Sexuality Education: A Comprehensive Review and Policy Recommendation

by

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BS, University of Pittsburgh, 2015

Submitted to the Graduate Faculty of the

the Department of Behavioral and Community Health Sciences

Graduate School of Public Health in partial fulfillment

of the requirements for the degree of

Master of Public Health

University of Pittsburgh

2020

UNIVERSITY OF PITTSBURGH

GRADUATE SCHOOL OF PUBLIC HEALTH

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April 14, 2020

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University of Pittsburgh, 2020

Abstract

The goal of this paper is to evaluate existing data around current sexuality education curricula, adolescent reproductive statistics, and sexually transmitted infection rates. Sexual health behaviors, such as contraceptive use, relationship behavior, and relationship violence, are also researched. The United States (US) has the highest rates of both teenage pregnancy and sexually transmitted infection among all developed nations. Current literature shows that abstinence-only education programs in the US do not have positive effects on sexual health outcomes of adolescents. Through this literature review, we found that there are vast differences in sexuality education requirements across the states, affecting the public health of millions of school aged students nationwide. States that do not require comprehensive sexuality education have poorer sexual health outcomes, suggesting that American adolescents could benefit from adjustments to the current sexuality education policies. With the current level of sexually transmitted infections and adolescent pregnancies, we must identify effective curricula to increase knowledge of evidence-based sexuality education and find successful models of implementation for the United States. This paper recommends certain policy changes to address the sexual health outcomes and improve overall reproductive health, including repealing and replacing Title V, Section 510 funding or reallocating Title V funding in conjunction with implementing state-specific comprehensive sexuality education program mandates.

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1.0 Introduction

In 2016, there were 212,062 births to females under the age of 20 years in the United States (Office of Adolescent Health, 2019). Forty percent of high school students reported having sexual intercourse, yet only 54 percent of these reported using condoms during their last sexual encounter (Office of Adolescent Health, 2019). In 2018 alone, there were over 37,000 new HIV diagnoses (Centers for Disease Control and Prevention [CDC], 2019b), 1.8 million new cases of chlamydia, 583,405 cases of gonorrhea, and 35,063 cases of primary and secondary syphilis, all significantly increased since 2014 data (CDC, 2019a). The US ranks above all other developed nations in both teenage pregnancies and sexually transmitted infection (de Castro et al., 2018).

The overarching goal of this paper is to evaluate the evidence linking the requirements of sexuality education in schools to sexual health outcomes of adolescents in each state. Schools are one of the few places outside of the home that children are taught sexuality education. Given the substantial rates of sexually transmitted infections and adolescent pregnancies, some states have moved towards the implementation of comprehensive sexuality education. However, many states still receive funding that mandates abstinence-only education instead.

Given the vast differences in sexuality education, this literature review focuses on seven states: California, Delaware, Georgia, Idaho, Ohio, Pennsylvania, and Rhode Island. These states were chosen because they represent such different requirements when compared to one another. Current sexuality education curricula will be reviewed for each state. Specific requirements for the curricula will be explored, compared, and related to sexual health outcomes. Curricular elements include whether or not the information taught needs to be medically

accurate, age appropriate, culturally appropriate and unbiased, and not promoting religion. Additionally, this paper will explore if specific topics, such as contraception, abstinence, sex only within marriage, sexual orientation, and negative outcomes of sex, need to be included in the sexuality education curricula.

Sexual health outcomes will be researched for each state and compared. Sexual health outcomes focusing on reproductive health include teen pregnancy rate, teen birth rate, teen abortion rate, and birth control use. Other sexual health outcomes that will be researched and compared are sexual behaviors, relationship behaviors, and sexually transmitted infections. Types and amount of funding for each state will also be researched and compared to evaluate any differences across states.

Lastly, all information from the literature review will be carefully examined and synthesized to propose policy recommendations. Based on the information collected, two policy recommendations will be presented: one for an adjustment of the allocation of federal funds for sexuality education and one for a comprehensive sexuality education plan for Pennsylvania. Each policy will highlight the background and scope of the recommendation. A final position statement will be given outlining specific steps needed in order to move the recommendation forward in the policy making process.

