Sexual Health Education in New Mexico Public Secondary Schools

Elizabeth Dickson

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University of New Mexico, College of Nursing
Department

This dissertation is approved, and it is acceptable in quality and form for publication:

Approved by the Dissertation Committee:

Mark B. Parshall, Chairperson

Kim J. Cox

Dorinda L. Welle

Claire D. Brindis
SEXUAL HEALTH EDUCATION IN NEW MEXICO PUBLIC SECONDARY SCHOOLS

By

ELIZABETH DICKSON

B.S., Business, California State University, Sacramento, CA, 1991
M.S., Nursing, Samuel Merritt College, Oakland, CA, 2000

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DEDICATION

When I began this doctoral degree journey four and a half years ago, I was told that no one travels this road alone. This has been true for me. I am so very lucky that the many individuals who have supported me throughout this program are too many to count, and the unconditional love and support from my husband Jeff Dickson and my sons Thomas Dickson and Jonah Dickson have kept me grounded and focused. I know reaching this milestone would not have been possible without them. I am also grateful for the many family members upon whose shoulders I stand: some whom I have known and loved, others whom I met through the stories I was told. Their love and words of wisdom have been guiding lights to me throughout this experience.

However, the true inspiration for this work was the youth of New Mexico, in particular the young women that I have met while working as a public health nurse. Their stories inspire me, their spirit and resilience challenges me, and their unfailing belief in the possibilities that life offers gives me hope. It is to them that I dedicate this work.
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able to participate in the study and share their experiences and perspectives, I acknowledge
and thank all school staff who are committed to providing the best education possible to the
youth of New Mexico. Your work is inspiring and I am humbled by your dedication.
ABSTRACT

Previous research has shown that comprehensive sexual health education (SHE) can significantly reduce risky sexual behavior and can increase protective behavior in adolescents. While an important component for all adolescents, this is particularly important for adolescents at high risk for adverse health outcomes, such as unplanned adolescent pregnancy and sexually transmitted infections. The aims of this descriptive study were to explore the content and delivery of SHE in New Mexico and to describe influences on decisions pertaining to implementation of state SHE policy. The social ecological model (SEM) was used as a theoretical framework to better understand levels of influence on implementation of SHE policy. Telephone surveys were conducted with 122 school teachers, school nurses, and administrators in public, secondary (middle and high) schools in New Mexico. SHE curriculum was delivered with great local variability in scope and content and
with significant barriers such as insufficient resources and time and competition with other educational mandates. Participants also reported little or no evaluation of how effectively policy was implemented or whether educational objectives were met. From the perspective of participants, the SEM community and organizational levels had the greatest influence on implementation of SHE policy. These data can provide an important perspective of the challenges faced by individuals responsible for SHE policy in secondary schools and classrooms.
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Chapter 1—Introduction

The rate of adolescent pregnancy in New Mexico is currently higher than in any other state. Comprehensive sexual health education (SHE) that is medically accurate and evidence-based is a primary prevention approach that has been shown to reduce risk behaviors associated with unplanned adolescent pregnancy (Kirby, 2007; Kirby & Laris, 2009). New Mexico has state policies that are potentially consistent with comprehensive SHE in public schools, the policies are broad and relatively nonprescriptive. Information is limited regarding the actual content and delivery of SHE in New Mexico and the factors that influence implementation of SHE policy. This dissertation was conducted to address the gap in understanding regarding the content and delivery of SHE in New Mexico public secondary schools and the implementation of SHE policy.

This introductory chapter covers the significance of this study and provides a review of the relevant literature related to adolescent pregnancy, to SHE, and to policy implementation in secondary schools. The purpose, specific aims, theoretical framework used in the study, and an overview of study methodology follow. The chapter concludes with brief descriptions of three manuscripts prepared for submission to peer-reviewed journals that constitute the next three chapters of the dissertation and how they relate to the aims of the study.

Significance of Study

Adolescent Pregnancy

The past 25 years have seen significant decreases in the rates of adolescent births in the United States (Table 1.1 and Appendix A). Much of this long-term decline is credited to
the increased and improved use of contraception (Boonstra, 2014; Lindberg, Santelli, & Desai, 2016).


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(Martin, Hamilton, Osterman, Driscoll, & Mathews, 2017)

Despite this decline, the United States has one of the highest adolescent birth rates among high-income, developed countries (Santelli, Song, Garbers, Sharma, & Viner, 2017; United Nations Population Division, 2017). In addition, birth rates for Hispanic, non-Hispanic Black, and American Indian or Alaska Native adolescents remain consistently and markedly higher than for non-Hispanic White adolescents (Appendix A). The most recent U.S. data on pregnancy and birth rates in women aged 15-19 are 43 pregnancies (the sum of births, stillbirths, miscarriages, and abortions) (Kost, Maddow-Zimet, & Arpaia, 2017) and 22 births per 1,000 (Martin et al., 2017). Rates of unintended pregnancy (when a woman did not want to have a baby either at that time or in the future) for women aged 15-19 range from 16 to 41 per 1,000, which constitutes a majority of pregnancies in that age group in all of the 31 states reporting unintended pregnancies (Kost et al., 2017).
Many adolescents in the United States are sexually active by the time they graduate from high school: 16% of ninth graders report having had sex, and that number jumps to 46% by 12th grade (Kann et al., 2016). It is also concerning that nationally, 14% of sexually active adolescents report not using any method to prevent pregnancy (Centers for Disease Control and Prevention [CDC] 2015e). Similar levels of sexual activity at similar ages have been reported in other developed countries (Guttmacher Institute, 2017).

Most adolescent pregnancies are unplanned and unintended (Finer & Zolna, 2014; Kost et al., 2017), and most adolescents want to avoid pregnancy (Martinez, Copen, & Abma, 2011). Socioeconomic disadvantages place adolescents at risk for many health concerns, including risky sexual behavior and unplanned pregnancy (Office of Disease Prevention and Health Promotion, 2015a). Communities with higher rates of adolescent pregnancy have been shown to also lack access to quality, confidential reproductive health services and experience higher rates of poverty, unemployment, high school incompletion, and single-parent homes (Atkins, Sulik, Hart, Ayres, & Read, 2012; Ng & Kaye, 2015). A larger environment of multiple social and economic disadvantages often surrounds adolescents who become young parents compared with those who do not.

Higher rates of adolescent pregnancy tend to be found in certain rural areas of the United States and among racial and ethnic minority populations (Kost & Henshaw, 2014; Ng & Kaye, 2015; Sedgh, Finer, Bankole, Eilers, & Singh, 2015). The birth rate for adolescents living in rural areas in the United States is nearly one third higher than in urban or suburban communities (Ng & Kaye, 2015). The rate of pregnancy for Black, Hispanic, and American Indian/Alaska Native teens is more than twice that of White and Asian American adolescents (Martin et al., 2017) (Appendix A).
Early parenthood during adolescence can increase the risk of disparate health outcomes for adolescents (Ng & Kaye, 2012). In addition to facing the stigma of teen parenthood, adolescent parents also face increased risks of living in poverty, of not finishing high school, higher rates of unemployment, single parenthood, and of having subsequent pregnancies while still in their teen years (Minnis et al., 2013; Perper, Peterson, & Manlove, 2010). Economic data has shown that children of adolescent parents might face an increased risk of lower school achievement, not completing high school, becoming unexpected adolescent parents themselves, and increased unemployment as a young adult (Minnis et al., 2013).

Since 2010, the U.S. Department of Health and Human Services’ Office of Adolescent Health has supported and evaluated evidence-based teen pregnancy prevention programs across the country (U.S. Department of Health & Human Services, 2017). Healthy People 2020 lists reducing unplanned pregnancies among adolescents as one of its core objectives (Office of Disease Prevention and Health Promotion, 2015a). Recently, the CDC identified the reduction of adolescent pregnancy as one of seven public health issues that the agency considered “winnable battles,” or issues that were wide ranging but also had effective, well-known interventions (CDC, 2014b).

**Adolescent pregnancy disparities in New Mexico.** New Mexico has had one of the highest rates of adolescent pregnancy and teen births within the United States for more than a decade (Guttmacher Institute, 2015). In 2013, New Mexico had the highest teen pregnancy rate in the United States, 62 pregnancies per 1,000 women aged 15-19 and shared the highest adolescent birth rate with two other states at 43 per 1,000 (Kost et al., 2017).
New Mexico is one of four majority-minority states in the United States (Krogstad, 2015). With a population of just over 2 million, 48% identify as Hispanic, 11% as Native American, and 38% as non-Hispanic White (New Mexico Department of Health, 2016). The New Mexico Department of Health (2014) reported disparity ratios to express the rate of a health indicator or event in a group of interest relative to the rate of the same indicator in a reference group (typically the group least affected). A disparity rate of 2.5 or greater is considered a major disparity requiring urgent intervention. The study found that the highest adolescent birth rate in New Mexico was for Hispanic teens for whom the disparity ratio was 7.8 relative to non-Hispanic White teens who gave birth (New Mexico Department of Health, 2014) (Appendix B).

New Mexico, the fifth largest U.S. state in area, is predominantly rural in relation to its geographic area. One third of the state’s population lives in rural communities (U.S. Department of Agriculture Economic Development Service, 2017) compared with approximately 20% of the U.S. population (National Rural Health Association, 2017). In New Mexico, health and economic inequities disproportionately affected rural populations (New Mexico Department of Health, 2014).

In 2010, the rate of teen births for U.S. rural counties was almost one third higher than the rest of the country. Teens in rural communities were at higher risk of pregnancy, were more likely to have had sex, and were less likely to have used contraception (Ng & Kaye, 2015). Limited access to health services and poverty were associated with high rates of teen pregnancy in rural communities (Ng & Kaye, 2015). Qualitative research of teens in rural communities shows that they recognize that the lack of opportunity to participate in after-school activities, absence of other recreational activities (particularly for those who are
dating), lack of adequate parental supervision and community-engaged monitoring, lack of pregnancy prevention education in school, lack of health insurance to obtain birth control, and lack of economic opportunity contribute to high pregnancy rates in rural communities (Akers, Muhammad, & Corbie-Smith, 2011; Weiss, 2012).

Complex economic, social, and health challenges exist in New Mexico. Nearly one fifth (19.1%, 90% confidence interval 17.4% to 20.8%) of New Mexicans lived below poverty level (U. S. Census Bureau, 2017). According to the New Mexico Department of Health (2014), more than half of high school seniors did not graduate from high school, unemployment and underemployment were above national averages, and many lacked access to reproductive health services (New Mexico Department of Health, 2014). In 2014, New Mexico was rated 49th of all states in “child well-being” (from 50th in 2013), a rating that considered family and community health, education, and economic status (New Mexico Voices for Children, 2017).

These influences and broader contexts of an adolescent’s life cannot be ignored. Adolescents growing up in New Mexico communities might already face tremendous social and economic inequities, and an unplanned adolescent pregnancy might add yet another complex layer to their lives. These challenges are often overlooked within debates about adolescent pregnancy that typically focus on the pregnant adolescent as the problem. This dynamic ignores the environment of an adolescent’s life and the extent and quality of social structures and services that surround them. That, in turn, potentially stigmatizes young women who are pregnant, those who have chosen to become parents, or adolescents who are parenting, and creates barriers to health services, education, and needed social support (Cadena, Rivera, Esparza, & Cadena, 2016).
**Sexual Health Education**

SHE for adolescents comes in many forms and potentially from many sources, in addition to or in place of family, such as schools, after-school programs, churches, and health clinics. Often, adolescents receive conflicting information or messages from different sources. This section reviews the various approaches to SHE, SHE provided in public schools, and the context of policy implementation for understanding SHE policies in schools.

Currently, a spectrum of SHE approaches exists. Abstinence-only-until-marriage, also known as sexual risk avoidance or abstinence-centered education, is at one end of the spectrum. This educational focus encourages abstinence from all sexual activity as the only acceptable choice of sexual expression prior to traditional heterosexual marriage (Advocates for Youth, 2008; Underhill, Operario, & Montgomery, 2008; Williams, 2011). Under the 1996 Welfare Reform Act, the Abstinence Education Grant Program was created, funded by Title V, Section 510, of the Social Security Act (U.S. Social Security Administration, 2015; Appendix C). This legislation produced the federal definition of abstinence-only education, commonly known as the “A-H definition,” and defines an education program eligible for funding as follows:

A) having as its exclusive purpose, teaching the social, psychological, and health gains to be realized by abstaining from sexual activity;

B) teaches abstinence from sexual activity outside marriage as the expected standard for all school-age children;

C) teaches that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems;
D) teaches that a mutually faithful monogamous relationship in the context of marriage is the expected standard of human sexual activity;

E) teaches that sexual activity outside the context of marriage is likely to have harmful psychological and physical effects;

F) teaches that bearing children out-of-wedlock is likely to have harmful consequences for the child, the child’s parents, and society;

G) teaches young people how to reject sexual advances and how alcohol and drug use increase vulnerability to sexual advances; and

H) teaches the importance of attaining self-sufficiency before engaging in sexual activity. (U.S. Social Security Administration, 2015, section §510(b)(2).

Although the language of the A-H definition is not focused on religion, the emphasis on abstinence-only-until-marriage reflects a moral framework with a basis in traditional religious belief (Foley, 2015) and is concerned primarily with morality and personal character (Santelli et al., 2017). Abstinence-only programs avoid communicating any support for birth control (limiting or excluding information regarding contraception or condoms) and do not include the concept of safer sex, or same-sex relationships, because sex is considered an option only for married, heterosexual couples (Kendall, 2013). Santelli et al. (2017) stated that although abstinence is an important part of all SHE programs, it is an ethical and scientific problem–and potentially misrepresents scientific evidence–to present abstinence as the only choice to the exclusion of any other choice. Although abstinence is, theoretically, fully effective at preventing pregnancy, attempts to practice abstinence often fail because very few individuals remain abstinent until marriage, and many do not marry or have reasons
not to. In addition, on average, U.S. adolescents have their first sexual encounters by the time they are 17 but do not marry until their mid-20s, if at all (Finer & Philbin, 2014).

At the other end of the SHE spectrum is the comprehensive approach to SHE. In addition to including abstinence or delaying of sexual activity, comprehensive SHE is commonly defined as encompassing evidence-based, medically accurate, age-appropriate content covering anatomy and physiology, puberty and adolescent development and sexuality, pregnancy and reproduction, healthy relationships, decision making, personal safety and sexual violence prevention, gender identity and sexual orientation, contraception, condom use, and disease prevention (Future of Sex Education Initiative, 2012; Sexuality Information and Education Council of the United States [SIECUS], 2009). The United Nations Population Fund (2014) offers a detailed definition for comprehensive sexuality education, listed in Appendix D.

In between these two poles, there is a wide spectrum of SHE approaches. These programs and curricula include abstinence-plus (strongest emphasis on the benefits of abstinence, occasionally providing information about contraception and condoms [Advocates for Youth, 2008]); positive youth development (emphasis on empowering youth to advocate for themselves, focusing on strengths and assets, often including community service learning and other topics SHE [CDC, 2015]; family life education (strong abstinence and contraception message, in the context of family life (Brindis, Geierstanger, & Faxio, 2009); and a rights-based approach (emphasizing youth and human rights and gender equality (Berglas, Constantine, & Ozer, 2014; Haberland & Rogow, 2015).

**Evidence in SHE.** Most SHE interventions are directed at changing the behavior of adolescents (Berglas et al., 2014). Sedgh et al. (2015) stated that the two most important
determinants of pregnancy incidence are the level of sexual activity and whether contraceptives are correctly used. Actual change in behavior over time is often difficult to measure. However, a growing literature base supports programs and curricula that are aimed at increasing protective behaviors, such as abstinence from and delaying initiation of sexual activity, increased condom use, knowledge of contraception, increased contraception use, and reducing risk behaviors, such as reduced frequency of sex, reduced number of partners, reduced unprotected sexual risk taking, that put adolescents at risk for unplanned pregnancies.

Many comprehensive SHE programs and curricula have been effective in reducing the risk behaviors and increasing protective behaviors (Brindis et al., 2009; Chin et al., 2012; Goesling, Colman, Trenholm, Terzian, & Moore, 2014; Kirby, 2007; Kirby, 2008; Kohler, Manhart, & Lafferty, 2008; Lindberg & Maddow-Zimet, 2012; Stanger-Hall & Hall, 2011). In contrast, abstinence-only programs have not demonstrated significant effectiveness at reducing sexual activity or increasing protective sexual behavior (Chin et al., 2012; Kirby, 2007, 2008; Kohler et al., 2008; Stanger-Hall & Hall, 2011; Trenholm et al., 2007; Underhill et al., 2008).

**Delivery of SHE.** SHE programs and curricula can be delivered in a number of settings to reach adolescents. However, school settings are where the largest proportion of adolescents spend the majority of their day; therefore, schools are generally the setting in which it is possible to reach broad and diverse populations of students (Fields, 2008; Kirby & Laris, 2009). Schools are also socializing institutions, where many teens learn sexual health information and discuss it with their peers and with trusted adults (Fields, 2008). There is a
long history of the introduction of SHE concepts and education curriculum into the public school environment in the United States (Foley, 2015; Luker, 2007).

One of the Core Objectives of Healthy People 2020 is to “increase the proportion of adolescents who received formal instruction on reproductive health topics before they were 18 years old” (Office of Disease Prevention and Health Promotion, 2015, para FP-12). Among the challenges in teaching SHE in schools, educators, health professionals, and administrators must take into consideration the state, district, or school policy requirements or restrictions and the expressed needs, concerns, and opinions of the students, staff, school board, and larger community. In addition, school resources and time available to teach the topic(s) must be balanced against competing teaching priorities, such as subjects that will be covered on mandatory achievement tests) (Combellick & Brindis, 2011; Eisenberg, Madsen, Oliphant, & Sieving, 2013; Eisenberg, Madsen, Oliphant, Sieving, & Resnick, 2010). If a particular SHE curriculum or program is chosen, it may not be administered in its entirety or with fidelity to the originally published curriculum. Often, the excluded content consists of “hot button” topics, such as pregnancy options, sexual orientation, gender identity, and sexual violence (Eisenberg et al., 2013, p. 339). Content can vary, parts of one program may be combined with other programs, and how much is taught might depend on the time available to teach, on the population of the adolescents being taught, and on the experience and comfort level of the teacher. Even when all content that is taught has evidentiary support, those kinds of contingencies might decrease the likelihood of achieving the magnitude of the effect seen in rigorous intervention trials (Chandra-Mouli, Lane, & Wong, 2015; Kirby & Laris, 2009; Landry, Darroch, Singh, & Higgins, 2003; Woo, Soon, Thomas, & Kaneshiro, 2011).
Eisenberg et al. (2010) found that nearly one third of teachers they interviewed who were responsible for teaching SHE believed they did not have adequate training in topics related to sexual health. As a consequence, some teachers might avoid teaching subjects they believe themselves ill-prepared to teach or that make them feel anxious, even when they believe the material is important and needs to be taught (Barr, Moore, Johnson, Forrest, & Jordan, 2014; Hammig, Ogletree, & Wycoff-Horn, 2011). Both teachers and school nurses are school professionals often asked to teach SHE. However, their backgrounds are very different in terms of education and training, and they have different relationships with the students. They may also differ in their ability to teach sexual health content effectively (Borawski et al., 2015; Brewin, Koren, Morgan, Shipley, & Hardy, 2014).

Training and preparation are essential for whoever teaches SHE to assure that they provide accurate, up-to-date, and evidence-based information. Training and preparation also help teachers to develop skills on how best to present sexual health information effectively in a classroom setting and to enhance their ability to address student anxieties and certain sexual health topics (Barr, Goldfarb, et al., 2014; Barr, Moore, et al., 2014). The National Sexuality Education Standards provide “clear, consistent and straightforward guidance on the essential minimum, core content for sexuality education that is developmentally and age-appropriate for students in grades K–12” (Future of Sex Education Initiative, 2012, p. 6). Additionally, the National Teacher-Preparation Standards for Sexuality Education provide clear direction for individuals responsible for developing, evaluating, or teaching sexuality education related to curriculum, instruction, assessment, and policy development (Barr, Goldfarb, et al., 2014).

