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Provision Of Reproductive Health Care Services By Nurse Practitioners And Certified Nurse Midwives: Unintended Pregnancy Prevention And Management In Vermont

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PROVISION OF REPRODUCTIVE HEALTH CARE SERVICES BY NURSE PRACTITIONERS AND CERTIFIED NURSE MIDWIVES: UNINTENDED PREGNANCY PREVENTION AND MANAGEMENT IN VERMONT

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Abstract

Background: In the United States, currently about half (49%) of the 6.7 million pregnancies are reported as mistimed or unplanned, and this rate of unintended pregnancy is significantly higher than the rate in most other developed countries. Abortion services are critical to the prevention and management of unintended pregnancies. Abortion in the United States has been legal since the 1973; however this right has little meaning without access to safe abortion care and access is declining. Medication abortion, the use of medications to induce abortion and terminate an early pregnancy, has been legal in the United States since 2000, is ideal for the outpatient setting, and allows for increased provision of and access to abortion services. The literature assessing the provision of medication abortion has largely been conducted in populations of physicians, and combined groups of advanced practice clinicians including physician assistants (PAs), certified nurse midwives (CNMs), and nurse practitioners (NPs). No studies exist assessing provision of and barriers to medication abortion by NPs and CNMs (Advance Practice Registered Nurses or APRNs) in the state of Vermont.

Purpose: This study sought to fill this gap in the literature. Data was collected in order to determine whether APRNs are providing care to women at risk for unintended pregnancy and are providing medication abortion, the characteristics of these providers, and perceived barriers or supports to practice.

Methods: The design was a cross-sectional survey, using purposive sampling methods. Between July 2014 and September 2014, 21 eligible participants completed an anonymous, self-administered online survey, recruited via notifications sent out through professional listserv. The survey assessed their personal characteristics, beliefs and clinical practice related to reproductive health care and unintended pregnancy prevention and management. All participants had current APRN certification with prescriptive authority in the state of Vermont.

Results: Ninety percent of respondents reported care for women of reproductive age as at least one-third of their clinical work and 85% of respondents reported seeing women with unintended pregnancies as part of their practice. Eighty-five percent agreed or strongly agreed that medication abortions fall within the scope of practice of an APRN and of a primary care provider, and 85% would like to be trained to provide medication abortions to manage unintended pregnancy. Lack of training opportunities, clinical facility constraints, and legal uncertainties were the most frequently reported barriers to provision of medication abortion.

Conclusions: Many APRNs in Vermont may be interested in receiving medication abortion training. APRNs are experienced and highly trained health care professionals that have the competence and skills to provide comprehensive reproductive health care, including medication abortion. The perceived barriers of training, clinical facility constraints, and legal uncertainties are amenable to change, and can be decreased through inclusion of these topics into APRN education. The political and social climate of Vermont, combined with the findings of this preliminary study, suggest that the state of Vermont is ready, willing, and able to serve as a model for the primary provision of and improved population access to, comprehensive reproductive health care including abortion services.

Table of Contents

List of Tables

Chapter I: Introduction

Background and Significance

In the United States, currently about half (49%) of the 6.7 million pregnancies are reported as mistimed or unplanned, and this rate of unintended pregnancy is significantly higher than the rate in most other developed countries. More than half of American women will have the experience of an unintended pregnancy by the age of 45, and three in 10 women will have had an abortion (Guttmacher Institute, 2013). In 2011, 1.1 million American women obtained abortions. In Vermont, statistics from 2011 demonstrated that 8,800 of the 117,297 women of reproductive age in the state became pregnant; 69% of these pregnancies resulted in live births and 16% in induced abortions. The rate of abortion in Vermont in 2011 was 11.7 abortions per 1,000 women of reproductive age, with a total of 1,370 abortions obtained in Vermont (Guttmacher Institute, 2014a). There are significant disparities in unintended pregnancy in the United States, with higher rates among poor and low-income women, minority women, and women between the ages of 18 and 24 (Guttmacher Institute, 2013).

Unintended pregnancy has been found to be associated with a host of negative consequences, including health and economic disparities. For women with unintended pregnancy, negative outcomes can include delays in prenatal care, reduced likelihood of breastfeeding, maternal depression, and increased risk of physical violence during pregnancy. Negative outcomes related to birth from unintended pregnancy have been found to include increased incidence of birth defects and low birth weight, and children from unintended pregnancies have a higher incidence of poor mental and physical health

in childhood, lower education achievement, and increased behavioral issues (National Center for Health Statistics, 2013).

Sexual and reproductive health is integral to the general health of the US population, and to its social and economic development, and unintended pregnancies make up a large part of public expenditures on reproductive health. Public insurance programs, primarily Medicaid, paid for 65% of the 1 million births resulting from unintended pregnancies in 2008, as compared to 36% of births from intended pregnancies. In 2008, total public expenditures nationwide for births resulting from unintended pregnancies were estimated to be $12.5 billion, with $7.3 billion from federal expenditures and $5.2 billion from the states (Sonfield & Kost, 2013). A recent study found that by providing reproductive health and family planning services to avoid unintended pregnancies and prevent and detect reproductive cancers and sexually transmitted diseases (STDs), federal and state governments saved taxpayers an estimated $7.09 for every public dollar spent. (Frost, Sonfield, Zolna, & Finer, 2014). Yet, despite its frequency and its significant associated costs, unintended pregnancy has received less attention in research, development of education and practice standards, and prevention models than other similarly important health concerns (Taylor & James, 2011).

Reducing unintended pregnancies in the United States has been one of the national health promotion goals defined by the Healthy People reports since they were established in 1980, however, relatively little progress has been made in the past three decades towards this goal. Currently, the Healthy People 2020 family planning goal is to "Improve pregnancy planning and spacing, and prevent unintended pregnancy" (National Center for Health Statistics, 2013). With the passage of the Patient Protection and

Affordable Care Act, and the Health Care and Education Reconciliation Act (known together as the Affordable Care Act or ACA) in 2009, health care in the United States has renewed emphasis on disease prevention and health promotion, and our health care systems are shifting towards a prevention model (National Center for Health Statistics, 2013; Taylor & James, 2011).

Access to Reproductive Care

Since the legalization of abortion in 1973 with the *Roe v. Wade* opinion of the Supreme Court, US women have had the legal right to abortion. This right, however, has little meaning without access to safe abortion care and access is declining (Hwang, Koyama, Taylor, Henderson, & Miller, 2005; Schultz, 2009). The number of abortion providers in the United States declined by approximately 38% between the years 1982 and 2000, from a high of 2,900 providers down to 1,800 (Jones, Zolna, Henshaw, & Finer, 2008). The proportion of counties without an abortion provider has also increased, from 77% in 1978 to 87% in 2000, with a simultaneous increase in the population of women of childbearing age living in these counties (Jones et al., 2008). As of 2011, 89% of US counties had no abortion clinic and 38% of American women lived in these counties, meaning they would have to travel outside their county to obtain an abortion, often at a distance more than 25 miles. In the state of Vermont, there were 10 abortion providers in 2008, down from 12 providers in 2005, representing a 17% decline in three years. In 2008, 43% of Vermont counties had no abortion provider; as of 2011, 79% of Vermont counties had no abortion clinic and 51% of Vermont women lived in these counties (Guttmacher Institute, 2014a). In recent years several states have implemented restrictions that limit the provision of abortion care, such as reduced gestational age

limits, restriction of practice scope for non-physician clinicians, and mandates requiring abortions after 15 weeks be provided in a licensed surgical center and by a physician with hospital admitting privileges (Jones et al., 2008). Another form of restriction to the provision of and patient access to abortion care are parental notification laws, which mandate the consent often in writing or notarized, of a parent or both parents, for an adolescent to access abortion care (Guttmacher Institute, 2014b). Thus far, Vermont does not have any of these major restrictions on abortion seen in other states. Therefore, from a purely legislative stance Vermont women should have excellent access to safe, legal abortion services. Vermont also has a long history of provision of abortion services by non-physician providers. As early as 1986, physician assistants (PAs) performed more than 20% of the abortions per year occurring in the state (Freedman, Jillson, Coffin, & Novick, 1986).

Medication abortion is the use of medications to induce abortion and terminate an early pregnancy. Mifepristone (also known as RU-486), an anti-progestin medication registered in 50 countries, was introduced in France and China over 20 years ago and has rapidly become a common method of first-trimester abortion throughout the world (Raymond, Shannon, Weaver, & Winikoff, 2013). In September 2000, the Food and Drug Administration (FDA) approved mifepristone for use in the United States under the brand name Mifeprex, developed and sold by Danco Laboratories, and as of 2001 its use made up only 6% of all abortions. Currently in the United States, one fifth of abortions are performed via medication and in the outpatient setting, while in some European countries, the proportion is above 60%. Medication abortion regimens vary, the most common in practice is a single dose of mifepristone 200-600 mg, which is followed by

administration of misoprostol, a prostaglandin, to enhance success of the abortion; the administration of misoprostol is not standardized, with the dose, route and timing varying in practice (Raymond et al., 2013). The development and implementation of medication abortion, as opposed to manual vacuum aspiration (MVA), allows for increased provision of and access to abortion services, and is ideal for the outpatient setting. In the United States there is a significant shortage of abortion providers in rural and remote areas; up to 97% of counties that do not include an urban center have no abortion provider (Yarnall, Swica, & Winikoff, 2009). Medication abortion has been found to increase universal access to abortion care, and is particularly important for access in rural and underserved areas that have limited surgical abortion services and shortages of trained providers. A significant body of evidence has demonstrated that Advanced Practice Registered Nurses (APRNs, collectively referring to certified nurse midwives (CNMs), and nurse practitioners (NPs)), and PAs, are competently providing medication abortion, or that it is within the scope of practice and skillset of these providers to include medication abortion in their services with only minimal additional training (Yarnall et al., 2009).

Evidence has demonstrated that the provision of women's health care, including maternal child health, family planning, abortion, violence prevention, sexual health promotion, and other reproductive health services should not be structured as a single-issue vertical program, but delivered as a collection of integrated services, and these services should be readily integrated into primary care (Berg, Taylor, Woods, & Women's Health Expert Panel of the American Academy of Nursing, 2013, p. 12).

Implications for APRNs

Graduates of APRN programs are educated to provide care according to core competencies of the APRN role, as well as specific competencies based on population focus or specialty. Core competencies defined for APRN education and practice include; direct clinical practice, expert coaching and advice, consultation, research skills, clinical and professional leadership, collaboration, and ethical decision-making (Spross, 2005). Both NPs and CNMs provide primary care services, are educated according to the APRN core competencies, and are held to additional competencies according to their population focus and role. The National Organization of Nurse Practitioner Faculty (NONPF) have refined and updated the competencies as the role of the NP has evolved. In 2012 NONPF published updated NP competencies to include the competent provision of preventative healthcare, the assessment, diagnosis, and treatment of acute and chronic illness, and to be advocates for ethical policies that promote access, equity, quality, and cost effectiveness (NONPF Population-Focused Competencies Task Force, 2013). CNM competencies include the provision of midwifery care for both women and newborns, and the independent management of primary health screening, health promotion, and care of women through the lifespan using the midwifery management process (American College of Nurse-Midwives (ACNM), 2012). The inclusion of primary health management into the core competencies for CNMs was developed in response to recommendations from the Institute of Medicine (IOM) to expand access to primary care in the United States, specifically to underserved populations (ACNM, 2012; Institute of Medicine (US) Committee on the Future of Primary Care, 1996). In Vermont both a graduate degree and national licensure are required for APRN practice and regulations in Vermont support a

full scope of APRN practice as recommended by the IOM; the state law provides for APRNs to evaluate patients, diagnose, order and interpret diagnostic tests, initiate and manage treatments, including full prescriptive authority, under the licensure authority of the state board of nursing (American Association of Nurse Practitioners (AANP), 2014). Since 2012, APRNs in Vermont have independent, full practice authority after a two year period of collaboration with another APRN, MD or DO for new graduates of APRN educational programs (Palumbo, Marth, & Rambur, 2011).