2.0 Background

Although adolescent reproductive health remains a challenge worldwide, the US ranks first among all developed nations in rates of both teenage pregnancy and sexually transmitted infections (de Castro et al., 2018; Duh et al., 2017; Jaramillo et al., 2017; Kohler et al., 2008; Stanger-Hall & Hall, 2011a, 2011b). To address this issue, the United States government has federally funded abstinence-only education since 1996, via Title V, Section 510 of the Personal Responsibility and Work Opportunity Reconciliation Act (Constantine et al., 2007; Kohler et al., 2008). In order for a state to qualify to receive these federal funds, sex education programs must teach and promote only abstinence-only education (Stanger-Hall & Hall, 2011a). The central message of Title V, Section 510 and other federal funding programs, such as Adolescent Family Life Act (AFLA) and Community Based Abstinence Education (CBAE), is to discourage sexual activity until marriage (Constantine et al., 2007; Stanger-Hall & Hall, 2011a). Discussion of birth control methods, if included at all, is generally limited to statements about their potential ineffectiveness (Kohler et al., 2008). Conversations regarding sexually transmitted infections also focus on abstinence instead of other prevention methods, such as condoms (Stanger-Hall & Hall, 2011a).

Significant proportions of American adults, voters, parents, students, teachers, and health professionals have all shown support for the inclusion of information on contraception and sexually transmitted infections in sex education curricula (Constantine et al., 2007). Yet, much of the sex education taught by American schools is very minimal, leaving out or inaccurately presenting essential topics (Constantine et al., 2007). Formal sexuality education programs vary widely in the accuracy of content, emphasis, and effectiveness and lie on a continuum from

abstinence-only education to more comprehensive sexuality education (American College of Obstetricians and Gynecologists [ACOG] Committee on Adolescent Health Care, 2016; Jaramillo et al., 2017). It was not until 2010, under the Obama administration, that funding for abstinence-only education was slightly reduced and funding for evidence-based sex education programs nationwide was increased by $185 million (Jaramillo et al., 2017).

Rather than abstinence-only sexuality education programs, which have been unsuccessful in reducing the number of sexual partners, increasing contraceptive use, and reducing sexually transmitted infections, ACOG concludes that comprehensive sexuality education is effective and recommends that it should be medically accurate, evidence-based, and age appropriate (ACOG Committee on Adolescent Health Care, 2016; Jaramillo et al., 2017; Kohler et al., 2008). Comprehensive sexuality education should also begin in early childhood, continuing through a person's lifespan (ACOG Committee on Adolescent Health Care, 2016). It seeks to provide adolescents with the opportunity to explore their knowledge about their attitudes towards sex and sexuality. It also aims to empower adolescents to make informed decisions about their own sex life (de Castro et al., 2018; Kemigisha et al., 2019).

Despite these recommendations, the majority of states do not require sexuality education to be medically accurate, age appropriate, or culturally appropriate and unbiased. In fact, only 17 states require the material be medically accurate, 26 states plus Washington, D.C. require programs to be age appropriate, and nine states require sexuality education to be culturally appropriate and unbiased (Guttmacher Institute, 2019). Unlike many other developed countries around the world, the US has no federal mandate or law requiring every state to teach the same sexuality education curriculum (Constantine et al., 2007). Because of this, the decision to teach

sexuality education or not and what to include, if it is indeed taught, is left up to the state (Guttmacher Institute, 2017).

Numerous agencies outside of the United States have called for comprehensive sexuality education globally. International agencies such as the United Nations Population Fund (UNFPA), the United National Educational, Scientific and Cultural Organization (UNESCO), and the International Planned Parenthood Federal (IPPF) have all promoted comprehensive sexuality education and continue to reiterate the need for emphasizing social context, especially gender and rights, within the programs. All of these agencies believe that the role of sexuality education is to explicitly empower young people to see themselves as equal members in their relationships, able to protect their own health and capable of being engaged and active participants in society (Haberland & Rogow, 2015).

In 2010, worldwide, young people aged 15 to 24 years old accounted for almost half of all new HIV infections among all individuals 15 years and older (Fonner et al., 2014). Trends suggest that existing sexuality education programs and intervention may not be adequate or effective in preventing incident HIV cases (Leung et al., 2019). Several studies have been conducted on the effectiveness of youth-oriented HIV prevention and sex education programs in schools settings. One such study found that abstinence-based programs had no significant effect on delaying sexual debut (age of first sexual encounter), but comprehensive sexuality programs were effective in reducing certain sexual risk behaviors (Fonner et al., 2014). Another recent meta-analysis found that comprehensive sexuality education decreases the risk of HIV acquisition by increasing HIV knowledge and self-efficacy associated with condom use and frequency of condom use (de Castro et al., 2018). Students who receive comprehensive sexuality

education report having better knowledge and feeling more prepared to make important decisions regarding their health (de Castro et al., 2018).

In the past decade, two significant advancements have influenced the sexual health of people living with HIV and those at risk for HIV: first, undetectable equals untransmittable, which means that individuals with a suppressed viral load do not transmit HIV, even with condomless sex; second, pre-exposure prophylaxis (PrEP), with adequate adherence provides protection from HIV for persons at risk. Both have made it possible to address the HIV epidemic. In order to have a chance to eliminate the HIV epidemic, promotion and implementation of comprehensive sexuality education and services that include these HIV prevention concepts are needed (Gandhi et al., 2019).