**Support for SHE.** Public opinion has shown strong support for comprehensive SHE that include the topic of abstinence, as well as contraceptive options and condoms (Barr,
Moore, et al., 2014; Bleakley, Hennessy, & Fishbein, 2006; Kantor & Levitz, 2017; National Campaign to Prevent Teen and Unplanned Pregnancy, 2014; Peter, Tasker, & Horn, 2015). Many professional organizations also support medically accurate, age appropriate, comprehensive approaches to SHE that include information on both abstinence and contraception and have stated their support for these programs as a priority. Some of the organizations are the American Academy of Child and Adolescent Psychiatry, American Academy of Pediatrics, American Association for Health Education, American Association of School Administrators, American College of Nurses Midwives, American Congress of Obstetricians and Gynecologists, American Federation of Teachers, American Foundation for AIDS Research, American Medical Association, American Nurses Association, American Psychiatric Association, American Psychological Association, American Public Health Association, American School Health Association, National Alliance for School-Based Health Centers, National Education Association, National Association of School Nurses, Society for Adolescent Health, Society of Adolescent Medicine, the World Health Organization, and many others (National Coalition to Support Sexuality Education, 2008). National advocacy groups for SHE include Advocates for Youth, Answer (Rutgers University), Guttmacher Institute, Healthy Teen Network, Planned Parenthood, and The National Campaign to Prevent Unplanned and Teen Pregnancy.

**The debate around SHE.** The debate around SHE in the United States has been well documented (Foley, 2015; Kendall, 2013; Luker, 2007), with roots tracing to the history of the early U.S. educational systems, when compulsory education laws requiring children to attend school were passed by states (Foley, 2015). Other influences included political movements, including women’s rights and social hygiene; controversies over religious or
political ideology; and, more recently, about gender identity, gender expression, and same-sex relationships. Discussing SHE in the United States can tap into some of the most deeply held disagreements in U.S. society about cultural practices, religious and moral beliefs, acceptance of scientific and medical evidence, politics, and general opinions about the role of authority within community, family, and religion (Luker, 2007).

While having explicitly supportive SHE policies at all levels of governance (state, district, and school), the decisions about the type of SHE can vary greatly. It is more common for local school districts to be responsible for policies specific to SHE in schools (Beltz, Sacks, Moore, & Terzian, 2015). Teachers responsible for teaching SHE report that clear, specific state and school-district policies supportive of comprehensive SHE reduce the pressure on teachers and administrators responsible for translating policy and legitimize support for comprehensive SHE in the community (Eisenberg, Madsen, Oliphant, & Resnick, 2012).

**SHE in New Mexico.** In New Mexico, education policies pertaining to SHE in public schools are governed by statute and by the New Mexico Administrative Code (NMAC). State policy governing the implementation of SHE in public schools is neutral; that is, the policy does not mandate or limit curriculum in terms of what is included in SHE instruction for schools (SIECUS, 2016). Currently, three state educational policies guide SHE in New Mexico public schools. This section briefly describes each policy and reviews how they might be interpreted at the local level.

NMAC 6.12.2.10 states that local school districts shall provide education about HIV and issues related to HIV (New Mexico Public Education Department [NMPED], 2005); NMAC 6.29.6 details standards and benchmarks for health education topics, including
content related to sexuality, in public schools (grades kindergarten through 12) (NMPED, 2009); and New Mexico Statutes Annotated (NMSA) 1978, Section 22-13-1.1.(K) requires a course of health education that includes content from the standards, benchmarks, and performance standards before a student can graduate from high school (NMPED, 2011).

In 2005, NMAC 6.12.2.10 was added as a Primary and Secondary Education, Public School Administration–Health and Safety, Health Services code, which governs policies implemented by local school districts related to HIV prevention education. The code states that policies must provide “appropriate curricula regarding HIV, and requires community involvement in the development of policies and the review of instructional materials” (NMPED, 2005) (para. 6.12.2.10, A), specifically:

1) Each school district shall provide instruction about HIV and related issues in the curriculum of the required health education content area to all students in the elementary grades, in the middle/junior high school grades, and in the senior high school grades.

2) Educational materials and grade levels of instruction shall be determined by the local school district and shall be appropriate to the age group being taught.

3) The instructional program shall include, but not necessarily be limited to:
   a) definition of HIV and acquired immune deficiency syndrome (AIDS);
   b) the symptoms and prognosis of HIV and AIDS;
   c) how the virus is spread;
   d) how the virus is not spread;
   e) ways to reduce the risks of getting HIV/AIDS, stressing abstinence;
   f) societal implications for this disease;
g) local resources for appropriate medical care; and

h) ability to demonstrate refusal skills, overcome peer pressure, and use decision-making skills (NMPED, 2005, para. 6.12.2.10, C. Curricula).

The policy also requires community involvement in the process, stating that “each local board of education shall ensure the involvement of parents, staff, and students in the development of policies and the review of instructional materials” (NMPED, 2005, para 6.12.2.10).

The second policy amended NMAC 6.29.6. in 2007, an administrative code for Primary and Secondary Education, Standards for Excellence, Health Education. It lists the details of content standards and benchmarks for health education topics in schools teaching kindergarten through 12th grade, including content related to sexuality. The specific language related to the “opt out” policy for sexuality education is of particular importance to SHE. The “Sexuality Performance Standards Exemption” requires each school district to maintain a policy that clearly explains the opt-out rule for parents who do not wish to have their child attend the classes teaching the standards and benchmarks related to sexuality. Also, although the standards, benchmarks, and performance standards describe general areas of expected knowledge, those related to sexual health are grouped together at the end of each section, with the nonspecific language “in the areas related to sexuality; nutrition; alcohol; tobacco and other drug use; physical activity; personal safety; mental, social and emotional well-being” (NMPED, 2009, para. 6.29.6.9.A.1.a.i). The policy also does not explicitly require a state agency to monitor or regulate school district adherence with its provisions, although the National Association of State Boards of Education (2014) stated that each New Mexico school board is required to develop a kindergarten through 12th grade health education
curriculum aligned with NMPED health education content standards, benchmarks, and performance standards.

The statute that affects SHE in New Mexico passed in 2010 and amends NMSA 1978, Section 22-13-1.1., by requiring a course of health education for graduation from high school in New Mexico. NMPED (2011) stated:

Beginning with students entering the eighth grade in the 2012-2013 school year, a course in health education is required prior to graduation. Health education may be required in either middle school or high school, as determined by the school district. Each school district shall submit to the department by the beginning of the 2011-2012 school year a health education implementation plan for the 2012-2013 and subsequent school years, including in which grade health education will be required and how the course aligns with the department content and performance standards. (Background section, para. 2)

Prior to passage of this statute, the health education subjects were often dispersed into a variety of classes that were deemed relevant to the topic (W. Blair, personal communication, October 30, 2015). A course requirement does not specify that any particular topic be covered; rather, it is expected that the standards, benchmarks, and performance standards outlined in the previous policy will be integrated.

There is increasing pressure for public school teachers, school administrators, and school districts to dedicate scarce resources to the subjects covered on mandatory state educational achievement testing. Accordingly, decisions about how to prioritize the health subjects taught in one course of middle school or high school are a tremendous challenge. Budget constraints often limit the amount of training teachers may receive, and research has
shown that training for teachers responsible for SHE is incredibly important (Eisenberg et al., 2013).

However, the need for more, not less, SHE in New Mexico is demonstrated by the fact that 20% of New Mexico youth report they were never taught about HIV and AIDS in school, a figure that is higher than the 15% reported nationally (New Mexico Youth Risk and Resiliency Survey, 2013). In addition, the New Mexico Legislative Finance Committee found that teen pregnancy prevention efforts in New Mexico were inconsistent and lacked coordination and planning between state health and education agencies. The committee also reported that the state’s public schools were not fully implementing existing health education standards (New Mexico Legislative Finance Committee, 2015).

**Policy Implementation**

Policy implementation is one stage within the process of policymaking and is defined as the enactment of a basic policy decision, created by statute, executive order, or court decision, that includes a clearly defined problem, an outline of an objective, and a process for reaching that objective (Mazmanian & Sabatier, 1989). Ideal factors that contribute to successful policy implementation include clearly stated policy objectives and goals, good relationships and communication between organizations involved in the implementation, a high level of understanding and acceptance of the policy by the individuals responsible for implementation, constructive political and economic environments, and adequate resources for implementation (Hill & Hupe, 2002; Mazmanian & Sabatier, 1989; Smith & Larimer, 2016). In addition, the individuals responsible for the implementation must be adequately trained to manage it (Longest & Huber, 2010).
Models of policy implementation help clarify this process from one of two perspectives: (a) those involved in the policy development (at the top of a hierarchy), or (b) those involved where the policy goals are expected to be delivered. In the latter scenario, these individuals responsible for policy implementation are on the front line of policy work, often delivering services to the public. While their front-line decision making may differ from the original expectations of policy developers, those decisions and actions often become policy (Gilson, 2015). In the 1980 seminal work by Michael Lipsky, “Street Level Bureaucracy: Dilemmas of the Individual in Public Service,” a bottom-up policy implementation process introduces the term *street-level bureaucrat* (SLB). SLBs work under heavy workloads, inadequate resources, increasing demands for services, and vague and/or conflicting policy goals and expectations (Gilson, 2015; Hill & Hupe, 2014). They use their professional discretion and autonomy to manage the pressures and can become the face of the organization and policies to the public they serve (Brodkin, 2012).

In school environments, decisions related to implementation of policies pertaining to SHE often fall to those who are teaching and administrating (Williams & Jensen, 2015). These individuals need to understand the policy, manage selection of curriculum, train those teaching it, and manage any external feedback if implementation is to be successful (Eisenberg et al., 2012). Unfortunately, at the local level, school districts, administrators, and educators may be subject to external pressures that influence their commitment or willingness to commit resources, such as for training, to the implementation of SHE policies (Aronowitz & Fawcett, 2015; Eisenberg et al., 2012; Eisenberg et al., 2013; Longest & Huber, 2010). For example, a state education agency might defer to the local school district’s decisions regarding SHE content and delivery out of respect for the autonomy of the district.
or out of a desire to avoid controversy at the state level. In a like manner, a school district might leave implementation decisions to the school administrators who, in turn, might defer the implementation decisions and details to the individual teachers.

There are multiple levels of policy that can affect public schools (federal, state, school district, school, and classroom), and the policies can operate simultaneously on different levels, be created on one level, implemented on another, and evaluated on yet another (Desimone, 2009). Policies implemented on any of these levels may strongly influence the availability of resources to support programs and services (Brindis, 2006). Funding decisions at state and local levels have enormous impact on policy implementation. With regard to health and SHE, funding decisions also might affect determinants of health in ways that can reduce health disparities or make them worse (Brindis & Moore, 2014).

To be clear, policies supporting SHE in public secondary schools are among many factors influencing the risk of unplanned pregnancy among adolescents (Brindis & Moore, 2014). However, there is robust evidence that a comprehensive approach to SHE can strengthen protective behaviors and decrease the incidence of risk behaviors related to unplanned teen pregnancy (Kirby & Laris, 2009).

**Purpose of Study**

**Purpose and Specific Aims**

The purpose of the research was to explore and describe implementation of SHE policy taught in New Mexico public secondary schools, in particular, decisions regarding content (what is taught and when), delivery (by whom it is taught and how), and what factors influence SHE policy implementation decisions. This information is useful to school nurses, teachers, administrators, school districts, community-based organizations, advocates, state
Research Questions

This research attempts to answer the following research questions: (a) what SHE content do New Mexico public secondary schools offer and by whom is it delivered and (b) what factors influence decision making about implementation of SHE policy in New Mexico public secondary schools? By addressing these questions, I was able to identify factors that support and impede the provision of comprehensive SHE in New Mexico public secondary schools.

Theoretical Framework

This research used the social ecological model (SEM) as a framework to evaluate the influences involved in the implementation of SHE policy in New Mexico public secondary schools. Social ecology examines the relationships between individual attributes and social, institutional, and cultural environments in terms of how they influence behaviors and decision making (Stokols, 1996). This section briefly reviews the SEM and its applicability to the research questions of this research proposal.

Bronfenbrenner (1979) described the important interactions between individuals and their environment as a “set of nested structures, each inside the next, like a set of Russian dolls” (p. 3). Bronfenbrenner (1979) proposed five interacting subsystems with influence on
McLeroy, Bibeau, Steckler, and Glanz (1988) developed a SEM built on Bronfenbrenner’s work. SEM describes five levels of influence on individual behavior and decisions: *intrapersonal* (individual knowledge, skills, and characteristics); *interpersonal* (individuals or groups that provide identity and support, such as family and friends); *organizations* (larger groups that provide rules, regulations, and structures that promote or restrain behavior, such as religious, social, or professional organizations); *community* (community norms and regulations established by social networks and community organizations); and *public policy* (laws and policies that regulate action and behavior at the local, state, and federal levels) (Appendix F). The SEM’s levels are bidirectional: behavior and decisions made on one level can shape and affect behavior and decisions made on another (McLeroy, Bibeau, Steckler, & Glanz, 1988). The levels described in SEM do not imply a strict hierarchy of influence, or that the levels are mutually exclusive; rather that they are nested levels of influence surrounding the individual.

SEM has been used to examine policy decisions regarding physical-activity promotion programs in public schools within a school district in Canada (Langille & Rodgers, 2010) (Appendix G). Using qualitative methods, Langille and Rodgers (2010)
found bidirectional influences on policy among school administrators and teachers, schools and school boards, and local government. Eisenberg et al. (2012) used a variation of SEM to study the barriers and influencing factors affecting sexuality education in Minnesota, combining the five levels into three. Using focus groups of health education teachers, the researchers found challenges to teaching within the three combined SEM levels and identified intervention points to reduce challenges and strengthen support for teachers teaching sexuality education.

A limitation of SEM is that if it is used as a basis for research or evaluation that targets a specific level, it might not be useful to examine other levels (Stokols, Allen, & Bellingham, 1996). Studies often restrict their focus to only the first few levels, such as the intrapersonal and interpersonal levels, or, possibly, one or both together with the organizational level. For example, in a review of literature about adolescent sexual risk behavior, Salazar (2010) found that research using the SEM only rarely included levels beyond the intrapersonal and interpersonal levels.

This dissertation research was a descriptive study and as such, was not designed to test hypotheses based on SEM. Instead, I applied this model as a lens for evaluating the responses to survey questions by individuals responsible for making policy implementation decisions regarding SHE policy in New Mexico public secondary schools.

Methods

Design

This was an exploratory, descriptive study in which the participants were individuals in public secondary school potentially responsible for implementing SHE policy. I used a validated survey tool (Appendix H) to guide interviews with school nurses, teachers
responsible for health education, and school administrators regarding their experience of delivering SHE content in New Mexico public secondary schools and the influences on decisions related to implementation of SHE policy. The University of New Mexico’s Human Research Protections Office approved the study design and all study materials as an exempt study in May 2016 (Appendix I). Because interviews were conducted by telephone using approved scripts, a waiver of signed informed consent was approved (Appendix J).

**Sampling**

To participate in the study, individuals needed to speak English and currently be employed in one of the following positions in a New Mexico school district: (a) school nurse working in at least one middle school or high school; (b) teacher responsible for teaching SHE in at least one middle school or high school; or (c) school administrator or principal in a middle school or high school. Extensive efforts were made to sample at least one individual from each participant group in each of the 89 school districts in New Mexico. As a descriptive study without hypothesized outcomes, there were no sample size estimates; the sample size was bounded by the number of secondary schools within the 89 school districts in New Mexico. Only one of the larger, metropolitan districts did not approve participation for its staff in time for the study.

**Recruitment**

**School nurse.** To contact school nurses serving the secondary schools in each district, I used formal and informal school nurse professional networks and accessed school district websites in the public domain. Each school nurse participant was contacted by either phone or email, following the recruitment contact protocol.
**Health educator.** I requested references from the school nurse for teacher(s) responsible for teaching health education at a secondary school within their school district. If the school nurse was unable to recommend anyone, I used formal and informal school professional networks or accessed school district websites in the public domain. I contacted each teacher by either phone or email, following the recruitment contact protocol.

**School administrator.** I requested references from the school nurse or teacher for school administrators at secondary schools within their school district. If they were unable to recommend anyone, I used formal and informal school professional networks or accessed contact information from public-domain school district websites. I contacted each administrator by either phone or email, following the recruitment contact protocol.

**Data Collection and Procedures**

**Timeline and Setting.** I began recruiting participants in June 2016. However, due to the summer break in school schedules, I waited to initiate more-focused recruitment once most school districts had begun the new school year in August 2016. Recruitment concluded in January 2017. I initially contacted participants by phone or email up to three times. Once participants responded, study details were clarified, and interview appointments were scheduled at a time most convenient for the participant, often outside of their work hours (early mornings, afternoons, evenings, and weekends). Interviews took place over the phone, lasting 30-45 minutes, depending on the time available by the participant and the length of their answers. All data were collected and maintained on a secure, online database at UNM on an encrypted UNM College of Nursing laptop (see Data Management section below).

**Recruitment.** Recruitment of participants involved the following steps: (a) I called to speak with potential participants about the study; (b) if they were not available, I left a
message with the potential participant either on voicemail or with school staff; (c) if a phone number was not available and/or an email addresses was available from a referral source or publicly available school website, I sent an email introducing myself, explaining the study, and requesting a phone conversation; and (d) two additional telephone calls and/or email attempts were initially made to the potential participant.

Upon making contact with the potential participant by phone or email, I read from the approved recruitment phone script that explained the study and specific aims, reviewed the benefits and risks of participation, and described the expected length of time for interviews. Participants were given a chance to have their questions or concerns clarified. During the initial conversation, I either began the interview or scheduled an appointment at a time of their convenience.

At the time of the interviews, I read to each participant from the approved interview script to obtain verbal consent for participation in the study and reminded participants that they could terminate the interview at any time. Following the recommendations of Singleton and Straits (2012), every effort was made to minimize the burden of participation in the study. Participants were offered a $20 Visa gift card as a thank-you for their participation. The gift card was mailed directly to them. Prior to beginning each interview, I asked the participant for their preferred mailing address, which was recorded directly on the mailing envelope that was mailed to them immediately following the interview. I did not keep their address or any identifying information in the study records. I also informed all participants that I would be sending them my contact information with the gift card, so they could contact me with any questions and for the final study results.
No advertised public study announcements were used for recruitment. The study did not include employees of school districts governed by tribal authority or located on tribal land, nor did it include any student of any New Mexico school district.

**Data Collection Methods.** For this study, I was the sole interviewer and administered the survey tool by telephone interview. I have extensive experience (more than 15 years) as a public health nurse, have worked in schools and communities, and directly with individuals, families, community leaders, and organizations regarding adolescent health issues.

**Survey tool.** The survey tool used for this study was an adaptation of the “Assessment of Sexuality and HIV/AIDS Prevention Education in California Public Schools” (Combellick & Brindis, 2011). Sarah Combellick, MPH, and Claire Brindis, Dr.P.H., established the survey tool for a 2010 study in California to survey school district representatives about the sex education curriculum used in California schools after the passage of a 2003 statute. The survey has 34 questions, 28 of which are structured questions regarding the content and delivery of SHE in participants’ school districts (six background questions; 10 delivery questions; and 12 content questions, including a list of 21 content subjects). The other six questions are open-ended questions about how policies have changed, whether there are challenges to implementing SHE policy, who influences the type of SHE that is used, whether state laws governing the decisions about SHE are confusing or clear, and whether state agencies have reviewed their SHE program.

For this study, I first pilot-tested the survey tool with a small group of individuals representative of the sample. The survey tool was revised to better reflect New Mexico’s state and local circumstances, and two unstructured questions were added to address unique educational policy and health policy environment in New Mexico and at the request of the a
local policymaker. After the revisions to ensure validity of the modified survey tool, three additional content experts in SHE in New Mexico public schools who did not participate in the study reviewed and approved the final draft.