APRNs provide a significant amount of preventative and primary health care services to underserved populations and women of reproductive age in the United States, and part of this care is statistically likely to involve unintended pregnancy (Fontenot & Hawkins, 2011; Guttmacher Institute, 2013; Kishen & Stedman, 2010). The prevention and management of unintended pregnancy, including medication abortion, is within the scope of practice of APRNs as defined by the core competencies of APRN practice. APRNs competently provide high quality health care, perform complex medical procedures, and are technically qualified and appropriate providers of abortion care (Hwang et al., 2005). APRNs, when able to practice to the full extent of their education, can lead the way to improved access to primary care, including comprehensive reproductive health care services, thus reducing health disparities, improving health outcomes, and reducing the overall cost of health care in the United States (Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing, at the Institute of Medicine, Robert Wood Johnson Foundation, & Institute of Medicine (U.S.), 2011; Taylor & James, 2011).

Research Question

Are APRNs in Vermont providing primary health care to women at risk of unintended pregnancy, and if so, are they providing comprehensive reproductive health care services, including the provision and management of medication abortion?

Study Purpose

The aim of this study was to determine whether APRNs in Vermont that are caring for populations at risk for unintended pregnancy are providing management of unintended pregnancy, including medication abortion, the characteristics of these providers, and their perceived supports or barriers to practice. The ideal legislative, regulatory, and cultural context of Vermont was assumed to provide an ideal setting for exploration into the APRN-specific supports and barriers to provision of comprehensive reproductive health care services, including medication abortion, to the full scope of their practice. It was hypothesized that the results of this study might be beneficial in determining gaps in access to abortion services for populations at risk for unintended pregnancy, the need for APRN education and training in abortion care, and to influence the inclusion of abortion care into the curriculum of APRN academic programs.

Conceptual Framework

This study was designed through the lens of the public health prevention model. Much of the health care provided in the United States lacks focus on prevention, with the overarching approach to health and wellness focused on medical treatment and services after the fact of illness and injury (Cohen, Chávez, & Chehimi, 2010). The prevention model can be broken down into three levels of prevention; primary, secondary, and tertiary; primary prevention consists of education and action taken before a problem

occurs in order to avoid it entirely, rather than treating the consequences. Secondary prevention consists of methods for early detection and intervention to control a problem or disease and minimize negative health outcomes. Tertiary prevention is focused on reducing further complications or recurrence of an existing health problem, through treatment and rehabilitation. In an era of increasing health disparities, record spending on health care, and an ever limited health care system to deal with the disease burden of the population, prevention methods are key to reducing unnecessary demand on the health care system and improving health outcomes (Cohen et al., 2010). Unintended pregnancy, a frequent and costly health condition, has received minimal attention in research and development of clinical and preventive care strategies as compared to other important threats to health and wellbeing (Taylor, Levi, & Simmonds, 2010). There are several reasons for this oversight, including the common fragmentation of health care services, and the politicization of reproductive health care, especially abortion, and this omission contributes to the persistence of high rates of unintended pregnancy in the United States (Taylor et al., 2010). There is increasing pressure to move health care to a more sustainable model, in which prevention is the focus, and primary care providers are at the forefront of this redesigned, prevention-focused health care model.

The goal of primary prevention of unintended pregnancy is to have intended, healthy pregnancies with healthy mothers and infants, and to reduce personal, perinatal, neonatal, and family complications (Taylor & James, 2011). Primary prevention of unintended pregnancy includes preconception intervention that is incorporated into primary care, including assessment of every woman's current pregnancy intentions, assessment of personal and family risk factors including intimate partner violence,

substance use, and teratogen exposure, and appropriate preconception screening for sexually transmitted infections, genetic, and chronic diseases. Also included in the primary prevention of unintended pregnancy are prevention strategies such as nutrition, behavioral and contraceptive counseling, contraceptive and emergency contraceptive prescription and management (2011).

The goal of secondary prevention is to identify unintended pregnancies early to improve health outcomes, and this secondary prevention includes the assessment of pregnancy status and gestational age, screening for early pregnancy loss and ectopic pregnancy, and the provision of pregnancy options counseling. The following prevention services are included within the category of secondary prevention; the provision of support to continue pregnancy if desired with comprehensive prenatal care, or adoption counseling and coordination of referral if desired, or if desired, provision of early abortion by use of medications or uterine aspiration procedures or coordinated referral to assure positive outcomes (Taylor & James, 2011).

Tertiary prevention of unintended pregnancy is focused on the prevention of complications associated with later unintended pregnancy and support for women and families experiencing later unintended pregnancy. The essential prevention services at the tertiary stage are; the assessment of pregnancy status and psychosocial risk factors, pregnancy diagnostics (status and gestational age), assessment of need for crisis services, unintended pregnancy options counseling, support for continued pregnancy if desired, and pregnancy termination referral coordination if desired (Taylor & James, 2011).

There is evidence that prevention-focused clinical guidelines can successfully guide the provision of prevention services to women at risk of unintended pregnancy;

primary care providers have both the opportunity and responsibility to their patients and society to help reduce the amount of pregnancies that are not intended (Taylor et al., 2010, p. 363). The prevention model provides an evidence-based framework for the evaluation of the provision of reproductive health care services to women at risk of unintended pregnancy by APRNs in Vermont.

Chapter II: Literature Review

There has been significant research and data collection on both the subject of prevention and management of unintended pregnancy and the provision of medication abortion. Studies of unintended pregnancy have focused on risk, prevention, management, access, cost, and long-term outcomes. Research on the provision of medication abortion has included physician-focused studies, research specific to combined groups of both APRNs and PAs, and collection of data on access to services and the patient experience.

Unintended Pregnancy: Prevention and Management

The average American woman spends approximately five years pregnant, post-partum, or trying to become pregnant, while spending three decades trying to avoid an unintended pregnancy (Guttmacher Institute, 2013). Unintended pregnancy in the United States has been found to be a widespread problem, affecting at least one half of all women by the age of 45 (Jones & Kooistra, 2011). The goal of reducing unintended pregnancy has been included in the Department of Health and Human Services' Healthy People objectives for 2000, 2010, and 2020; however, there has been little progress made toward achieving this goal, even with significant advances in contraceptive methods (Levi & Dau, 2011). Unintended pregnancy creates a public health burden, as the births resulting are associated with adverse maternal and child health outcomes, and also contributes to the increasing problem of health disparities due to its large impact on marginalized populations (Guttmacher Institute, 2013; Levi & Dau, 2011). The rate of unintended pregnancy is highest among minority women, poor and low-income women,

cohabitating women, and women aged 18-24, all groups that are already at risk for increased health disparities and reduced access to reproductive health care services, including contraception and abortion (Guttmacher Institute, 2013). The US federal and state governments, in response to this disparity, have implemented programs over the past four decades to try and expand access to family planning and reproductive health care services to young and low-income women (Frost et al., 2014). There are two main programs that channel public funds toward family planning services. Title X of the Public Health Service Act is the only federal program that is entirely dedicated to family planning, and was enacted by congress in 1970 (2014). Medicaid, a joint federal-state public health insurance program for low-income populations, provides the largest amount of public family planning dollars, and covers a large portion of women of reproductive age (2014). In the 1990s, thirty states expanded eligibility under Medicaid specifically for family planning services, to increase access for low-income women not covered fully by Medicaid benefits (2014). However, access to abortion services is limited through Medicaid by the Hyde Amendment, first passed by the US Congress in 1976, which bans federal funding for abortions in all but the most extreme circumstances (Henshaw, Joyce, Dennis, Finer, & Blanchard, 2009). Since its initial passage, Congress has renewed the Hyde Amendment every year, and the current version allows federal funding for abortion in cases of rape or incest, and in life-endangerment of the mother, however with the stipulation of only physical causes of life-endangerment (Henshaw et al., 2009). The Hyde Amendment limits the ability of family planning services to provide comprehensive reproductive health care to women qualifying for Medicaid, disproportionately affecting young, low-income, and minority women, therefore worsening existing health disparities.

A large body of research supports the financial and social benefits of publicly supported, fully integrated, reproductive health care and family planning services in the United States. These services help women prevent unintended pregnancies, which in turn reduces unplanned birth, abortion, and miscarriage, and improves maternal and child health outcomes, resulting in an estimated net public savings of $10.5 billion in 2010. Access to comprehensive reproductive health care and family planning services provides benefits beyond those related to unintended pregnancy by increasing the access to screening for STDs, reproductive cancer prevention services, and screening for other health risks, including intimate partner violence (Frost et al., 2014). The importance of preconception health for improved health outcomes, including prevention of unintended pregnancy, is well established, though not fully integrated into women's primary care (Levi & Dau, 2011).

The health care system for prevention and management of unintended pregnancy is fragmented, and the lack of comprehensive sexual and reproductive education in the United States only compounds the challenge of prevention approaches. Due to the lack of comprehensive sexual and reproductive education, many American women do not fully understand their own anatomy or how the reproductive system works and underestimate their actual risk of pregnancy, which reduces effective contraceptive use (Taylor et al., 2010, p. 363). The use of contraception has been identified as an important predictor of a woman having an abortion, as the small group of American women who are at risk of experiencing an unintended pregnancy but are not using any form of contraception account for more than half of all the abortions in the United States, and many of the women in this group didn't think they would get pregnant, or had concerns about or

didn't understand contraceptive methods. The remainder of abortions in the United States have been found to occur in the far larger group of women who were using a contraceptive method in the month they became pregnant with an unintended pregnancy (Guttmacher Institute, 2014a).

The US national goal to reduce unintended pregnancy is longstanding yet unmet. Unintended pregnancy affects the lives of millions of US women and their families each year, with significant negative social, health and economic consequences. It has been recommended that a comprehensive, culturally appropriate public health prevention framework is needed to effectively reduce unintended pregnancies in diverse populations, and must be incorporated into nationally supported clinical guidelines for those working in primary care (Levi & Dau, 2011).

Abortion: Current Climate and Policy Context

At the time of the *Roe v. Wade* opinion, there was concern that abortion be provided in a safe context by a trained provider, and the language the Supreme Court used to ensure this was that states could not proscribe abortions provided by licensed physicians (Schultz, 2009). Soon after, matching the language of the Supreme Court that was originally chosen to ensure women's safety, most states enacted policies that limited abortion practice to licensed physicians. In the last 36 years, roles of APRNs and PAs have been developed and defined, and while physician-specific language was useful for the development of safe clinical abortion implementation into the legal medical system at the time of *Roe v. Wade*, this language is now used as a provider restriction, excluding APRNs and PAs from the provision of any abortion care in many states, and in turn, restricting women's access to safe, legal abortion (2009).

The ACA legislated benefits to improve access to reproductive health care for women, however there are both improvements and gaps in coverage benefits of abortion. An example of a benefit improvement is plans that cover abortion beyond the Hyde limitations, however these plans have to segregate those funds and a separate premium must be charged to all enrollees. A benefit gap in the ACA is that abortion coverage is specifically banned from being mandatory as a package of essential benefits. Although the ACA has improved access to women's health care, it has fallen short of mandating comprehensive reproductive health care for all women, and has further institutionalized the denial of abortion as a necessary medical benefit (Berg, Taylor, Woods, & Women's Health Expert Panel of the American Academy of Nursing, 2013).

Aspiration or surgical abortion is one of the safest surgical procedures for women in the United States; complications resulting from abortion are seen in fewer than 0.5% of women, and the risk of death associated with abortion is about one-tenth that associated with childbirth, making it statistically a much safer option (Guttmacher Institute, 2014a). Medication abortion with mifepristone is statistically safer than many commonly used over-the-counter medications, such as acetaminophen and antihistamines, with adverse reactions or complications occurring at a rate of less than 1%, and like aspiration or surgical abortion, it is much less risky than continuing a pregnancy to term (Association of Reproductive Health Professionals (ARHP), 2008). Although early abortion has been determined to be one of the safest medical procedures, it is weighted with stigma for both women seeking abortion and for providers, as is particularly evident in the political climate of the United States. Decline in abortion providers, and therefore access to safe and legal abortion, has been the result of pressure from religious and anti-abortion groups

against legislators, providers, and the women themselves. Harassment against providers of abortion care has at times led to violence and even murder (Kishen & Stedman, 2010). The stigma surrounding abortion in the United States results in both providers and women rarely disclosing their provision or use of abortion services (O'Donnell, Weitz, & Freedman, 2011). The contention and social disapproval of abortion creates an identified but largely unmeasured disincentive for providers and staff to become involved in abortion care. Stigmatization, however, is a process that can be actively resisted by those vulnerable, supported by creating communities of support, and the provision of abortion care is in itself an act of resistance and transforms the experience of stigma (O'Donnell et al., 2011).

