Although this is not considered a best practice, the CHCNRV does have a well-established referral system for women to pick up their prescription free of charge at a local pharmacy.

Referrals are also provided to women seeking abortions or other surgical care. The CHCNRV has a business agreement set up with two local hospitals to refer clients for services they do not perform. The CHCNRV receives medical information on the patient after the referral appointment so that their medical records can all be accessible in one spot. According to both Wood and Goldberg [7, 10], having a well-established referral system as part of providing contraceptive services is an important indicator of success.

Provider comfort level

Research shows that a provider's comfort level discussing sexual health will dictate how s/he interacts with patients, including the level of sexual health education they are willing to give. Akers et al. found that both a lack of knowledge about contraceptive methods and a lack of training limited a primary care provider's comfort level, affecting the types of contraceptive methods a provider was likely to promote. In that study, primary care providers also thought that a patient should bring up interest in contraceptive method [111].

By requiring that all their primary care providers be well trained in all contraceptive methods and LARC insertion, CHCNRV has ensured a high level of comfort on the part of providers in discussing sexual health with patients. During interviews, providers and patients alike spoke of their ease of discussing sexual health and contraceptive methods with each other. By measuring patients' reproductive intention during primary care, a comfort level is established right away, paving the way for a conversation about contraceptive methods if the patients so desires.

Due to extensive training, primary care providers feel comfortable providing patient education and dispensing a wide range of methods. In turn, patients feel comfortable discussing their sexual health with their primary care provider.

Patient education at the clinic

As reported in Chapter IV, many patients and community members in Southwest Virginia have a low knowledge of reproductive health and contraceptive methods, so it extremely important for patients to be able to learn about a variety of methods from their provider. For some patients, this may be the only education on sexual health that they have received. Goldberg et al found that smaller health centers generally have less time and resources to devote to patient education [10]. Yet, CHCNRV providers and the management team pride themselves on the amount of time they spend with patients providing contraceptive counseling. Lee et al. found that providing contraceptive counseling in primary care led to an increase in women using contraceptives, and receiving information about a specific method led women to use that actual method [109]. With the population that the CHCNRV serves, this step is crucial for patients to be able to make an informed decision about the method they choose. Time is invested into having a

thorough discussion with any woman who wants it after it has been established that there is an unmet contraceptive need.

Having an organization committed to providing contraceptive services allows for providers to take the time to provide patient education. Having trained and comfortable providers enables this conversation to happen. Providers at the CHCNRV were clearly committed to providing contraceptive counseling to patients and answering all of their questions on contraceptive methods. Finally, although infrequently used in this manner at the CHCNVR, EMRs can be used to print out patient materials that can be used for educational purposes.

Advertising/Outreach and "Still a free clinic"

For many smaller FQHCs with little resources, funds are not often allocated to outreach or education about services [7, 10]. Findings from the interviews reinforce this, with board members speaking of the sparse advertising of the Women's Health Program. However, board members did not state that the lack of advertising was due to lack of funding. Most of the board members interviewed acknowledged that this lack of advertising was mostly an attempt on the part of the CHCNRV to fly under the radar and not showcase their women's health services, for fear of the perception that community members might have if they find out that the CHCNRV is offering LARC methods. In addition, patients reported that many people out in the community did not know about services that the CHCNRV offered, likely due to lack of advertising of these services. The CHCNRV quarterly reports to the Secular Society state that the CHCNRV conducts outreach and tabling events regularly. There seems to be a discrepancy between what the CHCNRV is reporting and what board members and patients stated in the interviews.

Is CHCNRV conducting outreach events, but not promoting the LARC services available through the Women's Health Program? Are board members mistaken about the perceived lack of advertising? Are the outreach events not targeting the right people? A speculation would be that it is a combination of all of the above.

In addition, several of the board members and providers reported that patients still did not know that the CHCNRV had made the transition to an FQHC and no longer functioned as a free clinic. By providing targeted and detailed advertising, they may slowly change this perception.

Due to the low level of advertising and outreach about the Women's Health Program, which may be caused by a perceived fear of community perceptions about LARCs, many patients are unaware of the breadth of services that the CHCNRV provides.

SERVICES

Range of methods offered

The CHCNRV offers a wide range of contraceptives to their patients. This is not always the case in FQHCs, especially smaller ones with no Title X funding. While researching the provision of contraceptive services at FQHCs nationally, Wood et al. found that there was a large variation among FQHCs on the types of methods they provided [13]. Most (62%) of FQHCs both prescribed and dispensed oral contraceptives, whereas 36% only prescribed. CHCNRV, that prescribes oral contraceptive but does not dispense them, is behind best practices on this.

Only 59% of FQHCs prescribed and dispense IUDs and only 36% prescribed and dispensed implants. This is an important service that the CHCNRV offers for low to no cost to qualifying patients. Prescribing and dispensing a wide range of contraceptives and giving women

a wide range of choices during contraceptive counseling sessions can increase the chance that a woman selects a method that is right for her.

Having a variety of highly qualified and trained providers is a facilitator to being able to provide the range of methods that CHCNRV provides. The funding received from the Secular Society enables CHCNRV to provide the methods.

Provider commitment

The providers at CHCNRV have shown a great deal of commitment to the organization's mission, to their patients and to providing care in an integrated setting. The providers understand treating a whole patient, not just parts of a patient as is often the case in primary care practices, or in specialty practices. The providers understand patients' specific needs such as transportation barriers and financial issues, and they are ready to do whatever it takes to provide the best services possible to patients.

Although providing basic contraceptive counseling is within the scope of work for most primary care providers, many do not meet this requirement for a variety of reasons, one being that they are not committed and do not prioritize contraceptive services [111]. Providing holistic care seemed to be the natural way to operate for most of the CHCNRV providers, with the chief medical officer saying that he really did not know "*any other way*." Providers at the CHCNRV are dedicated to their patients and prioritize patient education, as does the organization as a whole.

Patient comfort level/Willingness to get integrated services

Having a high comfort level discussing sexual health, both on the provider side and the patient side is important to that conversation actually happening. If the patient is comfortable talking to their provider, they will be more willing to receive contraceptive counseling and services from that provider as part of primary care in an integrated setting. Research has shown that many providers do not feel comfortable initiating a conversation about sexual health [111]. If a provider is not comfortable, it is likely that the patient will feel uncomfortable having the discussion.

Patients at the CHCNRV were not only willing to received their contraceptive services at the CHCNRV, they were grateful to have been screened and grateful to be able to receive all of their medical care in one spot, and to receive a LARC for free. All of the patients interviewed expressed a high comfort level talking to their provider about sexual health. This is telling of the providers' comfort level talking about it. A highly trained, highly comfortable provider will help make a patient feel at ease, increasing their comfort level and increasing their willingness to be screened by their primary care provider.

Use of Electronic Medical Records (EMRs)

EMRs are used for a variety of purposes at CHCNRV, including reminders to screen for unmet contraceptive need, communication among providers, patient education and record-keeping. Akers et al. found that electronic reminders through EMRs helped primary care providers remember to ask about reproductive intention during a primary care visit [111]. Akers also found that providers reported that it would be helpful if EMRs connect them to recent information about available contraceptives, so they were completely knowledgeable on the topic

while providing contraceptive counseling. Primary care providers at CHCNRV do not all use the EMRs for prompts, but most of them do, and indicated this was a facilitator to remind them to ask for reproductive intention. They also indicated that EMRs were a source of information on contraceptives, and that they would sometimes download patient education materials directly from the EMR.

In a recently published article, Simons et al. found that the proportion of patients in an FQHC setting with their pregnancy intention documented in the EMR increased with changes to the EMR template and with provider-focused initiatives promoting reproductive life planning [137]. At CHCNRV, there is both a prompt in the EMR GYN template and active promotion of reproductive life planning with providers. Providers used the patient education materials located within the EMR to download and share with the patients.

Access to services

Access to services, or lack thereof, was seen as both a facilitator and a barrier to the integration of contraceptive services. All of the patients interviewed had accessed services at the CHCNRV, so they spoke of the relative ease of accessing services. However, many of the patients, the board members, the management team and providers all spoke of access to services as a barrier in the area and described examples of friends or acquaintances having a difficult time accessing services.

The patients interviewed expressed ease at accessing services at the CHCNRV, but also indicated that there were not many places where low-income women could go for services in the New River Valley. Interviewees discussed the oftentimes very difficult access to services that community members experienced. Barriers to access included transportation, cost, and the small

number of facilities that offer low/no cost care. Apart from the CHCNRV, there is a small free clinic in Pulaski County, but no other clinics in the area that cater to people with no/low insurance. The services that the CHCNRV offers are crucial, yet accessing them can be difficult to some community members.

Once women were at the clinic, they were able to access any contraceptive method that they wanted, for low/no cost. However, due to potential lack of knowledge of services, misconceptions about services offered, or fear of costs associated with services, many community members did not access services. In addition, living in a rural area and the time it took to schedule an appointment were seen as barriers to accessing services.

Insurance/cost issues

A big barrier to accessing medical care in the United States is the cost of services, perceived cost of services, and lack of insurance, or being under insured. Interviewees reported that the cost of receiving care and the fear of the cost of receiving care were enough to deter people from accessing services. Through the Women's Health Program, an eligible woman can get a LARC for free, but many women do not even get to the clinic to learn this information.

An interesting concept that came up during the interviews was this idea of having to make a choice of whether to pay for a contraceptive method or to pay for food for the family. Both a provider and a patient brought up this idea of having to decide between the two, and women inevitably choosing to provide food, without thinking of the long-term consequences of not being on birth control and the increased long-term cost of having a baby. For very low-income women, birth control was not immediately prioritized.

As of January 2019, Virginia will start expanding Medicaid eligibility to include people who are at 138% of the poverty level or more, increasing access to Medicaid for almost 400,000 Virginia adults. The CHCNRV will need to determine how they will serve those clients.

Not knowing the cost of a service, or not knowing if insurance will cover it is a deterrent to accessing services. Providers at the CHCNRV reported taking patient needs into account as they billed services, being careful not to double-bill for services.

Time per appointment

The literature has shown that one of the barriers to providing comprehensive counseling during primary care is lack of time during an appointment, or a provider not prioritizing a discussion on birth control [111].

Providers at the CHCNRV described a balancing act- knowing that this might be the one opportunity they have to discuss prevention with a patient, wanting to meet all of their patient's healthcare needs, but also the patient having so many medical needs that it is difficult to meet them all. Prioritization becomes key. Often, the provider asks the patient to come back for another appointment if during the process of measuring pregnancy intention they assess an unmet birth control need. Sometimes there is not enough time to address all of a patient's healthcare issues. Even in an organization like CHCNRV that has prioritized contraceptive counseling and the provision of services, sometimes this is not possible in the time allocated to an appointment.

Patients said that they felt less rushed during an appointment with a FNP versus meeting with a physician, which directly aligns with what providers and the management team shared about the time allocated per appointment, by provider specialty. This highlights the importance

of having FNPs as primary care providers trained in contraceptive counseling and LARC insertion. This means more time to spend with patients, therefore more time potentially dedicated to contraceptive counseling. The short amount of time allocated to each appointment often leads to another appointment having to be scheduled, often as part of an internal referral.

Time until next appointment (rare same day LARC)

One of the main barriers uncovered during this research is that CHCNRV does not offer women same day LARC access. This can prove to be a huge barrier for women who have transportation issues, or any issues with getting to the health center. This is an organizational barrier, as there is currently a policy at CHCNRV stating that women need to have a negative urine pregnancy test and that the LARC must be inserted during a women's menstrual cycle.

Providers at CHCNRV state that many of the women that they provide contraceptive counseling to have not had many discussions about the availability of birth control methods in the past, and the providers like to give their patients a week to think about the options so that may make the best informed decision. This is one of the stated reasons that they give for this time lapse between the first and second birth control visits for LARC.

According to the National Family Planning Training Center, "as long as a clinician can be reasonably certain a client is not pregnant, there is no medical reason to require clients to return for a follow-up visit or to initiate methods during menses. This includes provider-dependent methods like the intrauterine device (IUD), implant, and injectable [138]." This method of placing an IUD immediately on the same day as the first appointment is also referred to as the "quick start" method and is recommended in the Quality Family Planning Guidelines.

The Quality Family Planning Guidelines also state that if a patient chooses a method that is not in stock at the clinic, or not available as a same-day option, that the patient should be provided with another method (such as a depo shot) to use until she can start the chosen method. CHCNRV does give out condoms as needed, and according to providers, they have provided women with alternative hormonal methods when they have worried that a patient might not be able to return to the clinic for their follow-up appointment. If more time were allocated during each appointment, more patient education might be able to happen, and same day LARC might be more common. This would require a policy change.

EDUCATION

Types of providers

According to Goldberg et al., the different types of providers that a health center hires is directly related to patients' utilization of family planning services [10]. Smaller centers in general employ less different types of providers. Until recently, the CHCNRV had only one part time OB/GYN on staff, but recently hired a full time OB/GYN. In addition, the CHCNRV employs several family nurse practitioners who are trained in LARC insertion, whose longer appointment times allow them to spend more time with clients. This variety of providers means that women who have been identified has having an unmet birth control need can see a specialist if they choose to, or see their primary care provider for contraceptive services.

Research shows that some smaller health centers have a hard time recruiting and retaining qualified staff [7]. The interviews showed that this was not the case at the CHCNRV- there is a low provider turnover rate, and providers show a high level of commitment to the organization.

The variety of providers, including a full time OB/GYN shows the CHCNRV's commitment to providing contraceptive services, is integral to being able to offer internal referrals, and allows for a wide range of methods to be offered, as the providers are trained to dispense and insert them.

Provider/staff training

One of the biggest barriers to providing LARC at FQHCs around the country is lack of provider training or comfort level in insertion. Akers et al. found that primary care providers cited lack of knowledge, training and comfort as barriers to IUD insertion [111]. One of the documents reviewed as part of this research was a physician survey conducted by the Virginia LARC Stakeholder Workgroup. This survey found that 45% of Virginia primary care providers offered IUDs and 48% offered Nexplanon®. The biggest barrier to not offering this service was respondent's lack of IUD/Nexplanon® placement skill. When asked about specific barriers to IUD and Nexplanon® placement, 36% and 45% cited lack of training as a barrier for each method, respectively. Simmons et al. found that training providers in LARC significantly increased their patients' choice to use a LARC [24]. Research shows that when providers are trained in LARC counseling and insertion, patients are more likely to receive them [37]. CHCNRV has done an outstanding job at incorporating LARC insertion training into all of the primary care providers training. It is expected that all primary care providers will be able to insert LARC and training is offered during work hours to ensure this is achieved.

All staff at the CHCNRV receive cultural competency and customer service training, ensuring a pleasant experience for customers. This attention not only to customer service but also to cultural competency shows a level of commitment to patients from the organizational

perspective. In addition, both providers and staff are shown their value by participating in a thorough onboarding process. During this two week process, they are taken out to lunch by a colleague, are given time to shadow and learn the new job skills, and given time to attend trainings during work hours. They are also assigned a peer mentor to help them navigate the system and learn the organizational culture.

Because primary care providers are so well trained and comfortable in their role providing contraceptive services, thanks to the organization's commitment to providing contraceptive services, providers are able to provide a wide range of methods and are trained to provide contraceptive counseling at the clinic.

Lack of knowledge of services offered

Research has shown that a low knowledge of services on the part of community members has been a barrier to people receiving birth control services at FHQCs nationally [7]. According to interviewees, many people in the New River Valley region do not seem to know what services are available to them, including the services that the CHCNRV offers.

One of the reasons that community members may not know about the contraceptive services that the CHCNRV offers is there has been some trepidation on the part of the organization in advertising these services, due to a fear of cultural perceptions about providing birth control. This lack of advertising means that people do not know about the services, therefore are not accessing them. CHCNRV in general needs to do a better job of promoting themselves and their services. Their website does not mention that they are an FQHC, and many people in the community still think that they are a free clinic. This has proven to be a barrier to

people seeking services there, as potential patients do not know what to expect as far as the services that will be provided and/or covered.

Education on birth control/ Lack of knowledge about birth control and reproductive health

Due to a lack of education on birth control over the years, patients and many community members have a lack of knowledge about birth control and reproductive health in general. This lack of knowledge leads to women not knowing about their birth control options, or not seeking them out. One of the biggest issues in the region is a lack of focus on comprehensive sexual health education in schools, with a focus on abstinence only sexual health education. Research shows that teaching abstinence-only does not work to prevent unintended pregnancy [63]. In addition, teaching abstinence-only sexual health education creates a negative stigma around sex, deterring women from accessing needed birth control methods.

Locally, as of fall 2018, none of the schools in the New River Valley teach a comprehensive sexual health curriculum. The School Health Advisory Board in Montgomery County identified a free, evidence-based comprehensive K-12 sexual health education curriculum, but the curriculum coordinator "sanitized it", removing what she deemed to be age-inappropriate graphics, references to anal or oral sex, and changed the references to vaginal sex so they were only referred to as sexual intercourse. This type of values-based education is what the children are receiving, continuing the stigma, and contributing to the high STD and unintended pregnancy rates in the region.

The conservative culture in Southwest Virginia is leading to a lack of comprehensive sexual health education in schools, including a stigma around sex. Because of this, decisions are made based on misinformation and fear instead of informed by evidence.