**Data management and analysis.** All data were entered directly into the survey database in the Research Electronic Data Capture (REDCap™) platform (Harris et al., 2009), a web-based, encrypted application managed by the University of New Mexico (UNM) Health Sciences Center, Clinical and Translational Science Center (UNM, 2015). I entered data into an encrypted UNM College of Nursing laptop computer. No identifying information for the participants was entered into REDCap™, nor was any identifying information retained after the conclusion of the interview and the mailing of a gift card.

The anonymous survey data were downloaded from REDCap™ into the SPSS 23 program on the encrypted laptop computer. Analysis of the data consisted primarily of descriptive statistics including frequency, percentage, mean and standard deviations, median and quartiles. I summarized the response to the open-ended questions, grouping common areas of emphasis among participants. The analysis and results were reviewed, as needed, for guidance, with the chair and members of the dissertation committee.

**Human Subjects Protection**

There were minimal risks to individuals participating in this survey study. No personal, demographic, or health information was collected during the surveys, and no identifying information was maintained after participation. All survey data were maintained in REDCap™. All communication with participants was confidential, and only the chair of the dissertation research team and I had access to the data during data collection.
I was prepared for some individuals to feel uncomfortable sharing their perspectives regarding the content, delivery, and role regarding implementation of SHE policy. For that reason, all participants were reminded that no identifying information would be collected during their participation in this survey, nor were they identified as employees of any specific school district or school. I explained to all participants that they were free to decline to answer any question and were allowed to terminate the interview at any time.

Public schools in New Mexico have been heavily scrutinized for the performance of their students, teacher performance, and graduation rates, and have been compared extensively to one another on a variety of issues. For these reasons, I expected some potential key informants to decline participation in this survey for fear that the data generated might in some way reflect negatively on their profession, the work they do, their school, or their school district. Therefore, I made every effort to answer any questions or concerns that participants had, to clarify incentives for participation in this study, and I assured them that no information would be collected identifying them, their school, or their school district. I also clearly stated that although potential participants worked in positions within public schools, their participation in this survey would be voluntary, with interviews scheduled outside the hours of work when it was most convenient for them.

It was not the objective of this study to demonstrate how well or how poorly any one individual, school, district, or professional group had been doing in regard to providing SHE. Rather, it was my hope that the results of this study would identify the extent that SHE content was being taught in New Mexico public secondary schools, who was actually teaching it, and what issues might exist for individuals responsible for providing SHE to their students. The results of the study will be of help to school staff, districts, policy agencies,
policymakers, community-based organizations, and advocacy groups that support and advocate for resources and support to the school in their community to ensure the best content and delivery of SHE offered to secondary school students in New Mexico.

Limitations

Some New Mexico public secondary schools are governed by Native American tribal governments and/or are located on tribal land. Respect for sovereign authority of tribal governments requires necessary approval from tribal authorities and tribal review boards before research can be conducted within the school districts or schools governed by tribal authority or located on tribal land. Due to the length of time expected for my dissertation research study and the length of time needed to seek appropriate institutional review board approval of each tribal government, I did not include in the sample school districts governed by tribal authority or that were located on tribal land. Because Native American students attended secondary school within public school districts (but outside of tribal governance) that included participants in the study, this was a limitation within the final study results. Other limitations will be summarized in the manuscript chapters that follow this introduction.

Introduction of Three Manuscripts

The following three manuscripts were prepared to disseminate the findings of this study.

Manuscript 1 (Chapter 2)

The theoretical framework I proposed to use for interpretation of the study findings, SEM, was the focus of the first manuscript. The manuscript, titled Application of Social Ecological Model to Policy Implementation for Sexual Health Education, provides a review of ecological models and SEM. The manuscript presents the evidence base of SHE as an
intervention to reduce risky sexual behavior among adolescents at risk of unplanned pregnancy but acknowledges the importance of understanding what influences how SHE is implemented in schools. This is a unique use of SEM and I present a table of the five levels of SEM and their influence to SHE policy implementation. I will submit this manuscript for peer review to the journal, *Health Education & Behavior*.

**Manuscript 2 (Chapter 3)**

The second manuscript, *Isolated Voices: the Perspectives of Teachers, School Nurses, and Administrators Regarding Implementation of Sexual Health Education Policy* is the first of two data-based manuscripts for this study. This manuscript presents the core study methods and results from the interviews with school nurses, teachers, and administrators, describing their experiences with teaching, curriculum delivery, and implementation of SHE policy in New Mexico public secondary schools. Descriptive quantitative data summarize what is taught (the content), how it is taught and by whom (delivery), with the responses to open-ended questions providing more detail and nuance. When viewing the data with the social ecological levels of influence, participants identified influence from all five SEM levels. However, it was the organizational and community levels that were most frequently named as influential on policy implementation. I will be submitting this manuscript for peer review to the *Journal of School Health*.

**Manuscript 3 (Chapter 4)**

The final manuscript is another data-focused manuscript concentrating on the survey data from the participant group of school nurses. During the initial data analysis, I began to recognize that the story told by the school nurse data, in particular, their responses to open-ended questions, was highly congruent with Lipsky’s (2010) SLB policy implementation
framework. The title of this manuscript, *The Role of School Nurses in Implementation of Sexual Health Education Policy*, developed as the unique position of school nurses became clearer. This manuscript used the study data to illuminate the role of school nurses in policy implementation of both health and education policy, as demonstrated by the data from this study in SHE policy. The presentation of Lipsky’s framework specifically to the specialty of school nursing and policy implementation is a novel application in school health and nursing literature. This manuscript will be submitted for peer review to the *Journal of School Nursing*.

The last chapter (Chapter 5) of this dissertation provides a final synthesis and discussion of the study findings. I will also present policy implications from this data and recommendations for additional research in the areas of SHE and school health policy at the state and national level.

**Summary**

SHE policies are commonly set or interpreted at the local level by school districts (Beltz et al., 2015). Research shows that it is important to understand how local organizations implement state-level SHE policies. Research also shows that the individuals responsible for implementation of SHE policy in public secondary schools often do not have the training or knowledge to prepare them for these decisions, adequate resources available, and might face many issues and pressure related to the process.

Although the current New Mexico statute and administrative codes that address SHE are supportive of providing SHE, school districts operate very autonomously. Currently, what SHE content is taught, how it is delivered, and what influences implementation of SHE policy in New Mexico public secondary schools is not well understood. This study will help
provide that missing information and will support a better understanding of the challenges faced by those tasked with implementing SHE policy. Youth in New Mexico need every available resource to inform and support them as they navigate the challenges of adolescence. When they succeed, everyone succeeds; our students and our communities deserve nothing less.
Chapter 2—Application of Social Ecological Model to Policy Implementation for Sexual Health Education

Keywords: comprehensive sexual health education, policy implementation, social ecological model

Elizabeth Dickson, MSN, RN
University of New Mexico, College of Nursing, Albuquerque, NM
Many U.S. adolescents engage in and experience risky sexual activity. The 2015 Youth Risk and Behavioral Survey (YRBS) documented that among students who engaged in sexual activity in the preceding three months, 43% reported they did not use condoms; 14% did not use any method of birth control; and 21% had used alcohol or drugs prior to sex, increasing their risk of not using condoms or contraceptives (Kann, McManus, & Harris, et al., 2016). Risky adolescent sexual behavior can lead to unexpected health outcomes, including unplanned pregnancy (U.S. adolescent pregnancy rate is currently 43/1,000 for women aged 15-19) (Kost, Maddow-Zimet, & Arpaia, 2017); STI infection (half of all new STDs are among persons aged 15-24) (Centers for Disease Control and Prevention [CDC], 2015c) and HIV infection (22% of all new HIV infections occur among young persons aged 13-24) (CDC, 2017b).

Even more, high levels of poverty, unemployment, and inequitable access to quality, confidential health services are risk factors for unsafe sexual behavior among adolescents (Kost & Maddow-Zimet, 2016; Ng & Kaye, 2015). Despite historic declines over the past decades, the national rates of adolescent pregnancy and births are still significantly higher for adolescents who live in rural regions of the United States and for Black and Hispanic adolescents (Atkins et al., 2012; Boonstra, 2014; Kaiser Family Foundation, 2014; Ng & Kaye, 2015). High school students who identify as lesbian, gay, and bisexual experience significantly higher levels of physical and sexual violence as compared with their heterosexual peers (CDC, 2016).

Comprehensive sexual health education (SHE) is an effective primary prevention intervention for risky sexual behavior among adolescents (Kirby & Laris, 2009; Kohler et al., 2008; Lindberg & Maddow-Zimet, 2012; Stanger-Hall & Hall, 2011). Comprehensive SHE
has been shown to increase protective behaviors (delayed sexual initiation or abstinence from sexual activity, increased condom use, increase knowledge and use of contraception) and reduce risky sexual behaviors (frequency of sexual encounters, number of partners, and unprotected sex) (Chin et al., 2012). Comprehensive SHE in schools has broad, strong support in the general public (Barr, Moore, Johnson, Forrest, & Jordan, 2014) and among health and education professionals, but it is not consistently provided in secondary schools (CDC, 2015a). The presence of clear state, district, and local school policies can influence whether schools offer comprehensive SHE (Beltz et al., 2015; Brindis & Moore, 2014). However, school staff often experience significant barriers to implementing comprehensive SHE policy (Eisenberg et al., 2013).

It is important to understand what factors influence the implementation of comprehensive SHE policy. The social ecological model (SEM) (McLeroy et al., 1988) can provide a framework for identifying different levels of influence on decisions made by individuals responsible for implementation of comprehensive SHE policy. The purpose of this manuscript is to provide a brief review of comprehensive SHE and policy implementation and to explore how SEM can help identify potential issues that influence the level of success in comprehensive SHE policy implementation in schools.

**Background**

**Comprehensive SHE**

Comprehensive SHE is defined as sexual health education that is evidence based, medically accurate, and age appropriate. It can include but is not limited to content about anatomy and physiology, puberty and adolescent development and sexuality, pregnancy and reproduction, healthy relationships, decision making, personal safety and sexual violence
prevention, gender identity and sexual orientation, contraception, condom use, and disease prevention (CDC, 2017a; Future of Sex Education Initiative, 2012; United Nations Population Fund, 2014). The National Sexuality Education Standards state that with support from community and parents, comprehensive programs can effectively teach adolescents to avoid negative health outcomes, delay sexual activity, and communicate about sexuality and sexual health to others (Future of Sex Education Initiative, 2012). In addition, comprehensive SHE can teach students to distinguish between healthy and unhealthy relationships, understand and value autonomy over their bodies, respect the rights and autonomy of others, respect sexual orientation and gender identity, and protect academic success (CDC, 2017a; Haberland & Rogow, 2015). Studies of comprehensive SHE programs have demonstrated that they are effective in reducing risk behavior and in increasing protective behavior, compared with other types of programs that do not offer or purposefully exclude these content areas (Chin et al., 2012; Lindberg & Maddow-Zimet, 2012; Stanger-Hall & Hall, 2011; United Nations Educational Scientific Cultural Organization [UNESCO] 2009).

Personnel involved in the direct delivery of comprehensive SHE in schools include teaching staff (such as health education, physical education, or science teachers) and school health staff (including school nurses, counselors, and school-based health center staff) (CDC, 2015b). Additional individuals and groups involved in the provision of comprehensive SHE include school administrators, school district staff who have knowledge of relevant policies, school health advisory committees, and community groups that provide guest presentations (CDC, 2015a; Riehl, 2008).

There has been a decline in formal instruction of SHE (Lindberg, Maddow-Zimet, & Boonstra, 2016). While approximately 41% of U.S. adolescents report that they have had
sexual intercourse prior to leaving high school (CDC, 2017b), 57% of sexually active adolescent females and 43% of sexually active adolescent males report that they did not receive formal education on contraceptives prior to engaging in sexual activity (Guttmacher Institute, 2016). The CDC School Health Policies and Practices Survey shows that a mean number of total hours dedicated to comprehensive SHE-specific topics in secondary schools was less than seven (CDC, 2015a). Lindberg and Maddow-Zimet (2012) found that adolescents who received SHE covering both abstinence and birth control before their first sexual encounters were associated with healthier outcomes (delayed onset of first sex, greater contraceptive and condom use, and healthier partnerships) than those who did not. However, the researchers also found that students from lower income groups and those from minority groups were less likely to receive content that included both topics.

Policy Implementation

Implementing policy is a complex process that begins after a law or policy is enacted (Coburn, 2016; Smith & Larimer, 2016). For policy implementation to be successful, it is important to communicate clear policy objectives and goals, to plan for adequate training of individuals responsible for the implementation, to call for motivation and resources on the part of the organizations responsible for implementation, and to build on cohesive relationships between the organizations involved (Mazmanian & Sabatier, 1989a; Pressman & Wildavsky, 1984; Smith & Larimer, 2016). Models for policy implementation often use the direction to describe the process of the implementation. The “top down” implementation models begin in large agencies or administrative levels, and action is directed down to the organizations or target populations where the policy is to take effect (Smith & Larimer, 2016, p. 159). Conversely, “bottom up” models describe implementation that takes place at the
ground level, and those responsible for implementation communicate what is needed to those in authority at the administrative levels (Lipsky, 2010; Mazmanian & Sabatier, 1989a).

A bottom-up policy implementation model is useful, for several reasons, when looking at implementation of comprehensive SHE policies at schools. Lipsky and Hill (1993) referred to individuals with a front-line responsibility of policy implementation as “street level bureaucrats,” public employees or staff who, by the nature of their job, have discretion in how they carry out the implementation of policy (p. 3). For comprehensive SHE policy, the individuals on the ground in the school and classrooms are the individuals responsible for making decisions about what is taught and therefore are essential in the bottom-up policy implementation process. As the interpreter of policy goals, they are responsible for comprehensive SHE content that could affect the health of their students and health outcomes for the broader school community. Different comprehensive SHE policies originate at different levels of government, including federal, such as federal funding supporting a specific program; state, such as state education and/or health agencies regulating education within their jurisdiction; local, such as school districts or local education agencies responsible for administration of schools in their communities; and at the school level, such as informal or formally communicated expectations of content delivery in the classroom.

Understanding what influences the choices a policy implementer makes is just as important, if not more, than the activities from which a policy originates (Lipsky, 2010).

Social Ecological Model

Ecological models help explain complex relationships between individuals and their environments and clarify what environmental factors influence behavior (Sallis, Owen, &
Fisher, 2008). These models can also help identify how interventions affect and change individual behaviors (McLeroy et al., 1988). Ecological models have been studied in a wide variety of public health environments, including occupational health and safety (Haas, Hoebbel, & Rost, 2014), physical activity interventions and promotion (Langille & Rodgers, 2010; Olsen, Baisch, & Monsen, 2016), influenza vaccine uptake (Kumar et al., 2012), violence and injury prevention (CDC, 2015d), adolescent pregnancy (Rowlands, 2010), and adolescent sexual and reproductive health (Salazar et al., 2010; Svanemyr, Amin, Robles, & Greene, 2015). Many professional standards of practice related to public health and health behavior are grounded in ecological models (Golden & Earp, 2012; Lieberman, Golden, & Earp, 2013).

Bronfenbrenner (1979) developed his original ecological model based on systems theory, describing the close interactions between individuals and the levels of their environment as a “set of nested structures, each inside the next, like a set of Russian dolls” (p. 3). McLeroy et al. (1988) built on this ecological model, focusing on health promotion to create SEM (Figure 1). They found that existing health promotions models at the time did not take into account the influence of environmental, social structures, and systems on health outcomes. By incorporating an ecological perspective, they were interested in how different levels of an individual’s environment influenced and affected decisions and behavior patterns, including an individual and their environment.
The SEM depicts five nested levels of influence: the *intrapersonal* (individual knowledge, skills, and characteristics); *interpersonal* (individuals or groups that provide identity and support, such as family, friends, peers); *organizational or institutional* (larger groups that provide rules, regulations, and structures that promote or restrain behavior, such as religious, social, or professional organizations); *community* (community norms and regulations established by social networks and community organizations); and *public policy* (laws and policies that regulate action and behavior at the local, state, and federal levels) (McLeroy et al., 1988). The SEM posits that behavior and decisions made on one level can shape and influence decisions and behaviors or actions on other levels, demonstrating a key principle of the ecological perspective: that these relationships can be interdependent and bidirectional (Golden & Earp, 2012; Golden, McLeroy, Green, Earp, & Lieberman, 2015; McLaren & Hawe, 2005). There is not a strict hierarchy in the SEM levels, rather, like ecological models generally, they are nested and interact with each other.
While there are five levels of influence, the most common SEM levels researched and published to date are those that focus on levels closest to the individual, i.e., the intrapersonal and interpersonal level. These individual levels can be easier to apply and measure than levels farther away from the individual and might be more useful for studies focused on individual behaviors (Golden & Earp, 2012). In a review of 324 health education abstracts applying ecological perspectives, Salazar et al. (2010) found that the intrapersonal and interpersonal levels were the predominate focus. Golden and Earp (2012) found 20% of studies using SEM included the community level of influence and that only 6% used the policy level of influence. The lack of focus on the outer levels of influence might be that while improved health outcomes of individuals or populations are a common distal measurement of policy success, it is difficult to measure if a specific policy has improved individual behaviors. Action on one level might have stronger influences on the levels immediately adjacent, but a distal impact is more difficult to measure. If the unit of analysis is at the individual level, the ability to analyze levels of influence farther away from the individual also might be underpowered or too low to detect any effect.

While SEM sets the individual at the center of the concentric levels of influence, if the focus of analysis is an organization or group, SEM limits the extent the individual level of influence might have. In 2015, Golden et al. essentially reversed SEM and placed the policy level in the center of the model. This reversed the concentric levels of influence, ending with the individual level as the outer ring of influence. This inside-out version of the SEM presents a challenging viewpoint that considers how individual, interpersonal, organizational, and community levels, in turn, influence policy and policy decisions. **Influences on Comprehensive SHE**
Lieberman et al. (2013) encouraged advocacy efforts focused on health education to consider how larger structural impacts, such as policy implementation, can most effectively promote health and address health disparities. SEM can help identify those structural impacts or influences on implementation of comprehensive SHE policy. However, it is important to understand what known barriers and facilitators exist to teaching comprehensive SHE in schools. Common barriers include inadequate time to teach content, difficulty balancing other competing content, and lack of professional development (Eisenberg et al., 2012; Eisenberg et al., 2013; Eisenberg et al., 2010; Foley, 2015). Training is especially important because effective comprehensive SHE content delivery demands that teachers are comfortable teaching and discussing sexuality topics with adolescents and are familiar with the most recent comprehensive SHE content, which changes frequently. Other barriers are lack of resources and funding to purchase current curricula materials or well-evidenced programs; lack of comprehensive, up-to-date teaching materials; and lack of support and trust from parents, school administration, and the larger community (Eisenberg, Madsen, Oliphant, & Resnick, 2011; Eisenberg et al., 2012; Eisenberg et al., 2013; Foley, 2015).

Support from the school and parental community is important, because fear of confrontation from other school staff or community members or repercussions for teaching controversial comprehensive SHE topics influence what teachers decide to teach, even if content is required (Eisenberg et al., 2011, 2012; Foley, 2015). Community and cultural expectations and the experience and maturity of students in the classroom are also issues that can affect whether and how teachers teach comprehensive SHE (Eisenberg et al., 2011, 2012; Eisenberg et al., 2013; Foley, 2015). Having access to community health resources is
important so that students have additional sources of sexuality education (Foley, 2015; McRee, Madsen, & Eisenberg, 2014).

School and district policies that dedicate funding and time and communicate clear, updated educational standards that support and respect teaching expertise have a positive influence on how staff teach comprehensive SHE. This kind of support helps to legitimize and ensure continuity for comprehensive SHE. It also communicates the importance and priority of comprehensive SHE to the broader school district and community. Conversely, when school or district policies ignore national educational standards and best practices, explicitly restrict certain educational content, or are vague about expectations, the expectations for those staff responsible for teaching comprehensive SHE, and thus responsible for policy implementation, are unclear. Teaching staff must then reconcile what they believe students need, what they know is required, and interpret from policy what the limits are that they can teach (Eisenberg et al., 2012; Eisenberg et al., 2013; Foley, 2015). Without adequate support and direction, the burden falls on school staff, as the front line in the school and classroom, to decide and use discretion in how to implement comprehensive SHE policy at their school. It is critical to understand what influences school staff members to implement comprehensive SHE policy.