Abortion Access: The Need for APRNs

The NP role was developed to meet the needs of new community health centers created in The Federal War on Poverty in the 1960s and 1970s in the United States, with the first program developed in 1965, and the first program to specifically prepare NPs in women's health care created in 1967 (Fontenot & Hawkins, 2011). Since the creation of the role, NPs have historically provided, and continue to provide, a large proportion of the primary care for underserved populations in the United States, and the ability to practice at the highest level of training translates into the availability of high quality services, including reproductive health care, to these populations (Fontenot & Hawkins, 2011; Kishen & Stedman, 2010). Following centuries of lay-midwifery and a long history of providing health care to women throughout their lifespan, infants, and the underserved, more formal nurse-midwifery developed in the 1920s in the United States. The CNM role was developed from public health nursing, with the first nurse-midwives providing

family health services, childbearing and delivery care to rural populations in the Appalachian mountains (Storck, Susan, 2013; Varney, 2004). The first nurse-midwife academic program in the United States was started in 1932, and nurse-midwives were a section of the National Organization of Public Health Nurses (NOPHN), and then the American Nurse's Association (ANA), until the formation of the American College of Nurse-Midwives (ACNM) in 1955. Currently, CNMs manage perinatal (including prenatal, delivery, and postpartum) care, provide comprehensive reproductive health care, and increasingly provide primary health care services for underserved women (Varney, 2004).

Incorporation of abortion into the role of APRNs faces not only political and legislative opposition at the community, state, and national level, but also has incurred resistance from medical politics, which balks at the inclusion of APRNs or PAs in any setting considered physician turf (Joffe & Yanow, 2004). These foundations for opposition are not based in the evidence, which clearly has demonstrated the ability of APRNs and PAs to provide safe medication abortion. In two states, Montana and Vermont, PAs have been providing abortion care since 1973, generating a significant safety record and standing in contradiction to the policy of many states that limit APRN and PA provision of abortion services (2004).

Worldwide, APRNs play a key role in providing women's health care, including post-abortion care and contraception provision, making their role as the providers of the actual abortion a continuation of care that is largely already provided. Medication abortion is easily provided outside the hospital setting, requiring no sterile setting, specialized equipment, or surgical skills (Kishen & Stedman, 2010; Yarnall et al., 2009).

Since 2003, the World Health Organization (WHO) has recommended that abortion services be provided at the primary level of the health care system, including medication abortion up to nine weeks of pregnancy, and that this may be done by APRNs, PAs, and physicians with appropriate training without compromising safety (Kishen & Stedman, 2010). In their review, Kishen & Stedman (2010) also acknowledge the significant contributions and proven ability of non-physician providers to deliver excellent family planning and reproductive health care worldwide, and suggest the importance of linking abortion and contraception so that reproductive health is addressed in a coherent and holistic approach. The evidence continues to support that medication abortion provision is a logical addition to the care already provided by APRNs and PAs, and the skills required fall within the domain of APRN and PA practice (Yarnall et al., 2009).

Abortion Education and Training for APRNs

A study from 2000, published in 2006, examined the inclusion of abortion education in accredited APRN and PA programs in the United States using a confidential survey to determine inclusion of eight reproductive health topics in the student curriculum. The survey was mailed to the program directors of all 486 accredited programs for these disciplines at the time of the study; 200 surveys were returned for a response rate of 42% (Foster et al., 2006). Of the responding programs, 53% reported inclusion of didactic instruction on surgical abortion, manual vacuum aspiration, or medication abortion, and 21% reported at least one of these three procedures being included in their standard clinical curriculum. From these results, the researchers concluded that abortion education is deficient in APRN and PA programs in the United

States, highlighting the omission of integral components of reproductive health care services from APRN and PA education and training (2006).

Adolescents are at high risk for unintended pregnancy and abortion, and are excellent candidates for early medication abortion, yet many providers who work with adolescents do not have the necessary knowledge of medication abortion needed to counsel, refer, or provide this service. In a 2012 study, researchers sought to understand whether providers working with adolescents have the necessary knowledge to accurately counsel on medication abortion (Coles, Makino, & Phelps, 2012). Via online questionnaire, a survey evaluating knowledge of medication abortion was administered to US providers in the Society for Adolescent Health and Medicine. Out of the 797 providers that responded, approximately 25% incorrectly stated that medication abortion was not very safe, 40% incorrectly estimated it as 95% effective, and 32% did not select the correct recommended gestational age window of 7-9 weeks (Coles et al., 2012). Respondents who identified as having provided counseling on medication abortion were found to have improved accurate knowledge in all categories with the exception of expected outcomes. This study concluded that knowledge regarding the safety, effectiveness, outcomes, and complications of medication abortion is suboptimal, even in providers specifically trained by fellowship to work with the adolescent population. Providers that work with adolescents must receive improved education and training on medication abortion to ensure that pregnant adolescents are counseled appropriately on all options (2012).

A 2003 study surveyed APRNs and PAs in California about their interest in medication abortion training and their perceptions of barriers to providing abortion care

(Hwang et al., 2005). Mail-in surveys were sent to 2,400 APRNs and PAs in California to assess personal characteristics, beliefs, and clinical practice, and were analyzed to describe the respondents' interest in receiving medication abortion training and perceptions of barriers to provision of medication abortion. Of the surveys, 1,176 were returned completed for a response rate of 49%. The researchers found that one quarter of the APRNs and PAs who responded were interested in medication abortion training, of which those reporting pro-choice attitudes, those familiar with medication abortion, and those whose practice was at least one-third caring for women of reproductive age being more likely to desire training (2005). Reported barriers to providing medication abortion included lack of training opportunities, clinical facility constraints, and legal uncertainties. The researchers concluded that there was significant interest among APRNs and PAs in California to provide medication abortion to their patients and that policy and program efforts were needed to assist clinicians in overcoming barriers to providing medication abortion (2005).

Berg and colleagues in their review of the current status of women's health care, reported that in the United States fragmentation and politicization of reproductive health care is the norm (2013). Established evidence, however, has demonstrated that systemic, organized effort, and collaboration between federal resources, public health, advocacy, practice guidelines, education, and practitioners can lead to better health outcomes (Berg et al., 2013). The researchers cited the example of the National Health Service (NHS) of the United Kingdom, where reproductive health care has been provided to men, women, and adolescents in the primary care setting and through public health initiatives that are both evidence-based and outcomes-focused. Reproductive health care services have been

integrated into the education, training, and certification of providers in the United Kingdom, with unintended pregnancy care being one of ten areas of competency in reproductive health for the NHS (2013).

Providing Abortion Care: Legal Implications

In addition to the ever-increasing limitations on all abortion care based on gestational age and other legislative restrictions, APRNs and PAs face legal barriers to the provision of abortion care that are specific to their role. Physician-only language used in the legislative regulation of some states excludes APRNs and PAs from abortion provision. In some states, APRNs and PAs can perform medication abortion, but not aspiration abortion (See Appendix A). Currently, APRNs and PAs can perform both aspiration and medication abortions legally in five states; Montana, Oregon, New Hampshire, Vermont, and California. California is the most recent state to allow APRNs and PAs to perform abortions, following the passage of Assembly Bill 154 (AB154) in October 2013 (ANSIRH, 2013; Weitz et al., 2013). The following states allow APRNs and PAs to provide medication abortion only; New York, Massachusetts, Connecticut, Rhode Island, New Jersey, Maryland, Alaska, Hawaii, Washington, New Mexico, and Illinois, and although not a state, the District of Columbia also recognizes APRNs and PAs as able to provide medication abortion only (Weitz et al., 2013). The varied restrictions from state to state have significant implications for the ability of APRNs to provide abortion care to their full scope of practice, the availability of appropriate education and training, and the access women have to abortion services.

An additional legal limitation to the provision of medication abortion by APRNs is due to the fact that there is only one FDA approved manufacturer of mifepristone for

abortion in the United States, Danco Laboratories. This company makes the brand-name mifepristone, Mifeprex, and under federal law, Mifeprex must be provided by or under the supervision of a physician, and only a physician who has completed a specific ordering contract can order this medication (Danco Laboratories, 2014). In clinical settings that have collaborative physician and APRN providers, this is a hurdle that can fairly easily be overcome, however the physician-specific language and ordering rules for Mifeprex has created a legal environment that limits the ability of APRNs to provide abortion care to the full extent of their scope of practice.

Another possible legal hurdle to providing medication abortion can be the limitations of liability insurance, which has been a reported barrier for many primary care physicians trying to offer abortion services (Dehlendorf & Grumbach, 2008). In extreme cases, insurance companies have refused to provide coverage for family practice physicians providing abortion, while more commonly the premiums for the insurance policy are made unaffordable for those not specifically certified as OB-GYN (2008). These policies do not reflect the evidence, which clearly supports the safety of medication abortion in the outpatient, primary care setting, and the fact that provision of medication abortion by primary care providers is well defined within their scope of practice (2008).

Other legal considerations that vary between states presently govern abortion, and may apply to medication abortion, including parental notification and consent laws, 24 to 48 hour waiting periods, reporting requirements, laws governing the treatment of fetal tissue, and in the future, possible fetal personhood laws (Joffe & Weitz, 2003). These

regulations are not necessarily specific to the type of abortion provider, but rather restrict all aspects of abortion care.

Abortion in the Primary Care Setting: Management of Unintended Pregnancy

Providing early medication abortion in the primary care setting has been demonstrated to potentially solve several problems; lessening the inconvenience to women who may have to travel long distances to an abortion clinic, reducing the medical and social complications of delay in abortion, and reducing the harassment that women encounter when entering abortion clinics (Kishen & Stedman, 2010; Yarnall et al., 2009). The primary care setting is ideal for implementation of the prevention framework. Sexual and reproductive health promotion and prevention services should be part of comprehensive primary care for women, and if implemented as part of the standard in primary care, these prevention services will provide women with the knowledge and tools to exercise intention over their bodies and pregnancy (Levi & Dau, 2011).

Since the development of medications such as mifepristone, providers have had the opportunity to introduce medication abortion into their office-based practice (Schwarz et al., 2005). A 2005 study conducted via anonymous survey among 212 medical residents from 11 programs training in internal medicine, family practice, and gynecology, looked at the willingness to provide medication abortion and perceived barriers to future provision. The willingness to provide abortion was fairly high among the three residency groups, with internists being the lowest (42% of internists, 84% of family practitioners, and 83% of gynecologists). The internist and family medicine groups both reported a concern for lack of access to vacuum aspiration services as a "backup" (2005). This study reported several limitations, including small sample size,

limited information beyond gender and type of training of respondents and those who did not complete survey, and that all residents surveyed received training in the San Francisco Bay Area, which may not be representative of providers trained in other regions of the United States (2005). This study highlighted that even as providers are willing to offer medication abortion to their patients, barriers such as lack of adequate knowledge, training, and support limit their ability to provide these services. In a climate of decreasing access to abortion services throughout the United States, bridging the gap between willingness and ability of providers to offer medication abortion is imperative to ensure comprehensive reproductive health care for women at risk of unintended pregnancy.

In a mixed methods, cross-sectional study from 2012, researchers evaluated the long-term impact of the Reproductive Health Program (RHP), which was a national elective abortion training program for primary care providers offered from 1999-2005 (Greenberg, Herbitter, Gawinski, Fletcher, & Gold, 2012). This study examined the current practice, abortion provision, and barriers and enablers to abortion provision among 220 former RHP trainees, including both family practice physicians, APRNs and PAs (Greenberg et al., 2012). Out of 113 respondents, 85 providers met eligibility criteria, and their collective data showed that more than half had provided abortion services since their training with RHP, with a higher percentage of medication abortion performed (2012). Surprisingly, they found no relation between the provision of abortion and region, gender, or number of years since training (2012). This study reported the following enablers to abortion provision; adequate abortion training, liability insurance that covers abortion, administrative, colleague, and staff support, ease of access to

abortion medications or equipment, abortions already provided at practice site, and sufficient reimbursement for abortion services (2012). Greenberg et al. (2012) reported the following barriers to abortion provision; lack of adequate training and skills, administrative, colleague, or staff resistance, concern for personal or family safety, practice, region, or institution with strong anti-abortion culture, institutional restrictions, and the perception that there are already adequate abortion services in the practice area.

Chapter III: Methods

This chapter outlines the methods used in this study to understand the provision of medication abortion by APRNs and the implications for unintended pregnancy prevention and management in the state of Vermont. This includes discussion, in turn, of the research design and setting, population and sampling strategy, procedures and data collection, study instrument, the protection of human subjects and data analysis.