"Misinformation and misconceptions"

In the New River Valley region, and in the United States in general, there is still a lot of erroneous information about birth control and reproduction. This is due in part to the stigma still associated with sex and sexual health, and the lack of comprehensive sexual health education taught in public schools. Rumors and incorrect information are widely shared when the correct knowledge is not present. Two of the board members were so misinformed about the way that LARC worked that they though that LARC was tantamount to providing abortion. This erroneous information could potentially have cost the CHCNRV a big funding source. When the knowledge is absent, it is easy to replace it with misconceptions.

A lack of education can lead to misconceptions, which may bring on fear and mistrust. In this case, a fear of perceived repercussions due to cultural context led to a lack of outreach on the part of the organization, and a lack of education, which in turns leads to lack of knowledge of services and poor access to services.

CULTURAL

Barriers to integration from the community and patient perspectives were numerous, and many of them are due to deeply held beliefs by some of the people of Southwest Virginia. Although not directly related to services offered at the clinic, and out of the control of the CHCNRV, these community level barriers may prove to be significant obstacles to community members accessing birth control services in the region. Addressing some of these barriers could have huge consequences and long term positive impact on patient care and access to birth control services.

As a reminder, as is the case for describing any region, including its people, one needs to keep in mind that Appalachia, and Southwest Virginia as part of Appalachia, is a large and diverse region with people who all have individual thoughts and feelings and follow different cultural norms. Some generalizations about the people of Southwest Virginia and their culture were made by interviewees, and will be discussed as part of this section. What follows is an interpretation of the results of this research.

Cultural context of Southwest Virginia

This is likely the biggest barrier to providing contraceptive services in rural southwest Virginia. The role of culture cannot be underestimated in a small tight-knit, rural conservative community, and this context must be taken into account while providing services to local patients.

Under the current US political climate (as of fall 2018), reproductive health is in jeopardy, whether through the potential repeal of the ACA, or through a potential repeal of Roe vs. Wade and abortion rights. Several board members discussed the dismal state of women's health at a national level; those repercussions trickle down to organizations providing women's health services on the ground. As an FQHC, there are certain services that the CHCNRV cannot provide, per federal law, including providing abortions. They may however refer patients to external services that provide abortions, but the closest one to the New River Valley is in Roanoke, 30-50 miles away.

An interesting finding relates to the role of the family, and the influence of intergenerational norms. Several of the patients interviewed referred to the high number of children that women in the area had, and the early onset of childbirth for many of these women.

There was a sense that some women had seen their mothers having many children, so took it for granted that they would too, not thinking about birth control as an alternative to unintended pregnancies. Patients also mentioned their friends or acquaintances having multiple children and not being able to care for them properly.

Conservatism was a prominent theme as part of understanding the cultural context of Southwest Virginia as a barrier. The conservatism and hesitancy of the CHCNRV was noted as a barrier from a board perspective. This related to the front office staff being perceived as having conservative values and not being very approachable, and the organization as a whole being hesitant to actively promote their women's health services, for fear of community backlash. In addition, conservatism in the region and stigma associated with discussing sexual health were also indicated as barriers to people accessing services. Stigma can play a big role in preventing access to services. If people do not feel comfortable discussing sex, or if there is a stigma attached to having sex outside of marriage (as is taught through an abstinence only curriculum), they will be less likely to seek birth control methods and be more at risk for an unintended pregnancy.

The cultural context of Southwest Virginia, including the conservatism and stigma associated with talking about sex has a big impact on people's willingness to access contraceptive services. Stigma limits educational opportunities being offered, therefore limiting people's knowledge about services and birth control methods.

Fear/mistrust

Not knowing about how a birth control method works, or the potential side effects, may lead to fear about using it, or mistrust in it. Being educated on a method leads to higher adoption of that method [42].

In a rural community, trust is important; not only trust in a birth control method, but trust in the provider administering or recommending it. One of the benefits of offering integrated services is that a patient can already have an established trusting relationship with a primary care provider, and seek a birth control from them without having to establish a relationship with a new provider, in effect eliminating a potential barrier to care.

Fear and mistrust in birth control methods may be due to patients not having accurate information about methods, and making erroneous decisions based on poor information. By educating women, teens and young adults about birth control methods, misconceptions and fear may be diminished, leading to an increase in contraceptive uptake.

Rurality

People living in rural areas have worse socio-economic indicators than for the rest of the United States [51]. Living in a rural area can be a significant barrier to accessing healthcare services, and especially specialty services like contraceptives due to either the lack of providers, or the travel distance to get to a provider.

In the New River Valley, transportation to healthcare services is seen as a barrier to accessing healthcare. Carilion Clinic, the local non-profit hospital, completed its 2018 community health assessment for the New River Valley, and transportation rose to the top of the list as a priority health issue. Even though transportation is not in itself a health issue, the

community thought that it was the major health related priority issue that the hospital should tackle.

Findings from this research reinforce community input that transportation is a big barrier to accessing healthcare. For some patients, just purchasing enough gas to get to an appointment was sometimes more than they could afford. The conservative nature of many rural areas in America may also have an impact on people's desire and comfort level to access birth control services.

B. Recommendations

Although the CHCNRV is an exemplar case, there is still room for recommendations that could help them better implement their integrated contraceptive services. Through the Women's Health Program, CHCNRV should continue to provide a wide range of low to no cost contraceptives to patients.

Organizational- Services

One recommendation for the CHCNRV would be to develop a standard protocol that providers can adapt based on the specific needs of the woman they are counseling. This could include the *One Key Question*® question assessing reproductive intention or any other similar question. If that is not a preferred option, the clinic manager should at least document the different set of processes that the CHCNRV providers use, for ease of training new providers. All of the providers' collective wisdom would then be combined to create a menu of options used to measure reproductive intention. Systematic clinic protocols must allow for flexibility based on provider style and approach.

Although providing birth control pills in house on the day of the appointment is the best practice recommendation, if CHCNRV cannot provide this service due to its size and small patient numbers, the recommendation is to continue active partnership with local pharmacies and hospitals and to continue with their well establish referral system.

The CHCNRV should start adopting the best practice of providing a "quick start" method to patients who meet the criteria outlined by the National Family Planning Training Center and who are certain that they want the method.

CHCNRV should continue to use EMRs to their full potential and for those providers not using them for prompts to continue using them as a way to document the integration process and patient medical history and preferences.

The CHCNRV should continue to hire a variety of providers that serve the wide range of client needs including women's health services. This enables internal referrals (or warm handoffs) to happen within the medical services, benefiting the patients.

Providers should continue allocating time to patient education, providing contraceptive counseling, and educating all patients on all contraceptive methods available. As much time as possible should be allocated to appointments as is feasible, especially for patients that have not been seen in a long time, or during a preventive visit. CHCNRV should continue to allocate more time to FNPs so that they may provide needed contraceptive counseling services and prioritize patients so that they feel listened to and not rushed.

Condoms should be widely available free of charge without patients having to ask for them. This could include placing them in bathrooms or in patient rooms.

Organizational- Board

CHCNRV should look for and bring on board members that are representative of the population that the CHCNRV serves, and to promote them to leadership positions on the board, in effect guaranteeing a wide representation and patient voice on the board. At least 51% of the board should be comprised of true patient representatives. Open-minded board members who understand the importance of evidence-based programming should be retained. Patient board members should receive assertiveness training so that they feel comfortable expressing their opinions to the full board.

Organizational-funding

One recommendation for the CHCNRV board and management team is to start looking for funding sources outside of the Secular Society, as that funding is not slated to last indefinitely, and it would be very detrimental to the CHCNRV and all of the family planning clients it serves if those methods were no longer available.

Organizational-outreach

A recommendation would be to provide targeted outreach about the Women's Health Program, including the range of services offered, to high need patients (those with low income, unmet birth control need). It might benefit the CHCNRV to hire a communications specialist who could help guide their advertising efforts and minimize misperceptions and lack of information at the community level. CHCNRV should consider a multi-media outreach effort and determine a communications strategy specifically focusing on the Women's Health Program.

Both internal (CHCNRV staff and board) and external (community) perceptions should inform the communications strategy. Outreach to CHCNRV providers should be included to assess their perceptions and assumptions about community needs.

Another low-cost option would be to partner with a communications class at Virginia Tech to have them develop a marketing plan for the Women's Health Program. Conducting a series of focus groups with low-income community members may help understand perceived misunderstandings and perceived barriers to accessing care at the CHCNRV and help inform a culturally appropriate communication strategy. CHCNRV should continue to advertise their overall low/no cost services and continue their current community outreach efforts.

In addition, the CHCNRV needs to work on rebranding so that the perception of being a free clinic is replaced with their actual designation as an FQHC. CHCNRV should actively promote their services throughout the New River Valley. In addition to their expanded hours on one day a week, they could expand hours to offer weekend hours.

CHCNRV should advertise eligibility requirements for the Women's Health Program, so people know what to expect. They should also consider how they will expand services to better serve the new Medicaid patients.

Organizational- communication

The recommendation is to keep up the strong level of communication (between the management team and the board, and within the management team) and develop organizational expectations as a way to continue serving the needs of the providers and the patients.

Providers and staff

CHCNRV should continue to hire a variety of healthcare professionals, and to maintain both a family nurse practitioner and an OB/GYN on staff at all times to meet the needs of a variety of patients and offer them a choice of provider, all under one roof.

CHCNRV should continue providing excellent, up-to-date training to primary care providers so that their comfort level discussing sexual health and providing a wide range of contraceptives stays high. In addition, CHCNRV should continue training all primary care providers in LARC insertion, and giving them ample practice opportunities so they keep their skill level up and are able to provide comprehensive contraceptive services to women as necessary.

CHCNRV should continue promoting provider communication by encouraging interactions among providers, facilitating encounters, and hiring providers with good communication skills. Finally, CHCNRV should continue to hire highly trained, highly qualified, highly motivated and highly committed individuals to join the CHCNRV team of providers.

CHCNRV should continue to provide cultural competency training for all providers and staff. Diversity training should focus on working with people across cultures. To address the perception that front office staff are conservative and may not feel approachable to some people, a diversity assessment could be conducted with those staff to determine targeted training needs.

Community/patient

Providing a concrete recommendation in this area is difficult, as there is not much that the CHCNRV can do to change the local culture. What CHCNRV can do, is be culturally aware,

informed, and deliver services based on what people know, meet community members and patients where they are, offer extra education as appropriate, take the time for patient education, answer all questions, and continue to provide comprehensive services to low income high need patients.

CHCNRV should continue educating patients about all birth control methods, including potential side effects to alleviate any potential fears. In addition, it is recommended that CHCNRV advocate for comprehensive K-12 sexual health education to increase knowledge of all methods. CHCNRV could work with the Health Department and the local School Health Advisory Board to advocate with the schools for students to receive age appropriate, evidence-based, comprehensive sexual health education starting in Kindergarten, and through 12th grade.

Recommendations for Other FQHCs

Several of the findings and recommendations for the CHCNRV can be applied to other FQHCs wanting to replicate the CHCNRV's model of integrating comprehensive contraceptive services into primary care. Those recommendations are provided below.

Organizational

One of the main drivers of the success of the Women's Health Program is the funding provided by the Secular Society. It is recommended that other FQHCs not receiving Title X funding look for and secure an external source of funding to ensure the provision of all types of contraceptives, or allocate current funding to these services.

It is recommended that measuring reproductive intention, providing contraceptive counseling and providing comprehensive contraceptive methods be integrated into all primary care visits. FQHCs should develop a standard protocol that providers can adapt based on the

specific needs of the woman they are counseling. Systematic clinic protocols must allow for flexibility based on provider style and approach. It is recommended for all contraceptive methods to be offered on site, and for best practices, such as the "quick start" method to be offered.

The organizational culture at CHCNRV has been a big driver in their success. It is recommended that FQHCs create an organizational culture that values employees, trust and empowers them to succeed. The current hiring, onboarding and training models described above may be good ones to replicate.

Another component of the success of the CHCNRV is the emphasis that the organization places on communication. Everything from the placement of the providers' offices, to morning huddles can be replicated to encourage communication.

Board

It is recommended that the FQHC's board be comprised of at least 51% of true patients that represent the actual patient population. It is also recommended that the board be comprised of individuals who support evidence-based practices and access to comprehensive contraceptive methods, and that they support the integration of contraceptive services into primary care.

Providers

As possible, it is recommended that a mix of family nurse practitioners, primary care physicians and OB/GYNS provide care in an integrated, coordinated fashion. It is also recommended to follow the CHCNRV example of hiring providers that value the mission of the organization and will be committed to both the organization and its patients.

It is recommended for all primary care providers to receive training in LARC insertion and to allow for their professional growth through training opportunities. It is also recommended for all primary care providers to conduct reproductive intention screening, contraceptive counseling and patient education to all primary care patients as needed/wanted. Even if all contraceptive methods are not available on site, measuring reproductive intention systematically and offering contraceptive counseling can be accomplished without extra funding. Providers could then refer patients to receive the contraceptive methods elsewhere.

Community

Once the FQHC is offering contraceptive services as described above, it is recommended that they provide outreach to the community to promote the provision of these services. The FQHC must be aware of the culture of the community that they are working in and be able to adapt their messages and services to fit that community's needs. If they are located in a rural conservative area, they must learn to adapt and work within the confines of the community's culture while still providing high quality integrated comprehensive services. Implications will be different based on geographic location of the FQHC, with a different set of constraints faced in rural vs. urban locations. It is important to know and understand the community's culture to provide quality culturally competent services.

Of note, although community buy-in is very important, with the right board support, funding and organizational commitment, integration or services can begin before the community is fully on board.

C. Leadership Implications

Nationally, the conversation surrounding the integration of reproductive intention screening and of integrating contraceptive services into primary care came to the forefront in 2014 when the CDC and the US Office of Population Health's co-authored a "*Providing Quality Family Planning Services*" Recommendation and Report. This was the first time that the government was recommending the integration of contraceptive services into primary care. They recommend that both primary care and family planning providers should assess clients' reproductive life plan in order to identify unmet reproductive health care needs [4]. If an unmet contraceptive need is identified, they recommend contraceptive counseling and offering a full range of FDA- approved contraceptives methods, preferably on-site [4]. This is precisely what that CHCNRV is doing.

Successful models showing how contraceptive services are integrated into primary care in the United States have not been documented, making it difficult to determine success and making the model potentially challenging to replicate. This research aimed to understand and document some of the facilitators and barriers to integration at the CHCNRV, with the potential to replicate the model.

CHCNRV's integration of contraceptive services is a model that can be replicated by other FQHCs, by local health departments, or by private physicians. In addition to their integration of contraceptive services, the time providers take to educate patients, and the access to low/no cost birth control methods, which are operational issues, there are certain organizational and leadership characteristics that make the integration of services work.

A big facilitator is the funding that the CHCNRV receives from the Secular Society, but this funding alone is not what makes the integration of services successful. A combination of strong organizational communication and organizational and provider commitment sets the CHCNRV up for success. Board members that care about the integration of services, a dedicated management team, and providers that work there because they care are part of what makes this FQHC successful. That, in addition to provider training, so that all the providers show a high level of competence and comfort in all methods encourages them to routinely screen for pregnancy intention. Having a variety of providers on staff, including OB/GYNs, and having an active internal referral system helps women patients be able to see the type of provider that they want to see for their birth control needs.

The organizational culture of the CHCNRV is the element that makes it all work. Integrating contraceptive services into primary care like is done at the CHCNRV is a systems level response to the adaptive challenge of unintended pregnancy in low-income populations.

Even with their successes, CHCNRV still lags behind on implementing some best practices such as providing same day (quick start) LARC services and providing birth control pills in house. With an internal policy change and some updated provider training, these best practices could easily be implemented at the CHCNRV. Recommendations to do so will be shared with the management team and providers. The main leadership component of this research is the presence of strong organizational culture and commitment, facilitating the way for adoption of best practices.

One cannot underestimate the role of culture while providing contraceptive services in a small rural conservative community. There are some leadership challenges associated with this.

As described in the results and discussion chapters, cultural context, misinformation leading to fear, mistrust, stigma, and lack of education are real barriers to women accessing contraceptive services. These are deeply engrained cultural barriers that CHCRNV cannot do much about, yet they must be acutely aware of how these cultural barriers affect their patients and their delivery of services and take them into consideration as they serve their patients. Implications will be different for FQHCs located in urban areas, but the same culturally sensitive provisions must be made.

CHCNRV must also get over their fear of stigma at the organizational level by addressing their fear of community perceptions and reactions, and starting to actively promote their women's health services to grow their patient base and gain a wider variety of patients. By taking a leadership role in promoting their women's health services to the broader New River Valley community, the CHCNRV will be growing their organizational commitment externally, beyond the walls of the organization. The current board is poised to support the management team in this change in mindset.

Transferability

In addition to the leadership implications outlined above, this research has the potential for broader implications beyond the integration of contraceptive services into primary care. FQHCs, local health departments and other healthcare providers or organizations may use the findings of this case study to inform their organizational practices. These types of service organizations may use the CHCNRV's organizational communication and commitment model to improve their delivery of healthcare services. CHCNRV has created an organizational community where there is a high level of communication, and a transparency among providers, the management team and the board. Providers, the management team and the board

communicate freely and openly, sharing concerns, growth opportunities and successes. CHCNRV has created an organizational culture of communication.