**SEM Application to Comprehensive SHE Policy Implementation**

**Comprehensive SHE Implementation in Schools**

Schools districts and school boards often operate with considerable autonomy from one another and from the state education agencies. When policy implementation unfolds at different levels of a school system and when implementation of state and local school policy officially and unofficially falls to school administrators and teaching staff, challenges can
occur (Coburn, 2016). Successful policy implementation would require that policy implementers understand the policy, manage selection of curriculum, are adequately trained to teach, and are able to manage any external feedback (Eisenberg et al., 2012; Williams & Jensen, 2015).

Unfortunately, at the local level, staff might be subject to external pressures that influence their commitment or willingness to commit resources (e.g., for training) to implementation of comprehensive SHE policies (Aronowitz & Fawcett, 2015; Eisenberg et al., 2012; Eisenberg et al., 2013; Longest & Huber, 2010). For example, a state education agency might defer decisions about comprehensive SHE policy implementation to local school district staff, if for no other reason than out of respect for district autonomy and/or for a desire to avoid political confrontation. The school district might then defer decisions about policy implementation to school administrators for similar reasons who, in turn, might delegate implementation decisions to individual staff responsible for teaching. As such, school staff on the front lines in the classroom, at the end of the policy implementation line, now become responsible for knowing and understanding the state and district policies that pertain to comprehensive SHE. Without adequate support, staff might or might not be able to consistently, correctly, and fully interpret and implement those policies.

Often, policies are created on one level, implemented on another level, and evaluated on yet another (Desimone, 2009). As such, policy decisions on any level (e.g., federal, state, district, school) might strongly influence the availability of resources to support programs and services required for implementation (Brindis, 2006). Funding decisions at the state and local levels have an enormous impact on policy implementation that can affect determinants
of health and health equity in ways that can improve or worsen health outcomes at the
district, school, or student levels (Brindis & Moore, 2014).

**SEM and Comprehensive SHE Policy Implementation**

Research focused on both policy implementation and implementation science often
overlap (Nilsen, Ståhl, Roback, & Cairney, 2013), and the exploration of educational policy
is a well-established field of inquiry (Young & Lewis, 2015). The use of ecological models
to examine behavior and decisions in educational environments is not new (Carrete, Arroyo,
& Villaseñor, 2017; Cengiz & Ince, 2014; Gamble, Chatfield, Cormack, & Hallam, 2017;
Langille & Rodgers, 2010). Still, SEM is a strong lens to focus on how implementation
affects levels of influence and how those levels involve one another simultaneously (Coburn,
2016). Policy implementers responsible for administering comprehensive SHE policy often
are not aware of the environmental influences that influence their decisions.

Eisenberg et al. (2012) combined the SEM levels of influence to create three levels—
interpersonal, organization, and community/policy to identify challenges and needs of
educators teaching comprehensive SHE in Minnesota schools. While policy and policy
implementation were not the focus of the work, study participants identified that policies at
different SEM levels (organizational and community/policy) were instrumental in creating or
removing barriers to teaching comprehensive SHE across the levels. At the front line,
teachers reported difficulty balancing policy requirements with teaching autonomy,
professional, and ethical obligations to students to provide information the students needed,
even if state policy discouraged it. The findings illuminated how policy at different levels can
affect teaching decisions made by teachers, using their own discretion to implement a policy
(Hohmann, 2016).
Finally, SEM organizational and community levels of influence help examine how school, district, and community characteristics influence policy implementation. For example, how do the demographic or socioeconomic characteristics of the school or district, the number of students, or geographic locale (e.g., urban versus rural) influence whoever has responsibility for policy implementation? Is the need for staff support and professional development (organizational level) the same or different in smaller, rural schools/districts that have few community resources versus larger, urban districts that have more resources that are available? Do communities with less access to health services and programs carry greater responsibility to provide sexuality education than do schools/districts that have access to resources, presenters, and organizers who can support and augment comprehensive SHE provision? Different organizational/institutional influences can be associated with different approaches for implementing statewide comprehensive SHE policies.

**SEM Level Intervention**

SEM can clarify influences to the challenges of policy implementation. If barriers exist to offering comprehensive SHE, SEM can help identify the level of influence where barriers can be addressed. SEM can help identify issues within and between levels and can open a wider lens to help identify solutions at different levels of influence. This strength of SEM can be especially helpful in community settings when policies and programs are being implemented (McLeroy et al., 1988).

Eisenberg et al. (2012) developed a table with three “theorized levels of influence” for teaching sexuality education. For purposes of this paper, I have expanded that table to include all five original SEM levels of influence and focused the factors that influence policy implementation (Table 2.1). The table includes examples of decisions and actions at various
levels that might influence implementation of comprehensive SHE policy. For example, the need for training and orientation for staff responsible for policy implementation is essential to the organizational level of influence. However, training can involve all SEM level of influence, including content-specific instruction, teaching methods, and pedagogy (intrapersonal); team-teaching between teachers, nurses, and other school staff (interpersonal and institutional); guest speakers (community); culturally specific information for populations (community); community resources (community); dealing with controversial aspects and advocacy of SHE (community and policy); and policy expectations and structure of implementation (policy).

Table 2.1: SEM Levels of Influence Related to SHE Policy Implementation*

<table>
<thead>
<tr>
<th>Level</th>
<th>Influence Related to Policy Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrapersonal (knowledge, attitudes, behavior, self-concept, skills, developmental history of individual, etc.).</td>
<td>Skills, preparation/training, experience, and comfort level of staff to teach sexual health content; experience and confidence managing difficult, sensitive, controversial topics; working with culturally diverse students; degree of comfort with conflicting viewpoints or pressures from administration, parents, community, personal beliefs; knowledge of policy requirements; personal beliefs regarding students’ need for information (Borawski et al., 2015; Eisenberg et al., 2011, 2012; Eisenberg et al., 2010; Foley, 2015; Herr, Telljohann, Price, Dake, &amp; Stone, 2012).</td>
</tr>
<tr>
<td>Interpersonal (formal and informal social networks, social support system, family, work group/peers, friendships).</td>
<td>Relationships with other school staff; approval/disapproval from co-workers and students for teaching sexual health content; support from personal relationships outside of work (family, friends) for teaching SHE content (Craft, Brandt, &amp; Prince, 2016; Eisenberg et al., 2012).</td>
</tr>
<tr>
<td>Organizational (social institutions with organizational characteristics, formal/informal rules, regulations, ethos).</td>
<td>Experience/training of available teaching staff; explicit/implicit expectations from employer regarding how to implement</td>
</tr>
</tbody>
</table>

*Adapted from Craft, Brandt, & Prince, 2016.
policy; available resources to support programs; administration making health a priority; involvement of school health team and/or school counselor/psychologist; presence of “champion” to lobby support for comprehensive SHE program; limitations on content (e.g., focusing solely on dangers/risks of sexuality; defining only heterosexual relations as normal; excluding intersections among gender, race, class, and sexuality; excluding critical thinking regarding sexuality and choices) (Bay-Cheng, 2003; Berglas et al., 2014; Borawski et al., 2015; Craft et al., 2016; Eisenberg et al., 2012; Eisenberg et al., 2013; Foley, 2015; Herr et al., 2012; Rocha & Duarte, 2016).

Community (relationships among organizations, institutions, informal networks within defined boundaries, cultural norms and values).

Local cultural, religious, or political beliefs regarding sexuality and teaching students about sexual health; media portrayal of sexuality; parental support for teaching comprehensive SHE; level of poverty in community; established community partners (Atkins et al., 2012; Barr, Moore, et al., 2014; Bleakley, Hennessy, & Fishbein, 2010; Craft et al., 2016; Eisenberg et al., 2012; Foley, 2015; Rocha & Duarte, 2016).

Policy (local, state, and national laws and policies)

Presence of policies at different levels (state, state agency [education or health], local school board, and school) that articulate details related to the content and delivery of SHE in public schools; supportive, vague, or restrictive policies describing what sexual health content can be taught; presence of opt-out policies for parents if they do not want their student present during classes teaching SHE content (Craft et al., 2016; Eisenberg et al., 2012; Eisenberg et al., 2013; Foley, 2015; Herr et al., 2012).

* Adapted from Eisenberg et al. (2012) and McLeroy et al. (1988).

Policy implementation occurs at many levels of educational systems (Coburn, 2016), yet as mentioned, the level of influence of the SEM policy is seldom studied (Sallis et al., 2008). Exploring the intersections between SEM influences and policy implementation can
be achieved by forming a comprehensive SHE community advisory committee to assess current comprehensive SHE policies (Bruess & Greenberg, 2009) and by assuring membership of individuals who represent the levels of SEM. This step can engage staff responsible for teaching comprehensive SHE, with individuals from different levels of SEM, including administrators; co-workers; parents, students, and youth; school board members; and community and policy leaders. Mutual goals can include studying the feasibility and readiness of the school or community for comprehensive SHE policy implementation, identifying individuals interested in championing comprehensive SHE, obtaining administrative approval, establishing curriculum and qualifications of educators, establishing goals, creating a public relations program, presenting to the board of education; and the creation of evaluation plans (Bruess & Greenberg, 2009). Factors from all SEM levels can have significant influence on policy implementation (Eisenberg et al., 2012; Langille & Rodgers, 2010). Even more, identification of a particular factor of influence at one SEM level may be relevant and operative at another level of influence.

**Conclusion**

Adolescent populations at risk of adverse health and social outcomes related to risky sexual behavior are in need of evidence-based comprehensive SHE. Comprehensive SHE curriculum is effective in reducing sexual risk behavior and in increasing protective behavior in adolescents. However, there are many barriers to implementing SHE policy at the local level, where policy is most commonly implemented (Beltz et al., 2015). Often, there are significant barriers to implementing state and local policies that support comprehensive SHE in schools. SEM provides a powerful lens with which to review the challenges to the implementation of comprehensive SHE policy through SEM and to clarify the level of
influence at which barriers lie. SEM can also help identify where the support of school staff responsible for policy implementation can be most effective.

Decisions and actions at one level of SEM might influence the actions in and across other levels (McLaren & Hawe, 2005). If SEM can help identify the needs of school staff responsible for implementing comprehensive SHE policy, addressing these issues on the level at which they will have the most influence can improve policy implementation. Influences identified by SEM can help identify effective solutions and appropriate recommendations for improvement (Haas et al., 2014). Ultimately, these efforts can help improve comprehensive SHE policy implementation and ultimately can deliver comprehensive SHE content more effectively to student populations most in need and most at risk.
Chapter 3—Isolated Voices: The Perspective of Teachers, School Nurses, and Administrators Regarding Implementation of Sexual Health Education Policy

Elizabeth Dickson, MSN, RN

University of New Mexico, College of Nursing

Albuquerque, NM
BACKGROUND

State and local policies supportive of sexual health education (SHE) in schools are among many factors that influence the risk of unplanned pregnancy among adolescents (Brindis & Moore, 2014). The need for evidence-based, medically accurate, age-appropriate comprehensive SHE in secondary schools is well documented (Centers for Disease Control and Prevention (CDC), 2014a, 2014b; Fields, 2008; Kirby & Laris, 2009). Comprehensive SHE has been shown to strengthen protective behaviors such as understanding and correct use of contraception, while reducing the incidence of risk behaviors associated with unplanned teen pregnancy (Chin et al., 2012; Goesling et al., 2014; Kirby & Laris, 2009; Kohler et al., 2008; Lindberg & Maddow-Zimet, 2012; Stanger-Hall & Hall, 2011). The need for such education, as well as establishing the topic as a formal policy priority, is reflected in its inclusion in the 2020 Healthy People Core Objectives – “to increase the proportion of adolescents who receive formal instruction on reproductive health topics before they were 18 years old” (Office of Disease Prevention and Health Promotion, 2015b).

Comprehensive SHE has been shown to strengthen protective behaviors such as understanding and correct use of contraception, while reducing the incidence of risk behaviors associated with unplanned teen pregnancy (Chin et al., 2012; Goesling et al., 2014; Kirby & Laris, 2009; Kohler et al., 2008; Lindberg & Maddow-Zimet, 2012; Stanger-Hall & Hall, 2011). The need for evidence-based, medically accurate, age-appropriate comprehensive SHE in secondary schools is well documented (CDC, 2014a, 2014b; Fields, 2008; Kirby & Laris, 2009). While there is broad, national parental support for school-based SHE (Heller & Johnson, 2013; Kantor & Levitz, 2017), extensive challenges to fulfilling the aims of SHE remain. These include limited resources, political constraints, and balancing
sexual health content against other teaching priorities (Combellick & Brindis, 2011; Craft et al., 2016; Eisenberg et al., 2013; Eisenberg et al., 2010; Foley, 2015). For example, state legislatures often mandate policy but might not provide financial support for its implementation. As a result, state and district education officials and administrators are often constrained by budgetary pressures that limit time and resources to devote to policy implementation (Aronowitz & Fawcett, 2015; Eisenberg et al., 2012; Eisenberg et al., 2013; Longest & Huber, 2010; Wilson, Wiley, Housman, McNeill, & Rosen, 2015). Thus, implementation of policies pertaining to SHE often falls to educators and administrators at the local level (Williams & Jensen, 2015).

Notwithstanding broad legislative but unfunded or underfunded policy directives at the state level, the educational content and time available to teach SHE, as well as the qualifications, experience, and comfort level of teachers, can vary considerably across districts and even within schools. Local factors may also influence whether certain topics, such as abortion, sexual orientation, gender identity, emergency contraception, and/or sexual violence, are taught (Chandra-Mouli et al., 2015; Eisenberg et al., 2013; Foley, 2015; Heller & Johnson, 2013; Kirby & Laris, 2009; Landry et al., 2003; Woo et al., 2011). Clear, specific state and district policies, as well as resources, supportive of SHE can reduce pressure on local-level administrators and teachers, while simultaneously legitimizing SHE within a community (Eisenberg et al., 2012).

New Mexico is a rural, majority-minority state (New Mexico Department of Health, 2014) with one of the highest rates of adolescent pregnancy (62 per 1,000 women, aged 15-19) in the United States for more than a decade (Kost et al., 2017). Over half of New Mexico adolescents who enter high school do not graduate, and many lack access to reproductive
health services (New Mexico Department of Health, 2014). For adolescents in communities where they are at higher risk for outcomes such as unplanned pregnancy, sexually transmitted infections (STIs), or HIV infection, inadequate SHE is a health equity challenge and a social justice issue.

Currently, New Mexico has three statewide policies that guide SHE in public schools. New Mexico Administrative Code (NMAC) 6.12.2.10 requires local school districts to provide “instruction about HIV and related issues” in elementary through senior high school grades, including “ways to reduce the risk of getting HIV/AIDS,” such as the “ability to demonstrate refusal skills, overcome peer pressure, and use decision making skills” (New Mexico Public Education Department [NMPED], 2005) (para. 6.12.2.10-C). The second policy, NMAC 6.29.6.9 – 10, details standards and benchmarks for health education topics for students in kindergarten through 12th grade, mostly defined as “areas related to sexuality” and occasionally referring to contraception, condom use, and abstinence (NMPED, 2009). This second policy also includes a district requirement that allows parents to exempt their student from any content, including sexuality performance standards, a process more commonly known as opt-out (NMPED, 2009) (para. 6.29.6.11). Finally, to graduate from high school in New Mexico, there is a statutory requirement (NMSA 1978, Section 22-13-1.1.[K]) that students successfully complete a course in health education in middle or high school (NMPED, 2011). However, the statute is not prescriptive about content. To date, there is little data on what content is or is not being covered throughout the state, about the grade levels at which SHE is offered, or who teaches the content.

The aims of this descriptive research were (a) describe the content and delivery of comprehensive SHE in New Mexico public secondary schools and (b) identify levels of
influence on policy implementation of SHE policies in New Mexico public secondary schools. The social ecological model (SEM) (McLeroy et al., 1988) was used as a framework for the second study aim. Participant responses regarding what influenced implementation of SHE policy were organized according to the five SEM levels of influence—intraperisonal, interpersonal, organizational, institutional, community, and public policy.

**METHODS**

**Participants**

The study was approved as exempt research by the Human Research Protections Office of the University of New Mexico (UNM). A convenience sample of school nurses, educators responsible for teaching health, and school administrators was recruited between August 2016 and January 2017. All participants were employed in a secondary school or school district in New Mexico. Employees of school districts governed by tribal authority or located on tribal land were not recruited, because the process would have entailed seeking approval from multiple tribal institutional review boards. School nurses were contacted through formal and informal professional networks or through identifying information on public-domain school-district websites. Educators and administrators were recruited from referrals, from formal and informal professional networks, and from public-domain school-district website information. I attempted to contact at least one nurse, educator, and administrator for each of the 89 school districts in New Mexico.

**Instrumentation**

A survey tool from a similar study in California (Combellick & Brindis, 2011) was adapted with permission for use in New Mexico. This survey tool was piloted with a small number of school nurses, health educators, and school administrators, none of whom
participated in the final study sample. Their feedback was incorporated into the survey to reflect the unique school and policy environments of New Mexico. The survey tool consisted of 67 primary structured and open-ended questions that were administered via phone interviews. Participants were asked to answer questions from their own perspective based on their own experiences and local practices.

Urban/rural designation for each participant was determined using state government designations: metropolitan counties, small metro counties, mixed urban/rural counties, and rural counties (New Mexico Department of Health [NMDOH], 2013b). Geographic regions—northwest, northeast, southwest, and southeast—were designated based on state government classifications (NMDOH, 2012).

**Procedure**

Potential participants were contacted by phone and/or email up to three attempts, using an approved, standardized script. If the interviewer did not make initial contact, a voicemail message was left. Those interested in participating were given the option of doing so at the time of contact or by scheduling a more convenient time. Prior to each phone interview, an approved, standardized consent script was read, and verbal consent was obtained and documented. The interviewer entered responses directly into an encrypted, online data management platform (Harris et al., 2009). Open-ended answers were repeated to the participant for confirmation. A $20 gift card was mailed to participants at their preferred mailing address, after which no contact information was preserved.

**Data Analysis**

Data were downloaded from REDCap™ (UNM, 2015) into SPSS 23 for analysis. Descriptive statistics included frequencies and percentages, or measures of central tendency
and dispersion, as appropriate. Analysis of unstructured, open-ended questions involved evaluating and summarizing the responses for common themes of concern or emphasis.

RESULTS

Of 290 initial contacts, 122 individuals consented to participate (42% response rate): 63 school nurses, 38 educators, and 21 administrators. Participants worked most commonly in high schools (41%), approximately one third (32%) worked in middle schools, and a quarter (25%) worked in both types of secondary schools. Sample percentages by geographic quadrant and urban/rural classification are shown in Table 3.1.