Design and Setting

The setting for this cross-sectional survey study was the state of Vermont, one of five states where statutes governing the practice of APRNs, and the provision of abortion services, allow non-physicians to perform medication and aspiration abortions (ANSIRH, 2014). Vermont was the first state to have a non-physician provider performing aspiration abortions, with PAs providing abortion services since 1973 (National Abortion Federation (NAF), 1997). Vermont was a unique setting for this research as it does not have any of the major restrictions on abortion seen in other states, such as reduced gestational age limits, restriction of practice scope for non-physician clinicians, mandates requiring abortions be provided in a licensed surgical center and by a physician with hospital admitting privileges, waiting periods, or parental notification laws (Guttmacher Institute, 2014b; Jones et al., 2008). Thus far, Vermont does not have any of these major restrictions on abortion seen in other states and from a purely legislative stance Vermont women should have excellent access to safe, legal abortion services. The rationale for this setting was based on the assumption that the legislative and legal environment of

Vermont allows APRNs to provide comprehensive reproductive health care services, including medication abortion.

Population and Sampling Strategy

The target population of this study was APRNs holding an active license with prescriptive authority in the state of Vermont. A statewide purposive sample of NPs and CNMs were used for this study. The inclusion of both NPs and CNMs from various practice settings throughout the state of Vermont was designed to assist in generalizability. The inclusion of PAs in the sample group was considered, however this study sought to fill a gap of limited knowledge specific to the practice of APRNs in the state of Vermont. All NPs who were on the listserv for the Vermont Nurse Practitioner Association (VNPA) and all CNMs who were on the listserv for the Vermont Chapter of the American College of Nurse Midwives (VT-ACNM) were invited to participate, totaling an estimated 500 persons. This study assumed an estimated 20% response rate, which would have provided approximately 100 completed surveys. Permission was obtained from the moderators of both the VNPA and VT-ACNM listserv to post the survey invitation.

Study Procedures and Data Collection

Prospective NP and CNM respondents were invited to participate via invitation email sent through either the VNPA or VT-ACNM listserv. The invitation email included a link to the secure online survey through LimeSurvey. The invitation email explained the limited exclusion criteria; anyone under the age of 21 years old or not actively licensed as a NP or CNM with prescriptive authority in the state of Vermont. The introductory email described that consent to participate in the study was implied by online submission of the

questionnaire. Prospective subjects were allowed to choose not to complete the questionnaire, and could discontinue and not submit the survey at any time prior to submission. Contact information for the researcher, as well as the University of Vermont Committees on Human Research was provided in the introductory email as well as directly on the survey, in the case that a prospective subject or participant had questions or concerns about the study. No incentive was provided. The survey was accessible for a total of seven weeks from the date of initial invitation. Three weeks prior to the close of the survey, a reminder email including a link to the online survey was sent through both the VNPA and VT-ACNM listserv to maximize participation. The study did not involve any other procedures. The survey was designed using a secure, cloud-based system provided by the University of Vermont, called LimeSurvey. All completed surveys and anonymous data collected were stored in the password protected LimeSurvey system, which was cloud-based, administered through the University of Vermont, and was not downloaded onto any specific computer or desktop. LimeSurvey results were stored in a MySQL database, secured by UVM NetID/password combination. The survey questionnaire was only accessible to participants through the link provided in the invitation, and they only had access to their individual questionnaire form. The completed surveys and anonymous data collected were sent directly to the password protected LimeSurvey account of the researcher, and were only accessible to the researcher. Approval from the Institutional Review Board (IRB) at the university the researcher attends was sought and received prior to data collection.

Study Instrument

The online self-administered questionnaire used for this study was modeled on the survey used in a study titled *Advanced Practice Clinicians' Interest in Providing Medical Abortion: Results of a California Survey* (Hwang et al., 2005). The instrument used in the 2005 study was a based on previous surveys, informed by experts in abortion practices, policy, and pilot tested among six APRNs and PAs (Hwang et al., 2005). Permission for use of this instrument was obtained from the corresponding author, and modifications were made at the recommendation of this author based on the experience of the 2005 study. The original survey consisted of 22 questions (See Appendix B). Out of the 22 questions, all questions were used except for questions 6, 15, 16, and 17. Modifications made to the language of the original instrument questions included:

- The term medical abortion was replaced with medication abortion to reflect the most current language standard in the literature and clinical practice guidelines.
- Questions 1 and 2 (Corresponds to questions 5, 9 and 10 in the modified instrument for this study): The advanced nursing certifications, job titles, and employment settings listed were written to reflect the selections available from the most recent state of Vermont advanced practice nursing survey (Palumbo et al., 2011).
- Question 3 (Corresponds to question 1 in the modified instrument for this study): The demographic category of sex was retitled gender, and the options for other and decline to answer were provided in addition to male and female.

- Question 6 (Corresponds to question 4 in the modified instrument for this study.): This question was modified to reflect the target population, asking what kind of education program the participant received their advanced nursing education that qualified them for APRN licensure.
- Question 12 (Corresponds to question 22 in the modified instrument for this study): Two additional answer selections regarding miscarriage management, and the independent provision and management of medication abortion were added to reflect more comprehensive abortion related care: 1) provided and managed a medication abortion? and, 2) managed a miscarriage?
- Question 18 (Corresponds to question 25 in the modified instrument for this study): The language of two answer selections were modified: 1) "The facility where I work does not permit it." Facility was replaced with organization so as not to limit this concept to a brick-and-mortar facility, and 2) "No physicians available for backup." This was rewritten as: "No physicians available for back up and medication ordering" to reflect the potential barrier of physician-only ordering policy for mifepristone used for medication abortion. Two additional answer selections were added to elicit other potential barriers to provision of abortion services: 1) No access to ultrasound, and 2) Reasons of personal safety.
- Question 19 (Corresponds to question 26 in the modified instrument for this study): The language of one answer selection was modified: "There is no need for (more) abortion providers," the word more was added to reflect the common misconception that there is no shortage of abortion providers in the state of

Vermont. One additional answer selection was added to this question to elicit a potential barrier to provision of abortion services: reasons of personal safety.

Nine additional questions from two other nursing workforce studies were incorporated into the survey instrument for this study at the recommendation of the author of *Advanced Practice Clinicians' Interest in Providing Medical Abortion: Results of a California Survey* (Hwang et al., 2005). Three questions were included from a 2011 study conducted by researchers at the Advancing New Standards in Reproductive Health (ANSIRH) think tank at the UCSF Bixby Center for Global Reproductive Health that was designed to assess the potential of APRN and PA provision of aspiration abortion to improve patients' access to abortion care in California (ANSIRH, 2011). Permission for use of this instrument was obtained from the corresponding author. The three questions included from this 2011 survey study were:

- Question 7 (Corresponds to question 19 in the modified instrument for this study):

7. In your current practice, do you provide the following?		
a Pregnancy Options counseling (adoption, abortion, parenting)	No	Yes
b Abortion Options counseling (medication, aspiration)	No	Yes
c Medication Abortion	No	Yes
d Uterine Aspiration for spontaneous incomplete abortion	No	Yes
e Uterine Aspiration for resolution of abortion complications	No	Yes

(ANSIRH, 2011)

- Question 8 (Corresponds to question 20 in the modified instrument for this study):

8. Please indicate whether you have received the following training/certification:		
a Pregnancy Options Counseling	No	Yes
b Values Clarification	No	Yes
c Basic Life Support certification	No	Yes

d Advanced Life Support certification	No	Yes

(ANSIRH, 2011)

Values clarification processes are designed to help examine personal beliefs about a subject so that one can provide the best education, support and services surrounding that subject. These processes can also be a helpful exercise for patients making decisions about their own health care, such as the options for management of an unintended pregnancy (The National Abortion Federation (NAF), 2005). For providers, clarifying beliefs about a subject, such as abortion, is key to the effective provision of accurate information, comprehensive health care options, and the provision of comprehensive health care services to a patient population. This question was modified to include the following trainings and certifications: IUD insertion and management, and Nexplanon insertion and management. The inclusion of these trainings into the question allowed for a more complete understanding of the respondent's training in reproductive health care services.

- Question 10 (Corresponds to question 21 in the modified instrument):

10. What is your experience with the following procedures? *(if you have performed one of the procedures below*, circle the number of procedures you estimate having performed)				
	Number of Procedures Performed			
a Paracervical Block	1-10	11-30	31-50	>50
b Colposcopy	1-10	11-30	31-50	>50
c Endometrial Biopsy	1-10	11-30	31-50	>50
d Early Pregnancy Ultrasound	1-10	11-30	31-50	>50
e IUD Insertion	1-10	11-30	31-50	>50
f Medication Abortion	1-10	11-30	31-50	>50
g Contraceptive Implants (Nexplanon)	1-10	11-30	31-50	>50
h Uterine Aspiration (MVA/EVA)	1-10	11-30	31-50	>50
i Other: _____	1-10	11-30	31-50	>50

(ANSIRH, 2011)

This question was modified to include the following procedures: Medication or aspiration miscarriage management, and vasectomy. The inclusion of these procedures into this question allowed for a more complete understanding of the respondent's provision of reproductive health care procedures, some of which are very similar in training and technique to the provision of abortion related procedures.

Six questions were included from an as yet unpublished 2013 survey being developed by researchers at the UCSF Bixby Center for Global Reproductive Health to assess nursing (RN level) demographics, knowledge base, provision of and opinions about contraception and abortion care (UCSF Bixby Center for Global Reproductive Health, 2013). Permission for use of this instrument was obtained from the corresponding author. The six questions included from this 2013 survey instrument were:

- Question 1 (Corresponds to question 3 in the modified instrument for this study):

1. In what kind of program did you receive your INITIAL, pre-licensure RN education that qualified you for U.S. RN licensure (Mark one box only).

- ☐ Diploma program
- ☐ Baccalaureate program
- ☐ Associate Degree program
- ☐ Entry-level Master's program
- ☐ Entry-level Doctoral program
- ☐ 30-unit option program (LPN to RN)
- ☐ Other, please specify _____

(UCSF Bixby Center for Global Reproductive Health, 2013)

- Question 9 (Corresponds to question 13 in the modified instrument for this study):

9. For your principal nursing position, with what patient population did you spend at least 50% of your patient care time?

- ☐ No patient care
- ☐ Adult
- ☐ Geriatric
- ☐ Pre-natal
- ☐ Newborn or neonatal
- ☐ Pediatric and/or Adolescent

☐ Multiple age groups (less than above)
50% time spent with any of the

(UCSF Bixby Center for Global Reproductive Health, 2013)

- Question 12 (Corresponds to question 27 in the modified instrument for this study):

12. The following is a list of reasons a woman may ask for an elective abortion. Please indicate the degree to which you agree that the stated reason is morally acceptable:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The pregnancy is the result of rape or incest	☐	☐	☐	☐	☐
Provider feels the pregnancy is a threat to her life	☐	☐	☐	☐	☐
She doesn't like the gender of the fetus	☐	☐	☐	☐	☐
She already has too many children	☐	☐	☐	☐	☐
Her career/education would be interrupted	☐	☐	☐	☐	☐

(UCSF Bixby Center for Global Reproductive Health, 2013)

- Question 13 (Corresponds to question 28 in the modified instrument for this study):

13. True or False (Mark only one).

Abortion is never morally justified and should still be illegal ☐ True ☐ False

Abortion should be permissible in the following circumstances:

Any gestational age	☐ True	☐ False
Unintended pregnancy	☐ True	☐ False
Fetal Anomaly	☐ True	☐ False
Health of the mother	☐ True	☐ False
Rape	☐ True	☐ False
Incest	☐ True	☐ False
Non-medical reasons	☐ True	☐ False
Sex-selection	☐ True	☐ False
As birth control	☐ True	☐ False
Contraceptive failure	☐ True	☐ False
Substance abuse	☐ True	☐ False

Selective reduction/IVF ☐ True ☐ False
(UCSF Bixby Center for Global Reproductive Health, 2013)

- Question 14 (Corresponds to question 29 in the modified instrument for this study):

14. True or False (Mark only one).
I can support a women's right to choose abortions in:
First trimester (up to 14wks) ☐ True ☐ False
Second trimester (14-24wks) ☐ True ☐ False
Third trimester (24wks to term) ☐ True ☐ False
I do not support abortion ☐ True ☐ False
Other, please specify: _____
(UCSF Bixby Center for Global Reproductive Health, 2013)

- Question 16 (Corresponds to question 15 in the modified instrument for this study):

16. Even if you haven't used a method yourself, please tell me if you have ever heard of each of the following methods for preventing pregnancy (Mark yes if you have heard of the method, no if you have not)(select all that apply):

- ☐ Not having sex at all Y/N
- ☐ Birth control pills or oral contraceptives (the pill) Y/N
- ☐ Male condoms (rubbers) Y/N
- ☐ Injectable birth control, like Depo Provera (the shot) Y/N
- ☐ The birth control patch, or Ortho Evra Y/N
- ☐ An IUD or intrauterine device, like Mirena Y/N
- ☐ A diaphragm, cervical cap or female condom Y/N
- ☐ A vaginal ring or Nuva Ring Y/N
- ☐ Contraceptive foam, jelly, or cream Y/N
- ☐ The sponge
- ☐ Birth control implants like, Implanon or Nexplanon Y/N
- ☐ Rhythm method or natural family planning Y/N
- ☐ Tubal or female sterilization Y/N
- ☐ Essure Y/N
- ☐ Vasectomy or male sterilization Y/N

☐ Emergency contraception or "morning after pill" Y/N
(UCSF Bixby Center for Global Reproductive Health, 2013)

This question was modified to reflect not personal contraceptive methods, but provision of contraception by provider. Since the target population for this study was APRNs, knowledge of basic contraception methods was assumed in the modified question.