In addition, from a workforce development perspective, CHCNRV offers opportunities for growth and advancement to staff, offers personalized onboarding experiences for each new employee, and allocates plenty of time for training for staff and providers to ensure that they provide the best possible level of care to patients. With this feeling of self-worth, staff and providers develop a commitment to the organization and to the patients they serve. Patients in turn receive a "red carpet" experience, where they feel welcome, listened to, and cared for.

These findings are transferable to all service organizations that provide direct services to patients, beyond those that provide contraceptive services, or integrate healthcare services. From an organizational leadership perspective, the organizational culture that the CHCNRV has created may be replicable and prove to be a good model for service provision.

D. Limitations

Survey

The main limitation was that the survey was distributed to and filled out by a convenience sample of women- any patient at the clinic who was eligible and willing. In addition, no response rate was calculated- the nurses who were distributing the survey did not make a note of every time the survey was offered to a potential respondent, but was not filled out. Not having a response rate makes it difficult to assess the percentage of women who could have filled out the survey but did not, making it impossible to determine if there was a nonresponse bias.

There were some limitations to the survey design. One was that permanent birth control methods such as male or female sterilization were inadvertently not listed as a choice on the methods question. Most women used the "other" category to list this option, so it was a minor limitation. A major limitation was that women's marital/partnership status was not asked, nor were women asked if they were sexually active. In the US, about 78% of adult women have had sex in the last year, so it can be assumed that most of the survey respondents were sexually active [139]. Still, this is a limitation and must be taken into account when interpreting survey results.

Interviews

The main limitation of the qualitative portion of this research is that a convenience sampling methodology was used. The executive director picked the providers and the board members that were selected to participate in the interviews. Women self-selected into the study. Recruiting women proved to be more difficult than expected, with the number of women recruited lower than anticipated. The first method of reaching women (sending them a letter and having them call the researcher) only brought forth two participants, and the method of recruiting women directly at the health center was more productive, but extremely time consuming. Another limitation was small sample size, which is expected in a qualitative study of this nature.

VI. CONCLUSIONS

Through rigorous research methods, including a patient survey, document review and in-depth interviews, this study identified 35 factors, under one construct that described the process (organizational processes) and five constructs (leadership, services, communication, education and cultural) that affected the integration of contraceptive services into primary care at the CHCNRV. Factors were arranged under organizational, provider, and community/patient facilitators and barriers. This research has shown that a combination of interrelated factors came together to make the CHCNRV successful in integrating contraceptive services. The research has also uncovered some areas of potential growth for the CHCNRV- and a set of recommendations has been developed.

Findings from this study have leadership implications beyond this single exemplar case. CHCNRV's integration of measuring reproductive intention, providing contraceptive counseling and the provision of contraceptive services in primary care is a model that can be replicated by other FQHCs, by local health departments, or by private physicians. This research has shown that this model has replicability and transferability potential beyond the provision of contraceptive services in primary care.

Institutional Review Board

This study was approved by the University of Illinois at Chicago Institutional Review Board (Protocol # 2017-1135) and the Virginia Tech Institutional Review Board. The approval letters are included in Appendix A.

Author's Note

This dissertation product will be shared with the board of the Community Health Center of the New River Valley. In addition, a presentation of the findings will occur at one of their

monthly board meetings. A summary of the document will be shared with providers. At least two manuscripts will be submitted for publication, with the first one likely focusing on the process of integration, including the role of organizational culture and communication, and the other focusing on the importance of the cultural context while providing comprehensive contraceptive services in a conservative, rural community.

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VIII. APPENDICES

Appendix A. Approval letters from the IRB

Approval Notice
Initial Review (Response To Modifications)

November 29, 2017

Sophie Wenzel
Community Health Sciences
1703 Ginger Lane,
Blacksburg, VA 24060
Phone: (540) 235-1915

RE: Protocol # 2017-1135
"Integrating contraceptive services into primary care at a Federally Qualified Health Center"

Dear Ms. Wenzel:

Please note that your research has been approved for Phase I (patient surveys) *only*. Phase II may not be implemented without submission and approval of an amendment. When submitting the amendment to add Phase II, please make sure to address the modification requests noted in the initial review IRB letter.

Please submit IRB approval from Virginia Tech before initiating research. Once you obtain the IRB approval provide the documentation to the UIC IRB by submitting an amendment to research. When we receive the IRB approval from Virginia Tech the approval notice will be revised to include this site as a participating site.

Please note that UIC OPRS will no longer send approved and stamped document(s) via email correspondence. Effective 7/24/2017, newly approved, stamped recruitment and informed consent document(s) can be accessed via OPRS Live. Documents will be located in the specific protocol workspace under the "Approved Documents" tab. (Note that documents approved and stamped prior to 7/24/2017 may not be accessible through OPRS Live; these would have been sent as email attachments at the time of approval.)

Your Initial Review (Response To Modifications) was reviewed and approved by the Expedited review process on November 28, 2017. You may now begin your research

Please note the following information about your approved research protocol:

Protocol Approval Period: November 28, 2017 - November 28, 2018

Approved Subject Enrollment #: 125
Additional Determinations for Research Involving Minors: These determinations have not been made for this study since it has not been approved for enrollment of minors.
Performance Sites: UIC, Community Health Center of the New River Valley
Sponsor: None
Research Protocol(s):

a) Integrating Contraceptive Services Into Primary Care at a Federally Qualified Health Center; Version 1; October 9, 2017

Recruitment Material(s):

a) Patient Recruitment text used by front office staff; Version 1; November 13, 2017

Informed Consent(s):

a) A waiver of documentation of informed consent and an alteration of consent has been granted under 45 CFR 46.117(c)(2) and 45 CFR 46.116(d) for the survey portion of research (information sheet to be distributed; minimal risk;).
b) Consent form for patient survey; Version 2; November 13, 2017

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category:

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
10/12/2017	Initial Review	Expedited	11/03/2017	Modifications Required
11/13/2017	Response To Modifications	Expedited	11/28/2017	Approved

Please remember to:

→ Use your **research protocol number** (2017-1135) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,
"**UIC Investigator Responsibilities, Protection of Human Research Subjects**"
(http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf)

Please note that the UIC IRB has the prerogative and authority to ask further questions,

seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312)413-9680. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Jovana Ljuboje
Assistant Director, IRB #1
Office for the Protection of Research Subjects

cc: Jesus Ramirez-Valles, Community Health Sciences, M/C 923
Kristina Risley, Faculty Sponsor

Approval Notice

Amendment to Research Protocol – Expedited Review
UIC Amendment # 1
REVISED NOTICE**

January 12, 2018

Sophie Wenzel
Community Health Sciences
1703 Ginger Lane,
Blacksburg, VA 24060
Phone: (540) 235-1915

RE: Protocol # 2017-1135
"Integrating contraceptive services into primary care at a Federally Qualified Health Center"

Dear Dr. Wenzel:

****Please note that the IRB Authorization Agreement for Virginia Polytechnic Institute and State University has been counter-signed and completed by UIC, and this site has been approved and listed as an active project site.**

Members of Institutional Review Board (IRB) #1 have reviewed this amendment to your research and/or consent form under expedited procedures for minor changes to previously approved research allowed by Federal regulations [45 CFR 46.110(b)(2) and/or 21 CFR 56.110(b)(2)]. The amendment to your research was determined to be acceptable and may now be implemented.

Please note the following information about your approved amendment:

Amendment Approval Date: January 10, 2018

Amendment:

Summary: UIC Amendment #1, dated and received by OPRS on January 4, 2018, is an investigator initiated amendment submitting the signed IRB Authorization Agreement ceding Virginia Tech IRB review to UIC.

Performance Sites: Virginia Polytechnic Institute and State, UIC, Community Health Center of the New River Valley

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
01/04/2018	Amendment	Expedited	01/10/2018	Approved

Please be sure to:

→ Use your research protocol number (2017-1135) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,
"**UIC Investigator Responsibilities, Protection of Human Research Subjects**"
(http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf)

Please note that the UIC IRB #1 has the right to ask further questions, seek additional information, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS at (312) 996-1711 or me at (312) 996-1711. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Jovana Ljuboje
Assistant Director, IRB # 1
Office for the Protection of Research Subjects

cc: Kristina Risley, Faculty Sponsor
Jesus Ramirez-Valles, Community Health Sciences, M/C 923

Approval Notice
Amendment to Research Protocol and/or Consent Document – Expedited Review
UIC Amendment # 2

March 26, 2018

Sophie Wenzel
Community Health Sciences
1703 Ginger Lane,
Blacksburg, VA 24060
Phone: (540) 235-1915

RE: Protocol # 2017-1135
"Integrating contraceptive services into primary care at a Federally Qualified

Health Center"

Dear Dr. Wenzel:

Members of Institutional Review Board (IRB) #1 have reviewed this amendment to your research and/or consent form under expedited procedures for minor changes to previously approved research allowed by Federal regulations [45 CFR 46.110(b)(2)]. The amendment to your research was determined to be acceptable and may now be implemented.

Please note the following information about your approved amendment:

Amendment Approval Date: March 26, 2018

Amendment:

Summary: UIC Amendment #2, response to modifications received by OPRS on March 19, 2018, is an investigator initiated amendment submitting supporting documents for Phase II of the research. Phase II of research is set to interview people who were CHCNRV board members and patients at the time the decision to integrate was made. The interviews will be in person or via telephone (Initial Review application, 3/9/18).

Research Protocol(s):

a) Integrating Contraceptive Services Into Primary Care at a Federally Qualified Health Center, Version 2, March 9, 2018

Recruiting Material(s):

a) Recruitment text to be sent by email to board members, providers and management. Version 1, February 26, 2018
b) Patient recruitment text for recruitment patients to participate in interviews- used by clinicians for all women who have received birth control as part of integrated services. Version 1 November 5, 2017

Informed Consent(s):

a) Consent for patient interviews. Version 1. February 6, 2018
b) A waiver of documentation of informed consent and an alteration of consent has been granted under 45 CFR 46.117(c)(2) and 45 CFR 46.116(d) for the Board Member interviews over the phone (information sheet to be distributed; minimal risk;).
c) Consent for CHCNRV personnel and present/past CHCNRV board members, Version 1, February 6, 2018

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
02/27/2018	Amendment	Expedited	03/05/2018	Modifications Required
03/19/2018	Response To Modifications	Expedited	03/26/2018	Approved

Please be sure to:

→ Use your research protocol number (2017-1135) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,
"**UIC Investigator Responsibilities, Protection of Human Research Subjects**"
(http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf)

Please note that the UIC IRB #1 has the right to ask further questions, seek additional information, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS at (312) 996-1711 or me at (312) 413-9680.

Sincerely,

Jovana Ljuboje
Assistant Director, IRB # 1
Office for the Protection of Research Subjects

cc: Kristina Risley, Faculty Sponsor
Jesus Ramirez-Valles, Community Health Sciences, M/C 923

Approval Notice
Amendment to Research Protocol and/or Consent Document – Expedited Review
UIC Amendment #4

July 2, 2018

Sophie Wenzel
Community Health Sciences
Phone: (540) 235-1915

RE: Protocol # 2017-1135
"Integrating contraceptive services into primary care at a Federally Qualified Health Center"

Dear Ms. Wenzel:

Members of Institutional Review Board (IRB) #1 have reviewed this amendment to your research and/or consent form under expedited procedures for minor changes to previously

approved research allowed by Federal regulations [45 CFR 46.110(b)(2)]. The amendment to your research was determined to be acceptable and may now be implemented.

Please note the following information about your approved amendment:

Amendment Approval Date: June 29, 2018

Amendment:

Summary: UIC Amendment #4, response to modifications received on June 19, 2018, is an investigator initiated amendment requesting to expand the study to include 15 additional interview only participants, therefore increasing the total number of subjects from 125 to 140. Participants will be interviewed for approximately 10 minutes at the clinic while they wait for their provider.

Approved Subject Enrollment #: 140

Research Protocol(s):

b) Integrating Contraceptive Services Into Primary Care at a Federally Qualified Health Center, Version 3, June 4, 2018

Recruiting Material(s):

c) Patient recruitment text for recruitment patients to participate in interviews- used by clinicians for all women who have received birth control as part of integrated services. Version 2, June 19, 2018

Informed Consent(s):

d) Consent for patient interviews. Version 2, June 4, 2018

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
06/05/2018	Amendment	Expedited	06/15/2018	Modifications Required
06/19/2018	Response To Modifications	Expedited	06/29/2018	Approved

Please be sure to:

→ Use your research protocol number (2017-1135) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,
"**UIC Investigator Responsibilities, Protection of Human Research Subjects**"
(http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf)

Please note that the UIC IRB #1 has the right to ask further questions, seek additional information, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be

amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS at (312) 996-1711 or me at (312) 413-9680.

Sincerely,

Jovana Ljuboje
Assistant Director, IRB # 1
Office for the Protection of Research Subjects

cc: Kristina Risley, Faculty Sponsor
Jesus Ramirez-Valles, Community Health Sciences, M/C 923

Appendix L1 – Institutional Review Board (IRB)/Independent Ethics Committee (IEC) Authorization Agreement

Version 1.0 8/09/07

Office for the Protection of Research Subjects (OPRS)
Institutional Review Board (IRB)
1737 West Polk Street (MC 672)
203 Administrative Office Building
Chicago, IL 60612
Phone: 312.996.1711 Fax: 312.413.2929
www.research.uic.edu

Name of Research Project: Integrating contraceptive services into primary care at a Federally Qualified Health Center

Name of Principal Investigator: Sophie Wenzel

Sponsor or Funding Agency: N/A

Award Number, if any: 2017-1135

Other support, describe: N/A

Name of Institution Providing IRB Review (Institution A):	University of Illinois at Chicago (UIC)
OHRP Federalwide Assurance (FWA) Number:	FWA00000083
IRB Registration #: (choose):	☐ IRB00000115 UIC IRB #1 ☐ IRB00000116 UIC IRB #2 ☐ IRB00000117 UIC IRB #3

Name of Institution Relying Upon UIC IRB Review (Institution B): Virginia Polytechnic Institute and State University

OHRP Federalwide Assurance (FWA) Number: FWA00000572

The Officials signing below agree that Institution B may rely on the UIC IRB for review, approval, and continuing oversight provided by the University of Illinois at Chicago under its Assurance for the project identified above.

This agreement is applicable only to the project named above and to no other research in which Institution B may be engaged in presently or in the future.

The review, approval, and continuing oversight performed by the relied-upon UIC IRB will meet the requirements of the HHS regulations for the human subject protection at 45 CFR 46, as well as the requirements of UIC's OHRP-approved Assurance. The UIC IRB will follow its written procedures for reporting its findings and actions to appropriate officials at Institution B. Relevant minutes of IRB meetings will be made available to Institution B upon request.

Institution B remains responsible for ensuring compliance with the IRB's determinations and with the terms of its OHRP-approved FWA, or other applicable laws or regulations.

This document must be kept on file at both institutions and must be provided to OHRP upon request.