Table 3.1: Demographics of Participants (N = 122)

<table>
<thead>
<tr>
<th>Participant Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educator</td>
<td>38</td>
<td>31.2</td>
</tr>
<tr>
<td>School nurse</td>
<td>63</td>
<td>51.6</td>
</tr>
<tr>
<td>Administrator</td>
<td>21</td>
<td>17.2</td>
</tr>
<tr>
<td>Type of School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>50</td>
<td>41</td>
</tr>
<tr>
<td>Middle school</td>
<td>39</td>
<td>32</td>
</tr>
<tr>
<td>Both</td>
<td>30</td>
<td>24.6</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>Region of State *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northwest</td>
<td>38</td>
<td>31.1</td>
</tr>
<tr>
<td>Northeast</td>
<td>26</td>
<td>21.3</td>
</tr>
<tr>
<td>Southwest</td>
<td>34</td>
<td>27.9</td>
</tr>
<tr>
<td>Southeast</td>
<td>23</td>
<td>18.9</td>
</tr>
<tr>
<td>Urban/rural Designation **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolitan counties</td>
<td>25</td>
<td>20.5</td>
</tr>
<tr>
<td>Small metropolitan counties</td>
<td>20</td>
<td>16.4</td>
</tr>
<tr>
<td>Mixed Urban/rural Counties</td>
<td>49</td>
<td>40.2</td>
</tr>
<tr>
<td>Rural counties</td>
<td>27</td>
<td>22.1</td>
</tr>
</tbody>
</table>

* Based on NMDOH (2012) geographic regions

** Based on NMDOH (2013) urban/rural designations
Content of SHE

Figure 3.1 summarizes responses from participants, representing middle schools or high schools, who indicated a given SHE content area was covered. Participants were asked to provide answers for whichever school type or grade they worked in most often (some participants worked in more than one type of school or grade). For middle school grades, the three most commonly covered comprehensive SHE topics were: “influence of social/peer pressure”, “reproductive anatomy/physiology”, and “influence of alcohol/drugs on decision making”. The three least commonly covered topics were “emergency contraception”, “gender identity/gender roles”, and “success rates of different contraceptive methods”. The three most commonly covered high school topics were “reproductive anatomy/physiology”, “how STDs/HIV are transmitted,” and “how to prevent STDs/HIV”. The three least commonly covered topics in high school were “gender identity/roles”, “sexual orientation”, and “emergency contraception.” A large discrepancy was found between high school and middle school content in the topics of “contraception” and “gender identity/gender roles”, with substantially fewer middle schools than high schools covering these two content areas.
Figure 3.1: SHE Content: Percentages of High School and Middle School Respondents Indicating Topic Covered

* 20% to 25% of sample replied “don’t know” or did not respond
** 25% to 30% of sample replied “don’t know” or did not respond

By contrast, a somewhat higher percentage of middle school than high school respondents indicated that content included coverage of body image, social/peer pressure, how to talk
about sex with a parent or trusted adult, and decision making, negotiation, and refusal skills (Figure 3.1).

Eighty-one percent of participants reported that additional topics were covered beyond the topics specified in the original survey. Examples included sexual assault, dating violence and use of coercion or drugs, pregnancy/birth, accessing confidential services without parental permission, informed consent, suicide prevention related to pregnancy, bullying, HPV vaccination, cyber-safety/sexting, media influences on sex, and pregnancy options, including abortion. When asked if any topics were specifically excluded from SHE offered in their primary school, 39% of the respondents reported excluding some topics, 54% reported no excluded topics, and 7% reported that they did not know. Topics specifically excluded in high school from SHE included birth control methods, gender identity, sexual orientation, homosexuality, transgender issues, oral and anal sex, condoms and condom demonstration, abortion, emergency contraception, and local reproductive health resources. Reoccurring themes of why these topics were excluded included: “Our community is religious” or “conservative,” “We don’t talk about that,” “We are discouraged,” and “We are only abstinence education in our school.”

Many participants who affirmed that a topic was covered offered further context in their open-ended answers. These answers included doing the “bare minimum,” “toning down” LGBTQ discussion and transgender information, covering a topic only if students ask, not covering “the sex part of sexual orientation,” avoiding topics considered a moral issue, not discussing or mentioning birth control only in passing while focusing on pregnancy and abstinence, excluding topics that parents complain about, feeling limited by district policies, nothing “in depth,” and “just skimming.” While 48% percent of participants reported
covering abstinence and birth control methods equally, 33% of participants reported emphasizing abstinence most of the time or that abstinence was the only strategy discussed. More than half (55%) of the participants reported that condoms were taught to be an effective means of preventing pregnancy and STDs/HIV when used properly, 26% taught that condoms can be a backup to contraception as well as a means for preventing STDs/HIV, and 19% said condoms were not covered.

**Delivery of SHE**

Where SHE is delivered. Health class was the most common class (70%) where SHE was taught. Approximately 22% of the respondents indicated some other type(s) of class or across multiple classes were used to teach SHE, such as science, health, physical education, home economics, family and consumer science; or some other structure, such as in middle school home room, students leaving one class to attend another; or special presentations in available classes, such as by a school nurse, other staff, or outside groups; or personnel from a health department or school-based health center.

The most common high school and middle school grade levels in which SHE was taught were 9th grade and 8th grade, respectively (Figure 3.2). Eighty-seven percent of the participants reported that the course that offered SHE content was a required course. Participants’ estimated the median (25th and 75th interquartile range) number of hours per school year dedicated to delivery of SHE content in middle schools and high schools was 8 (3, 15) and 7 (3, 15) hours, respectively.
Who delivers SHE. Participants reported that the health teacher (61.5%) was the individual most often responsible for teaching SHE; the second and third most frequent were external organizations (49%) and school nurses (34%). PE teachers/coaches were selected for teaching health when a school did not have a designated health teacher, as PE teachers and health education teachers can share a professional certification or endorsement to teach health education (CDC, 2015b). More than a quarter of the participants (26%) identified “other” providers as state Department of Health staff (public health nurses, HIV educators); local family planning clinics; rape crisis centers; university medical students and interns; SBHC staff; counselors and behavioral health specialists; local police departments; pregnancy crisis centers; and outside community educators.

Overall, 95% of the participants reported more than one type of instructor involved in teaching sexual health. Sixty-three percent of participants reported that any speakers from external organization and their materials required an approval from the teacher, school or
district administrator, school board, or school health advisory committee (SHAC). Reasons for seeking outside speakers included needing content expertise and/or the most up-to-date information. In some cases, teachers or school administrators requested outside help; in other cases, offers from outside speakers or organizations were accepted.

Approximately one third of the participants reported that some additional training/certification was required for educators teaching SHE; the other two thirds (66%) reported either not knowing if that was required or indicated that it was not. Approximately half of all participants (52%) said their district would support training for staff responsible for teaching SHE. However, more than 90% reported not attending regular training, citing challenges in getting time away or finding resources to pay for training.

**Teaching materials.** More than half (51%) of the respondents reported that they did not use a published, evidence-based curriculum for SHE, 15% reported they did, and one third (33%) reported they did not know. More than two thirds of participants (67%) reported that their school used a textbook to teach SHE. A similar number of participants (65%) also reported including self-developed curriculum, stating that the teaching materials and textbooks they used were dependent on a replacement cycle of five to 10 years and often were out-of-date. Less than half of the participants (39%) reported that sexual health instructional materials were available in different formats for students with physical or learning disabilities. Slightly more than half of all respondents (54%) reported having only English-language instructional materials. Even so, most respondents (79%) believed that their instructional materials were culturally appropriate.

**SHE Policy**
Approximately 40% of the participants said there were written school district policies for HIV/AIDS prevention education or SHE. Almost two thirds of the participants (65%) reported that their district had a policy that allowed parents/guardians to remove their student (opt-out) from SHE. Only 10% reported an opt-in policy, and 4% reported a combination of opt-out/opt-in policies. The remaining 21% either did not have opt-out or opt-in policies, did not know, or responded that some other mechanism was used, such as providing opportunities for parents to meet directly with the teacher, allowing parents to attend class with their student, or asking for parent signatures on the entire class syllabus.

New Mexico law changed in 2010 (NMPED, 2011), requiring one course of health education (including SHE content) for high school graduation. Sixty-one participants reported that their district policies had been updated, revised, or changed since 2010, while 22% reported they did not know, and 18% reported that the policies had not changed. Although more than half (54%) of the participants reported that they thought state policies governing SHE were clear and understandable, 14% reported they were not, and 32% did not know about the policies.

Negative characterizations of state policies included that they were vague or unhelpful, that they did not hold schools and districts accountable, and/or were not supportive of schools’ responsibility to students. Approximately 90% of the participants reported they had not conducted or did not know if the state education agency had conducted evaluations or reviews of their SHE. Approximately 90% of the participants also identified factors that both made teaching SHE more challenging, and conversely, factors that made it easier.
Finally, New Mexico state law requires that each district have a SHAC, and 73% of the participants reported knowing that their school district had one. Less than half of those (42%) indicated that SHAC was involved to some degree in SHE. Examples of SHAC involvement included advocacy for comprehensive SHE, recommending and/or reviewing curriculum, taking school staff recommendations to the school board, managing the approval of the classroom speaker, and/or serving as an intermediary with parents or the community.

**Influences on Policy Implementation**

Participant responses included examples from all five SEM levels of influence on the implementation of SHE (Table 3.2). Participant responses included factors from each level that made policy implementation easier, as well as more challenging. Teachers, principals, school nurses, community members, and parents were identified by participants as having the most influence on SHE in their school.

Table 3.2: Social Ecological Model Influences on Implementation of SHE Policy

<table>
<thead>
<tr>
<th>SEM Level</th>
<th>Summary of Participants’ Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy level influences</td>
<td>• State policies are unknown, unclear, confusing.</td>
</tr>
<tr>
<td></td>
<td>• No state or district evaluation or review of SHE policies to support correct implementation.</td>
</tr>
<tr>
<td></td>
<td>• Need for district-specific policy SHE and HIV/AIDS prevention education.</td>
</tr>
<tr>
<td></td>
<td>• Policy orientation needed for school staff and community members to understand requirements, including opt-out policy.</td>
</tr>
<tr>
<td></td>
<td>• Policy does not mandate comprehensive content.</td>
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<tr>
<td></td>
<td>• Lack of collaboration between state education and health agencies.</td>
</tr>
<tr>
<td></td>
<td>• Assure availability of healthcare resources for students: counseling, public health clinics, SBHCs.</td>
</tr>
<tr>
<td>Community level influences</td>
<td>• Positive presence of an active school health advisory committee and school-based health center.</td>
</tr>
<tr>
<td></td>
<td>• Need for multilingual education materials.</td>
</tr>
</tbody>
</table>
- Community individuals available as expert speakers on sexual health.
- Supportive community members, district leaders, and parents actively seek to understand content versus making assumptions.
- Uninterested or unsupportive school board members and parents are barriers.
- Political, social, and religious ideologies diminish productive policy discussions.
- Long travel to locations to training, i.e., rural communities.

<table>
<thead>
<tr>
<th>Organizational level influences</th>
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</thead>
<tbody>
<tr>
<td>Need more than one staff responsible for teaching content.</td>
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<tr>
<td>Content is not priority since it is not tested like other core subjects.</td>
</tr>
<tr>
<td>Supportive administration will schedule time for class in schedule; reduce class size; approve up-to-date educational content, teaching materials, training, technology; create supportive, collaborative environment for staff to work together etc.</td>
</tr>
<tr>
<td>Lack of funding for training, materials, and resources makes it difficult to meet policy requirements.</td>
</tr>
<tr>
<td>Need available school nursing services and/or SBHC staff services.</td>
</tr>
<tr>
<td>Require training or certification to teach content.</td>
</tr>
<tr>
<td>Organization demonstrates respect for local/community culture by looking to provide culturally appropriate educational materials.</td>
</tr>
<tr>
<td>Supportive administrators advocate to school board, community groups, for resources, trainings, outside organizational help.</td>
</tr>
<tr>
<td>Staff fear that involvement in SHE might affect their evaluation negatively, job security.</td>
</tr>
<tr>
<td>Having a school staff “champion” who understands and advocates for SHE on all levels.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Interpersonal level influences</th>
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<tbody>
<tr>
<td>Supportive collaboration with co-workers to help design course and teach content.</td>
</tr>
<tr>
<td>Conflict with co-workers who do not believe students need SHE.</td>
</tr>
<tr>
<td>Positive, trusting relationships with students facilitating teaching content.</td>
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</table>

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<thead>
<tr>
<th>Intrapersonal level influences</th>
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<tbody>
<tr>
<td>Confidence and comfort to teach SHE increases with training, certification, knowledge of who to contact with questions—affects how they teach students.</td>
</tr>
<tr>
<td>Being responsible for deciding whether to “tone down” or avoid controversial content to avoid conflict with students, administration, parents, and community members.</td>
</tr>
</tbody>
</table>
Feeling frustrated that policy is not clear, school administration does not support their work, and feeling unsure how to interpret what needs to be taught.

Feeling alone, angry, confused, unsupported, struggling, and morally conflicted.

DISCUSSION

This study described the content and delivery of SHE in public secondary schools in a very rural state, with a majority-minority population in which adolescents are at higher risk for unplanned pregnancy than national averages. The study participants—educators, school nurses, and school administrators—represented school personnel on the front lines for implementing SHE policy. Regardless of role, findings confirmed many of the barriers to teaching SHE previously identified in the literature (Eisenberg et al., 2012; Foley, 2015; Wilson et al., 2015), including lack of sufficient training, out-of-date materials, inadequate resources, and constraints on time needed for SHE. Participants identified the lack of training and resources as an important reason for reliance on other school staff and outside presenters for expertise to teach SHE.

The data reported most commonly covered topics in SHE were different from national data in several ways. The three most common subjects covered in middle school that were reported in this study (influence of social and peer pressure, reproductive anatomy and physiology, and how STDs and HIV are transmitted) differed from CDC’s (2015a) national survey data for middle school topics (abstinence, dating and healthy relationships, and resisting peer pressure). For high schools, the three most common subjects (reproductive anatomy and physiology, how STDs and HIV are transmitted, and how to prevent STDs and HIV) were also different from the CDC (2015a) findings (abstinence, alcohol/drugs and risk for HIV, STD, and pregnancy, and how to prevent STDs). Our data regarding the least
common topics covered (emergency contraception, sexual orientation, and gender identity/roles) and the context of content delivery, e.g., covering the bare minimum to meet requirements, added important information to what has been reported previously. These results point to a need for review of policy and how specific content is taught considering local interpretation of policy (Gardner & Brindis, 2017).

In a state in which risks for adolescent pregnancy and STDs are higher than national averages, how the topic of abstinence is emphasized to the exclusion of the topic of birth control in middle school is of particular concern. Research has repeatedly demonstrated that, although abstinence is an essential topic to include, an abstinence-only or abstinence-focused approach is not effective at preparing adolescents to avoid sex and might even be harmful (Santelli et al., 2017). Moreover, approaches that favor abstinence over information on contraceptive and disease-prevention methods, such as condoms, are in conflict with stated policy for this state. These findings illustrate some of the problems and challenges that arise when state policy has vague, broad directives.

Although federal funding priorities within the Office of Adolescent Health have included funding requirements to implement evidence-based curricula (Feldman Farb & Margolis, 2016), research has documented that it is common for SHE providers to adapt and often weaken evidence-based curricula in replication efforts (Arons et al., 2016). This study reflects this finding by documenting that only 15% of participants reported using evidence-based curriculum at all, and two thirds of the participants used only district-assigned textbooks and materials they found or developed on their own. In addition, almost two thirds of the participants reported needing teaching materials in languages other than English for their students. While most participants reported an opt-out policy, a surprising 33% do not or
did not know the policy regarding requirements for parental permission, and 14% employed a combination of opt-in/opt-out, both of which conflict with state policy requirements.

The quality of SHE content delivered to students is significantly affected by whether teachers had professional training focused on health (Rhodes, Kirchofer, Hammig, & Ogletree, 2013). It is troubling that more than 90% of the participants reported that those responsible for teaching SHE did not attend training, citing difficulty leaving their work responsibilities and lack of funding. Overwhelmingly, participants reported wanting their classes taught to required standards but lacked basic understanding of the existence of policies stating what those standards consistent of, training to teach to the standards, and materials/support to facilitate that delivery. In communities where participants identified parental and community lack of support and understanding regarding SHE, they identified policymakers as important resources to help navigate communication with community members and to support and clarify the reasons and facts behind why policies require SHE. However, the perceived influence of more-conservative parents and community members resulted in more-sensitive topics not being covered or being covered superficially.

Participant responses revealed factors from all five SEM levels that influenced SHE policy implementation (Table 3.2). At the policy level, almost half of the participants reported that they did not know about state policies or thought state policies were unclear. This lack of clarity was compounded when 90% of participants reported no evaluation or review of their local policies or curriculum by the Public Education Department or the school district to determine whether local or state policies were in alignment. Participants recognized the need for additional resources for training and materials to meet policy requirements and thought that state health and education agencies were good potential
partners for sharing resources to meet those needs. In addition, participants recognized they had a responsibility to inform parents proactively regarding any opt-out policies.

Participants identified the community level as the most influential regarding implementation of SHE policy in schools. This level included community members (44%) and “other” individuals (22%), such as parents and family, school board members, and students. Participants identified the importance of having a SHAC (to help advise staff and administration) or a school-based health center (SBHC) to refer students for health care and expertise in sexual health, as well as having supportive district leaders and parents. Conversely, non-supportive community and school board members; political, social, and religious ideologies that affect education decisions; lack of interest by parents, rural distance for travel; and lack of culturally appropriate educational materials were identified as challenges to the implementation of SHE policy (Foley, 2015).

Participants reported that the school environment strongly influenced implementation of SHE policy. Organizational factors included administrative decisions regarding who is teaching sexual health content, whether adequate training to deliver the content was offered, and whether staff who taught the content had adequate resources and instructional materials (Eisenberg et al., 2012, Foley, 2015). Even though training is strongly indicated to improve student outcomes from SHE (Rhodes, Kirchofer, Hammig, & Ogletree, 2013), two thirds of the participants reported that certification and training were not required by their organization to teach SHE. How policy is implemented and if content meets the required standards, benchmarks, and performance standards will be greatly influenced by how well an organization can provide up-to-date teaching materials, delivered by trained staff.
Interpersonal factors identified by participants concentrated on relationships and on the influence of peers, co-workers, family members, and students. A positive relationship between teachers, school nurses, counselors, and administrators was important to facilitate delivery of SHE content and facilitated sharing of respective expertise (education and health) to meet the needs of students. It was at this level that participants often named a peer as their “champion,” a school staff member or peer who advocated for SHE, as a strong influencer who would speak directly to district and board leadership regarding implementation challenges.

Finally, intrapersonal factors that participants reported were mixed levels of confidence, comfort, experience, and beliefs that defined how they implemented SHE policy. The presence of administrative support to help navigate conflict with school staff, students, parents, or community related to SHE, and the need for individual training were reinforced at this level. Participants were often left with the challenge to interpret policy and deliver adequate content to their students independently from statewide policy (Foley, 2015).

Limitations

The principal limitation of the study is that it was conducted in a single state. Therefore, the extent to which the results apply to other states is unknown. The data were self-reported by a convenience sample of school staff who spoke from personal and local experiences. While not all individuals who are involved in SHE in public, secondary schools in New Mexico had the opportunity to participate, participants came from all geographic quadrants of the state and from metropolitan, mixed urban/rural, and predominantly rural counties. No identifying information was collected from participants, and data pertaining to school or district characteristics came from public sources. As a descriptive study, there were
no *a priori* hypotheses and no formal statistical comparisons by school, community type, role, or by region.

**CONCLUSIONS**

Effective and complete delivery of comprehensive sexual health content requires clear policy that is understood and supported by those responsible for its implementation, especially those at the school level, i.e., teachers, nurses, and school administrators. This study describes wide variations in how SHE policy is implemented in a rural, majority-minority state that has high poverty and adolescent pregnancy rates.

Top-down policy implementation approaches from the state level are rarely able to consider the broader social, political, and economic challenges faced by those on the front lines of putting policy into practice (Kendall, 2013). While it is understandable that state-level directives are broad and are not highly prescriptive, results of this study show a great deal of local variability in the content of SHE, the time and resources committed to teaching that content, and in how, when, and by whom that content is delivered. It is particularly concerning in a state in which teen pregnancy rates remain high that content pertaining to contraceptive methods and their relative effectiveness often are not covered or are covered only superficially. The results also show little in the way of evaluating the effectiveness of SHE. School staff and administrators possess unique knowledge of whom to engage in their school, district, and community for delivery or support for SHE; to address gaps in policy; and to overcome barriers to implementation. This is particularly true in regards to the unique needs in rural communities (Foley, 2015). The knowledge and experience of school personnel are essential for delivering quality SHE that best addresses student needs while simultaneously abiding by state policy.
Implications for School Health

This study shows multiple levels of influence on the school-level educators and staff that affect the comprehensiveness and quality of SHE, even in the most supportive environment. These data from participants who are knowledgeable about what is and is not being done at the local level have significant implications for state and local planning and for efforts to improve policy implementation and instructional quality of SHE. Teachers, principals, and school nurses are on the front lines for addressing educational and health needs of adolescent students (Lipsky, 2010) and, together with community members, hold great influence on how SHE policy is implemented. The data constitute a potentially valuable frame of reference for policymakers and legislators concerned with school health generally and with SHE in particular. Greater engagement of policymakers and legislators with frontline personnel at school and community levels is key to reducing barriers to successful delivery of SHE for public, secondary school students and in ensuring support for effective implementation of state-level policies. Specific implications for school health include:

- Using the health expertise of nurses and the teaching expertise of teachers to inform the content and delivery of school SHE policy.
- Communicating clear, written policy to all staff and parents indicating the SHE standards, evidence supporting policy, and the opt-out policy for parents. Where there is not a clear, written policy, engage local legislators, policymakers, advocacy groups, parents, and students to participate in developing such policy.
- Ask staff responsible for teaching SHE what training they need to teach required standards. If financial and travel barriers are prohibitive to meet training needs, look
to SHE distance-learning training programs that do not require travel or extra expense.