In the modified survey instrument for this study, two additional questions were added by this researcher to gain further insight into the education and professional support of APRNs participating in the study; 1) question six, which asked in an open-ended question from which certifying board they have gained their professional certification, and 2) question eight, which asked if they are a member of any national or state professional organizations, and if yes, to list which ones. Lastly, question 12 of the modified survey asked which of the 14 Vermont counties their practice setting is located in, and was added by this researcher in order to elicit differences and patterns between the counties, and highlight region-specific needs for increased provider training and access to abortion related services.

The modified survey instrument developed for this study included 30 questions gathering information regarding patient population and age, provision of reproductive health care services including prevention and management of unintended pregnancy, knowledge of medication abortion, current abortion practice, and perceived facilitators and barriers to provision of these services (Appendix C). The questionnaire was intended to elicit attitudes towards abortion practice and policy. Additionally, respondents were asked to provide anonymous demographics, including age, gender, education, certification, certifying board, and Vermont county where practice is located. The

questionnaire was a mix of closed-ended multiple-choice questions, open-ended response questions, and rating scale questions.

Data Analysis

This was a preliminary study, and the data collected from the online questionnaires were synthesized using descriptive statistics generating summaries of the sample's demographic and practice characteristics, including age, gender, entry level of initial RN education, advanced practice education, current certifications held, certifying board, years in clinical practice, membership in professional organizations, principal practice setting and population density, and Vermont county practice setting is located in. Anticipated forms of bias included reporting bias and nonresponse bias (Polit, 2012). An expected limitation of this study was the lack of prior instrument retesting with modified questions, and with a different population of providers (APRNs only), and outside of California.

Chapter IV: Results

Between July 2014 and September 2014, 21 eligible participants responded to the online survey, via notifications sent out through the VNPA and VT-ACNM listserv, representing a 4% response rate. All participants had current APRN certification with prescriptive authority in the state of Vermont. Out of the 21 respondents, one participant did not complete the survey, resulting in a total of 20 complete survey responses.

Provider and Practice Characteristics

TABLE 1. *Results and percentage distribution of Vermont APRNs participating in this 2014 study: Provider and practice characteristics*

Characteristic	**Result**	**Percentage**
Gender	***N*=21**	
Female	21	100.00%
Male	0	
Age	***N*=21**	
Minimum	29	
Maximum	63	
Average	44.19	
Years in clinical practice	***N*=21**	
Minimum	1	
Maximum	28	
Average	9.33	
APRN certification	***N*=21**	
Nurse Anesthetist	0	0.00%
Nurse-Midwife	5	23.81%
Nurse Practitioner	17	80.95%
Public Health Nurse	0	0.00%
Clinical Nurse Specialist	0	0.00%
Psychiatric/Mental Health Nurse Practitioner	1	4.76%
Membership of national and/or state professional organization(s)	***N*=21**	
Yes	20	95.24%
No	1	4.76%

Type of program: initial, pre-licensure RN education	***N*=21**	
Diploma Program	1	4.76%
Baccalaureate Program	5	23.81%
Associate Degree Program	5	23.81%
Entry-level Master's Program	9	42.86%
Entry-level Doctoral Program	0	0.00%
30-Unit Option Program (LPN-RN)	1	4.76%
Type of program: advanced education for APRN licensure	***N*=21**	
Master's Program	14	66.67%
Doctoral Program	0	0.00%
Certificate Program	1	4.76%
Entry-level Master's Program	6	28.57%
Entry-level Doctoral Program	0	0.00%
Job title for current APRN position	***N*=21**	
Family Nurse Practitioner	10	47.62%
Adult Nurse Practitioner	2	9.52%
Women's Health Nurse Practitioner	2	9.52%
Acute Care Nurse Practitioner	0	0.00%
Gerontological Nurse Practitioner	2	9.52%
Neonatal Nurse Practitioner	0	0.00%
Psychiatric/Mental Health Nurse Practitioner	0	0.00%
Certified Nurse Midwife	5	23.81%
Clinical Nurse Specialist	0	0.00%
Other	2	9.52%
Principal APRN employment setting	***N*=21**	
Physician/APRN Practice	7	33.33%
Hospital-Based Outpatient	4	19.05%
Hospital-Based Inpatient	1	4.76%
Community Health Center	3	14.29%
Solo APRN Practice	0	0.00%
APRN Practice Group	0	0.00%
School or College Health Center	1	4.76%
Extended Care/Nursing Home	2	9.52%
Business or Work Site	0	0.00%
Home Health Agency	0	0.00%
Other	3	14.29%
Rural or urban clinical setting	***N*=21**	
Rural (<2,500 people)	9	42.86%

Urban (>2,500 people)	12	57.14%
Practice setting by Vermont county	***N*=21**	
Addison	1	4.76%
Caledonia	0	0.00%
Chittenden	9	42.86%
Essex	0	0.00%
Grand Isle	0	0.00%
Franklin	0	0.00%
Orleans	1	4.76%
Lamoille	2	9.52%
Orange	1	4.76%
Rutland	0	0.00%
Windsor	1	4.76%
Bennington	3	14.29%
Windham	2	9.52%
Washington	1	4.76%
APRN = Advanced Practice Registered Nurse, RN = Registered Nurse, LPN = Licensed Practical Nurse		

The mean age of respondents was 44 years old, and 100% of the respondents identified as female. The average amount of years in clinical practice was 9.33, the minimum was one year, and the maximum was 28 years. The sample included APRNs with the following certifications; 4.76% psychiatric/mental health nurse practitioner, 23.81% certified nurse-midwife, and 80.95% nurse practitioner. Respondents reported credentials from various national certifying boards and 95% of respondents reported membership in professional nursing organizations.

Respondents received their initial, pre-licensure RN education in the following distribution; 4.76% diploma program, 4.76% 30-unit option (LPN-RN), 23.81% baccalaureate program, 23.81% associate degree program, and 42.86% entry-level mater's program. The advanced nursing education that qualified respondents for APRN licensure included; 4.76% certificate program, 28.57% entry-level master's program, and

66.67% master's program. There may have been doctoral-level prepared respondents, however the wording of this question was specific to licensure as an APRN, and since doctoral-entry level programs are in their infancy, most NPs and CNMs received master's-level education for their initial APRN licensure.

The job title for the advanced practice nursing position currently held by participants was; 9.52% other (two respondents, one listed Pediatric Nurse Practitioner, and the other listed OB/GYN Nurse Practitioner), 9.52% Gerontological Nurse Practitioner, 9.52% Adult Nurse Practitioner, 9.52% Women's Health Nurse Practitioner, 23.81% Certified Nurse Midwife, and 47.62% Family Nurse Practitioner. APRN respondents described their principal employment settings as; 4.76% school or college health center, 4.76% hospital-based inpatient, 9.52% extended care/nursing home, 14.29% community health center, 14.29% other (three respondents listed alternate categories; including a non-profit organization, a federally qualified health center (FQHC), and a corporate clinic), 19.05% hospital-based outpatient, and 33.33% physician/APRN practice. These clinical settings were reported to be located in 42.86% rural areas (less than 2,500 people) and 57.14% urban areas (greater than 2,500 people). Respondents' practices were reported to be located in 4.76% Addison county, 42.86% Chittenden county, 4.76% Orleans county, 9.52% Lamoille county, 4.76% Orange county, 4.76% Windsor county, 14.29% Bennington county, 9.52% Windham county, and 4.76% Washington county. There were no respondents from the following Vermont counties; Caledonia, Essex, Grand Isle, Franklin, and Rutland.

Provision of Reproductive Health Care Services

TABLE 2. *Results and percentage distribution of Vermont APRNs participating in this 2014 study: Provision of reproductive health services*

Characteristic	**Result**	**Percentage**
% of clinical work providing care to women age 13-45 (reproductive age)	***N*=21**	
0%	2	9.52%
0-33%	1	4.76%
33-66%	9	42.86%
66-100%	9	42.86%
Pregnancy prevention methods provided in current practice	***N*=21**	
Oral Contraceptives	19	90.48%
Male Condoms	13	61.90%
Depo Provera (injectable)	18	85.71%
Ortho Evra (patch)	18	85.71%
IUD (intrauterine device, Mirena or Paragard)	15	71.43%
Diaphragm	12	57.14%
Cervical Cap	4	19.05%
NuvaRing	17	80.95%
Contraceptive Foam, Jelly	6	28.57%
Implanon or Nexplanon (implants)	10	47.62%
Natural Family Planning or Rhythm Method	14	66.67%
Tubal (female sterilization)	3	14.29%
Essure	1	4.76%
Vasectomy (male sterilization)	2	9.52%
Emergency Contraception	16	76.19%
Sees patients with unintended pregnancy	***N*=21**	
Yes	18	85.71%
No	3	14.29%
Includes abortion in counseling	***N*=21**	
Yes	18	85.71%
No	0	0.00%
N/A (I do not see women with unintended pregnancy)	2	9.52%
No Answer	1	4.76%

Ever referred patient for abortion	***N*=21**	
Yes	17	80.95%
No	4	19.05%
Distance referred patients had to travel for abortion services	***N*=21**	
Less than 50 miles	14	66.67%
50-100 miles	3	14.29%
Greater than 100 miles	1	4.76%
N/A (I have never referred patients for abortion)	2	9.52%
No Answer	1	4.76%
Ever heard of medication abortion	***N*=21**	
Yes	20	95.24%
No	1	4.76%
Familiarity with medication abortion	***N*=21**	
Not Very Familiar	2	9.52%
Somewhat Familiar	7	33.33%
Very Familiar	11	52.38%
N/A (I have never heard of Medication Abortion)	1	4.76%
Provide in current practice (YES):	***N*=21**	
Pregnancy Options Counseling (adoption, abortion, parenting)	18	85.71%
Abortion Options Counseling (medication, aspiration)	16	76.19.5
Medication Abortion	6	28.57%
Uterine Aspiration for Spontaneous Incomplete Abortion	5	23.81%
Uterine Aspiration for Resolution of Abortion Complications	5	23.81%
Received training or certification for (YES):	***N*=21**	
Pregnancy Options Counseling	11	52.38%
Values Clarification	3	14.29%
Basic Life Support	19	90.48%
Advanced Life Support	4	19.05%
IUD Insertion and Management	14	66.67%
Nexplanon Insertion and Management	10	47.62%

Provided and managed a medication abortion in the past six months	***N*=21**	
Never	16	76.19%
<10 Times	2	9.52%
≥10 Times	3	14.29%
Assisted a physician in providing a medication abortion in the past six months	***N*=21**	
Never	19	90.48%
<10 Times	1	4.76%
≥10 Times	1	4.76%
Treated abortion related complications in the past six months	***N*=21**	
Never	15	71.43%
<10 Times	4	19.05%
≥10 Times	2	9.52%
Managed a miscarriage in the past six months	***N*=21**	
Never	10	47.62%
<10 Times	8	38.10%
≥10 Times	3	14.29%
Would like to be trained to provide medication abortions to manage unintended pregnancy	***N*=20**	
Yes	13	65.00%
No	7	35.00%

TABLE 3. *Results and percentage distribution of Vermont APRNs participating in this 2014 study: Scope of practice*

I believe that abortions fall within the scope of practice of: (*N*=20)					
Provider type	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Nurse Practitioner	0%	0%	15%	20%	65%
Physician Assistant	0%	0%	15%	25%	60%
Nurse Midwife	0%	0%	5%	25%	70%
Primary Care Provider	0%	5%	10%	30%	55%
Physician	0%	0%	0%	30%	70%

Nearly all respondents (90%) reported care for women of reproductive age as at least one-third of their clinical work and 85% of respondents reported seeing women with unintended pregnancies as part of their practice. Eighty-six percent of respondents reported providing pregnancy options counseling in their practice, including adoption, abortion and parenting options, and 76% of respondents provided abortion options counseling for both medication and aspiration abortion options. Eighty-six percent of respondents who reported seeing women with unintended pregnancies in their practice reported including abortion in their counseling, and 81% of respondents reported referring patients for abortions. Respondents who referred patients for abortions estimated that their patients had to travel less than 50 miles (66.67%), 50-100 miles (14.29%), or greater than 100 miles (4.76%). Ninety-five percent of respondents reported knowledge of medication abortion, and 85% described themselves as somewhat or very familiar with medication abortion. Respondents reported receipt of the following trainings or certifications; pregnancy options counseling (52.38%), values clarification (14.29%), basic life support (90.48%), advanced life support (19.05%), IUD insertion and management (66.67%), and Nexplanon insertion and management (47.62%).