Signatures:

Authorized Official at the University of Illinois at Chicago (Institution A):

Mitra Dutta Date: 1/10/18

Mitra Dutta, PhD
Vice Chancellor for Research

Authorized Official at Institution B:

Date: 1/5/2018

Appendix B. Old and Revised measurement table (TABLE A1)

Original measurement table, as included in the dissertation proposal

Measurement Table			
<u>Question 1</u>: How has the integration of contraceptive services into primary care been operationalized at the Community Health Center of the New River Valley?			
<u>Sub-Question a</u>: What are organizational facilitators and barriers affecting the planning and delivery of integrated services at NRVCHC? How do these organizational facilitators and barriers affect integration?			
Constructs	**Factors**	**Measures**	**Data Sources**
Organizational facilitators and barriers- *Leadership*	*Board Support* (-Wright-Many boards have consumers on the board by law, but these do not often have an active voice -Goldberg et al- Leadership support of family planning is key to success)	-Patient voice on the board -Most board members voted to integrate services -Board members support continued integration -Providers feel supported by the board to offer full services -Patients have an equal voice on the board	-Review of board meeting notes -Key informant interviews with board members -Key informant interviews with providers and staff [triangulate between board meeting notes and key informant responses]
	Organizational philosophy/commitment (-Goldberg et al- Leadership philosophy and commitment to providing services is key to success)	-The management team offers training to providers -Existing political barriers -Who is at the helm of integration	-Review of board meeting notes -Key informant interviews with board members -Key informant interviews with

		-Enough time for appointments -Providers feel supported and encouraged -Management helps resolves issues and trouble shoot	providers and staff [triangulate between board meeting notes and key informant responses
	Patient voice (-Wright- Many boards have consumers on the board by law, but these do not often have an active voice)	-Patients on the board feel they are heard as much as other board members -Patients hold elected board positions -Patients had a say in whether or not to integrate	-Review of board meeting notes -Key informant interviews with board members [triangulate between board meeting notes and board member responses]
	Funding/financial (- Saleeby et al, Goldberg et al-Role of the ACA as funding mechanism -Wood et al- Financial challenges most frequently reported as barriers to offering wide range of contraceptives -Beeson et al-Title X funding attached to more LARCs being offered -Goldberg et al-Lack of funding tied to lack of staff training)	-How services are funded -Patient payment options -Role of federal funding -Role of Secular Society funding -Continuation of services once Secular Society funding stopped -Billing codes used for integrated services	-Key informant interviews with board members -Key informant interviews with providers and staff [triangulate between provider and board member responses]

Organizational facilitators and barriers- *Communication*	*Communication within organization* (-Wood et al- Importance of a well-established referral system)	-Who screens patients? -How do providers know patient needs? -Who provides contraceptive services to primary care patient? -How do staff and providers communicate -How do staff/providers communicate with board -What type of protocols are in place?	-Key informant interviews with board members -Key informant interviews with providers and staff -Key Informant interviews with patients
	Advertising women's health services (-Wood et al- Outreach activities seen as a hurdle by some health centers)	-Patients are aware of contraceptive services offered -Services advertised, if so, where? -Community members aware of integration of services	-Key informant interviews with patients -Website review [triangulate between information on website and key informant interview responses]
Organizational facilitators and barriers- *Services*	*Types of contraceptive services offered* (-Wood et al- Types of services offered depends on funding, providers, demand. High cost of LARC -Beeson et al- Types of contraceptives offered tied to funding, Title X)	-Number and types of contraceptives offered -Services offered are comprehensive (and follow Quality FP guidelines)	-Key informant interviews with providers and staff -Key informant interviews with board members [triangulate between key informant interview

			responses]
<u>Sub-Question b</u>: What are provider/staff facilitators and barriers affecting the planning and delivery of integrated services at NRVCHC? How do these provider/staff facilitators and barriers affect integration?			
Constructs	**Factors**	**Measures**	**Data Sources**
Provider and staff facilitators and barriers- *Education*	*Types of provider used* (- Goldberg et al- Types of providers used directly related to utilization of family planning, smaller centers have less types of providers -Wood et al-Problems with retention and recruitment of staff at smaller FQHCs)	-What types of providers offer services (Medical assistant, family nurse practitioner, family doctor?) -How are tasks distributed among providers? -Role of staff members such as CMA	-Key informant interviews with board members -Key informant interviews with providers and staff [triangulate between board responses and provider responses]
	Provider/staff training (-Simmons, Hollander- Increasing provider training to insert LARC helps reduce unintended pregnancy -Goldberg et al- Importance of training programs for providers, lack of funding associated with poor provider training -Wood et al- Staff not appropriately trained seen as a barrier, staff turnover, little time to train new providers)	-Training level of all providers prescribing/inserting contraceptives -Training of those providing contraceptive counseling and reproductive life planning -Full adequate training received -Training of staff members -Training of those screening -Training of frontline	-Key informant interviews with board members -Key informant interviews with providers and staff -Patient survey -Key informant interviews with patients [triangulate between survey responses and key informant responses]

		staff -Patient perception of provider training level	
Provider and staff facilitators and barriers- *Communication*	*Comfort level discussing sexual health* (-Wood et al-Staff with little family planning expertise seen as a barrier)	-Comfort level of those screening -Comfort level of overall providers and staff discussing sexual health during primary care visit -Patient perception of provider comfort level	-Key informant interviews with providers and staff -Patient survey -Key informant interviews with patients [triangulate between survey responses and key informant interview responses]
	Patient education (-Wood et al-Low comfort level with adolescents, privacy and confidentiality issues with adolescents Goldberg et al- Smaller centers have less resources for outreach and education)	-Type of contraceptive counseling offered -All contraceptives discussed -Client questions answered -Comfort level speaking to teens -Time for providers to provide contraceptive counseling	-Key informant interviews with providers and staff -Patient survey -Key informant interviews with patients [triangulate between patient survey and key informant interview responses]
Provider and staff facilitators and barriers-	*Time per appointment* (-Tai-Seale- providers often feel rushed and	-Is there adequate time to screen in addition to primary care visit	-Key informant interviews with board members

Services	overwhelmed at lack of time to see patients)	-How is adequate time allocated vs. how much is reimbursed? -Do providers, staff feel rushed? -Do patients feel rushed? -Does management offer enough time to successfully integrate?	-Key informant interviews with providers and staff -Patient survey -Key informant interviews with patients [triangulate between survey responses and key informant interviews]
<u>Sub-Question c</u>: What are community and patient facilitators and barriers affecting the planning and delivery of integrated services at NRVCHC? How do these community facilitators and barriers affect integration?			
Constructs	**Factors**	**Measures**	**Data Sources**
Community and patient facilitators and barriers-*Services*	*Acceptability of services* (-Goldberg et al-Conservative Federal and State laws impact services. Perceived demand and local attitudes influence health center decisions -Wood et al-Community political environment a challenge)	-Are primary care patients ok with being screened for contraceptive need -Patient satisfaction with services received -Patient satisfied with confidentiality level -Use of services by adolescents -Patient acceptability of contraceptive services being offered	-Patient survey -Key informant interviews with patients -Key informant interviews with board members [triangulate between survey responses and key informant interviews]
	Accessibility to services (-Wood et al- Patient	-Ease of accessing services within an	-Patient survey -Key informant

	transportation is a barrier, low patient literacy and compliance are seen as barriers)	acceptable time limit -Transportation issues to services -Time in between scheduling and having appointment -Time between being screened and receiving contraceptive -Time clinic is open adequate -Same day contraceptive access	interviews with patients -Key informant interviews with providers and staff [triangulate between survey responses and key informant interview responses]
	Patient demand for services (-Wood et al- Many potential patients don't know about services)	-Do patients being screened actually take advantage of services offered? -Patients offered contraceptives not currently using them that actually start using them after being screened -Can patients access contraceptive services elsewhere more easily? -What are other benefits of accessing contraceptive services elsewhere -What is the current unmet need for birth control among CHCNRV patients?	-Key informant interview with patients -Patient survey -Key informant interviews with staff and providers -Key informant interviews with board members

Community and patient facilitators and barriers- *Communication*	*Community knowledge of services* (-Wood et al- Low level of community knowledge of available services is a barrier Goldberg et al- Smaller centers have less resources for outreach and education)	-Patients aware of contraceptive services offered -Services advertised, if so, where? -Patients aware of integration of services	-Key informant interviews with patients -Key informant interviews with providers and staff [triangulate between survey results and key informant responses]
<u>Sub-Question d</u>: What are other facilitators and barriers affecting the planning and delivery of integrated services at NRVCHC? How do these other facilitators and barriers affect integration?			
Constructs	**Factors**	**Measures**	**Data Sources**
Other facilitators and barriers	Will be identified during the research	-Other barriers or facilitators to successful integration	The following are data sources where potential new facilitators and barriers might emerge: -Review of board meeting notes -Key informant interviews with board members -Key informant interviews with providers and staff -Patient survey -Website review

<u>Question 2</u>: What are lessons learned and recommendations from CHCNRV on integration of contraceptive services into primary care that can be transferred to another FQHC?			
Constructs	**Factors**	**Measures**	**Data Sources**
Lessons Learned	All factors listed will be used to determine lessons learned	-How can facilitators and barriers to integration identified above be turned into lessons learned for integration of contraceptive services into primary care at another FQHC?	All data sources may offer lessons learned [triangulation will occur within selected data sources]

Revised measurement table (emerging constructs and factors highlighted in yellow)

Measurement Table			
<u>Question 1</u>: How has the integration of contraceptive services into primary care been operationalized at the Community Health Center of the New River Valley?			
Constructs	**Factors**	**Measures**	**Data Sources**
Organizational processes	*Integrating services*	-How all services at CHCNRV (medical, behavioral, dental) are integrated under one roof	-Review of board meeting notes -Key informant interviews with board members -Key informant interviews with providers and staff
	Integrating contraceptive services	-How integration of contraceptive services into primary care happens at the CHCNRV	-Review of board meeting notes -Key informant interviews with board members -Key informant interviews with providers and staff -Key informant interviews with patients
<u>Sub-Question a</u>: What are organizational facilitators and barriers affecting the planning and delivery of integrated services at NRVCHC? How do these organizational facilitators and barriers affect integration?			

Constructs	Factors	Measures	Data Sources
Organizational facilitators and barriers- *Leadership*	*Board support/Lack of board support* (-Wright-Many boards have consumers on the board by law, but these do not often have an active voice -Goldberg et al- Leadership support of family planning is key to success)	-Most board members voted to integrate services/accept funding -Board members support continued integration -Providers feel supported by the board to offer full services	-Review of board meeting notes -Key informant interviews with board members -Key informant interviews with providers and staff
	Organizational commitment (-Goldberg et al- Leadership philosophy and commitment to providing services is key to success)	-The management team offers training to providers -Who is at the helm of integration -Providers feel supported and encouraged -Management helps resolves issues and trouble shoot -Overall organizational commitment to integrated services	-Review of board meeting notes -Key informant interviews with board members -Key informant interviews with providers and staff
	Patient representation and voice (-Wright- Many boards have consumers on the board by law, but these do not often have an active voice)	-Patients on the board feel they are heard as much as other board members -Patients hold elected board positions -Patients had a say in whether or not to integrate	-Review of board meeting notes -Key informant interviews with board members

		-Patients have an equal voice on the board	
	Funding (-Saleeby et al, Goldberg et al-Role of the ACA as funding mechanism -Wood et al- Financial challenges most frequently reported as barriers to offering wide range of contraceptives -Beeson et al-Title X funding attached to more LARCs being offered -Goldberg et al-Lack of funding tied to lack of staff training)	-How services are funded -Patient payment options -Role of Secular Society funding	-Key informant interviews with board members -Key informant interviews with providers and staff
Organizational facilitators and barriers-*Communication*	*Internal communication* (-Wood et al- Importance of a well-established referral system)	-How do staff and providers communicate with the board and the management team? -How is feedback given and received?	-Key informant interviews with board members -Key informant interviews with providers and staff -Key informant interviews with patients
	Internal referrals	-How are patients referred within the organization? -What type of referral protocols are in place? -How are primary care	-Key informant interviews with board members -Key informant interviews with providers and

		patients referred to GYN services?	staff -Key informant interviews with patients
	External referrals *(-Wood et al- Importance of a well-established referral system)*	-Who does the clinic refer patients to? -What kinds of relationships exist with external partners?	-Key informant interviews with board members -Key informant interviews with providers and staff -Key informant interviews with patients
	Advertising/outreach (-Wood et al- Outreach activities seen as a hurdle by some health centers)	-Patients are aware of contraceptive services offered -How are services advertised?	-Key informant interviews with patients -Key informant interviews with board members -Website review
	"Still a free clinic"	-Perception that the CHCNRV is still a free clinic -Lack of knowledge that it's now an FQHC -Lack of knowledge of associated cost of services	-Key informant interviews with patients -Key informant interviews with providers -Website review
Organizational facilitators and barriers- *Services*	*Contraceptive services offered* (-Wood et al- Types of services offered depends on	-Number and types of contraceptives offered -Methods offered free or	-Key informant interviews with providers and staff

	funding, providers, demand. High cost of LARC -Beeson et al- Types of contraceptives offered tied to funding, Title X)	low cost -Services offered are comprehensive -Do providers follow Quality Family Planning guidelines?	-Key informant interviews with board members
	Billing	-Billing codes used for integrated services	-Key informant interviews with providers and staff
Sub-Question b: What are provider/staff facilitators and barriers affecting the planning and delivery of integrated services at NRVCHC? How do these provider/staff facilitators and barriers affect integration?			
Constructs	**Factors**	**Measures**	**Data Sources**
Provider and staff facilitators and barriers- *Education*	*Types of providers* (- Goldberg et al- Types of providers used directly related to utilization of family planning, smaller centers have less types of providers -Wood et al-Problems with retention and recruitment of staff at smaller FQHCs)	-What types of providers offer services (medical assistant, family nurse practitioner, family doctor, GYN?) -How are tasks distributed among providers? -Role of staff members such as nurses	-Key informant interviews with board members -Key informant interviews with providers and staff
	Provider training (-Simmons, Hollander- Increasing provider training to insert LARC helps reduce unintended pregnancy	-Training level of all providers prescribing/inserting contraceptives -Training of those providing contraceptive counseling and	-Key informant interviews with board members -Key informant interviews with providers and

	-Goldberg et al- Importance of training programs for providers, lack of funding associated with poor provider training	reproductive life planning -Full adequate training received -Patient perception of provider training level -Training of those screening	staff -Patient survey -Key informant interviews with patients
	Staff training -Wood et al- Staff not appropriately trained seen as a barrier, staff turnover, little time to train new providers)	-Training of staff members -Training of frontline staff	-Key informant interviews with board members -Key informant interviews with providers and staff -Patient survey -Key informant interviews with patients
Provider and staff facilitators and barriers- *Communication*	*Provider comfort level* (-Wood et al-Staff with little family planning expertise seen as a barrier)	-Comfort level of those providing the screening -Comfort level of providers discussing sexual health during primary care visit	-Key informant interviews with providers and staff -Patient survey -Key informant interviews with patients
	Patient education (Goldberg et al- Smaller centers have less resources for outreach and education)	-Type of contraceptive counseling offered -All contraceptives discussed -Client questions	-Key informant interviews with providers and staff -Patient survey

		answered -Time for providers to provide contraceptive counseling	-Key informant interviews with patients
	Provider communication	-How do providers communicate with each other? -How does communication amongst providers facilitate integration?	-Key informant interviews with providers and staff
Provider and staff facilitators and barriers- *Services*	*Time per appointment* (-Tai-Seale- providers often feel rushed and overwhelmed at lack of time to see patients)	-Is there adequate time to screen in addition to primary care visit? -Do providers, staff feel rushed? -Do patients feel rushed? -Does management offer enough time to successfully integrate?	-Key informant interviews with board members -Key informant interviews with providers and staff -Patient survey -Key informant interviews with patients
	Time until next appointment (rare same day LARC)	-How much time does a patient need to wait to get a follow up appointment to get a LARC placed? -Can a patient get a same-day method? -Time between being screened and receiving contraceptive	-Key informant interviews with board members -Key informant interviews with providers and staff -Patient survey -Key informant interviews with patients

	Use of EMRs	-How is the EMR used for providers to communicate with each other? -How are EMRs used for patient education?	-Key informant interviews with providers and staff
	Provider commitment	-How committed are providers to their patients and to the organization? -How committed are providers to providing patient education on contraceptives? -How committed are providers to the organization's mission?	-Key informant interviews with providers and staff -Key informant interviews with board members
<u>Sub-Question c</u>: What are community and patient facilitators and barriers affecting the planning and delivery of integrated services at NRVCHC? How do these community facilitators and barriers affect integration?			
Constructs	**Factors**	**Measures**	**Data Sources**
Community and patient facilitators and barriers- *Services*	*Access to services* (-Wood et al- Patient transportation is a barrier, low patient literacy and compliance are seen as barriers)	-Ease of accessing services within an acceptable time limit -Transportation issues to services -Time clinic is open adequate	-Patient survey -Key informant interviews with patients -Key informant interviews with providers and staff
	Willingness to get integrated services	-How willing are patients to receive integrated services at CHCNRV?	-Key informant interviews with patients -Key informant

			interviews with providers and staff
	Time to get an appointment	-How long does it take to get an appointment? -Time in between scheduling and having appointment	-Key informant interviews with patients -Key informant interviews with providers and staff
	Insurance/cost issues	-What are some financial barriers to care? -How does not having insurance impact accessing care?	-Patient survey -Key informant interviews with patients -Key informant interviews with providers and staff
Community and patient facilitators and barriers- *Communication*	*Patient comfort level*	-How comfortable do patients feel talking to providers about sexual health? -Patient perception of provider comfort level	-Patient survey -Key informant interviews with patients -Key informant interviews with providers and staff

Community and patient facilitators and barriers- *Cultural*	*Cultural context of SW Virginia*	-How does the cultural context of Southwest Virginia (religion, conservative, low educational attainment, low income) affect people's perception of accessing care and receiving contraceptive services?	-Key informant interviews with patients -Key informant interviews with providers and staff -Key informant interviews with board
	Fear/mistrust	-How does a patient's fear or mistrust in available methods affect their decisions to seek or accept services?	-Key informant interviews with patients -Key informant interviews with providers and staff -Key informant interviews with board
	Rurality	-How does living in a rural area affect patients' ability to access services?	
Community and patient facilitators and barriers- *Education*	*Lack of knowledge of services offered* (-Wood et al- Low level of community knowledge of available services is a barrier Goldberg et al- Smaller centers have less resources for outreach and education)	-Patients aware of contraceptive services offered -Are services advertised? -Are patients aware of the integration of services? -Do patients know where to get care?	-Key informant interviews with patients -Key informant interviews with providers and staff

	Lack of knowledge on birth control and reproductive health	-How does patients' knowledge of birth control methods and reproduction affect their ability/desire to seek/accept methods? -How does education on birth control methods affect a patient's choice of method or influence them to use a method?	-Key informant interviews with patients -Key informant interviews with providers and staff -Key informant interviews with board
	Education on birth control	-What type of sexual health education did patients receive? -How does education on birth control methods affect a patient's choice of method or influence them to use a method?	-Key informant interviews with patients -Key informant interviews with providers and staff -Key informant interviews with board
	"Misinformation and misconceptions"	-How does erroneous information affect a patient's access to care?	-Key informant interviews with patients -Key informant interviews with providers and staff -Key informant interviews with board
<u>Question 2</u>: What are lessons learned and recommendations from CHCNRV on integration of contraceptive services into primary care that can be transferred to another FQHC?			