- Reach out to schools in rural, underserved and under-resourced areas to share resources and curricula and to enhance access to expertise, and decrease barriers.
- Fit curriculum to local context and community needs but also meet policy requirements.
- Consider what local culture and languages need to be included in course materials.
- Engage and include students in discussions about what they need for program design, content mapping, and youth-friendly resources.

**Human Subjects Approval Statement**

This study was approved by the University of New Mexico’s Human Research Protections Office and was determined by that office to be exempt research. This project was supported by the Robert Wood Johnson Foundation Nursing and Health Policy Collaborative at the University of New Mexico, College of Nursing. Additionally, the project used the REDCap™ (UNM, 2015) database, a program supported by the UNM’s Clinical and Translational Science Center, National Institute of Health Grant # UL1TR001449.
CHAPTER 4—The Role of School Nurses in Implementation of Sexual Health Education Policy

Elizabeth Dickson, MSN, RN
University of New Mexico, College of Nursing
Albuquerque, NM
School nurses are advocates and specialists in school health who support evidence-based practice (Hoyle, 2014; National Association of School Nurses [NASN], 2017). School nurses in public schools inhabit two policy worlds: one of education policy and one of health policy. While different statutory and regulatory systems govern each policy world, school nurses are trying to bridge both (NASN, 2017). As part of the Framework for 21st Century School Nursing Practice (NASN, 2016), school nurses are encouraged to use their knowledge and experience and to take on leadership roles in policy development and implementation related to health education, health equity, health services, and programs at the local, district, community, state, and national levels (NASN, 2016). Given their wide-ranging responsibilities to the school and to the district, students, families, and communities, in what ways do school nurses engage in development and implementation of policies related to sexual health education (SHE)? How does their level of engagement in policy development and implementation influence the scope and content of such policies?

The objective of this paper is to answer those questions and explore the role that the school nurse assumes in the implementation of policies related to SHE in schools. SHE policy is but one of many health policies that school nurses are responsible for implementing, and their perspective as policy implementers is largely absent the literature on school health. In this paper, I use the street level bureaucracy framework (Lipsky, 2010) to characterize the ways in which school nurses are involved in implementation of SHE policy.

**Background**

**SHE policy**

Comprehensive SHE (Centers for Disease Control and Prevention [CDC], 2017a) is evidence-based, age-appropriate, and medically accurate. It is effective in increasing
adolescent protective sexual behaviors (e.g., delaying first sexual encounters, using condoms and birth control) and reducing risky behaviors (e.g., early sexual encounters, multiple sexual partners, not using condoms or birth control) associated with pregnancy and sexually transmitted infection (including HIV) (Chin et al., 2012; Lindberg & Maddow-Zimet, 2012; Stanger-Hall & Hall, 2011). Comprehensive SHE in school settings has been shown to have broad support from parents (Barr, Moore, et al., 2014) and is supported by multiple professional health and education organizations including the National School Nurses Association (2017), American Academy of Pediatrics (2016), National Education Association (2017), and the American Public Health Association (2014), among others. It is an explicit objective of Healthy People 2020 (Office of Disease Prevention and Health Promotion, 2015a) and is one of seven priority topics in the 2017 School Health Index policy and programs assessment tool for middle and high schools (CDC, 2017). However, SHE is not consistently offered in every state and fewer than 40% of high schools teach recommended sexual health related topics identified by the CDC (Brener et al., 2017).

SHE is especially important for adolescent populations already at increased risk for disparate health outcomes. This is particularly true for adolescent populations in New Mexico, a largely rural, majority-minority state (47.8% Hispanic, 9.3% American Indian/Alaska Native) with high levels of poverty and unemployment, low high school graduation rates, and limited access to healthcare services (New Mexico Department of Health [NMDOH], 2013a, 2014; U. S. Census Bureau, 2016). For the past 10 years, New Mexico has consistently had one of the highest adolescent pregnancy rates in the United States (currently 62 pregnancies per 1,000 women aged 15-19); as well as high adolescent birth rates (42 births per 1,000 women aged 15-19) (Kost et al., 2017); high levels of sexually
transmitted infections (ranked fourth among 50 states in chlamydial infections, with highest rates among women aged 15-24) (CDC, 2015c); and ranked 49th out of 50 states in child well-being the past five years (New Mexico Voices for Children, 2017).

The three New Mexico state policies guiding SHE in schools do not explicitly require a comprehensive SHE curriculum, nor do the policies limit what can be taught. Instead, the state policies, respectively: require HIV education; identify educational standards, benchmarks, and performance standards for health education for middle and high schools; and require one course of health education that meets those standards, benchmarks, and performance standards for high school graduation (New Mexico Public Education Department [NMPED], 2005, 2009, 2011; Sexuality Information and Education Council of the United States, 2016).

Policy Implementation

Policies enacted through legislation or executive order generally define a problem or objective and specify which agency or agencies are responsible for carrying out the policy. Details of policy implementation are generally the responsibility of the agencies charged with executing and overseeing those efforts (Mazmanian & Sabatier, 1989b). Models of policy implementation tend to reflect either a top-down (that of the policy developers) or bottom-up perspective (that of those charged with implementation and, further downstream, those who interact directly with the public while carrying out policy directives) (Hill & Hupe, 2002, 2014).

The Street-Level Bureaucrat

Lipsky (1980) originally created the term street-level bureaucrat (SLB) to characterize the individuals engaged in the front lines of policy implementation efforts and
who have the most direct engagement with the public. The front-line individuals have varying degrees of discretion to make decisions on the ground level, and what is implemented at that level may differ from what the original policymakers and planners contemplated. According to Lipsky (2010), SLBs usually work in organizations in which heavy workloads, inadequate resources, and an ever-increasing demand for services are the norm. They may have to interpret or reconcile vague or conflicting policy objectives and expectations with personal beliefs and professional standards in the light of those constraints. SLBs often are not in a position to choose their clients or stakeholders, and they often lack the resources and authority to control the outcomes or quality of their work, yet they are the public face of their employing agencies and of the policies with which the agencies are charged (Gilson, 2015; Hill & Hupe, 2014; Lipsky, 2010). As such, SLBs often experience ethical dilemmas between their own ideals, the realities of the organization within which they work, and the policies that direct them. In their attempts to manage pressures from both the employing agency and the individuals they serve, SLBs exercise whatever discretion and autonomy they possess to cope with conflicting demands to meet policy objectives while holding on to their ideals.

From the perspective of the public and often in contrast to the policy itself, the day-to-day decisions of SLBs effectively become the policy (Gilson, 2015). How these decisions are made and how competing demands are prioritized reflect the structure and culture of the organization or agency and the authority, ideals, and creativity of individual actors (Brodkin, 2012; Coburn, 2016; Rigby, Woulfin, & März, 2016).

Examples of SLBs in the literature include judges (Biland & Steinmetz, 2017), police officers (Oberfield, 2012), social workers and other social service agency personnel (Ellis,
2011), public sector hospital personnel (Thomas & Johnson, 1991), physicians (Gaede, 2016), and school personnel (Barberis & Buchowicz, 2015; Carlson & Planty, 2012; Honig, 2006; Robert, 2017; Timberlake, 2014). The SLB framework has been applied to the work of nurses in hospitals (Hoyle, 2014) and in community or public health settings (Bergen & While, 2005; Hughes & Condon, 2016; Walker & Gilson, 2004). The SLB framework has not been applied specifically to studying the work of school nurses.

**The School Nurse as Street-Level Bureaucrat**

The characteristics of SLBs as described by Lipsky (2010) are evident in school nurses. They are licensed professionals who exercise professional autonomy and discretion commensurate with their education and experience (NASN, 2017). They provide and delegate direct health-related services to students, coordinate school health priorities with other school staff, and communicate directly with students, families, and the larger community. The resources at the disposal of the school nurse are frequently unpredictable at best. The school nurse is often the only healthcare provider within the school walls, operating as the health expert for students and staff. School nurses often practice without direct supervision in their immediate work environment and with the discretion to respond to the needs of students, staff, and community, according to their professional judgment. They face professional dilemmas and ethical challenges as they strive to balance between the complex health needs of individual students with the wellness needs of the larger school population despite limited resources.

School nurses are involved in deciding how and when students receive health education and what is covered. However, school nurses may be less cognizant of the role they play in implementation of state and local policies related to health and education that
were developed in legislative and regulatory environments far from where they work. Bradley (1997) identified five primary health education roles of the school nurse: teaching individual students, providing classroom instruction, participation on curriculum planning committees, sharing resources with teachers, and modeling health-promoting behavior. School nurses also offer valuable expertise in planning the content and delivery of health education and health promotion efforts (NASN, 2017). Teachers have reported an increased level of satisfaction when there is a full-time school nurse (Biag, Srivastava, Landau, & Rodriguez, 2014). However, the role(s) of school nurses in the delivery of health education in schools can vary widely from one district or school to another (Hoekstra, Young, Eley, Hawking, & McNulty, 2016).

School nurses have demonstrated they are effective instructors of SHE content, and their involvement in planning the implementation of SHE policy can make a difference in how well SHE is implemented (Borawski et al., 2015). Cleaver and Rich (2005) found that school nurses taught SHE content if teachers felt uncomfortable or were unwilling to teach sexual health topics. School nurses frequently navigate the tensions surrounding sexual health, directly engaging school administration and staff about the subject matter, promoting dialogue and listening to concerns, and alleviating anxieties (Brewin et al., 2014; Hayter, Owen, & Cooke, 2012; Hayter, Piercy, Massey, & Gregory, 2008). McRee et al. (2014) found that more than half of all teachers responsible for implementing SHE used guest speakers, including school nurses. While school nurses might understand the importance of teaching health in classroom settings, their level of engagement can be determined by the level of collaboration with teaching staff, administrative support, and the degree to which the
School prioritizes health education in general and SHE in particular (Klein, Sendall, Fleming, Lidstone, & Domocol, 2013).

**Methods**

The data for this analysis were part of a recent study about the content and delivery of SHE and factors influencing implementation of policies relevant to SHE in public secondary schools in New Mexico. The state has 89 public school districts, with four districts in metropolitan areas. I recruited a convenience sample (N = 122) of public secondary school nurses, health education teachers, and administrators from all four quadrants of the state and from counties designated as metropolitan, rural, and mixed (New Mexico Department of Health, 2013), but the sample excluded tribal schools and school districts. School nurses constituted a majority of the sample (52%). The Human Research Protection Office of the University of New Mexico (UNM) approved the study as an exempt study. Most of the boards of education of the school districts studied did not require prior approval; of those that did, all but one provided approval. After obtaining informed consent, semi-structured phone interviews were conducted.

**Measures**

With permission, I used a survey instrument originally developed for a similar study in California (Combellick & Brindis, 2011). The instrument had structured and unstructured questions regarding SHE policy and about the content and delivery of SHE. Four individuals with expertise in SHE in public schools assessed content validity. I piloted the survey tool with other individuals from each of the potential participant groups, who were not themselves participants. Changes were made to the survey tool questions using collective feedback about the unique school and policy environments in the state.
Procedures

Interviews took place over the phone between August 2016 and January 2017. An encrypted computer was used to enter responses directly in a secure, online database (Harris et al., 2009). Participants received a $20 gift card by mail after which no contact information was maintained. The survey data were downloaded into SPSS 23 for descriptive statistical analysis, and the open-ended responses to the unstructured questions were summarized for common areas of participant concern or emphasis. For purposes of this report, responses of just the school nurses were analyzed.

Results

Sixty-three school nurses participated in this study. Approximately one fifth (22%) of them reported working in middle school(s) exclusively. Slightly more than a third (36%) reported working in high school(s) exclusively, and a similar percentage (37%) worked in a combination of middle and high schools. The remaining 5% worked in a setting that did not fall into one of those categories (e.g., kindergarten through 12th grade, alternative high schools, or multiple districts or school types). Approximately one quarter (23%) worked in rural counties, 40% in mixed urban/metropolitan, 16% in small metropolitan counties, and 21% in metropolitan counties.

Seventy-nine percent of school nurse participants reported SHE (including HIV/AIDS prevention education) was taught at their school, but only 32% reported having knowledge of a district policy for teaching SHE. Ninety-two percent indicated that SHE content was taught in multiple grades, most commonly in a health class (75%). Approximately 95% indicated that more than one type of instructor was used, most commonly health teachers, school nurses, and external organizations/guest speakers. Examples of school nurses’ open-ended
responses about factors that made the implementation of SHE policy easier or more challenging are summarized in Table 4.1.

Table 4.1: School Nurse Identified Factors That Influence Implementation of SHE Policy.

<table>
<thead>
<tr>
<th>Location</th>
<th>Student</th>
<th>Factors that make it EASIER</th>
<th>Factors that make it MORE CHALLENGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td></td>
<td>• Open, honest, trusted relationship with students.</td>
<td>• Lack of trust with students.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Being available to students after class for questions.</td>
<td>• Sexually active students resistant to SHE.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ability to refer students for healthcare, if needed.</td>
<td>• Not feeling safe in school.</td>
</tr>
<tr>
<td></td>
<td>Teacher</td>
<td>• Supportive, trusted relationship with teachers.</td>
<td>• Lack of certification or SHE training.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Willingness to include outside speakers in class.</td>
<td>• Unwilling to work with nurse, does not ask for help.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Teachers with SHE training and orientation.</td>
<td>• Exclusion of nurse in SHE planning/discussions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Access to updated SHE information.</td>
<td>• Lack of communication regarding when SHE content is taught.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Encouraging teaching staff.</td>
<td>• Personal opinions/beliefs of are barrier to teaching evidence-based content.</td>
</tr>
<tr>
<td></td>
<td>Administration</td>
<td>• Support and trust from administration and board.</td>
<td>• Request for nurse to cover content after abstinence-only focus in class.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Provision of updated, appropriate materials and supplies.</td>
<td>• Only one nurse for entire district.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Time provided in schedule for nursing and teaching demands.</td>
<td>• Administrative fear about community/parent response to teaching comprehensive SHE.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Organizing class schedule and content to cover topics</td>
<td>• Health education is not included in school evaluation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Administrative requirement of abstinence-only content</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Explicit district guidelines prohibiting nurses from</td>
</tr>
<tr>
<td>Community</td>
<td>Parents</td>
<td>Outside community</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
<td>------------------</td>
<td></td>
</tr>
</tbody>
</table>
| • Provide sexual health content before 8th grade.  
• Administrative support for LGBTQ inclusive environments. | teaching students about sexual health, pregnancy, birth control, condoms.  
• Concerns of job security if comprehensive SHE is taught.  
• Lack of support to replace outdated teaching materials and curriculum.  
• Lack of policy direction from administration regarding SHE.  
• SHE offered online without staff to support students with questions.  
• Lack of time in class to teach ALL health education content creatively.  
• Lack of SHE content continuity/follow-up after the one class is provided. | • Informed parents support teach SHE in school.  
• Parents talk with other parents regarding the importance of SHE.  
• Parents review SHE curriculum and have opportunity to ask questions.  
• Parents opting at-risk students out of the class.  
• Parents are unaware of opt-out policy.  
• Parents fearful or unwilling to talk to their kids about sex.  
• Incorrect parental perception/understanding of SHE content and delivery. |
| Community | Parents | Outside community |
| • Supportive state department of health staff (public health nurse, health educators, school health nursing advocate) available to help teach SHE.  
• Presence of school-based health center to help teach, refer students for care.  
• Having behavioral health support for student referrals. | • Lack of access to adolescent healthcare and confidential services in rural communities.  
• Powerful, conservative political, religious groups control school board are not supportive of SHE.  
• Community groups try to prohibit contraception and LGBTQ content and push for abstinence-only content for all students.  
• Erroneous information among community/parents regarding comprehensive SHE content |
(e.g., teach students SHE promotes sexual activity).
- Community unwilling to discuss adolescent sexual behavior.
- Cultural and/or language barriers or low literacy levels are barriers to discussing SHE in community.

<table>
<thead>
<tr>
<th>Policy</th>
<th>Clear policies at state and local levels explain what is required and why.</th>
<th>Lack of state or district policy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oversight from the state agencies supportive of districts and schools to implement SHE policy.</td>
<td>Policy with unclear/vague language regarding comprehensive SHE content.</td>
</tr>
<tr>
<td></td>
<td>Policy language allows for classroom discussion of sexual health and student risk behavior.</td>
<td>District policies that require parental signature to attend class with SHE content (opt-in).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of specific curriculum requirements and resources in policy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>District policy conflicts with state policy regarding required/elective status of class.</td>
</tr>
</tbody>
</table>

Forty-one percent of school nurse participants reported receiving encouragement or feeling pressures when teaching SHE. Examples of encouragement included communications from other staff and administration, seeing student health prioritized in the school, being able to openly address community concerns, and having time to teach content and respond to student questions and concerns. Examples of negative pressures included inadequate time or resources, having decisions about SHE challenged by parents or community members based on ideology or religious beliefs, and being directed to remove content that was considered controversial.

Approximately half of the school nurse participants (46%) felt that state policies supporting SHE were clear and understandable, 12% believed they were not, and the other
42% were not sure or did not know. Acknowledging that accountability was problematic when law or regulation is vague, several participants nonetheless expressed concern about the lack of evaluation of outcomes or of adherence with state policy at the local level.

Participants provided many suggestions to policymakers about how to support implementation of SHE policy. Those responses were organized by support for policy priorities, need for policy clarity, curriculum needs, training needs, state agency needs, and other needs (Table 4.2).

Table 4.2: Needed Support Identified by Participants for Implementation of SHE Policy.

<table>
<thead>
<tr>
<th>Support from whom?</th>
<th>Support for what?</th>
<th>Specific support details</th>
</tr>
</thead>
</table>
| Policymakers (agency and legislators) | Policy priorities | • Prioritize health and health education over graduation rates.  
                                            • Mandate comprehensive SHE.  
                                            • District and school accountability for SHE policy requirements.  
                                            • Prioritize resources to meet policy requirements.  
                                            • Consider the heavy workload of teachers and nurses when creating new policy. |
|                                  | Policy language   | • Provide clear policy language for support to school staff and for understanding.  
                                            • Clarify language in laws by orienting and training school staff and administrators on what needs to be done.  
                                            • Policy language explicitly needs to require sex education to graduate.  
                                            • Districts need clear state guidelines for what needs to be taught. |
|                                  | Curriculum support| • Establish clear curriculum standards that meet state law.  
                                            • Require LGBTQ content in curriculum.  
                                            • Allocate curriculum resources for schools to comply with policy. |
<table>
<thead>
<tr>
<th>Training</th>
<th>State agency</th>
<th>State education agencies and health agencies</th>
<th>Maintain state health department budget</th>
</tr>
</thead>
</table>
| • Develop SHE curriculum or resource list for all schools to use.  
• Communicate updated policy changes, teaching resources to accompany curriculum requirements.  
• Communicate curriculum information directly to health teachers and nurses (email, newsletter, free resources).  
• Include nurses in curriculum and content review. |
| • More training and resources for those responsible for SHE policy.  
• Support certification or training for staff teaching SHE content, including teaching training for nurses and health content for teachers need health content training. |
| • Support and train nurses and teachers working together.  
• State agencies collaboration for SHE policy oversight  
• School boards and administration value health agency evidence-based recommendations.  
• Education agency provides curriculum resources, training resources for all staff who teach.  
• State agencies need to visit schools to understand support needed at the school level.  
• State education agencies need to evaluate the content being taught.  
• State agency support of school staff addressing school boards.  
• State agency support of dynamics for schools in smaller, conservative districts.  
• Explicitly support inclusion of LGBTQ content in SHE.  
• State education agency needs to hire nurses. |
| • Maintain health department budgets; critical health resources for schools and students in rural communities.  
• Maintain public health nurses at the public health offices to provide education support and services for students. |
<table>
<thead>
<tr>
<th>Other</th>
<th></th>
</tr>
</thead>
</table>
|  | • Develop staff speaker panels from state education agencies and health departments.  
• Support SHE focused on high risk LGBTQ students.  
• SHE taught by untrained staff is potentially unsafe for students.  
• Support to help guide conversations with principals, parents, and communities. |

**Discussion**

Advocacy for students, families, and communities is a key attribute of school nursing (Mazyck, Cellucci, & Largent, 2015; NASN, 2017) that is also noted as a fundamental characteristic of SLBs, who “use their knowledge, skill, and position to secure for clients the best treatment” (Lipsky, 2010, p. 72).