Fewer than 30% of respondents reported providing medication abortion in their current practice, 76% reported never having provided and managed a medication abortion in the past six months, 90% reported never having assisted a physician in providing a medication abortion. Fewer than 25% reported provision of uterine aspiration for spontaneous incomplete abortion or uterine aspiration for resolution of abortion complications. Respondents reported having treated abortion-related complications in the past six months; never (71.43%), less than 10 times (19.05%), or more than 10 times

(9.52%), however in the past six months 53.39% managed a miscarriage.

Respondents agreed or strongly agreed that medication abortions fall within the scope of practice of a nurse practitioner (85%), physician assistant (85%), nurse midwife (95%), and physician (100%). Eighty-five percent of respondents agreed or strongly agreed that medication abortions fall within the scope of practice of a primary care provider. Sixty-five percent of respondents reported that they would like to be trained to provide medication abortions to manage unintended pregnancy.

Perceived Supports and Barriers to Provision of Medication Abortion

TABLE 4. *Results and percentage distribution of Vermont APRNs participating in this 2014 study: Perceived supports and barriers to provision of medication abortion*

Reasons for not providing or assisting with medication abortions even though willing (*N*=20):		
Reason	**Result**	**Percentage**
No training opportunities	8	40.00%
No access to ultrasound	5	25.00%
The organization where I work does not permit it	2	10.00%
Unsure of the legal restrictions	3	15.00%
Performing abortions will increase my medical malpractice liability	1	5.00%
No physicians available for medication ordering or backup	2	10.00%
My colleagues would not be supportive	1	5.00%
My community would not be supportive	0	0.00%
My friends & family would not be supportive	0	0.00%
Fear of anti-abortion harassment	1	5.00%
Reasons of personal safety	1	5.00%
N/A (I never want to provide medication abortions)	3	15.00%
Other	8	40.00%
Reasons for never wanting to provide medication abortions (*N*=20):		
Reason	**Result**	**Percentage**
I am morally/ethically opposed	1	5.00%
There is no need for more abortion providers	1	5.00%
Too may legal restrictions	2	10.00%
Anti-abortion harassment	1	5.00%
I worry about the need for surgical backup	4	20.00%
Performing abortions will increase my medical malpractice liability	2	10.00%

My community would not be supportive	0	0.00%
My friends & family would not be supportive	0	0.00%
My colleagues would not be supportive	0	0.00%
Reasons of personal safety	0	0.00%
N/A (I want to provide or assist with medication abortions)	12	60.00%
Other	4	20.00%

The reasons for not providing or assisting with medication abortions, even though willing, were reported as; no training opportunities (40%), no access to ultrasound (25%), not permitted at organization (10%), unsure of legal restrictions (15%), performing abortions will increase medical malpractice liability (5%), no physicians available for medication ordering or back up (10%), colleagues would not be supportive (5%), and fear of anti-abortion harassment (5%). No respondents reported lack of support from community, friends, or family as reasons for not providing or assisting with medication abortions, even though willing. There were several write-in comments provided in compliment to the selected reasons. One respondent wrote that they do not provide or assist with medication abortions, even though willing because "Planned Parenthood of New England provides these services." Another responder wrote that medication abortion was "simply not part of [their] training."

The reasons for never wanting to provide medication abortions were reported as; morally/ethically opposed (5%), there is no need for more abortion providers (5%), too many legal restrictions (10%), anti-abortion harassment (5%), worry about the need for surgical backup (20%), performing abortions will increase my medical malpractice liability (10%). No respondents reported lack of support from community, friends or family, or colleagues, or reasons of personal safety, as reasons for never wanting to provide medication abortions. Similar to the previous question, there were several write-

in comments provided in compliment to the selected reasons for never wanting to provide medication abortions. One respondent stated that they are "not qualified," another that "after years of doing 1st tri U/S, I am just not interested in terminating pregnancies, I am not opposed to others providing abortion services, it is just not something that I have ever been interested in doing myself."

Personal beliefs regarding abortion care

Included in this survey were several questions designed to assess respondents' attitudes towards abortion. Respondents indicated the degree to which they agree that the stated reason for an elective abortion is acceptable:

TABLE 5. *Percentage distribution of Vermont APRNs participating in this 2014 study: Degree to which they agree that the stated reason for an elective abortion is acceptable*

Stated reason for an elective abortion (*N*=20)	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
The pregnancy is the result of rape or incest	0%	0%	10%	5%	85%
Provider feels the pregnancy is a threat to her life	0%	0%	0%	10%	90%
She doesn't like the gender of the fetus	55%	40%	0%	0%	5%
She already has too many children	5%	0%	15%	20%	60%
Her career/education would be interrupted	10%	5%	10%	20%	55%

The following table displays respondents' opinions regarding abortion in certain circumstances, and at certain gestational age:

TABLE 6. *Percentage distribution of Vermont APRNs participating in this 2014 study: Opinions regarding circumstances and gestational age for abortion*

Abortion should be permissible in the following circumstances: (N=20)		
	True	**False**
Any gestational age	25%	75%
Unintended pregnancy	95%	5%
Fetal Anomaly	95%	5%

Health of the mother	100%	0%
Rape	95%	5%
Incest	95%	5%
Non-medical reasons	90%	10%
Sex-selection	10%	90%
As birth control	30%	70%
Contraceptive failure	90%	10%
Substance abuse	95%	5%
Selective reduction/IVF	80%	20%
I can support a woman's right to choose abortions in:		
First trimester (up to 14wks)	95%	
Second trimester (14-24wks)	60%	
Third trimester (24wks to term)	20%	
I do not support abortion	5%	

When asked the true or false question, "Abortion is never morally justified and should still be illegal," 100% of participants responded that this is false. Eighty percent of respondents believed that abortion should be legal in all circumstances, while the remaining 20% believed that abortion should be legal only under certain circumstances. No respondents reported the belief that abortion should be illegal in all circumstances. Most of the sample identified themselves as pro-choice (85%) and 95% percent of respondents stated they would support their colleagues in providing abortions.

To determine if there was a difference in responses to the survey from the CNM respondents as compared to the NP respondents, a Fisher's Exact Test was used to analyze the responses between these two groups. Using the Fisher's Exact Test, it was found that responses throughout the survey were proportionally the same between the two groups. The only statistically significant difference in responses from CNM respondents versus NP respondents was in the second question seen in Table 6: "I can support a woman's right to choose abortions in…" used to measure respondents' opinion on abortion at various gestational ages. In the CNM group, 100% of respondents agreed that

they could support a woman's right to choose an abortion in the second trimester (14-24 weeks), while less than 50% of the NP group reported support of a woman's choice for second trimester abortion.

Chapter V: Discussion

Almost all of the respondents in this study (90%) reported provision of care for women of reproductive age as at least one-third of their clinical practice, with 85% of respondents seeing women with unintended pregnancies in their practice. These findings clarify the common nature of unintended pregnancy in Vermont, as it is throughout the United States and the world, and the importance of having APRNs readily able to provide services related to the prevention and management of unintended pregnancy as part of comprehensive primary health care for their patients.

Sixty-five percent of the sample of Vermont APRNs expressed interest to be trained to provide medication abortion to manage unintended pregnancy. Even with a small sample, this finding signifies the need to enhance education and training of APRNs to provide comprehensive reproductive health care to their patients. This is a larger percentage of providers interested in training as compared to the findings of the 2005 California study that this research is modeled on, which found that 25% of their sample of California APRNs and PAs expressed a desire to receive medication abortion training, however that study had a much larger sample, (*N*=1,158) (Hwang et al., 2005). An even higher percentage of respondents agreed or strongly agreed that medication abortion falls within the scope of NPs (85%) and nurse midwives (95%). These two findings suggest that abortion care, specifically medication abortion, should be included in APRN education and training, and that there is a desire of currently practicing APRNs to be appropriately trained in providing these services. With 79% of counties in Vermont having no abortion clinic and 51% of Vermont women living in these counties, there is significant room for improvement in access to abortion care in the state of Vermont

(Guttmacher Institute, 2014a).

Several studies have examined the provision of abortion services and abortion related attitudes of APRNs, PAs, and allopathic medical physicians, as well as students in these disciplines. Most of these studies had a mixed profession sample and were conducted in the Western United States. This study has provided information specific to the provision of medication abortion in Vermont, and with a group solely made up of APRNs. The small sample size (N=20) of this study limits the generalizability of the results, but can serve as a pilot study with which to model further research. The response rate was not unreasonable given the limited recruitment time, and the lack of incentive offered for participation. The low response rate may also have been due to a response bias; individuals with strong opinions regarding reproductive health care and abortion may have been more likely than others to participate, and individuals who are strongly opposed to abortion care may have been more likely to not participate after reading the survey introduction (Hwang et al., 2005). Another form of response bias may have been due to limited participation of APRNs who assumed their current practice precluded them from participation, such as those practicing with populations not of reproductive age, male patients, or at specialized clinics such as those run by the United States Department of Veteran's Affairs (VA).

One-hundred percent of the participants in this survey agreed that the statement, "Abortion is never morally justified and should still be illegal," is false, 80% of respondents believed that abortion should be legal in all circumstances, and 85% of the sample self-identified as pro-choice. These findings show a much more supportive view of abortion as compared to provider opinions found in other surveys. For example in the

2005 California study conducted by Hwang et. al., 75% percent of respondents considered themselves pro-choice and 52% thought abortion should be legal under all circumstances (Hwang et al., 2005). Another significant finding was that 95% of respondents stated they would support their colleagues in providing abortions, suggesting a positive environment for abortion providers that is perhaps unique to the state of Vermont. This finding extends the responses participants selected for not providing or assisting with medication abortions, even though willing, with only 5% reporting that colleagues would not be supportive, only 5% reporting fear of anti-abortion harassment, and no respondents reporting lack of support from community, friends, or family. This is a large departure from the climate of fear that is prevalent among current or potential abortion providers in many other states, and generally increasing with the introduction of new policy limiting the provision and access to abortion care. These findings must partly be attributed to the response bias discussed previously, however represent a unique climate of opinion in which increased education and training in abortion care and improved access for women in the state of Vermont should be an attainable goal.

Implications for APRN Education and Training

As previously discussed, this survey found that 90% of the sample of Vermont APRNs care for women of reproductive age as at least one-third of their clinical practice, with 85% of respondents seeing women with unintended pregnancies in their practice. Sixty-five percent of respondents expressed interest to be trained to provide medication abortions to manage unintended pregnancy. These findings support the need for the inclusion of prevention and management of unintended pregnancy, including medication abortion and abortion care, into the standard education and training for APRNs. There

was no significant difference between the CNM and NP respondents in their education and training, provision of services, or personal beliefs regarding unintended pregnancy and abortion related care, reflecting a need for all APRNs to have education to competence in these subject areas. Unintended pregnancy is a common occurrence, and its prevention and management should be included in the comprehensive primary health care of all women of reproductive age. Future research could determine the level of inclusion of these topics in current APRN curricula, and work to develop training modules for both current APRN students and for practicing APRNs desiring to include medication abortion in their practice as continuing education.