Constructs	**Factors**	**Measures**	**Data Sources**
Lessons Learned	All factors listed will be used to determine lessons learned	-How can facilitators and barriers to integration identified above be turned into lessons learned for integration of contraceptive services into primary care at another FQHC?	All data sources may offer lessons learned

Appendix C. Codebook (TABLE A2)

Final Codebook, definitions, a priori/emerging and associated factor(s)

Code	Code definition	A priori/Emerging	Associated factor(s)
Access to services	Any mention of accessing services at the clinic, problems accessing services, due to transportation, clinic hours, etc.	A priori	Access to services
Barriers to care	Any mention of problems accessing care, including physical barriers or other barriers	A priori	Access to services
Board- lack of support	Any mention of the board not supporting the women's health program or the clinic offering comprehensive contraceptives	Emerging	Board lack of support
Board- patient representative	Any mention of patients as representatives to the board	A priori	Patient voice
Board- patient voice	Any mention of patients on the board having an equal voice during board discussions	A priori	Patient voice
Board support	Any mention of the board supporting the integration, supporting comprehensive contraceptive services, supporting providers	A priori	Board support
Board- time on board	For board members, how long they have served on the board	A priori	Board support
Comfort level	Any mention of feeling comfortable talking about sexual health, feeling comfortable with providers, with patients	A priori	Provider comfort level/Patient comfort level
Communication-board	Any mention of how the board communicates, among themselves or with organizational management	A priori	Internal communication
Communication-providers	Any mention of how providers communicate among themselves or with management or patients	A priori	Provider communication
Communication-with patients	Any mention of how the organization, including providers and staff communicate with patients	A priori	Provider comfort level
Communication-organizational	Any mention of high level organizational communication, communication systems, management communication	A priori	Internal communication
Contraception methods	Any mention of contraceptive methods and how they are used and distributed	A priori	Contraceptive methods offered
Contraceptive counseling	Any mention of contraceptive counseling (women being asked what kind of birth control they want, and how that is asked)	A priori	Patient education
EMR-integration	How EMRs are used for integrating services in primary care (used for asking questions about current unmet contraceptive need)	Emerging	Use of EMRs
EMR patient communication	How EMRs are used to communicate with patients (portal)	Emerging	Use of EMRs

EMR- patient education	How EMRs are used for patient education, including questions included in prompts and materials to download	Emerging	Use of EMRs
EMR- provider communication	How EMRs are used for providers to communicate with each other	Emerging	Use of EMRs
EMR-recording medication	How EMRs are used to record the type of medication that patients are using	Emerging	Use of EMRs
Feedback	Any mention of how feedback is given and received throughout the organization, including with the boar, providers and patients	A priori	Internal communication
Functioning of the FQHC	Any high level mention of how the FQHC functions on a day to day basis, organizational regulations, etc.	A priori	Integrating services
Funding	Any mention of how the women's health program is funding, how contraceptives are funded	A priori	Funding
LARC	Any mention of any Long Acting Reversible Contraceptives	A priori	Contraceptive methods offered
Medicaid	Any mention of Medicaid, or Medicaid expansion	A priori	Not used
"Misinformation and misconceptions"	Any mention of wrong information out there, or misconceptions about contraceptives, generally due to lack of education or cultural norms	Emerging	"Misinformation and misconceptions"
Organization-expanding to new patients	How the FQHC has been trying to expand out to new patients since it became an FQHC and not a free clinic	Emerging	Integrating services
Organizational-commitment	Any mention of how the organization has shown commitment to the women's health program and integration	Emerging	Organizational commitment
Organizational-confidentiality	Any mention of how providers keep confidentiality	A priori	not used
Organizational conservatism	Any overall mention of the organization's conservative views as a whole	Emerging	Cultural context
Organizational-integration of services	Any mention of how the FQHC has integrated all services, including dental and behavioral health	A priori	Integrating services
Organizational-multiple locations	Any mention of how the FQHC operates in three different locations	Emerging	Integrating services
Organizational-outreach	Any mention of how the FQHC markets and promotes their services and provides outreach in the community	A priori	Advertising/outreach
Organizational-provider commitment to organization	Any mention of how the providers have expressed commitment to the organization and it's cause	Emerging	Provider commitment
"Still a free clinic"	Any mention of how the public still things that the FQHC is a free clinic	Emerging	"Still a free clinic"

Organizational-time during appointment	How much time patients are given during an appointment	A priori	Time per appointment
Organizational-waiting room wait time	How much time patients have to wait in the waiting room before their appointment	Emerging	Not used
Organizational-billing	How services are coded/billed	Emerging	Billing
Parent role	Role of parents in their kids knowing or not about contraceptives and reproduction	Emerging	Not used
Patient- access to services	From a patient's perspective, any problems with accessing services at the clinic	A priori	Access to services
Patient age	How old patients are	Emerging	Not used as a factor
Patient-ambivalence	Any mention of patients expressing ambivalence towards becoming pregnant	Emerging	Lack of knowledge about birth control and reproductive health
Patient centered care	Any mention of the clinic becoming patient centered care certified, or putting patients first	Emerging	Process of integrating
Patient education at clinic	Any mention of patients being educated on birth control while at the clinic	A priori	Patient education
Patient-education on birth control	From a patient's perspective, where they learned about birth control, and what they know about birth control	Emerging	Education on birth control
Patient-insurance/cost issues	Any mention of problems with accessing care due to insurance issues, or cost issues, poverty	Emerging	Patient insurance/cost issues
Patient knowledge of reproduction	Any mention of what patients know or don't know about reproduction	Emerging	Lack of knowledge about birth control and reproductive health
Patient knowledge of services	Any mention of patients knowing, or not knowing about where and how to access services	A priori	Lack of knowledge of services offered
Patient- lack of knowledge about contraception	Any mention of patients having limited knowledge on contraceptives	Emerging	Lack of knowledge about birth control and reproductive health
Patient- need for services	Any mention of patients having a need for services	A priori	Lack of knowledge of services offered
Patient- partner role	If a partner has had a role in accessing services, or making decisions	Emerging	Not used
Patient perspective-integration	How the patients feels about integration, accessing all services in one spot, receiving contraceptive counseling	A priori	Willingness to get integrated services

Patient- same day method	Any mention of being able to receive contraceptives on the same day they were screened in primary care	Emerging	Time until next appointment (rare same day method)
Patient-satisfaction with provider	Is the patient satisfied with services received by their provider	A priori	Patient comfort level
Patient- time til next appointment	How long it takes to get a next appointment once they have been screened for contraceptives	Emerging	Time until next appointment (rare same day method)
Patients-services for men	Any mention of services offered to men, or need for men's services	Emerging	Not used
Political and cultural context	Any mention of the US and Southwest Virginia political context, and how the local culture might affect provision of services, perceptions of contraceptives, access to services	Emerging	Cultural context
Process of integrating	Any mention of the actual process of providing reproductive life planning, contraceptive counseling, provision of services	A priori	Process of integrating
Provider- GYN	Any mention of the GYN providers are the clinic	Emerging	Types of providers
Provider- time at center	How long each provider has been working at the clinic	A priori	Provider commitment
Provider turnover	Any mention of providers leaving their position	A priori	Provider commitment
Providers- role	What role do different providers take	A priori	Types of providers
Providers-Quality Family Planning Guidelines	Are providers aware of the Quality Family Planning Guidelines	Emerging	Provider training
Referral-internal	Any mention to internal referrals to other providers within the clinic	A priori	Internal referrals
Referrals-external	Any mention to external referrals to other providers/pharmacy outside the clinic	Emerging	External referrals
reproductive life planning	Any mention of initial asking about reproductive intention	A priori	Patient Education
Rural	Any mention of the clinic being located in a rural area and how that might affect services	Emerging	Rurality
Training-providers	Any mention of how providers are trained to provide services	A priori	Provider training
Training-staff	Any mention of how staff members at the clinic are trained	A priori	Staff training
Women's health program	Any mention of the Secular Society's Women's Health Program as the main funding source for LARC	A priori	Funding

Appendix D. Patient survey

1. Is the Community Health Center of the New River Valley (CHCNRV) your regular place for medical care? **(pick one**)
    a. Yes
    b. No

    Comments_____

2. Which CHCNRV site do you usually go to? **(pick one)**
    a. Christiansburg
    b. Pearisburg
    c. Dublin

3. Have you ever gotten birth control at CHCNRV? **(pick one)**
    a. Yes [SKIP TO QUESTION 5]
    b. No [CONTINUE TO QUESTION 4]
    c. I don't remember [SKIP TO QUESTION 8]

    Comments_____

4. Why have you never gotten birth control at CHCNRV? **(check all that apply)**
    - ☐ I already receive my birth control from another clinic or provider
    - ☐ I don't use birth control
    - ☐ I don't want to get my birth control here
    - ☐ I don't feel comfortable discussing my birth control needs with these providers
    - ☐ Other_____

    [PLEASE SKIP TO QUESTION 8]

5. Is CHCNRV your regular place for birth control care? **(pick one)**
    a. Yes
    b. No

    Comments_____

6. Have you ever **NOT** received the birth control services you needed at CHCNRV for any of the following reasons? (**Check all that apply)**

- ☐ You couldn't afford it
- ☐ You didn't have insurance
- ☐ You had problems getting childcare
- ☐ You had transportation problems
- ☐ You couldn't get a convenient appointment time
- ☐ You couldn't get an appointment with the provider you wanted to see
- ☐ You didn't want anyone to know you were getting family planning services
- ☐ Other, please specify:_____

7. Thinking about your last birth control visit at CHCNRV, how much do you agree with the following statements about CHCNRV? (**Circle one choice in each line)**

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
The staff treat me respectfully	**1**	**2**	**3**	**4**
The services are confidential	**1**	**2**	**3**	**4**
I can get free or low-cost care	**1**	**2**	**3**	**4**
I can use my Medicaid card	**1**	**2**	**3**	**4**
The location is convenient	**1**	**2**	**3**	**4**
The hours fit my schedule	**1**	**2**	**3**	**4**
I don't wait long for an appointment	**1**	**2**	**3**	**4**
It is easy to talk to staff about sex and birth	**1**	**2**	**3**	**4**
I can get the birth control method I want,	**1**	**2**	**3**	**4**
I feel comfortable with my provider	**1**	**2**	**3**	**4**
I have enough time with my provider during	**1**	**2**	**3**	**4**
I can get all my health care needs including	**1**	**2**	**3**	**4**
I do not have to make multiple	**1**	**2**	**3**	**4**
Other, *please specify*	**1**	**2**	**3**	**4**

8. Please tell us how strongly you prefer Option A or Option B in your birth control care? (**Check one box in each white line)**

Option A	Strongly Prefer A	Slightly Prefer A	No Preference	Slightly Prefer B	Strongly Prefer B	**Option B**
I prefer getting birth control care in the **same** place that I usually get my general health care	□	□	□	□	□	I prefer to get birth control in a **different** place than I usually get my general health care
Option A	Strongly Prefer A	Slightly Prefer A	No Preference	Slightly Prefer B	Strongly Prefer B	**Option B**

I prefer to see a **specialist in women's health, such as an OB/GYN** for my birth control needs	□	□	□	□	□	I prefer to see a **general practitioner** for my birth control needs
Option A	Strongly Prefer A	Slightly Prefer A	No Preference	Slightly Prefer B	Strongly Prefer B	**Option B**
I prefer to have my birth control questions answered during an **in-person** visit with my doctor or nurse	□	□	□	□	□	I prefer to get my questions answered in **other ways**, like reading pamphlets or searching the internet
Option A	Strongly Prefer A	Slightly Prefer A	No Preference	Slightly Prefer B	Strongly Prefer B	**Option B**
I prefer to schedule **a same-day or next-day** visit for birth control needs	□	□	□	□	□	I prefer to schedule a birth control visit **well in advance**, on a day and time that works for me
Option A	Strongly Prefer A	Slightly Prefer A	No Preference	Slightly Prefer B	Strongly Prefer B	**Option B**

9. How old were you at your last birthday? _____years

10. Do you hope to become pregnant in the next year? (pick one)

    a) Yes, I want to become pregnant

    b) No, I don't want to become pregnant

    c) I'm unsure

    d) I'm okay either way

11. Do you currently use a contraceptive or birth control method? (pick one)

    a) Yes

    b) No

    c) Don't Know

12. If **YES**, which of the following birth control methods do you **currently** use? **(Check all that apply)**

- ☐ Oral birth control pills
- ☐ IUD (Mirena, Paragard, Copper T, Skyla, Kylina)
- ☐ Implants (Implanon, Nexplanon®)
- ☐ Injectable medicine (Depo Provera or "the shot")
- ☐ Patch (Ortho Evra)
- ☐ Vaginal Ring (NuvaRing)
- ☐ Diaphragm, cervical cap (Lea's shield, FemCap)
- ☐ Sponge (Today)
- ☐ Male condom
- ☐ Female condom
- ☐ Spermicides
- ☐ Natural family planning (the rhythm method, "withdrawing")
- ☐ Emergency contraceptive pills (ECP, Plan B, "the Morning After pill")
- ☐ Not Sure
- ☐ Other, please specify: _____

Appendix E. Interview guides

Board Interview Guide

Before Beginning the Interview:

- The goal of this study is to understand the integration of contraceptive services into primary care at the CHCNRV. This study will provide detailed information on characteristics of activities at CHCNRV that appear to be facilitators or barriers to the integration of contraceptive services into primary care. This examination of practices involves the review of organizational structure, management and culture, financial and human resources, external environment, supportive technologies, and processes for providing contraceptive services. You are being asked to participate in this study because you are on the board of the CHCNRV.

- Ask if the interviewee has any questions.

- Review ground rules and confidentiality policy:

  1. The discussion in this interview is completely confidential
  2. Written and oral reports and other written material coming out of this project will present only aggregate data and information. Your responses will be kept confidential and your name will not be cited.
  3. There are no right or wrong answers
  4. In some cases, the appropriate response may reflect the participant's opinion or impression.
  5. The interview is being tape recorded to ensure accuracy of your responses.
  6. We expect this discussion to last approximately one hour.
  7. You are free to stop the interview at any time or decline to answer questions that make you feel uncomfortable

About You

1. How long have you been on the board of CHCNRV?

2. Have you ever held an elected position on the board?

3. Are you a patient representative on the board?

   Probe: Do you feel that you have just as much of a voice on the board as non-patient representatives? Yes, no, if no, why not?

About Providing Contraceptive Services

1. In the context of providing contraceptive services, what do you think the health center does particularly well? Why?

2. Where do you think it falls short? Why?

3. Has anything substantially changed in the type of contraceptive services they provide or how they provide them (who, where, when) since you've been on the board?

4. Do you remember how the decision was made to integrate contraceptive services into primary care?

    Probe: if yes, please describe? Did you support the decision, why or why not?

TRAINING

1. Are staff members (front line and other administrative staff) trained in customer service/communication with patients?

    Probe: describe training, type, length, opportunities to practice

2. Can you describe how health professionals are trained and kept up to date on contraceptive services?

    Probe: type of training, frequency of training, time off for trainings, etc.

3. Do you feel the CHCNRV providers are adequately trained to provide the following services?
    - Reproductive life planning (assessing for unmet contraceptive need)
    - Contraceptive counseling/patient education
    - Insertion of LARC contraceptives

4. Has CHCNRV had problems with retention and recruitment of providers that are trained in LARC insertion?

    Probe: what are reasons, why, how long they stay, where they go, etc

FINANCING

1. Can you tell us how the Medicaid Family Planning waiver affects the health centers' provision of contraceptive services?

[possible probes for administrator/financial, non-clinical staff]

a. Do you bill for services under the Medicaid family planning waiver?

b. Does the health center see many women with Medicaid family planning coverage only?

2. What are other ways that the centers finance its contraceptive program?
    - Probe: secular society

COMMUNICATION

1. How does CHCNRV administration seek feedback from the board?

Probe: how do they make changes according to your feedback?

2. How does CHCNRV administration seek feedback from providers?
   Probe: how do they make changes according to their feedback?

3. How do you measure patient satisfaction? How often do you seek feedback?
   Probe: how do you make changes according to their feedback?

Policy context

1. What is the political landscape in Virginia when it comes to providing contraceptive services to women? To adolescents?

2. Has this landscape ever created challenges that have led you to reduce the care you provide? Please explain

3. What are some current community barriers that CHCNRV faces in relation to the integration of contraceptives services into primary care?

CLOSING

1. What has been the biggest facilitator in integrating contraceptive services into primary care?

2. What has been the biggest issue or barrier CHCNRV faced in integrating contraceptive services into primary care?

3. What strategies has CHCNRV used to overcome these barriers?

4. If you could change anything in terms of the provision of contraceptive services at the CHCNRV, what would it be?

Management Team Interview Guide

Before Beginning the Interview:

- The goal of this study is to understand the integration of contraceptive services into primary care at the CHCNRV. This study will provide detailed information on facilitators or barriers to the integration of contraceptive services into primary care. This examination of practices involves the review of organizational structure, management and culture, financial and human resources, external environment, supportive technologies, and processes for providing contraceptive services. You are being asked to participate in this study because you have knowledge and experience with the provision of contraceptive services at the CHCNRV.

- Ask if the interviewee has any questions.