School nurses -- working in collaboration with parents, students, health educators, curriculum specialists, and other school and community stakeholders -- strive to dismantle barriers and support access to evidence-based SHE that allows all students to make informed, responsible, and healthy decisions. (NASN, 2017)

Findings from this study illuminate the pressures and dilemmas that confront school nurses as they advocate for SHE and engage in efforts to implement SHE policy.

Responses of school nurse participants were consistent with several defining characteristics of SLBs (Lipsky, 2010), notably working directly with the public (students, parents, wider community) with inadequate resources, vague expectations pertaining to policy goals, and unclear performance measurement (Gilson, 2015). Examples of inadequate resources included out-of-date teaching materials, inadequate class teaching time, and insufficient time in their schedules. Not having adequate resources encourages school staff to
look for outside help, including from groups outside of the school, some of which have ideological agendas about SHE.

Fewer than half of school nurse participants (46%) felt that state policies pertaining to health education (including SHE) were clear, and only a third reported knowing of a policy at the district level to guide their work in teaching SHE content. Unclear policy goals can undermine the work of school staff who work directly with students and are held accountable for student learning and welfare. In the absence of clear policy language, a frequent pattern within the work of SLBs (Gilson, 2015), curriculum expectations were uncertain, which increased barriers to teaching SHE. In contrast, clear policy goals and curricular expectations facilitated implementation of SHE policies.

For many participants, factors identified as facilitating and those identified as challenges impeding implementation of SHE policy were two sides of the same coin. For example, regarding the quality of relationships with students, positive relationships with and among students facilitated implementation whereas when nurses perceived that students felt ignored or unsafe, implementation was more of a challenge. Attitudes of community members and parents were another example: when those two groups were supportive, parents and community members were engaged and informed about the content of SHE and the policies supporting it. When community members or parents were fearful or anxious about SHE, implementation was difficult. Other factors that made implementation challenging included cultural or language barriers and a lack of healthcare providers in the community. A good, working relationship with teachers with clear communication and collaboration related to SHE (Brewin et al., 2014) were reported to help implementation, while a lack of communication or excluding school nurses from planning hindered implementation.
The school nurses frequently mentioned the importance of trust in their work with SHE: trust with students, teachers, administrators, and parents. When school nurses experienced trust in those relationships and relied on that trust, implementation was easier. Also worth noting is that school nurse participants believed that a generally supportive environment for school nurses enhanced trust and made implementation of SHE policy easier. Trust is an important component of discretion for the SLB. Trust for the SLB includes professional and public trust to discern the importance of treating all equally, yet making reasonable and flexible decisions on how to implement policy (Gilson, 2015).

School nurse participants shared multiple ideas to improve the ability of school nurses and teachers to teach SHE content to students, to inform families and communities of the policy requirements, and to improve the well-being and health of the students they served. The list of suggestions to policymakers about what type of support school nurses need to implement SHE policy (Table 2) clearly demonstrated a voice of advocacy for students, families, and schools. Participant suggestions also included advocacy for other organizations, including the state health and education agencies responsible for implementation of SHE policy. As school nurses support and advocate for agencies that represent their two policy worlds (health and education), the school nurses articulated how greater support and accountability for implementation of existing SHE policy in schools could positively affect the lives of students. Participants also suggested the inclusion of a SHE team model that incorporates the expertise of both school nurses and teachers and could improve the teaching of SHE and promote collaboration between state health and education agencies (Brewin et al., 2014; Cheung et al., 2017).

School Nursing Implications
This study presents data that are demonstrative of the role that school nurses have in policy implementation, specifically regarding teaching and implementing SHE policy. While school nurses work within both health and education policy environments, they often are responsible for implementing policies of which they may not fully be aware. Considering the role of the school nurse as SLB may help identify those factors in their environment that support and challenge them as front-line policy implementers.

Advocacy by school nurses has important implications for school health policy and for educational policy (Raible et al., 2017). School nurses draw on their knowledge, expertise, and stories of student health status, health education priorities, and existing policy requirements, and the nurses work to implement evidence-based interventions to improve SHE in the best interest of their students and their success in education and in life. The exercise of discretion by school nurses allows them to engage in policy implementation on the front lines in influential ways, despite limited resources: in the school, in the classroom, and wherever decisions are made about what is taught regarding SHE and how and by whom it is taught. The suggestions that participants provided policymakers may be helpful in guiding development and implementation of policies to more effectively support students, especially those most in need. Implementation of school health policy is problematic without reasonably specific directives and expectations in the policy and without sufficient resources and training for staff and community members involved in implementation efforts (Hampton Holland, Green, Alexander, & Phillips, 2016).

The important voice and story that school nurses have to share is critical to influence policy, and their leadership can shape the school health policy that guides their practice (Bergren, 2017). The trusted voice of nurses (Norman, 2016) as providers of SHE and as
street-level policy implementers can contribute to the design of SHE policy that focuses on “creating conditions that facilitate quality and responsiveness in policy delivery” in the school environment (Brodkin, 2012, p. 947).

**Limitations**

This descriptive study was conducted in only one state and included a convenience sample of school nurses who spoke from their own experience. As such, I do not know how well the results can be generalized to other states or communities or to other school nurse experiences. The results of the study demonstrated that school nurses in New Mexico play an important role in implementing SHE policy in their schools and districts. However, their challenges are rooted in the combination of roles they play, the demographic and geographic characteristics of their schools, and how they link the healthcare policy world and the education policy world.

**Conclusion**

School nurses, as SLBs, play an important advocacy role to “close the gap between public promises made and performance” (Lipsky, 2010, p. 4) as they pertain to SHE policy in schools. School nurses are no stranger to the role of advocate for their students, schools, families, and the larger community, and policy advocacy is a logical extension of the patient-level advocacy that nurses assume (NASN, 2017; Spenceley, Reutter, & Allen, 2006). With their skill and experience in advocacy, school nurses can lead policy discussion about the need for comprehensive SHE in schools. They can speak to the importance of creating policies that incorporate the experience of those who will be on the front lines of delivering the policy in schools and classrooms. In addition, they can speak knowledgeably about any
disconnect between the resources at hand versus the resources they need to deliver SHE effectively.

Comprehensive SHE in school environments has been shown to positively affect adolescent health outcomes by decreasing risky sexual behaviors and by strengthening protective behaviors (Kirby & Laris, 2009). In addition, policies that support comprehensive SHE in schools can positively influence the sexual health outcomes of adolescents, such as unplanned pregnancy and sexually transmitted infections (STIs) (Brindis & Moore, 2014). Yet, school nurses can be overlooked as resources for health education interventions, and their underrepresented view can be left out of policy discussions (Raible et al., 2017; Smith & Larimer, 2016). As a bridge between health and education policy and based on their role as street-level champions, the perspective of school nurses could not be more valuable for decision making about how best to deliver SHE policy in their schools.
Chapter 5: Summary, Conclusions, and Recommendations

This final chapter offers a summary of the previous dissertation chapters, conclusions of the study findings, and recommendations for further research. I will also include the plans for dissemination and implications of the study findings.

Summary

There has been a decrease in the delivery of sexual health education (SHE) in schools across many communities in the United States. For U.S. adolescent populations that continue to experience high rates of adverse sexual health outcomes, such as unplanned pregnancy and sexually transmitted diseases, this deficit leaves many adolescents without the health information they need. This is critically important for adolescent populations of racial/ethnic minorities, rural communities, or communities with tremendous socio-economic challenges, factors which increase the risk for adverse adolescent health outcomes. Comprehensive SHE is one primary prevention intervention shown to have positive effects of reducing adolescent risk behavior and increasing protective behavior, both of which are important in reducing adverse sexual health outcomes.

Public middle schools and high schools can offer comprehensive SHE. State-level health and education policies for comprehensive SHE with clearly articulate goals and expectations for content and delivery are essential for overcoming political and logistical barriers. The state of New Mexico has had the highest adolescent pregnancy rate of all 50 states for over a decade. It also has high levels of poverty, is geographically mostly rural, and is a majority Hispanic/Latino and Native American population. While state policies in New Mexico allow for SHE content and delivery, they are vague about goals and expectations for content (apart from HIV and STIs), and leave content, delivery, and evaluation to the local
level. Prior to this study, few specifics were known about content and delivery of SHE in public secondary schools in New Mexico. In addition, relatively little was known about the factors that influence implementation decisions regarding SHE policy and what kinds of barriers are commonly encountered.

This study aimed to explore two issues: (a) describe the content and delivery of SHE in New Mexico public secondary schools and (b) describe the factors influencing implementation of SHE policy in New Mexico public secondary schools. This study used the social ecological model (SEM) framework to help understand what factors influence policy-implementation decisions made by those responsible for implementation at the school and classroom level. Those individuals were school nurses, teachers responsible for teaching health education, and administrators.

**Manuscript 1**

I used the McLeroy et al. (1988) SEM to better understand factors that influence the individuals in the school and classroom who are responsible for SHE policy. The SEM is a well-published model that helps identify the many systems present in an individual’s environment can influence and affect their decisions and behaviors. All levels of influence described in the model (intrapersonal, interpersonal, organizational, community, and policy) were considered in the context of comprehensive SHE policy-implementation behavior.

**Manuscript 2**

The second manuscript summarized the methods and main findings of the study focused on the content and delivery of SHE and the influences on implementation of SHE policy. The data suggested SHE policy is implemented in New Mexico secondary schools with great variability in scope and content, with significant barriers of time and resources.
Fifty percent of respondents estimated a total of not more than seven to eight hours devoted to teaching SHE in per school year. Participants reported little to no formal evaluation of how SHE policy was implemented or how effective it is. While all levels of SEM affected how SHE policy is implemented, respondents indicated that community and organizational factors had the greatest influence on policy implementation. These data provide an important perspective of the challenges faced by individuals tasked with implementing SHE policy at the school and classroom level.

**Manuscript 3**

The unique role of school nurses in implementation of sexual health education policy is not well understood. In the later stages of data collection for this study, it had become evident that school nurse participants offered a unique nursing perspective on the content, delivery, and policy implementation experience. While SEM had already been selected as a theoretical model for this study, I realized that the street-level bureaucratic-policy implementation model (Lipsky, 2010) was in many respects a better fit to understand the way that school nurses spoke about their various roles in the implementation of SHE in schools and classrooms. Particularly in response to open-ended questions, school nurses reported having to navigate between objectives for both health policy and education policy. For these reasons, in the third manuscript, I used the street-level bureaucrat model of policy implementation to understand the unique challenges faced by school nurses in the implementation of SHE policy. As school nurses are often the only healthcare provider within an educational environment, they often are the bridge between health and education policy in schools. The school nurse participants described how their education and experience give them a unique set of skills to not only teach the SHE content to students but
to advocate for comprehensive content, particularly for students who were most at risk for
poor health outcomes. This unique perspective of the school nurse as an important street-
level policy implementer is an important contribution to the school health and nursing
literature.

In addition, the ‘street-level’ experiences of school nurses potentially provide
opportunities to educate others regarding policy implementation needs related to SHE.
Through coping with the pressures and dilemmas associated with implementing SHE policy,
school nurses develop practical knowledge about the barriers and concerns related to SHE
policy and curriculum delivery. In addition to their practical knowledge, school nurses are
also able to share published research or evidence-based guidelines with teachers,
administrators, community members, public health professionals, and other school health
leaders. School nurses can help staff and supportive community members to better
understand best practices related to comprehensive SHE and the kinds of support needed for
implementing SHE policy at the local, school district, and state level (Wilson et al., 2015).

**Conclusions**

Two important determinants of pregnancy incidence are levels of sexual activity and
contraceptive nonuse (Sedgh et al., 2015). Comprehensive SHE that is evidence-based,
medically accurate, and age appropriate can address those two determinants by reducing
risky sexual behaviors (e.g., the number of partners, unprotected sexual activity) and
increasing protective sexual behaviors (e.g., delaying initiation of sexual activity and condom
or contraceptive use) in adolescents (Chin et al., 2012). The presence of complete and
accurate information about sexual health, including information on contraception and
protection against disease, has been deemed a fundamental human right by the United
Nations, as “a means to empower young people to protect their health, well-being, and dignity” (United Nations Population Fund, 2014).

However, sexually active adolescents often report that they often do not receive any formal sexual health information (Guttmacher Institute, 2016; Lindberg & Maddow-Zimet, 2012). The presence and quality of comprehensive SHE is especially important for vulnerable communities that have an adolescent population at high risk for adverse sexual health outcomes, such as the adolescent population in New Mexico. For New Mexico, it was unknown what SHE content was or was not being taught and by whom it was taught. It also was not known how much time was devoted to SHE or what kinds of barriers were encountered. While New Mexico faces enormous health disparities and economic challenges, little was known about the factors that influence school- and district-level decisions about implementing the state SHE policies. The descriptive data from this study help illuminate the challenges faced by school staff responsible for SHE policy implementation in the educational environment of New Mexico. Finally, while the focus of this study was New Mexico secondary schools, results of the study may be of interest for policy-makers and secondary school nurses, educators, and administrators in states with similar health disparities and adolescent populations at high risk for pregnancy, STIs, and other outcomes that SHE policies are intended to address.

The study was limited in several ways. As a descriptive study with a convenience sample of school nurses, teachers, and administrators describing their own experience, data represented the participants’ best judgment about how to answer questions based on their own experiences. There was little focus on the extent tow students were involved in or
influenced decisions related to implementation of SHE. This is not unusual in research focused on student health (Beck & Reilly, 2017).

Every effort was made to attain a sample that was geographically representative. However, the generalizability of study data to states other than New Mexico, or even to New Mexico communities in which no participants were recruited is unknown. In addition, the sample is also limited by not having included tribally governed school districts. In view of those limitations, no formal statistical comparisons or tests of a priori hypotheses were performed. Replication of this study with the approval of tribal and pueblo institutional review boards and local governmental authorities or in other states with similar geographic characteristics would be helpful for understanding the extent to which the challenges and barriers identified by participants are generalizable or idiosyncratic.

**Recommendations**

The sample in this study was comprised of professionals who work on a daily basis with students in secondary schools. The interview questions focused on their experiences with SHE and implementation of policies related to it. Future research needs to explore and collect the experiences and perspectives of youth about the sexual health content they are being taught, who is delivering the content, and what might be influencing how policies are implemented in their schools. It would be wise to include the voice of the adolescent population in efforts to shape future policy with the goal of affecting adolescent health outcomes. In addition, intentional efforts in future research need to include the perspectives of lesbian, gay, bisexual, transgender, and queer (LGBTQ) adolescents as part of the larger adolescent perspective. LGBTQ adolescent populations are at higher risk for sexually transmitted infections and unplanned pregnancy than their heterosexual peers (Lindley &
Walsemann, 2015; Ybarra, Rosario, Saewyc, & Goodenow, 2016). Even more, SHE policies that are nondiscriminatory of LGBTQ youth can positively impact adolescent health outcomes (decreased adolescent birth rates) (Grosso, Bermudez, & Chiasson, 2017).

In addition to submitting manuscripts for peer review, dissemination of study findings will take place at the state and local levels in New Mexico. This will include presentations to the New Mexico School Nurses Association, the New Mexico Legislative Health and Human Services interim committee, and to the New Mexico Department of Health and New Mexico Public Education Department committees focused on SHE. I have secured funding to develop a policy-focused report to provide the data back to school nurses, teachers, and administrators who are interested in the study results and have requested a summary of data to use in their work locally to share with their peers across the state.

At the national level, I will submit presentation abstracts at the annual conferences of the NASN, the American School Health Association, and the American Public Health Association. I will seek future research funding from various national and local sponsors interested in this topic: the Division of Adolescent and School Health of the Centers for Disease Control and Prevention, advocacy groups that have prioritized the need of comprehensive SHE in school, and professional nursing and school health organizations. Finally, the data from this study will help guide discussions between community partners in New Mexico and state health and education agencies working together to advocate for improvement of comprehensive SHE policy and oversight of SHE in New Mexico and nationally.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System (Martin et al., 2017)
Appendix B: New Mexico Adolescent Birth Rate

Source: New Mexico Department of Health (2014).
Appendix C: Abstinence Education Definition

“A-H” Section 510, Title V of the Social Security Act

“For purposes of this section, the term ‘abstinence education’ means an educational or motivational program which—

(a) Has as its exclusive purpose, teaching the social, psychological, and health gains to be realized by abstaining from sexual activity.

(b) Teaches abstinence from sexual activity outside of marriage as the expected standard for all school-aged children.

(c) Teaches that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems.

(d) Teaches that a mutually faithful monogamous relationship in the context of marriage is the expected standard of human sexual activity.

(e) Teaches that sexual activity outside of the context of marriage is likely to have harmful psychological and physical effects.

(f) Teaches that bearing children out of wedlock is likely to have harmful consequences for the child, the child’s parents, and society.

(g) Teaches young people how to reject sexual advances and how alcohol and drug use increases vulnerability to sexual advances.

(h) Teaches the importance of attaining self-sufficiency before engaging in sexual activity.

Appendix D: United Nations Definition of Comprehensive Sexuality Education

“CSE is curriculum-based education that aims to equip children and young people with the knowledge, skills, attitudes and values that will enable them to develop a positive view of their sexuality, in the context of their emotional and social development. By embracing a holistic vision of sexuality and sexual behaviour, which goes beyond a focus on prevention of pregnancy and sexually transmitted infections (STIs), CSE enables children and young people to:

- **Acquire accurate information** about human sexuality, sexual and reproductive health, and human rights, including about: sexual anatomy and physiology; reproduction, contraception, pregnancy and childbirth; sexually transmitted infections and HIV/AIDS; family life and interpersonal relationships; culture and sexuality; human rights empowerment, non-discrimination, equality and gender roles; sexual behaviour and sexual diversity; and sexual abuse, gender-based violence, and harmful practices.

- **Explore and nurture positive values and attitudes** towards their sexual and reproductive health, and develop self-esteem, respect for human rights, and gender equality. CSE empowers young people to take control of their own behaviour and, in turn, treat others with respect, acceptance, tolerance, and empathy, regardless of their gender, ethnicity, race or sexual orientation.

- **Develop life skills** that encourage critical thinking, communication and negotiation, decision-making, and assertiveness. These skills can contribute to better and more productive relationships with family members, peers, friends, and romantic or sexual partners.”

Appendix E: Bronfenbrenner’s Ecological Theory of Development

Appendix F: Social Ecological Model

Source: Office of Behavioral and Social Science Research (n.d.)
Appendix G: Adaptation of Social Ecological Model Representing Physical Activity Promotion in Schools

Source: Langille & Rogers (2010).
Appendix H: Survey Tool

BACKGROUND

1. What is your job title?

2. We would like to know (a) what region of New Mexico you are in and (b) if you are in an urban or rural area of New Mexico. I can determine this by which county you are in. I will not keep this information; I will only use it to help me identify the region and urban-rural designation. What county is your school?
   o Region [northwest, northeast, southwest, southeast]
   o Urban-rural designation (metropolitan small, metro mixed, urban/rural counties, or rural counties)

The first set of questions asks about sexual health education in your school, specifically HIV/AIDS prevention and/or sexual health education. I realize some schools use different terms to describe this type of instruction; for the purpose of this interview, I’m going to use the terms “HIV/AIDS prevention education” and “sexual health education,” but please let us know the terms you use.