Only 12.29% of respondents in this study reported having training or certification in values clarification. This finding suggests a definitive need to include values clarification into the curricula of APRN education programs, as well as trainings for APRNs currently in practice. As is evidenced by some of the responses in this and other surveys regarding abortion care, many providers are unaware that some of the reasons they would or would not provide abortion care do not match their stated practice or other responses throughout the survey. Values clarification is intended to help to connect providers' value system and personal ethics with the care they are providing, and often help to reframe stated opinions and practice in the context of best patient care and positive health outcomes. Values clarification can be incorporated as a simple workshop in the classroom setting, or as part of a provider training, and is highly valuable for both providers and patients in helping to navigate all complex ethical decisions regarding health care.

Conclusions

Women have the legal right to abortion, as accorded by the passage of the *Roe v. Wade* opinion of the Supreme Court in 1973, however this legal right has little meaning unless safe abortion care is accessible. APRNs have been providing comprehensive primary health care for decades, with a historical focus on the provision of care to women, and commitment to providing health care access to vulnerable and underserved populations (Hwang et al., 2005). APRNs are experienced and highly trained health care professionals that clearly have the competence and skills to provide comprehensive primary reproductive health care and prevention services to their practice population, if only they have the correct education and training to provide these services. Abortion is both legal, without the policy restrictions posed in other states, and widely supported in the state of Vermont. Vermont has some of the most progressive APRN legislation in the United States, with APRNs gaining full scope of practice without physician collaboration in 2011 and none of the prescription or referral limitations that are present in other parts of the United States. This climate, combined with the findings of this preliminary study, suggest that the state of Vermont is ready, willing, and able to serve as a model for the primary provision of and improved population access to, comprehensive reproductive health care including abortion services.

Limitations of the study

This study has several limitations. Due to its preliminary nature, the survey instrument was complied from validated sources, however the modified instrument was not validated. As previously discussed, the sample size was small (N=20), and this low response rate (4%) may have been due to a response bias. The lack of validated

instrument, small sample size, and possible response bias limit the generalizability of these results, however, this study can serve as a preliminary model for further research.

Recommendations for further research

Future research could determine the level of inclusion of reproductive health topics, including prevention and management of unintended pregnancy and abortion related care, in current APRN curricula. Researchers could develop and monitor the benefit of training modules for both current APRN students and for practicing APRNs desiring to include medication abortion in their practice as continuing education. Breaking down education barriers, whether it is complete lack of topic inclusion in curricula, or a lack of clinical-based training opportunities, will be key to improving access to abortion related care in the state of Vermont. Although not all APRNs who receive education and training will go on to provide medication abortions, this is the first step to increasing care access (Hwang et al., 2005). The inclusion of prevention and management of unintended pregnancy, including abortion services, into standard APRN education will also serve to reduce the stigma of the provision of abortion care, by reframing unintended pregnancy and its management as the commonplace, primary health care issue that as national statistics support, it very much is.

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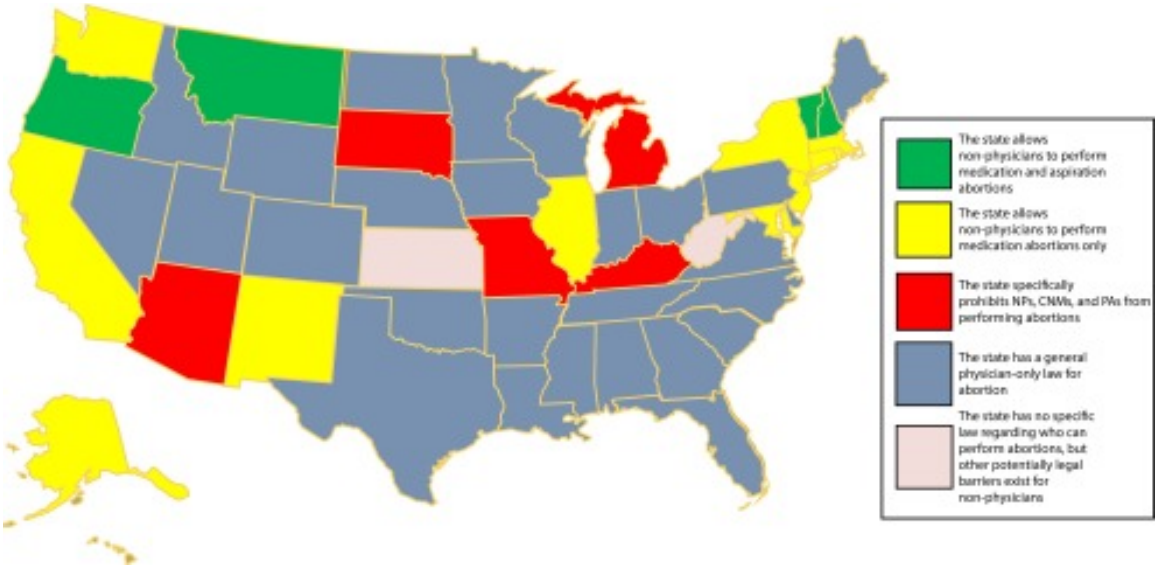
Appendix A:

Currently in the United States, varied state regulations determine who can provide abortions, with several states specifically prohibiting non-physician clinicians from performing the procedure (Weitz et al., 2013).



(Weitz et al., 2013)

Appendix B:

Original Survey Instrument, used with author permission. From *Advanced Practice Clinicians' Interest in Providing Medical Abortion: Results of a California Survey* (Hwang et al., 2005)

Introduction

This questionnaire was developed to identify beliefs and attitudes of advanced practice clinicians (APCs) concerning abortion. This study is sponsored by the University of California, Berkeley School of Public Health and conducted by Atsuko Koyama in collaboration with Suellen Miller, CNM, PhD. By filling out this questionnaire and returning it, you are consenting to have your answers used as a part of this study.

Your participation is voluntary.

Section A. Background Information

1. Occupation: ☐ Nurse Practitioner ☐ Physician Assistant ☐ Nurse Midwife

2. Specialty: ☐ Adult ☐ Family ☐ Geriatric ☐ Pediatric ☐ Family planning ☐ Ob-Gyn/Women's Health ☐ Other _____

3. Sex: ☐ Male ☐ Female

4. Age: _____

5. Location of practice: ☐ rural (less than 2,500 people) ☐ urban (greater than 2,500 people)

6. Please indicate the degree(s) you possess: ☐ Nursing diploma ☐ Associate's degree ☐ Bachelor's degree ☐ Master's degree ☐ Doctorate

Section B. Your Clinical Experience

7. How many years have you been working in clinical practice? _____

8. What percentage of your clinical work is spent providing care to women age 13-45?

☐ 0% ***Please skip to Section C*** ☐ 0-33% ☐ 33-66% ☐ 66-100%

9. Do you see women with unintended pregnancies as part of your practice?

☐ Yes ☐ No

a. If *YES*, do you include abortion in your counseling? ☐ Yes ☐ No

10. Have you ever referred patients for abortions? ☐ Yes ☐ No

a. If *YES*, approximately how far did patients have to travel for those services?

☐ less than 50 miles ☐ 50-100 miles ☐ greater than 100 miles

For the next several questions we use the following terminology:	
Medical Abortion:	**an abortion performed using a pharmaceutical agent such as mifepristone (RU486), methotrexate or misoprostol.**
Surgical Abortion:	**an abortion performed using** dilation & curettage (D&C), electric aspiration, or **manual vacuum aspiration (MVA).**

11. Have you ever heard of medical abortion? ☐ Yes ☐ No

a. If *YES*, how familiar are you with medical abortion?

☐ Not very familiar ☐ Somewhat familiar ☐ Very familiar

12. In the past 6 months, how many times have you:

	Never	**< 10 times**	**≥ 10 times**
a. assisted a physician in providing **a medical abortion?**	☐	☐	☐
b. treated abortion-related complications?	☐	☐	☐

Section C. Personal Beliefs and Attitudes

Please indicate the degree to which you agree with the following statements.
Choices: strongly disagree, disagree, neutral, agree, strongly agree

13. I believe that medical abortions fall within the scope of practice of a:

a. nurse practitioner	☐	☐	☐	☐	☐
b. physician assistant	☐	☐	☐	☐	☐
c. nurse midwife	☐	☐	☐	☐	☐

14. I would like to be trained to provide medical abortions.

☐ ☐ ☐ ☐ ☐

15. I believe that first trimester surgical abortions fall within the scope of practice of a:

a. nurse practitioner	☐	☐	☐	☐	☐
b. physician assistant	☐	☐	☐	☐	☐
c. nurse midwife	☐	☐	☐	☐	☐

16. I would support a change in the law allowing the following clinicians to perform first trimester surgical abortions.

a. nurse practitioner	☐	☐	☐	☐	☐
b. physician assistant	☐	☐	☐	☐	☐
c. nurse midwife	☐	☐	☐	☐	☐

17. I would like to be trained in first trimester surgical abortions, if California law permitted.

☐ ☐ ☐ ☐ ☐

a. If you *DISAGREE*, please state why: _____

If you ALREADY provide or assist with medical abortion, please SKIP to Section F.

If you WOULD CONSIDER providing medical abortion, please answer Section D.

If you would NEVER provide medical abortion, please SKIP to Section E.

Section D. Reasons for NOT Providing or Assisting with Medical Abortions EVEN THOUGH You Are Willing:

18. Which of the following reasons play a role in your decision? *Mark all that apply.*

- ☐ **No training opportunities** ☐ **Unsure of the legal restrictions**
- ☐ **The facility where I work does not permit it**
- ☐ **No physicians available for back up**
- ☐ **My colleagues would not be supportive**
- ☐ **My community would not be supportive**
- ☐ **My friends & family would not be supportive**
- ☐ Fear of **anti-abortion harassment**
- ☐ Performing abortions will increase my medical malpractice liability

Other _____

Of the above, please *CIRCLE* the MOST important reason. When finished, *PLEASE SKIP TO SECTION F.*

Section E. Reasons for NEVER Wanting to Provide Medical Abortions

19. Which of the following are reasons for NOT wanting to provide abortions? *Mark all that apply.*

- ☐ I am morally/ethically opposed ☐ There is no need for abortion providers
- ☐ Anti-abortion harassment ☐ Too many legal restrictions
- ☐ I worry about the need for surgical backup
- ☐ My community would not be supportive
- ☐ My friends & family would not be supportive

☐ My colleagues would not be supportive

☐ Performing abortions will increase my medical malpractice liability

Other

_____

Of the above, please *CIRCLE* the MOST important reason.

Section F. Gallup Poll Questions

The Gallup Poll uses questions 20 and 21 to learn about Americans' views on abortion.

Please mark one answer for each of the following questions.

20. I think abortions should be:

☐ legal under any circumstances

☐ legal only under certain circumstances

☐ illegal in all circumstances

21. I consider myself:

☐ Pro-choice ☐ Pro-life ☐ Neither

22. I would support my colleagues in providing abortions.

☐ Yes ☐ No

You are now finished with the survey. Thank you for your participation.

If you have any additional comments, please use the space below.

Please return this questionnaire by January 31st in the envelope provided. Thank you.

Appendix C:

Modified Survey Instrument:

Provision of Reproductive Health Services by Nurse Practitioners:
Unintended Pregnancy Prevention and Management in Vermont

Introduction

Hello, my name is Erica Lyons, and I am currently a nurse practitioner (NP) student in the MS program at the University of Vermont (FNP track). I am in my final year of the program and anticipate graduating in January 2015. I am currently working on my Master's Thesis, and would greatly appreciate your help in completing a brief survey regarding NP provision of reproductive health care and prevention and management of unintended pregnancy in Vermont.

Purpose of study:
In the U.S., currently about half (49%) of the 6.7 million pregnancies are reported as mistimed or unplanned, and this rate of unintended pregnancy is significantly higher than the rate in most other developed countries (Guttmacher Institute, 2013). Abortion services are critical to the prevention management and prevention of unintended pregnancies. Abortion in the United States (U.S.) has been legal since the 1973 *Roe v. Wade* opinion of the Supreme Court, however this right has little meaning without access to safe abortion care and access is declining. Medication abortion, the use of medications to induce abortion and terminate an early pregnancy, has been legal in the U.S. since 2000, is ideal for the outpatient setting, and allows for increased provision of and access to abortion services.