- Review ground rules and confidentiality policy:

  1. The discussion in this interview is completely confidential
  2. Written and oral reports and other written material coming out of this project will present only aggregate data and information. Your responses will be kept confidential and your name will not be cited.
  3. There are no right or wrong answers
  4. In some cases, the appropriate response may reflect the participant's opinion or impression.
  5. The interview is being tape recorded to ensure accuracy of your responses.
  6. We expect this discussion to last approximately one hour.
  7. You are free to stop the interview at any time or decline to answer questions that make you feel uncomfortable

ABOUT YOU

1. What is your role in the organization? Please describe your daily activities.

CHARACTERISTICS AND ACCESSIBILITY OF SERVICES

1. Can you describe the following [for the health center/site overall]:
   a. Health center hours, clinic schedule
   b. Whether you accept walk-ins
   c. Average wait times for appointment (new and established patients)
   d. Average length of time in waiting rooms
   e. Length of time in visits (e.g., length of time allowed for an initial visit)

2. What would you say are some major successes of CHCNRV?

TYPES OF CONTRACEPTIVES OFFERED

1. Do any of your health center sites (providing comprehensive primary medical care)?
   - Provide prescriptions for oral contraceptive pills
   - Distribute oral contraceptive pills
   - Provide depo provera injections
   - Inset IUDs
   - Distribute emergency contraceptive pill supplies
   - Distribute male condoms
   - Insert hormonal implants

ORGANIZATION AND DELIVERY OF CONTRACEPTIVE SERVICES

1. Can you tell me about how contraceptive services are provided as part of a regular family planning visit?

2. When contraceptive services are provided as part of primary care, can you please give me a detailed description of how these services happen, from the onset of the visit?
   Probe: When Reproductive Life Planning happens (assessing for unmet contraceptive need)? When contraceptive counseling happens? When contraceptives are received? When contraceptive insertion happen? What type of staff member provides each of these services?

3. Do providers follow Quality Family Planning guidelines?
   Probe: are there some elements they follow and others not?

4. Can you tell us who is primarily responsible (types of health care professionals) for providing contraceptive services in your health center?

   Probe: does this differ depending on service? Patient age? Does this differ for those receiving services through primary care?

5. How do providers work together to provide care?
   Probe: Is there a team approach?
   Probe: Do you use EHRs or other HIT to transfer clinic notes, etc.

TRAINING

5. Are staff members (front line and other administrative staff) trained in customer service/communication with patients?
   Probe: describe training, type, length, opportunities to practice

6. Can you describe how health professionals are trained and kept up to date on contraceptive services?
   Probe: type of training, frequency of training, time off for trainings, etc.

7. Do you feel the CHCNRV providers are adequately trained to provide the following services?
   - Reproductive life planning (assessing for unmet contraceptive need)
   - Contraceptive counseling/patient education
   - Insertion of LARC contraceptives

8. Has CHCNRV had problems with retention and recruitment of providers that are trained in LARC insertion?
   Probe: what are reasons, why, how long they stay, where they go, etc

TIME FOR APPOINTMENTS

2. How is time per appointment allocated?

3. Do you allocate more time to providers offering reproductive life planning/assessing for unmet contraceptive need or contraceptive counseling?

ELECTRONIC HEALTH RECORDS

1. Does the health center use an electronic health record (EHR)?
   [If yes]
   a) Can you describe how contraceptive services are recorded and retrieved in the EHR? How are clinical notes from referred specialists stored in the EHR?
   b) Do you utilize electronic clinical guidelines or decision support for contraceptive services?
   c) Do you utilize the EHR for reminders to screen for unmet contraceptive need during primary care visits?

FINANCING

3. Can you tell us how the Medicaid Family Planning waiver affects the health centers' provision of contraceptive services?

   [possible probes for administrator/financial, non-clinical staff]
   a. Do you bill for services under the Medicaid family planning waiver?
   b. Does the health center see many women with Medicaid family planning coverage only?

2. What are other ways that you finance your contraceptive program?
   - Probe: secular society

3. How does a contraceptive visit as part of primary care get billed?
   - Probe: coded as primary care, coded as family planning visit, double coded, how do you bill for two separate services received during one visit?

COMMUNICATION

4. How would you rate board communication with providers?

5. How would you rate board communication with CHCNRV administration?

6. How would you rate administration communication with providers?

7. How do you seek feedback from providers?
   Probe: how do you make changes according to their feedback?

8. How do you measure patient satisfaction? How often do you seek feedback?

Probe: how do you make changes according to their feedback?

LINKAGES, CARE COORDINATION, & REFERRAL NETWORK

1. Can you describe how care is arranged for patients that need contraceptive services not provided at this FQHC?

2. Are there referral relationships with the hospitals/pharmacies that relate to contraceptive services?

3. (By type of service referred out) How is information transferred back to the FQHC regarding the patient visit (outside the health center organization)? What about prescriptions, lab results, etc.?

COMMUNITY/POPULATION

1. Can you describe the major family planning concerns in this community?

2. What are some current political/community barriers that CHCNRV faces in relation to the integration of contraceptives services into primary care?

CLOSING

5. What has been the biggest facilitator in integrating contraceptive services into primary care?

6. What has been the biggest issue or barrier you faced in integrating contraceptive services into primary care?

7. What strategies have you used to overcome these barriers?

Provider Interview Guide

Before Beginning the Interview:

- The goal of this study is to understand the integration of contraceptive services into primary care at the CHCNRV. This study will provide detailed information on characteristics of activities at CHCNRV that appear to be facilitators or barriers to the integration of contraceptive services into primary care. This examination of practices involves the review of organizational structure, management and culture, financial and human resources, external environment, supportive technologies, and processes for providing contraceptive services. You are being asked to participate in this study because you have knowledge and experience with the provision of contraceptive services at the CHCNRV.

- Ask if the interviewee has any questions.

- Review ground rules and confidentiality policy:

    1. The discussion in this interview is completely confidential
    2. Written and oral reports and other written material coming out of this project will present only aggregate data and information. Your responses will be kept confidential and your name will not be cited.
    3. There are no right or wrong answers
    4. In some cases, the appropriate response may reflect the participant's opinion or impression.
    5. The interview is being tape recorded to ensure accuracy of your responses.
    6. We expect this discussion to last approximately one hour.
    7. You are free to stop the interview at any time or decline to answer questions that make you feel uncomfortable

ABOUT YOU

1. What is your position at CHCNRV?
   Probe: FNP, CMA, MD, front office, Other?

2. How long have you been working at CHCNRV?

3. Where do you primarily practice?
   Probe: Christiansburg, Pearisburg, Dublin

4. What would you say are some major successes of CHCNRV?

TYPES OF CONTRACEPTIVES OFFERED

6. Do any of your health center sites (providing comprehensive primary medical care)?
    - Provide prescriptions for oral contraceptive pills
    - Distribute oral contraceptive pills
    - Provide depo provera injections
    - Inset IUDs
    - Distribute emergency contraceptive pill supplies
    - Distribute male condoms
    - Insert hormonal implants

ORGANIZATION AND DELIVERY OF CONTRACEPTIVE SERVICES

1. Can you tell me about how contraceptive services are provided as part of a regular family planning visit?

2. When contraceptive services are provided as part of primary care, can you please give me a detailed description of how these services happen, from the onset of the visit?
   Probe: When Reproductive Life Planning happens (assessing for unmet contraceptive need)? When contraceptive counseling happens? When contraceptives are received? When contraceptive insertion happens?

2a. If patients decline contraceptive services, do you have any idea of why?
Probe: have separate family planning provider, don't feel comfortable, not ready, etc.

3. Do you follow Quality Family Planning guidelines?
   Probe: are there some elements they follow and others not?

4. Which of the following do you systematically do with all your primary care patients?
   - Assess clients' reproductive life plan (ask them if and when they want to have children)
   - If requested, present information regarding potential contraceptive methods with the most effective methods presented first (tiered approach)
   - If requested, help client think about potential barriers to using their selected method correctly and develop a plan to deal with those barriers
   - If requested, inform clients that LARCs are safe and effective for adolescents

5. Do you prescribe contraceptives?

6. Do you insert LARC (implants or IUDs)?
   a. Yes
   b. No
   c. If no, why not?

7. Did you have a choice in the decision of the CHCNRV to integrate contraceptive services into primary care?

8. Can you tell me who is primarily responsible (types of health care professionals) for providing contraceptive services in your health center?

   Probe: does this differ depending on service? Patient age? Does this differ for those receiving services through primary care?

9. How do providers work together to provide care?
   Probe: Is there a team approach?
   Probe: Do you use EHRs or other HIT to transfer clinic notes, etc.

TRAINING

9. Are staff members (front line and other administrative staff) trained in customer service/communication with patients?
   Probe: describe training, type, length, opportunities to practice

10. Can you describe how health professionals are trained and kept up to date on contraceptive services?
    Probe: type of training, frequency of training, time off for trainings, etc.

11. Do you feel that you were adequately trained to provide the following services?
    - Reproductive life planning (assessing for unmet contraceptive need)
    - Contraceptive counseling/patient education
    - Insertion of LARC contraceptives

    Probe: how comfortable do you feel providing these services?
12. Has CHCNRV had problems with retention and recruitment of providers that are trained in LARC insertion?
    Probe: what are reasons, why, how long they stay, where they go, etc

TIME FOR APPOINTMENTS

4. How is time per appointment allocated?

5. Do you have enough time to screen all primary care patients for contraceptive need?
   Probe: do you allocate more time if reproductive life planning/assessing for unmet contraceptive need or contraceptive counseling?

ELECTRONIC HEALTH RECORDS

4. Does the health center use an electronic health record (EHR)?
   [If yes]
   a) Can you describe how contraceptive services are recorded and retrieved in the EHR? How are clinical notes from referred specialists stored in the EHR?
   b) Do you utilize electronic clinical guidelines or decision support for contraceptive services?
   c) Do you utilize the EHR for reminders to screen for unmet contraceptive need during primary care visits?

FINANCING

1. How does a contraceptive visit as part of primary care get billed?
   a. Probe: coded as primary care, coded as family planning visit, double coded, how do you bill for two separate services received during one visit?

COMMUNICATION

9. Do you feel supported by the board as a practitioner to offer contraceptive services through primary care?

10. Does management help resolve issues you face?

11. Do you have an opportunity to provide feedback directly to board members?

    Probe: if so, how?

12. How do you give feedback to the administration?

    Probe: do you feel that they make changes according to your feedback?

13. How do you communicate with other providers and staff members?

COMMUNITY/POPULATION

3. Can you describe the major family planning concerns in this community?

4. What are some current political/community barriers that CHCNRV faces in relation to the integration of contraceptives services into primary care?

CLOSING

8. What has been the biggest facilitator in integrating contraceptive services into primary care?

9. What has been the biggest issue or barrier you faced in integrating contraceptive services into primary care?

10. What strategies have you used to overcome these barriers?

Patient Interview Guide – for women who received contraceptives through primary care

Before Beginning the Interview:

- The goal of this study is to understand the integration of contraceptive services into primary care at the CHCNRV. You are being asked to participate in this study because you have knowledge and experience with the provision of contraceptive services at the CHCNRV.

- Ask if the interviewee has any questions.

- Review ground rules and confidentiality policy:

    1. The discussion in this interview is completely confidential
    2. Written and oral reports and other written material coming out of this project will present only aggregate data and information. Your responses will be kept confidential and your name will not be cited.
    3. There are no right or wrong answers
    4. In some cases, the appropriate response may reflect the participant's opinion or impression.
    5. The interview is being tape recorded to ensure accuracy of your responses.
    6. We expect this discussion to last approximately thirty minutes.
    7. You are free to stop the interview at any time or decline to answer questions that make you feel uncomfortable

ABOUT YOU

13. How old are you?

14. Is CHCNRV your source of regular primary care?

15. Which CHCNRV site do you usually go to?
    - Christiansburg
    - Pearisburg
    - Dublin

ACCESSIBILITY OF SERVICES

1. How easy is it for you to access services at CHCNRV?

2. What are some barriers to accessing services at CHCNRV?

    - Transportation to get to clinic
    - Clinic hours
    - Front office staff not friendly
    - Affordability
    - Lack of insurance
    - Lack of childcare
    - Hard to get a convenient appointment time
    - Availability of preferred provider
    - Other?

3. Do you feel that you have enough time with your provider during visits?

4. Is scheduling appointments easy and quick?

    Probe: time between appointments, friendliness of staff scheduling, availability of doctor you want to see

CONTRACEPTIVE SERVICES

1. When receiving primary care services at CHCNRV, do you remember being asked by your provider if you needed birth control and discussing what type might work for you?
    a. Probe: what did they ask?

2. How did you feel about being asked those questions?
    Probe: were you glad they asked, did you feel uncomfortable talking about it with your primary provider?

3. Before receiving them, did you know that CHCNRV offered birth control?
    Probe: where had you heard about it, website, word of mouth, friend, etc.
4. When you received birth control at CHCNRV…
    - Did you feel your provider had adequate training on how to provide counseling on birth control methods?
    - Was you provider comfortable talking to you about all your birth control options?
    - Did you feel comfortable talking to your provider about birth control?
    - Where you satisfied with all the methods they offered you?
    - If applicable, did you feel your provider had adequate training on LARC insertion?
    - Did you feel like all your questions were answered?
    - Are you satisfied with the services you received?
    - Are you satisfied with the confidentiality level experienced at CHCNRV?
    - Did you feel you had enough time during your appointment with your provider?
    - How long did you wait from the time you scheduled your appointment until you actually had the appointment?
    - If there was time between your first birth control screening and your insertion visit, how long was that?

5. Where did you first learn about birth control?
    - School (health education class)
    - Doctor or nurse
    - Peers
    - Parents
    - Sibling
    - Internet

    a. Probe: If you learned about it in school, what did they teach you, if you remember?
    b. Do you remember learning about different types of birth control?
    LARC, implants, other methods?
    c. Did you learn about healthy relationships?
    d. Did you learn about human reproduction?
    e. Do you wish you had learned more about birth control and safe sex in your family life/health classes?

6. If you could change the way sexual health education is taught in high schools, what do you think would be the best way to teach about pregnancy, birth control and sexual health? What would be the easiest and least uncomfortable way to learn about these things?

a. Probe: suggest peer educators, college or graduate student educators, doctor or nurse, parent or family member, interactive internet program, lecture in class about STIs, small group discussions, graphic movies, etc)

TRAINING

13. Do you feel that staff members (front line and other administrative staff) are courteous to patients?

COMMUNITY/POPULATION

5. Can you describe the major family planning concerns in this community?

6. What is the political landscape in Virginia when it comes to providing birth control services to women?

7. What are some current community/cultural facilitators in relation to providing birth control to women?

8. What are some current community/cultural barriers in relation to providing birth control to women?

CLOSING

11. What is the best part about getting contraceptive services as part of primary care?

Patient Interview Guide

Before Beginning the Interview:

- The goal of this study is to understand potential barriers to the integration of contraceptive services into primary care at the CHCNRV. You are being asked to participate in this study because you are a woman patient at the CHCNRV between the ages of 18 and 39.

- Ask if the interviewee has any questions.

- Review ground rules and confidentiality policy:

1. The discussion in this interview is completely confidential
2. Written and oral reports and other written material coming out of this project will present only aggregate data and information. Your responses will be kept confidential and your name will not be cited.
3. There are no right or wrong answers
4. In some cases, the appropriate response may reflect the participant's opinion or impression.
5. The interview is being tape recorded to ensure accuracy of your responses.
6. We expect this discussion to last approximately ten minutes.
7. You are free to stop the interview at any time or decline to answer questions that make you feel uncomfortable

ABOUT YOU

16. How old are you?

17. Is CHCNRV your source of regular primary care?

18. Which CHCNRV site do you usually go to?
    - Christiansburg
    - Pearisburg
    - Dublin

19. Are you from the New River Valley?
    Probe: from where?

ACCESSIBILITY OF SERVICES

5. How easy is it for you to access services at CHCNRV?

6. What are some barriers to accessing services at CHCNRV?

    - Transportation to get to clinic
    - Clinic hours
    - Front office staff not friendly
    - Affordability
    - Lack of insurance
    - Lack of childcare
    - Hard to get a convenient appointment time
    - Availability of preferred provider
    - Other?

KNOWLEDGE OF BIRTH CONTROL/ACCESS TO SERVICES

1. When receiving primary care services at CHCNRV, do you remember being asked by your provider if you needed birth control?
    Probe: what did they ask?

2. How did you feel about being asked those questions?
    Probe: were you glad they asked, did you feel comfortable talking about it with your primary provider?

3. Have you ever gotten birth control at CHCNRV?
    a. Probe if yes: through primary care, or did you go directly to GYN. If so, why?
        - How was the experience of getting birth control through primary care?

    b. Probe if no: Why have you never gotten birth control at CHCNRV?
        - I already receive my birth control from another clinic or provider
        - I don't use birth control
        - I don't want to get my birth control here
        - I don't feel comfortable discussing my birth control needs with these providers
        - Other

4. Did you know that CHCNRV offered birth control?

Probe: where had you heard about it, website, word of mouth, friend, etc.

5. Where did you first learn about birth control?
    - School (health education class or other)
    - Doctor or nurse
    - Peers
    - Parents
    - Sibling
    - Internet

    a. Probe: If you learned about it in school, what did they teach you, if you remember?
    b. Do you remember learning about different types of birth control?
        - LARC, implants, other methods?
    c. Did you learn about healthy relationships?
    d. Did you learn about human reproduction?
    e. Do you wish you had learned more about birth control and safe sex in your family life/health classes?