3. Is HIV/AIDS prevention education currently taught in your school/the schools where you work?
   □ Yes
   □ No
   □ I don’t know

4. Does your district have a written policy governing HIV/AIDS prevention education?
   □ Yes
   □ No → Does the district offer any guidance to schools about the timing and/or content of HIV/AIDS prevention education?
     □ Yes → How is this done?
     □ No
     □ I don’t know
   □ I don’t know

5. Is sexual health education currently taught in your school?
   □ Yes
   □ No
   □ I don’t know

6. Does your district have a written policy governing sexual health education?
   □ Yes
   □ No → Does the district offer any guidance to schools about the timing and/or content of sexual health education?
     □ Yes → How is this done?
If YES to providing both HIV/AIDS & sexual health education →

7. Are sexual health education and HIV/AIDS prevention education typically taught together?
   □ Yes → OK. For the rest of the questions in the interview, please answer regarding your overall program, which as you mentioned includes both HIV/AIDS prevention and sexual health education.
   □ No → OK. I’ll ask some questions now about each type of program. First, we’ll start with your HIV/AIDS prevention education program. And later we’ll discuss your sexual health education program.

If NO, they are not taught together, only one (HIV/AIDS prevention education only, or sexual health education only) is taught → Continue on, using appropriate terminology. If NO or I don’t know to providing both HIV/AIDS & sexual health education → Skip to “Other”

DELIVERY

8. In what grades does HIV/AIDS prevention and/or sexual health education occur (Check all that apply)?
   □ 6th
   □ 7th
   □ 8th
   □ 9th
   □ 10th
   □ 11th
   □ 12th
   □ I don’t know

9. In what class is HIV/AIDS prevention and/or sexual health education usually taught?
   □ Health class
   □ Science class
   □ A different class (please specify):
   □ I don’t know

10. Is the class(es) in which HIV/AIDS prevention and/or sexual health education is taught a required course or an elective for students?
    □ Required course
    □ Elective course
    If an elective course → What percentage of students would you estimate elect to take this class? _______
11. Can you estimate how many hours **per year** of HIV/AIDS prevention and/or sexual health education do the students in your class (or school) receive? (If number of class periods are estimated, multiply the average class time (e.g., 55 minutes) by the number of class periods to calculate the approximate number of hours).
   - In middle school (grades 7 and 8): _____ hours
   - In high school (grades 9 through 12): _____ hours

12. **Who** typically provides HIV/AIDS prevention and/or sexual health education instruction?
   - Sexual health education teacher
   - Health teacher
   - Home economics or consumer education teacher
   - Physical education teacher
   - Science/biology teacher
   - Other teacher
   - School nurse
   - School-based health center staff
   - Someone from an external organization (e.g., community organization, local health department) (proceed to question 13a)
   - Other (please specify):
   - I don’t know

13a. If an **external organization** is used to teach or help teach HIV/AIDS prevention and/or sexual health education:
   - What type of organization is providing instruction?
   - How long have you been working with this organization?
   - What originally motivated your school to seek out an external organization to provide instruction?
   - Is there a review and approval process by the school or district before an external organization is brought in? If yes → What is that process?

13. Does your district **require any trainings or certifications** in order to deliver HIV/AIDS prevention and/or sexual health education at your school?
   - Yes → How often are teachers required to take this training or certification?
   - No
   - I don’t know

14. Does your district **conduct and/or host trainings** for HIV/AIDS prevention and/or sexual health education teachers?
   - Yes → How often?
   - No
   - I don’t know
15. What is your current district policy for allowing parents to withdraw their children from HIV/AIDS prevention and/or sexual health education instruction, also referred to as “opt out” or “opt in” laws?

(If participant is unsure what opt out and opt in mean, explain: “Opt out means that the parent must write or sign a letter ONLY if they DO NOT want their child to participate in instruction, also called ‘passive consent.’ Opt in means the parent must write or sign a letter in order for their child to participate in instruction, also called ‘active consent.’ If parents must return a letter that includes both types of instruction, and students won’t get the instruction unless the letter is returned, that counts as opt in for both.”)

☐ Opt out for both HIV/AIDS prevention education and sexual health education
☐ Opt out for HIV/AIDS prevention education and opt in for sexual health education
☐ Opt in for HIV/AIDS prevention education and opt out for sexual health education
☐ Opt in for both HIV/AIDS prevention education and sexual health education
☐ We do not offer parents the opportunity to remove their children from class
☐ Other (please specify):
☐ I don’t know

16. Has this policy changed recently?

☐ Yes ➔ When?
☐ No
☐ I don’t know

**CONTENT**

The next questions ask about the resources and instructional materials used to deliver HIV/AIDS prevention and/or sexual health education.

17. Does your school use a textbook to deliver HIV/AIDS prevention and/or sexual health education?

☐ Yes ➔

☐ Do you teach with it?
☐ No
☐ I don’t know
☐ Yes

☐ What is the name of the textbook and/or publisher?
☐ Is there an HIV/AIDS prevention and/or sexual health education supplement for this textbook?
☐ No
☐ I don’t know
☐ Yes ➔ Do you teach with it?
☐ No
☐ I don’t know
☐ Yes
☐ Do you omit or add to any portion of the textbook/supplement? Please explain.
☐ No
☐ I don’t know

18. Does your school use a **published curriculum** to deliver HIV/AIDS prevention and/or sexual health education?
☐ Yes ➔
   ☐ What is the name of that curriculum?
   ☐ Do you omit or add to any portion of the curriculum? Please explain.
☐ No
☐ I don’t know

19. Does your school use a **self-developed curriculum** to deliver HIV/AIDS prevention and/or sexual health education?
☐ Yes ➔
   What resources or materials were used to develop this curriculum?
☐ No
☐ I don’t know

20. How often do you **update your instructional materials** for HIV/AIDS prevention and/or sexual health education?
☐ Yearly
☐ Every 2 years
☐ Every 3-5 years
☐ Every 6-8 years
☐ Other (please specify):
☐ I don’t know

21. Is there someone besides you who is **responsible for reviewing and updating** the instructional materials for HIV/AIDS prevention and/or sexual health education (position name, not individual name)?
☐ Yes ➔
   What is the position name, not individual name?
☐ No
☐ I don’t know

22. Which of the following best describes the overall approach of your school toward the topic of **abstinence** *(Read options to participant and ask them to select one)*?
☐ When discussing pregnancy and sexually transmitted diseases, abstinence is the only prevention strategy discussed.
☐ When discussing pregnancy and sexually transmitted diseases, birth control methods are mentioned, but most of the time is spent on the benefits of abstinence.
When discussing pregnancy and sexually transmitted diseases, abstinence and birth control methods are discussed equally.

When discussing pregnancy and sexually transmitted diseases, abstinence is mentioned, but most of the time is spent discussing birth control methods.

Abstinence is not discussed.

23. Which of the following best describes the way you teach about condoms in your HIV/AIDS prevention and/or sexual health education? (Read options to participant and ask them to select one).

- When used properly, condoms are an effective means of preventing pregnancy and STDs/HIV.
- Condoms are not an effective means of preventing pregnancies and STDs/HIV.
- Condoms are best used as a backup to contraception to prevent pregnancy and as a means for preventing STDs/HIV.
- We do not teach about condoms.

24. Now, I’d like to ask about the topics covered as part of HIV/AIDS prevention and/or sexual health education. As I read each item, please let me know if you teach this topic in your middle/high school class or if you know if it is taught in your school:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Middle school NO</th>
<th>Middle school YES</th>
<th>High school NO</th>
<th>High school YES</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision making</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to talk to parents about sex</td>
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<tr>
<td>Abstinence</td>
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<tr>
<td>Methods of contraception (FDA approved)</td>
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<tr>
<td>Success rates of different contraceptive methods</td>
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<td></td>
</tr>
<tr>
<td>Failure rates of different contraceptive methods</td>
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<tr>
<td>Emergency contraception or Plan B</td>
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<tr>
<td>Life planning</td>
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<tr>
<td>How STDs/HIV are transmitted</td>
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<tr>
<td>How to prevent STDs/HIV</td>
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<tr>
<td>STD/HIV symptoms</td>
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</tr>
<tr>
<td>Topic</td>
<td>Yes</td>
<td>No</td>
<td>I don’t know</td>
<td></td>
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<tr>
<td>Condom effectiveness for STD/HIV prevention?</td>
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<tr>
<td>Respect for marriage and committed relationships</td>
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<tr>
<td>Reproductive anatomy and physiology</td>
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<td>Strategies for communicating with partners</td>
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<tr>
<td>Societal views/stereotypes for people living with HIV/AIDS</td>
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<tr>
<td>Local resources for sexual healthcare (e.g., testing, contraception)</td>
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<tr>
<td>Healthy relationships</td>
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<tr>
<td>Sexual orientation</td>
<td></td>
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<tr>
<td>Body image</td>
<td></td>
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<td></td>
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<tr>
<td>Gender roles</td>
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<tr>
<td>Sex under the influence of drugs or alcohol</td>
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</tbody>
</table>

25. Were there any **other topics that I didn’t mention** that are part of your HIV/AIDS prevention and/or sexual health education?

☐ Yes  ➔ If yes, what are they?
☐ No
☐ I don’t know

26. Are there any **topics that are specifically excluded** from your HIV/AIDS prevention and/or sexual health education instruction?

☐ Yes  ➔ If yes, what are they?
☐ No
☐ I don’t know

27. Are your instructional materials for HIV/AIDS prevention and/or sexual health education available in (modified) formats for **students with disabilities** (physical or learning)?

☐ Yes  ➔ If yes, what are they?
☐ No
☐ I don’t know
28. Are your instructional materials for HIV/AIDS prevention and/or sexual health education available in a language other than English?
  □ Yes → What language(s):
  □ No → Is there a need to develop materials in a language other than English?
    □ Yes. What language?
    □ No
  □ I don’t know

OTHER

29. Have your district policies on HIV/AIDS prevention education or sexual health education been updated, revised, or changed in the past six years?
  □ Yes → If yes, why?
  □ No
  □ I don’t know

30. Have your school policies on HIV/AIDS prevention education or sexual health education been updated, revised, or changed in the past six years?
  □ Yes → If yes, why?
  □ No
  □ I don’t know

31. Are there any factors that have made it easier to teach HIV/AIDS prevention and/or sexual health education in school?
  □ Yes → If yes, what factors?
  □ No
  □ I don’t know

32. Are there any factors that have made it more challenging to teach HIV/AIDS prevention and/or sexual health education in schools?
  □ Yes → If yes, what challenges or barriers?
  □ No
  □ I don’t know

33. Which of the following groups have had the most influence on your HIV/AIDS prevention and sexual health education programs? (Respondent can give more than one response)
  □ School board
  □ District officials
  □ Teachers
  □ Parents
  □ Students
  □ Other community members
  □ Other (please specify):
34. Have you ever felt encouraged or pressured by any of these groups to change your current program of HIV/AIDS prevention and/or sexual health education?
   □ Yes → If so, how?
   □ No
   □ I don’t know

35. Do you think New Mexico laws governing HIV/AIDS prevention and/or sexual health education are clear?
   □ Yes
   □ No → If no, why?
   □ I don’t know

36. Has the New Mexico Public Education Department (PED) ever conducted an evaluation or review of your HIV/AIDS prevention and/or sexual health education instruction?
   □ Yes → If yes, when did this happen, and what was the outcome of the review?
   □ No
   □ I don’t know

37. Can you think of ways the New Mexico PED, New Mexico Department of Health (DOH) or New Mexico policymakers can support those who are teaching HIV/AIDS prevention or sexual health education in New Mexico public secondary schools?

38. Is there anything else you would like to comment on regarding the HIV/AIDS prevention and/or sexual health education instruction offered in your school?

39. Can you provide contact information to other school nurses/health education teachers or teachers who teach health/administrators for middle or high schools in your district who might be interested in participating in this survey?
Appendix I: Human Research Review Committee Approval

UNM HEALTH SCIENCES CENTER

Human Research Review Committee
Human Research Protections Office

May 6, 2016

Mark Parshall
College of Nursing, MSC 09 5350
1 University of New Mexico
NM 87131-0001
2-4540
mparshall@salud.unm.edu

Dear Mark Parshall:

On 5/6/2016, the HRRC reviewed the following submission:

Type of Review: Initial Study
Title of Study: Sexual Health Education in New Mexico Public Secondary Schools
Investigator: Mark Parshall
Study ID: 16-133
Submission ID: 16-133
IND, IDE, or HDE: None

Submission Summary: Initial Study
Documents Approved: • Eligibility & Consent Script for phone survey_Version 01_042816.pdf
• Appendix B-Recruitment ScriptVersion 01_042816.pdf
• HRP-581 - Parshall_Dickson Protocol Version 01_042816.pdf
• Appendix C_Survey_Version 01_042816.pdf
• Appendix A Initial Contact ScriptVersion 01_042816.pdf
• Parshall_Dickson_HRPO-583_Request_for_exemption.pdf

Review Category: EXEMPTION: Categories (2) Tests, surveys, interviews, or observation.

Determinations/Waivers: Provisions for Consent are adequate.
HIPAA Authorization Addendum Not Applicable.

Submission Approval Date: 5/6/2016
Approval End Date: None
Effective Date: 5/6/2016

The HRRC approved the study from 5/6/2016 to inclusive. If modifications were required to secure approval, the effective date will be later than the approval date. The “Effective Date” 5/6/2016 is the date the HRRC approved your modifications and, in all cases, represents the date study activities may begin.
Because it has been granted exemption, this research is not subject to continuing review.

Please use the consent documents that were approved and stamped by the HRRC. The stamped and approved consents are available for your retrieval in the “Documents” tab of the parent study.

This determination applies only to the activities described in this submission and does not apply should you make any changes to these documents. If changes are being considered and there are questions about whether HRRC review is needed, please submit a study modification to the HRRC for a determination. A change in the research may disqualify this research from the current review category. You can create a modification by clicking Create Modification / CPR within the study.

In conducting this study, you are required to follow the Investigator Manual dated April 1, 2015 (HRP-103), which can be found by navigating to the IRB Library.

Sincerely,

[Signature]

Thomas F. Byrd, MD
HRRC Chair
Appendix J: Phone Scripts and Documentation of Consent

Initial Contact Script

The co-investigator will follow the recruitment protocol to identify the potential participants to call:

When speaking to a receptionist or operator at the school or district office:
“Hello, my name is ___________. Can you connect me to ___________________, the school nurse (health educator, teacher, administrator/principal)? Thank you.”

If transferred to a voice mail, the co-investigator will leave the following message for the potential interview participant:
“Hello, my name is ___________. I am a graduate student at the University of New Mexico’s College of Nursing. I’m conducting a survey of public school nurses (health educator, administrators) at middle schools and high schools in which you might be eligible to participate. If you would like to learn more about the survey, you can contact me at ________________ (phone number). I look forward to hearing from you. Have a great day!”

If no phone number is available but an email address is available, the following email will be sent to the potential participant:
“Dear ________________: I am a graduate student at the University of New Mexico’s College of Nursing. I’m conducting a survey of public school nurses (health educator/administrators) at public middle schools and high schools in which you might be eligible to participate. If you would like to learn more about the survey, you can contact me at ________________ (phone number). I look forward to hearing from you. Have a good day! Sincerely, _______________ (co-investigator)”
Recruitment Script

*When speaking to the potential interview participant:*

“Hello, my name is __________. I’m a registered nurse and graduate student researcher at the University of New Mexico’s College of Nursing. I am conducting a research study to learn more about sexual health education programs in New Mexico public high schools and middle schools. I am conducting a phone survey of school nurses, health educators, and administrators. I (was referred to you by ________________ and was told you were/understand you are) a (school nurse/health educator/principal) who had experience teaching/administrative responsibilities that encompass sexual health education at ________________ school(s). Do you have a few minutes to hear about the survey?”

(If the person says “Yes,” continue with the script. If the person indicates they would be interested in talking at another time, determine a better time to call back to discuss the study. If the answer is “No,” thank them for their time.)

“I am trying to find out basic information about sexual health education in New Mexico from school nurses, health education teachers or teachers who teach health, and administrators or principals at public middle and high schools across the state. I have a survey with some simple questions about how sexual health education is taught at your school.

“The survey takes about 15-20 minutes to complete. I will not keep any information about your name, where you work, your school district, or the city/town where you work. I will be keeping only the answers you provide to the survey questions.

“You can skip any questions you do not want to answer, and you can stop the interview at any time, no questions asked. I am not collecting personal information from anyone participating in the survey.

“In appreciation for your time, we are offering a $20 Visa gift card for participating in the survey.

“When would be a good time to call you when you might have about 15-20 minutes for the interview?”

(If the person says now would be a good time, continue with the script. If the person says that another time would be better, schedule a time to call back.)
Eligibility and Consent Script

(Follow this script when speaking with the potential participant at the time they agreed to discuss the study and potentially participate in the survey.)

Eligibility:
“Before we begin the survey, I need to ask to make sure you will be able to take the survey:

All study participants must be employed in a New Mexico school district as either a school nurse working in at least one middle or high school, a health education teacher or teacher responsible for teaching health education in at least one middle or high school, or a school administrator/principal or their representative in a middle or high school. In what position do you work with the ________school district?”

(If the person answers positively to the eligibility screening question, they are eligible to participate in the survey, and continue with the script. If the person answers negatively to any of the questions, please let them know why they are not eligible, and thank them for their time.)

“Great! And before you agree to participate, I want to make sure you know a few extra things about the study.

“Your participation in this study is completely voluntary and will involve only answering the questions to the survey. The survey should take about 15-20 minutes to complete. No information that might identify you, the school where you work, your school district, or city/town where you work will be associated with this survey. This information is not being collected to evaluate any school or school district performance in providing sexual health education. Your survey response will be identified only by occupation (school nurse/health educator/administrator), the geographic region of New Mexico, and a standard classification for whether your school is in an urban or rural location. You can refuse to answer any of the questions at any time, and you are free to withdraw at any time during the survey, for any reason and with no penalty.

“There are no known risks to participation in this study. All of the survey data that we collect will be kept for approximately six to 12 months to analyze and will then be destroyed. The findings from this survey will help provide information how sexual health education is taught in public secondary schools in New Mexico, what content is covered. If published, the results will be presented in a summary form only.

“I do want you to know that the Robert Wood Johnson Foundation Nursing and Health Policy Collaborative at the UNM College of Nursing is financially supporting this research as part of my doctoral program fellowship.”

Consent:

“Do you have any questions?”

(Answer all questions presented by the potential participant).

“Do you agree to participate in this study?”

(If the participant replies “Yes,” continue with script, and document oral consent below. If the participant answers “No,”, thank them for their time.)
“In appreciation for you participation in this survey, I would like to send you a $20 Visa gift card. While I need your address to send you this card, I will not keep this information. This is only for the purpose of mailing you your gift card. We do not keep any information that is identifiable. What is the best mailing address to send you your gift card?”

“Also, should you have any questions about this research project after we conduct the survey, you are free to call me at _____________________ (co-investigator phone number) or you may call the UNM Health Science Center, Office of Human Research Protections, (505) 272-1129.”

**Documentation of Consent**

Name of subject:

______________________________________________________

I have read this form to the participant, and the participant has answered positively to the eligibility screening question.

An explanation of the research was given, and all questions from the subject were answered to the subject’s satisfaction.

In my judgment, the subject has demonstrated comprehension of the information. The subject has provided oral consent to participate in this study.

______________________________________________________

Printed name and title of person obtaining consent

______________________________________________________

Signature of person obtaining consent Date
References


New Mexico Public Education Department. (2005). *Title 6, primary and secondary education; Chapter 12 public school administration–health and safety; Part 2 health services; human immunodeficiency virus (HIV).* Retrieved from http://164.64.110.239/nmac/parts/title06/06.012.0002.htm

New Mexico Public Education Department. (2009). *Title 6 primary and secondary education; chapter 29, standards for excellence: part 6 health education; content standards with benchmarks and performance standards for health education.* Retrieved from http://164.64.110.239/nmac/parts/title06/06.029.0006.htm