This study will collect data to determine what reproductive health services for the prevention and management of unintended pregnancy NPs are providing, the characteristics of these providers, supports to practice and perceived barriers. **The goal of this study is to determine gaps in access to reproductive health services, the need for provider training, and inclusion of unintended pregnancy prevention and management into the curriculum of advanced practice nursing programs.**

Please take a few minutes to complete this confidential survey. Your participation is entirely voluntary, and there is no penalty should you choose not to participate.

If you have any questions or concerns, you may contact me directly via email at ealyons@uvm.edu. You may also contact Nancy Stalnaker at the University of Vermont Research Protections Office, should you have any concerns you do not want to address with me (UVM Research Protections Office phone: 802-656-5040).

Please review the eligibility criteria on this page prior to completing the survey.
I greatly appreciate your time and participation!

Eligibility Criteria

To complete this survey, you must be 21+ years old **AND** be currently licensed as a Nurse Practitioner (any NP certification is eligible) in the state of Vermont. Do you meet both of these criteria?

- ☐ YES and I am WILLING to participate (**please turn the page and begin survey**)
- ☐ YES but I am NOT WILLING to participate
- ☐ NO (please stop, you are not eligible to participate)

Throughout this survey we use the following terminology:

Medication Abortion:	**an abortion performed using a pharmaceutical agent such as mifepristone (RU486), methotrexate or misoprostol.**
Aspiration Abortion:	**an abortion performed using** dilation & curettage (D&C), electric aspiration, or **manual vacuum aspiration (MVA).**

Section A. Background Information

1. Sex: ☐ Male ☐ Female ☐ Other _____ ☐ Decline to Answer

2. Age: _____

3. In what kind of program did you receive your **INITIAL**, pre-licensure RN education that qualified you for U.S. RN licensure (**Mark one box only**).

- ☐ Diploma program
- ☐ Baccalaureate program
- ☐ Associate Degree program
- ☐ Entry-level Master's program
- ☐ Entry-level Doctoral program
- ☐ 30-unit option program (LPN to RN)
- ☐ Other, please specify _____

4. In what kind of program did you receive your **ADVANCED NURSING** education that qualified you for U.S. APRN licensure (**Mark one box only**).

- ☐ Master's program
- ☐ Doctoral program
- ☐ Certificate program
- ☐ Entry-level Master's program
- ☐ Entry-level Doctoral program
- ☐ Other, please specify _____

5. Which of the following certifications or listings, if any, do you have? (**Mark all that apply**).

- ☐ Nurse Anesthetist
- ☐ Nurse-Midwife
- ☐ Nurse Practitioner
- ☐ Public Health Nurse
- ☐ Clinical Nurse Specialist
- ☐ Psychiatric/Mental Health Nurse
- ☐ None of the Above

6. Certifying board: _____

7. How many years have you been working in clinical practice? _____

8. Are you a member of any national and/or state professional organizations?

a. Yes (Please list:
_____)

b. No (Why not?:
_____)

9. Which one of the following best corresponds to the job title for the advanced practice nursing position you currently hold?

- ☐ Family Nurse Practitioner
- ☐ Adult Nurse Practitioner
- ☐ Women's Health Nurse Practitioner
- ☐ Acute Care Nurse Practitioner
- ☐ Gerontological Nurse Practitioner
- ☐ Neonatal Nurse Practitioner
- ☐ Certified Registered Nurse Anesthetists
- ☐ Certified Nurse Midwife
- ☐ Clinical Nurse Specialist
- ☐ Other, please specify _____

10. Which one of the following best describes the employment setting of the principal nursing position you hold? **Mark one box only**.

- ☐ Physician/APRN Practice
- ☐ Hospital-Based – Outpatient
- ☐ Hospital-Based – Inpatient
- ☐ Community Health Center
- ☐ Solo APRN Practice
- ☐ APRN Practice Group
- ☐ School or College Health Center
- ☐ Extended Care/Nursing Home
- ☐ Business or Work Site
- ☐ Home Health Agency
- ☐ Other, please specify _____

11. Which of the following best describes the location of your practice setting:

☐ rural (less than 2,500 people) ☐ urban (greater than 2,500 people)

12. Please select the county that your practice setting is located in:

- ☐ Addison
- ☐ Caledonia
- ☐ Chittenden
- ☐ Essex
- ☐ Grand Isle
- ☐ Franklin
- ☐ Orleans
- ☐ Lamoille
- ☐ Orange
- ☐ Rutland
- ☐ Windsor
- ☐ Bennington
- ☐ Windham
- ☐ Washington

Section B. Your Clinical Experience

PRIMARY AND SECONDARY PREVENTION

13. For your principal nursing position, with what patient population did you spend at least 50% of your patient care time?

- ☐ No patient care
- ☐ Adult
- ☐ Geriatric
- ☐ Pre-natal
- ☐ Newborn or neonatal
- ☐ Pediatric and/or Adolescent?
- ☐ Multiple age groups (less than 50% time spent with any of the above)

14. What percentage of your clinical work is spent providing care to women age 13-45?

☐ 0% ☐ 0-33% ☐ 33-66% ☐ 66-100%

15. In your practice, what pregnancy prevention methods do you provide (select all that apply):

- ☐ Oral contraceptives
- ☐ Male condoms
- ☐ Depo Provera (injectable)
- ☐ Ortho Evra (patch)
- ☐ IUD (intrauterine device, Mirena, Paragard)
- ☐ Diaphragm
- ☐ Cervical cap
- ☐ Nuva Ring
- ☐ Contraceptive foam, jelly, or cream
- ☐ Implanon or Nexplanon (implants)
- ☐ Natural family planning or rhythm method
- ☐ Tubal (female sterilization)
- ☐ Essure
- ☐ Vasectomy (male sterilization)
- ☐ Emergency contraception ("morning after pill")

16. Do you see women with unintended pregnancies as part of your practice?

☐ Yes ☐ No

a. If ***YES***, do you include abortion in your counseling? ☐ Yes ☐ No

17. Have you ever referred patients for abortions? ☐ Yes ☐ No

a. If ***YES***, approximately how far did patients have to travel for those services?

☐ less than 50 miles ☐ 50-100 miles ☐ greater than 100 miles

TERTIARY PREVENTION

18. Have you ever heard of medication abortion? ☐ Yes ☐ No

a. If ***YES***, how familiar are you with medication abortion?

☐ Not very familiar ☐ Somewhat familiar ☐ Very familiar

19. In your current practice, do you provide the following?

a Pregnancy Options counseling (adoption, abortion, parenting)	☐ Yes	☐ No
b Abortion Options counseling (medication, aspiration)	☐ Yes	☐ No
c Medication Abortion	☐ Yes	☐ No
d Uterine Aspiration for spontaneous incomplete abortion	☐ Yes	☐ No
e Uterine Aspiration for resolution of abortion complications	☐ Yes	☐ No

20. Please indicate whether you have received the following training/certification (mark all that apply):

☐ Pregnancy Options Counseling
☐ Values Clarification
☐ Basic Life Support certification
☐ Advanced Life Support certification
☐ IUD insertion and management
☐ Nexplanon insertion and management

21. What is your experience with the following procedures? *(IF you have performed one of the procedures below*, circle the number of procedures you estimate having performed)

	Number of Procedures Performed			
a Paracervical Block	1-10	11-30	31-50	>50
b Colposcopy	1-10	11-30	31-50	>50
c Endometrial Biopsy	1-10	11-30	31-50	>50
d Early Pregnancy Ultrasound	1-10	11-30	31-50	>50
e IUD Insertion	1-10	11-30	31-50	>50
f Medication Abortion	1-10	11-30	31-50	>50
g Contraceptive Implants (Nexplanon)	1-10	11-30	31-50	>50
h Uterine Aspiration (MVA/EVA)	1-10	11-30	31-50	>50
I Medication or Aspiration Miscarriage management	1-10	11-30	31-50	>50
J Vasectomy	1-10	11-30	31-50	>50
k Other: _____	1-10	11-30	31-50	>50

22. In the past 6 months, how many times have you:

	Never	**< 10 times**	**≥ 10 times**
a. provided and managed a **medication abortion?**	☐	☐	☐
b. assisted a physician in providing **a medication abortion?**	☐	☐	☐
c. treated abortion-related complications?	☐	☐	☐
d. managed a miscarriage?	☐	☐	☐

Section C. Personal Beliefs and Attitudes

Please indicate the degree to which you agree with the following statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
23. I believe that medication abortions fall within the scope of practice of a:					
a. nurse practitioner	☐	☐	☐	☐	☐
b. physician assistant	☐	☐	☐	☐	☐
c. nurse midwife	☐	☐	☐	☐	☐
c. primary care provider	☐	☐	☐	☐	☐
c. physician	☐	☐	☐	☐	☐

24. I would like to be trained to provide medication abortions to manage unintended pregnancy.
☐ Yes ☐ No

25. Reasons for NOT Providing or Assisting with Medication Abortions EVEN THOUGH You Are Willing
Which of the following reasons play a role in your decision? *Mark all that apply*

☐ No training opportunities
☐ Unsure of the legal restrictions
☐ No access to Ultrasound
☐ The organization where I work does not permit it medication ordering or back up
☐ No physicians available for ordering or back up
☐ My colleagues would not be supportive
☐ My community would not be supportive
☐ My friends & family would not be supportive
☐ Fear of anti-abortion harassment
☐ Performing abortions will increase my medical malpractice liability
☐ Reasons of personal safety
☐ Other _____

Of the above, please select the MOST important reason.

26. Reasons for NEVER Wanting to Provide Medication Abortions:
Which of the following are reasons for NOT wanting to provide abortions? *Mark all that apply*.

☐ I am morally/ethically opposed ☐ There is no need for more abortion providers
☐ Anti-abortion harassment ☐ Too many legal restrictions
☐ I worry about the need for surgical backup ☐ My community would not be supportive
☐ My friends & family would not be supportive ☐ My colleagues would not be supportive
☐ Performing abortions will increase my medical malpractice liability

☐ Reasons of personal safety

☐ Other _____

Of the above, please select the MOST important reason.

27. The following is a list of reasons a woman may ask for an elective abortion.
Please indicate the degree to which you agree that the stated reason is morally acceptable

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The pregnancy is the result of rape or incest	☐	☐	☐	☐	☐
Provider feels the pregnancy is a threat to her life	☐	☐	☐	☐	☐
She doesn't like the gender of the fetus	☐	☐	☐	☐	☐
She already has too many children	☐	☐	☐	☐	☐
Her career/education would be interrupted	☐	☐	☐	☐	☐

28. True or False (**Mark only one**).

Abortion is never morally justified and should still be illegal ☐ True ☐ False

Abortion should be permissible in the following circumstances:

Any gestational age	☐ True	☐ False
Unintended pregnancy	☐ True	☐ False
Fetal Anomaly	☐ True	☐ False
Health of the mother	☐ True	☐ False
Rape	☐ True	☐ False
Incest	☐ True	☐ False
Non-medical reasons	☐ True	☐ False
Sex-selection	☐ True	☐ False
As birth control	☐ True	☐ False
Contraceptive failure	☐ True	☐ False
Substance abuse	☐ True	☐ False
Selective reduction/IVF	☐ True	☐ False

29. True or False (**Mark only one**).

I can support a women's right to choose abortions in:

First trimester (up to 14wks)	☐ True	☐ False
Second trimester (14-24wks)	☐ True	☐ False
Third trimester (24wks to term)	☐ True	☐ False
I do not support abortion	☐ True	☐ False

Other, please specify: _____

The Gallup Poll uses questions 30 and 31 to learn about Americans' views on abortion.
Please mark one answer for each of the following questions.

30. I think abortions should be:

- ☐ legal under any circumstances
- ☐ legal only under certain circumstances
- ☐ illegal in all circumstances

31. I consider myself:

☐ Pro-choice ☐ Pro-life ☐ Neither

32. I would support my colleagues in providing abortions.

☐ Yes ☐ No

You are now finished with the survey. Thank you for your participation.

If you have any additional comments, please use the space below.

Please submit this questionnaire by August 30st 2014. Thank you!

Survey References:

APC Survey 2004
(Hwang et al., 2005)

Clinician Baseline Survey
(ANSIRH, 2011)

National Nursing Survey 2013 (UCSF, current research, unpublished)
(UCSF Bixby Center for Global Reproductive Health, 2013)