TRAINING

14. Do you feel that staff members (front line and other administrative staff) at the CHCNRV are courteous to patients?

COMMUNITY/POPULATION

9. Can you describe the major family planning concerns in this community?
    a. What makes it easy for women to get birth control?
    b. What makes it difficult for women to get birth control?
    c. Are there any community or cultural barriers to getting birth control?
        - People don't know about it
        - People don't think women should use it

Appendix F. Counts per statement for table V (TABLE A3)

Services received	Number of responses	1: strongly agree	2: agree	3: disagree	4: strongly disagree
The staff treat me respectfully	13	12	0	0	1
The services are confidential	13	12	0	0	1
I can get free or low- cost care	13	12	0	0	1
I can use my Medicaid card	3	3	0	0	0
The location is convenient	13	12	0	0	1
The hours fit my schedule	13	12	0	0	1
I don't wait long for an appointment	13	11	1	0	1
It is easy to talk to staff about sex and birth control	13	12	0	0	1
I can get the birth control method I want, not just the prescription	13	11	0	1	1
I feel comfortable with my provider	13	12	0	0	1
I have enough time with my provider during an appointment	13	12	0	0	1
I can get all my health care needs including birth control taken care of here	13	12	0	0	1
I do not have to make multiple appointments to get all my care	13	11	0	1	1
Other, *please specify:* -Love it here -So far in all the years, I've always had an easy experience. If there's ever been an issue, the staff has always went the extra mile to work it out properly	2	2	0	0	0

Appendix G. Co-occurrence tables (TABLE A4)

with correlation co-efficients

Access to services	
Barriers to Care	0.25
Patient-insurance/costs	0.15
Patient knowledge of services	0.18
Political/cultural context	0.10
Functioning of the FQHC	0.12
Contraceptive methods	0.08

Barriers to Care	
Access to services	0.25
Misinformation and misconceptions	0.08
Rural	0.08
Functioning of the FQHC	0.08
Patient-insurance cost issues	0.14

Board- lack of support	
Board support	0.20
Communication-board	0.10
Funding	0.09
Misinformation and misconceptions	0.10
Political/cultural context	0.09
Women's Health Program	0.08

Board support	
Board- lack of support	0.20
Funding	0.12
Women's Health Program	0.12

Comfort level	
Communication with patients	0.18
Contraceptive counseling	0.08
Patient education at clinic	0.07

Communication-board	
Board- lack of support	0.10
Communication- organizational	0.27
Feedback	0.28
Organizational commitment	0.08

Communication-providers	
Communication-organizational	0.19
Feedback	0.14

Communication- patients	
Comfort level	0.18
Contraceptive counseling	0.23
Feedback	0.13
Patient education at clinic	0.18
Process of integration	0.08

Staff training	0.13

Communication-organizational	
Communication-board	0.27
Communication-providers	0.19
Feedback	0.37
Functioning of the FQHC	0.10
Organizational-commitment	0.09

Contraceptive methods	
Contraceptive counseling	0.13
LARC	0.16
Patient education at clinic	0.12
Process of integration	0.10
Communication with patients	0.07
Reproductive Life Planning	0.07

Contraceptive counseling	
Patient education at clinic	0.36
Process of integration	0.13
Reproductive life planning	0.27
Comfort level	0.08
Communication with patients	0.23
Contraceptive methods	0.13

Feedback

Communication- board	0.28
Communication- providers	0.14
Communication- patients	0.13
Communication- organizational	0.37
Functioning of the FQHC	0.10
Organizational commitment	0.11

Functioning of the FQHC	
Access to services	0.11
Barriers to care	0.08
Communication- organizational	0.10
Feedback	0.10
Funding	0.10
Process of integration	0.08
Patient insurance/costs	0.06

Funding	
Women's Health Program	0.34
Board- lack of support	0.09
Board support	0.12
Organizational commitment	0.09
Insurance/costs	0.07
Political/cultural context	0.07

Misinformation and misconceptions

Board- lack of support	0.10
Patient knowledge of services	0.12
Patient knowledge of reproduction	0.13
Patient lack of knowledge about contraception	0.22
Political/cultural context	0.17

Organizational outreach	
Patient knowledge of services	0.27

Organizational- time during appointment	
Patient- same day method	0.07
Internal referral	0.07

Patient- education at clinic	
Comfort level	0.07
Contraceptive counseling	0.35
Contraceptive methods	0.12
Misinformation and misconceptions	0.07
Patient knowledge of reproduction	0.06
Patient- lack of knowledge about contraception	0.13
Patient- time until next appointment	0.06
Political/cultural context	0.07
Process of integrating	0.11
Reproductive life planning	0.11

Patient- education on birth control

Misinformation and misconceptions	0.06
Patient knowledge of reproduction	0.15
Patient lack of knowledge about contraception	0.12

Patient- insurance/costs	
Access to services	0.15
Barriers to care	0.14
Functioning of the FQHC	0.06
Funding	0.07
Patient- access to services	0.06
Patient- knowledge of services	0.07
Referrals- external	0.07

Patients- knowledge of reproduction	
Barriers to care	0.07
Misinformation and misconceptions	0.13
Patient- education on birth control	0.15
Patient- knowledge of services	0.09
Patient- lack of knowledge about contraception	0.43
Patient- need for services	0.07
Political/cultural context	0.10

Patient- knowledge of services	
Access to services	0.18
Barriers to care	0.09
Misinformation and misconceptions	0.12

Organizational- integration of services	0.27
Patient- insurance/cost issues	0.07
Patient- knowledge of reproduction	0.09
Patient- lack of knowledge about contraception	0.09
Patient- need for services	0.08
Political/cultural context	0.11

Patient- lack of knowledge about contraception	
Patient education at clinic	0.13
Patient- education on birth control	0.12
Patient- knowledge of reproduction	0.43
Patient knowledge of services	0.09
Political/cultural context	0.14

Patient same day method	
Barriers to care	0.06
Organizational- time during appointment	0.07
Patient- need for services	0.10
Patient- time til next appointment	0.21

Political/cultural context	
Access to services	0.10
Barriers to care	0.17
Board- lack of support	0.09

Misinformation and misconceptions	0.17
Patient knowledge of reproduction	0.10
Patient knowledge of services	0.10
Patient- lack of knowledge about contraception	0.14
Rural	0.13
Patient insurance/costs	0.06

Process of integrating	
Communication with patients	0.08
Contraceptive methods	0.10
Contraceptive counseling	0.13
Functioning of the FQHC	0.08
Organizational- integration of services	0.09
Patient education at clinic	0.11
Patient- need for services	0.08
Patient- same day method	0.06
Providers- role	0.11
Reproductive life planning	0.16
Women's health program	0.06

Provider GYN	
Internal referral	0.25

Provider role	
Contraceptive counseling	0.09
Process of integrating	0.11

Provider- GYN	0.14
Reproductive life planning	0.11

Referrals- internal	
Communication- providers	0.07
Organizational- integration of services	0.07
Organizational- time during appointment	0.07
Training- providers	0.07

Reproductive life planning	
Communication with patients	0.08
Contraceptive methods	0.07
Contraceptive counseling	0.27
Patient education at clinic	0.11
Process of integrating	0.17
Providers- role	0.11
Training- providers	0.06

Rural	
Access to services	0.07
Barriers to care	0.08
Patient- need for services	0.06
Political and cultural context	0.13

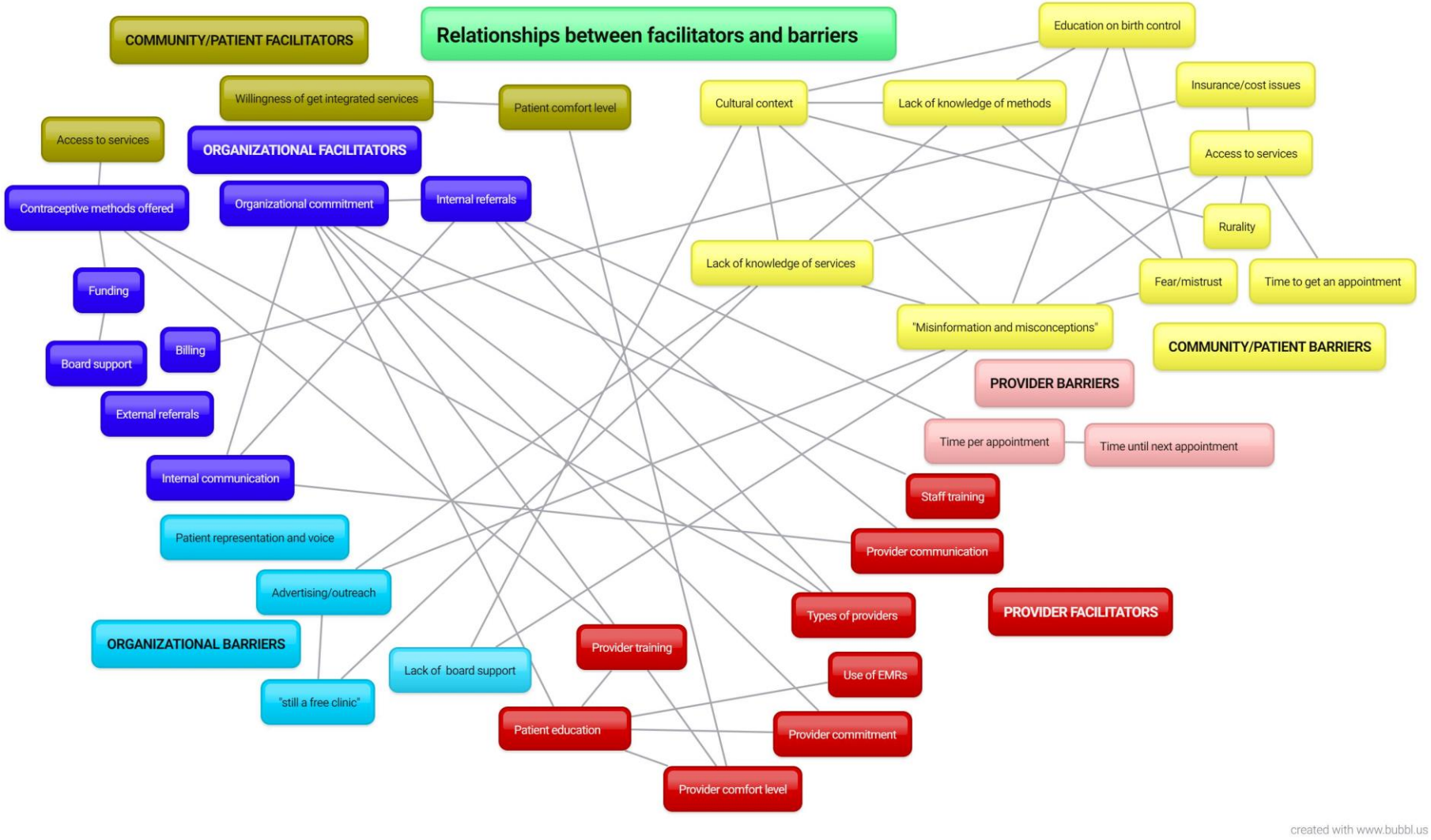
Provider training	
LARC	0.09

Provider- GYN	0.06
Referrals- internal	0.06
Reproductive life planning	0.06

Staff training	
Communication with patients	0.13
Feedback	0.08
Organizational commitment	0.08

Women's health program	
Board lack of support	0.08
Board support	0.12
Funding	0.34
Patient- insurance/cost	0.06

Appendix H. Relationship network



Appendix J. Recommendations by research question

Research question	**Recommendation for change** (in addition to continuing all successful processes/interventions)
Research Question 1 a: Organizational perspective	Develop standard protocol for integration of contraceptive services into primary care
	Provide birth control pills in house
	Adopt "quick start" method for LARC insertion
	Increase availability of condoms in public use areas at the clinic
	Board should be 51% true patient representatives
	Retain open-minded board members
	Seek permanent source of funding
	Develop and implement comprehensive outreach strategy
Research question 1 b: Provider and staff perspective	Conduct diversity assessment with all providers and staff
	Provide diversity and cultural competency training to all staff and providers
Research question 1c: Community Patient perspective	Provide culturally-appropriate education and care
	Advocate for K-12 sexual health education

Appendix I. Triangulation Table

Factor	Interview with staff	Interview with board	Interview with patients	Document review	Survey	Notes
Types of providers	x	x	x	x	x	Convergence among all methods
Provider training	x	x	x			Convergence
Staff training	x	x				Convergence. Minor divergence about staff conservatism at front desk
Lack of knowledge of services offered	x	x	x			Convergence
Lack of knowledge about birth control	x	x	x			Convergence
Education on birth control	x	x	x			Convergence. Minor divergence among patient respondents
"Misinformation and Misconceptions"	x	x	x	x		Convergence
Advertising/Outreach	x	x	x	x		Divergence between document review and interviews
"Still a free clinic"	x	x	x			Convergence
Internal referrals	x	x	x		x	Convergence
Internal communication	x	x				Convergence
External referrals	x	x		x		Convergence
Provider comfort level		x	x		x	Convergence
Patient education	x	x	x		x	Convergence
Provider communication	x	x			x	Convergence
Patient comfort level		x	x			Convergence
Contraceptive methods offered	x	x	x	x	x	Convergence
Billing	X	X		X	x	Convergence
Access to services	X	X	X	X	x	Convergence
Use of EMRs	X	X				Convergence

Provider commitment		X	X		x	Convergence
Insurance/costs issues	X	X	X	X	x	Convergence
Time to get an appointment			X		x	Convergence
Time per appointment		X	X			Convergence. Minor divergence by type of provider
Time until next appointment		X	X			Convergence
Willingness to get integrated services		X	X		x	Convergence
Board support	X	X		x		Convergence
Patient representation and voice	X	X				Convergence. Some divergence by interview type
Organizational commitment	X	X	X	X	x	Convergence
Funding	X	x		x		Convergence
Cultural context	X	X	X	x		Convergence
Fear/mistrust	X	X	X			Convergence
Geography (rural/urban)	X	X	x			Convergence
Integrated services	X	x			x	Convergence
Process of integrating contraceptive services	X	X	x		x	Convergence

VITA

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EDUCATION

University of Illinois at Chicago*, Chicago, IL*

DrPH, Public Health Leadership. May 2019

Dissertation: *Integrating Reproductive Intention Screening, Contraceptive Counseling and Contraceptive Provision Into Primary Care at Federally Qualified Health Centers: a Case Study*

Emory University, *Atlanta, GA*

MPH, International Health; Reproductive Health and Population Studies Concentration, May 2004

Thesis: *Dynamics of Adolescent Pregnancy in Georgia's Latino Community: Defining the Urgency*

Georgetown University, *Washington, DC*

BS, Linguistics and Spanish, May 1998

Universität Valencia, *Valencia, Spain*

Junior Year Abroad with Rutgers University, *Piscataway NJ*, 1996-1997

WORK EXPERIENCE

Virginia Tech University, *Blacksburg, VA* July 2013-present

Center for Public Health Practice and Research (www.cphpr.mph.vetmed.vt.edu)

Associate Director 2016-present

Assistant Director 2013-2016

Write and manage federal and local research and community-based practice grants on a variety of topics including cancer, diabetes, opioid abuse, nutrition, physical activity, parenting, WASH, health equity, access to contraceptives (approx. $800,000 yearly budget)

Provide expertise, evaluation and needs assessment services for public health projects statewide

Mentor and supervise MPH students and Center staff

Participate on transdisciplinary research teams

Facilitate interactions and collaborations among Center university and community partners

Founding Director of Academic Health Department with New River Health District

Assist New River Health District with grant writing, health education, marketing, student practicum placements, and strategic planning

Virginia Department of Health, *Christiansburg, VA* 2013

New River Health District

Public Health Consultant

Built partnerships with chronic disease prevention educators and providers throughout region

Provided oversight and management for State-funded heart disease and stroke prevention project

Produced data report on chronic disease rates and trends in Virginia

Promoted heart disease and stroke prevention and Million Hearts™ initiative regionally

Engaged Medical Reserve Corps volunteers in educational opportunities

State of Alaska, *Anchorage, AK* 2008-2012

Alaska Division of Public Health, Section of Women's, Children's and Family Health

Adolescent Health Program Manager

Wrote successful competitive federal grant applications and oversaw all aspects of two federal Teen Pregnancy Prevention projects and one State-funded initiative ($1.2 Million yearly budget)

Managed multiple grants to community groups (wrote request for proposal, reviewed applications, awarded funds, oversaw and managed grantees, conducted site visits and more)

Created, managed and oversaw the evaluation of two media campaigns

Planned Maternal and Child Health Conference and School Health and Wellness Institute

Founded Youth Alliance for a Healthier Alaska- youth health advisory committee

Centers for Disease Control and Prevention, *Atlanta, GA* 2005-2008

Office of Workforce and Career Development, Public Health Prevention Service

Public Health Prevention Specialist Fellow (multiple assignments)

Alaska Division of Public Health, Section of Epidemiology *October 2006-October 2008*

Coordinated Statewide Hair Mercury Biomonitoring Program and Alaska Blood Lead Surveillance Program

Collaborated with health care providers throughout the state and conducted follow-up investigations with patients

Developed fact sheets, wrote bulletins and communicated health risk information

Delivered educational presentations to professionals and lay audiences

Processed, analyzed and disseminated data

Conducted evaluation of Alaska Blood Lead Surveillance System

Division of Violence Prevention *April 2006-October 2006*

Program Implementation and Dissemination Branch

Authored Video Discussion Guide for *Choose Respect*, a national initiative to promote healthy relationships among 11-14 year olds

Conducted site visits to partner organizations to observe and evaluate *Choose Respect* launch events

Developed process evaluation plan for *Choose Respect* launch events

Division of Global Migration and Quarantine *October 2005-April 2006*

Immigrant, Refugee and Migrant Health Branch

Conducted process evaluation of division's Electronic Disease Notification surveillance system

Authored branch recommendations for vaccination during a measles, mumps or rubella outbreak among refugees destined for United States

Planned and conducted strategic planning session for team of eight

Dengue Outbreak Investigation, Brownsville, TX and Matamoros, Mexico *December 2005*

Designed interview questionnaire, sampling methodology, Epi Info data entry and analysis forms

Conducted household interviews in English and Spanish in Texas and Mexico

Alle-Kiski Area HOPE Center *Tarentum, PA* 2004-2005

Prevention Advocate

Provided dating violence prevention education to middle and high school students

Trained health professionals on domestic violence prevention and proper screening methodology

Georgia Campaign for Adolescent Power and Potential *Atlanta, GA* 2003-2004

Research Intern

Compiled statistics for report on rising adolescent birth rates among Latinos in Georgia

Authored comprehensive report and fact sheet

Planned Parenthood Southeast, *Atlanta, GA* 2003-2004

Health Educator

Provided sexual health education to inner city African-American girls, refugees and Latinos

Centers for Disease Control and Prevention, *Atlanta, GA* 2002-2003

Division of Reproductive Health

Research Intern

Conducted literature review and developed survey for teen pregnancy research in El Salvador

United States Peace Corps *Asunción, Paraguay* 2001-2002

Volunteer Coordinator

Collaborated with re-design of the health sector project plan

Supervised and offered technical and emotional support to 37 health volunteers

Served as reviewer on Peace Corps/USAID grant assistance committee

Designed and implemented training workshops for volunteers and their community counterparts

United States Peace Corps *Villa Boquerón, Chaco*, *Paraguay* 1999-2001

Peace Corps Volunteer

Conducted needs assessment and authored community study to identify healthcare priorities

Promoted maternal and child health through group activities and home visits, with focus on adolescent health, infant survival, disease prevention and reproductive health

Acted as a liaison between community and government agencies, facilitating basic healthcare, water and sanitation facilities and immunizations to community

Formed and supervised the administration of a health commission tying together three communities

PUBLICATIONS

State of Alaska Epidemiology Bulletin Recommendations and Reports: Pike and Burbot (Lush) in Select Alaska Rivers: Mercury Exposure and Consumption Recommendations. (2016) Contributed by: Rachel Kossover, MPH; Sophie Wenzel, MPH; Angela Matz, PhD; Lori Verbrugge, PhD; Chung Nim Ha, MPH; Ali Hamade, PhD.

Hall, RP., Van Houweling, E., Polys, N., Wenzel, S. and Williams, P. (2015) *Interdisciplinary Exploratory Research: Visualizing Water Services for Decision Making in Burkina Faso*. Field Report, July 2015, Blacksburg, Virginia Tech, pages 57.

Verbrugge LA, Wenzel, SG, Berner, JE, and Matz AC. (2009). Human exposure to lead from ammunition in the circumpolar north. In R.T. Watson, M. Fuller, M. Pokras, and W.G. Hunt (Eds.). Ingestion of Lead from Spent Ammunition: Implications for Wildlife and Humans. The Peregrine Fund, Boise, Idaho, USA. DOI 10.4080/ilsa.2009.0110

Ramos M, Mohammad H, Zielinski-Gutierrez E, Hayden MH, Robles Lopez JL, Fournier M, Rodríguez Trujillo A, Burton R, Brunkard J, Anaya-Lopez L, Abell A, Kuri-Morales P, Smith B, Munoz J, Waterman S, and the Dengue Serosurvey Working Group. (2008) Epidemic Dengue and Dengue Hemorrhagic Fever at the Texas-Mexico Border: Results of a household-based seroepidemiological survey, December 2005. *American Journal of Tropical Medicine and Hygiene* 78(3): 364-369

State of Alaska Epidemiology Bulletin: Adult Blood Lead Epidemiology and Surveillance: Occupational Exposures — Alaska, 1995–2006. Contributed by Sophie Wenzel, MPH.

State of Alaska Epidemiology Bulletin: Blood Lead Epidemiology and Surveillance Non-Occupational Exposures in Adults and Children — Alaska, 1995–2006. Contributed by Sophie Wenzel, MPH.

State of Alaska Epidemiology Bulletin: Alaska Mercury Biomonitoring Program Update, July 2002–December 2006. Contributed by Sophie Wenzel, MPH.

SELECTED PRESENTATIONS AND POSTERS

2018 Working with the Public and Data Collection. Hosig, K., Wenzel, S. *Health Analytics Summit, Blacksburg, VA*

2017 Danville Youth Health Equity Leadership Institute: a youth perspective told through photovoice. Wenzel, S. *Virginia Tech Advancing the Human Condition Symposium, Blacksburg, VA.*

2017 Current data on heroin and prescription opioid use and abuse in the Roanoke Valley and West Piedmont Area. Wenzel, S., Borowski, S. *Legislative Roundtable, Roanoke VA*.

2017 Balanced Living with Diabetes: Impacting rural community health through evidence-based program implementation by cooperative Extension. Rafie, C., Chase, M., Hosig, K., Jones, D., Wenzel, S., Schlenkor, E., Jiles, K. *American Public Health Association Annual Conference, Atlanta, GA*

2017 New River Academic Health Department. Wenzel, S. Academic Health Department Learning Community monthly meeting. Webcast available: http://www.phf.org/resourcestools/Pages/AHDLC_Meeting_2017Mar_Archive.aspx

2017 Building a Healthier Christiansburg. Wenzel, S., Ray, P. *Virginia Weight of the State Conference*, *Richmond, VA*

2017 Environmental Health Concerns in Central Appalachia Coal Fields: Youth photovoice project in Tazewell County. Wenzel, S. *Appalachian Studies Conference, Blacksburg, VA.*

2017 Building the evidence for successful Academic-Community partnerships: The case of the New River Academic Health Department. Wenzel, S., O'Dell, M., Hosig, K. *Appalachian Studies Conference, Blacksburg, VA*. (poster)

2016 Responding to environmental concerns surrounding a perceived cancer cluster: The Tazewell County cancer project. Krometis, LA., Marmagas, SW., Wenzel, S., Smith, A. *American Public Health Association Annual Conference, Denver, CO*. (poster)

2016 Building the evidence for successful Academic-Community partnerships: The case of the New River Academic Health Department. Wenzel, S., O'Dell, M., Hosig, K. *American Public Health Association Annual Conference, Denver, CO*. (poster)

2016 "It's a Start that Someone is Listening to us": Participatory Mapping with Village Women as Part of "Visualizing Water Services for Decision Making" Research in Burkina Faso. Wenzel, S. *Virginia Tech Women and Gender in Development Discussion Series, Blacksburg, VA*

2016 Interdisciplinary Exploratory Research: Visualizing Water Services for Community Decision Making in Burkina Faso. Hall, RP, Wenzel, S. *Virginia Tech College of Architecture and Urban Studies Research Symposium, Blacksburg, VA*.

Interdisciplinary Exploratory Research: Visualizing Water Services for Community Decision Making in Burkina Faso. Hall, RP, Wenzel, S. *Virginia Tech Public Health Grand Rounds, Blacksburg, VA*. Webcast available: http://mph.vetmed.vt.edu/seminars.html

Virginia Tech Faculty and Staff Tobacco Free Campus Policy Assessment. ***Wenzel, S****. Virginia Tech Office of Assessment and Evaluation, Blacksburg, VA*.

Using Evidence Based Programs to Promote Youth Sexual Health in Alaska. Wenzel, S. *Alaska Maternal and Child Health Conference, Anchorage, AK*

Alaska Adolescent Health Needs Assessment. Wenzel, S. *Association of Maternal and Child Health Programs Annual Conference, Washington, DC*

Evidence Based Programs to Promote Adolescent Sexual Health in Alaska. Wenzel, S. *Alaska School Health and Wellness Institute, Anchorage, AK*

Alaska Hair Mercury Biomonitoring Program. Wenzel, S. *Centers for Disease Control and Prevention Public Health Leadership Institute, Atlanta, GA*

2008 Alaska Hair Mercury Biomonitoring Program. Wenzel, S., Verbrugge, LA. *Alaska Public Health Association, Anchorage, AK*

Alaska Hair Mercury Biomonitoring Program. Wenzel, S., Verbrugge, LA. *Alaska Forum on the Environment, Anchorage, AK*

Dynamics of Adolescent Pregnancy in Georgia's Latino Community: Defining the Urgency. Wenzel, S., Hirsch, JS., Bautista, G. *American Public Health Association Annual Conference, Washington, DC* (poster)

Dynamics of Adolescent Pregnancy in Georgia's Latino Community: Defining the Urgency. Wenzel, S. *Georgia Campaign for Adolescent Pregnancy Prevention Annual Conference*, Atlanta, GA

RESEARCH AND PRACTICE SUPPORT

Ongoing Research and Practice Support

-Virginia Tech Institute on Society, Culture and the Environment Scholars. 07/01/18-06/30/19. An Interdisciplinary Approach to the Study of Age Friendly Community Initiatives and Policies. Role: Co-Investigator

-Virginia Tech Vibrant Virginia Seed Grant. 07/01/18-06/30/19. Building Healthy Families and Communities through Collaborative Strategies to Reduce Opioid Substance Use Disorder. Role: Co-Investigator.

-United States Department of Agriculture, AFRI/NIFA Childhood Obesity Prevention Challenge. 03/01/18-02/28/23. Church, Extension and Academic Partners Empowering Healthy Families. Role: Co-Investigator

-Blue Ridge Behavioral Healthcare. 03/10/18-09/30/19. Roanoke Prevention Alliance Resiliency Collective. Role: Evaluator. Facilitator

-Health Resources & Services Administration, Rural Health Opioid Program 09/30/17-09/29/20.

(Grantee: Virginia Rural Health Association). Hospital-based prevention of opioid misuse and addiction.

Role: Evaluator

-Piedmont Community Services. 07/01/18-06/30/20. Expanded Community Recovery Program. Role: Evaluator

-New River Valley Community Services. 07/01/18-06/30/21. Evaluation of Virginia Foundation for Healthy Youth school-based drug prevention programs. Role: Evaluator

-Carilion Clinic. 01/01/18-12/31/18, Evaluation of sexual health educational sessions at the New River Regional Jail. Role: Evaluator

-New River Health District. 05/01/18-12/31/18. Contraceptive needs assessment of women prisoners at the New River Regional Jail. Role: Principal Investigator

-Piedmont Community Services. 07/01/16-09/30/20. Strategic Prevention Framework Partnership for Success and Drug Free Communities. Role: Co-Investigator

-United States Department of Agriculture (NIFA) Award # 2017-46100-27194. 09/01/17-08/31/19

-National Institute of Food and Agriculture: Preventing Opioid Abuse in Rural Virginia. Community-based prevention of opioid abuse and addiction. Role: Evaluator

-Virginia Department of Health, Roanoke/Alleghany Health District. 01/01/17-12/31/18. Community Health Assessment/Community Health Improvement Plan. Role: Co-Investigator

-West Piedmont Health District (flow-through: CDC/Virginia Department of Health) 07/01/15-09/30/18. Centers for Disease Control and Prevention. PPHF 2014: State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke (CDC DP14-1422). Role: Local Evaluator

-United States Department of Agriculture. Award # 2015-46100-24197. 09/30/15-09/29/18

-Balanced Living with Diabetes: Impacting rural community health through evidence-based program implementation by Cooperative Extension. Role: Co-Investigator (evaluation)

-Virginia Department of Health (CDC flow-through) 05/01/16-09/30/18. Centers for Disease Control and Prevention. PPHF 2014: State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke (CDC DP14-1422). Role: External Evaluator

-Youth Risk Behavior Survey: Radford City Public Schools, Franklin County Public Schools, Floyd County Public Schools, Montgomery County Public Schools. Ongoing. Role: Co-Investigator

Completed Research and Practice Support

-Virginia Department of Health. Danville Youth Health Equity Leadership Institute. 03/01/16-06/30/18. Role: Co-Investigator

-Virginia Tech Provost's Office. Virginia Tech Campus/Higher Education Conversation on Opioid Misuse and Addiction. May 1, 2018. Role: Team member

-Piedmont Community Services Board. 01/01/15-12/31/17. Community Recovery Program Evaluation. Role: Principal Investigator

-Virginia Department of Health. 01/01/2017-10/24/17. Five-Year Cancer Plan. Role: Co-Investigator

-Virginia Department of Health. 07/01/2016-06/30/17. Youth Risk Data Briefs. Role: Co-Investigator

-Region Ten Community Services Board. 11/01/15-06/30/17. Family Wellness Initiative Evaluation. Role: Principal Investigator

-New River Valley Community Services Board. 10/01/15-07/30/17. Family Wellness Initiative Evaluation. Role: Principal Investigator

-Piedmont Community Services Board. 11/10/15-06/30/17. Family Wellness Initiative Evaluation. Role: Principal Investigator

-Blue Ridge Behavioral Health. 07/01/16-09/30/17. Strategic Prevention Framework Partnership for Success and Drug Free Communities. Role: Co-Investigator

-New River Valley Community Services Board. 03/01/16-09/30/16. Strategic Prevention Framework Partnership for Success. Role: Co-Investigator

-Institute on Society, Culture and the Environment, Virginia Tech. 04/01/15-09/30/15. Visualizing Water Services for Community Decision Making. Role: Co-Investigator

-United States Department of Agriculture/Pulaski County Public Schools. 01/01/15-3/31/16. Farm to School Evaluation. Role: Principal Investigator

-Virginia Department of Health/New River Health District. 11/10/14-04/30/16. PPHF Obesity Prevention Evaluation. Role: Principal Investigator

-Piedmont Community Services Board. 10/30/15-06/30/16. Evaluation of Substance Abuse Treatment Services. Role: Principal Investigator

-Tazewell County Board of Supervisors. 07/01/14-12/31/15. Cancer in Tazewell County. Role: Co-Investigator, Coordinator

-Piedmont Community Services Board. 07/14/14-09/01/14. Suicide Prevention Plan, Region III East. Role: Co-Investigator.

-United Way of Martinsville/Henry County. 06/01/14-08/31/14. Key Performance Indicators Dashboard. Role: Co-Investigator

-National Association of County and City Health Officials. 07/15/14-05/31/15. Chronic Disease Self-Management Program Evaluation. Role: Co-Investigator

-New River Valley Community Services Board. 11/10/14-06/30/15. Strategic Prevention Framework State Incentive Grants. Role: Co-Investigator

-Piedmont Community Services Board. 11/10/14-06/30/15. Family Wellness Initiative Evaluation. Role: Principal Investigator

-US Department of Health and Social Services. 10/01/10-09/30/15. Office of Adolescent Health Teen Pregnancy Prevention Program. Peer Education to Prevent Teen Pregnancy in Alaska using the "Promoting Health Among Teens" curriculum. Role: Project Director

-Family and Youth Services Bureau. 10/01/10-09/30/15. Personal Responsibility Education Program using "The Fourth R" curriculum in rural Alaska. Role: Project Director

AWARD

2008 Bales-Bradford Award for Excellence in Public Health Leadership, Centers for Disease Control and Prevention, awarded yearly to top Public Health Prevention Service Fellow

PROFESSIONAL ORGANIZATIONS

2013-present American Public Health Association (Sexual and Reproductive Health section, Maternal and Child Health section)

2008-2012 American School Health Association

SERVICE

2018-present Advisor, American Mock World Health Organization, Virginia Tech chapter

2017-present Member, Virginia Tech Tobacco Use Policy Steering Committee

2016-present Chair, Virginia Tech Masters of Public Health Program Outreach Committee

2013-present Member, Montgomery County Prevention Partners

2018-present Treasurer, Montgomery County Prevention Partners

2015-present Mentor, Academic Health Department Learning Community Mentorship Program

2013-present Member, Community Health Action Team, New River Valley

PROFESSIONAL TRAININGS

2018 Virginia Tech Diversity Ally Certificate (30 hours)

2017 Virginia Tech Safe Spaces (2 hours)

2013 Appalachian Cultural Competency (6 hours)

2010 Anchorage Youth Development Academy (40 hours)

2010 State of Alaska Academy for Supervisors (40 hours)

2010 Respectful Workplace (12 hours)

2005 CDC Public Health Prevention Service Training (training schedule available upon request)

2004 Domestic Violence Prevention and Intervention (36 hours)

OTHER PROFESSIONAL QUALIFICATIONS

Languages: Native speaker of French and English. Fluent in Spanish and Guaraní (Paraguay)

Computer skills: Microsoft Office suite, Epi-Info, Endnote, Excel Data Analysis tool pack, SPSS, Atlas.ti

StrengthsFinder themes: Arranger, Responsibility, Communication, Positivity, Harmony

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