Recent data indicate that even though rates of teen pregnancy are at their lowest of all time, the United States still has one of the highest rates among all developed nations (Duh et al., 2017; Jaramillo et al., 2017; Kohler et al., 2008). The teen birth rate among 15 to 19 year old females has been steadily declining, in part due to use of long-acting reversible birth control methods, such as intrauterine devices (IUDs) and hormonal implants (Jaramillo et al., 2017). Some argue that comprehensive sexuality education, which covers safer sexual practices like condom use, sends a message to students that actually promotes sexual activity (Stanger-Hall & Hall, 2011a). However, rates of sexual activity among teenagers have remained steady through the past decade, despite an increase in funding for comprehensive sexuality education (Shepherd et al., 2017). In fact, some data have even shown that among populations receiving more abstinence-only information as part of sexuality education, the rates of teen pregnancy and birth are actually higher than those who receive sexuality education that does not mention abstinence (Stanger-Hall & Hall, 2011b).

The United States continues to have a high incidence of sexually transmitted infections among teenagers (Duh et al., 2017; Jaramillo et al., 2017). In 2013, the annual incidence of sexually transmitted infections in the US was estimated to be 20 million (Jaramillo et al., 2017). Nearly half of all those cases occurred in people ages 15 to 24 years old, despite this group representing only 25 percent of the sexually active population in the United States (Jaramillo et al., 2017; Kohler et al., 2008). Adolescents are uniquely at risk for sexually transmitted infections from both behavioral and biological perspectives. Behaviorally, adolescents are more likely to engage in high-risk sexual behavior, such as having more than one partner at the same time or having sex without a condom. Adolescents are also less likely than adults to access and utilize sexual health services, leading to a higher chance of exposure and lower chance of both diagnosis and treatment (Kleppa et al., 2015).

Biologically, adolescent females are more susceptible than adult females to sexually transmitted infection due to lower production of cervical mucus and increased cervical ectopy (Kleppa et al., 2015; Shannon & Klausner, 2018). Cervical mucus controls which molecules and microorganisms get transported to the epithelial layer underneath (Carlson et al., 2018). Thus, the mucus acts as a protective barrier to bacteria which could be passed from one partner to another during vaginal intercourse (Carlson et al., 2018). Cervical ectopy happens when columnar epithelium, usually found in the endocervical channel, extends down onto the ectocervix (Kleppa et al., 2015). Intracellular bacteria, such as those found in sexually transmitted infections, reside in the columnar epithelium, increasing susceptibility for women with increased cervical ectopy. Throughout puberty and after, the columnar epithelium is transformed into squamous epithelium, decreasing cervical ectopy. Because of this, increased cervical ectopy is most often seen in young women (Kleppa et al., 2015). If left untreated,

sexually transmitted infections can cause many long term health problems, such as pelvic inflammatory disease, infertility, tubal or ectopic pregnancy, cervical cancer, and infection in infants born to infected mothers, which makes this a problem at both the individual and societal level (Shannon & Klausner, 2018; National Institute of Allergy and Infection Diseases (NIH), 2019).

2.1 Significance and Rationale

Exploration and study of sexuality education in the United States are imperative because it is one of the only developed countries in the world facing high levels of adolescent pregnancy and sexually transmitted infections (de Castro, 2018; Duh, 2017; Jaramillo, 2017; Kohler, 2007; Shannon & Klausner, 2018; Stanger-Hall, 2011a; Stanger-Hall, 2011b). While adolescent pregnancy rates are at an all-time low, sexually transmitted infections and diseases continue to increase every year, affecting individuals, communities, and the country as a whole (CDC, 2019a; Welti, 2018).

Unlike many other developed countries around the world, the United States has no federal mandate around sexuality education (Constantine, 2007; Guttmacher Institute, 2019). Instead, each state makes its own regulations and is able to decide which topics in sexuality education are taught and if sexuality education is taught at all (Guttmacher Institute, 2019), resulting in varying information being provided across the nation, the states, and even specific school districts within a single state (National Conference of State Legislatures, 2019; Sexuality Information and Education Council of the United States [SIECUS], 2019; Shapiro, 2018). There are more differences within each state because individual school districts operating under the

state mandates have the final say on what is included in their curriculum (Constantine et al., 2007; Shapiro, 2018).

Abstinence-only education was presented to the American public as a means to address the issues of adolescent pregnancy and sexually transmitted diseases and infections among young people, but data have shown that abstinence-only education has not improved any sexual health outcomes (Constantine et al., 2007; Fonner, 2014; Kohler, 2007). Some states have moved from stressing abstinence-only education to more evidence-based comprehensive sexuality education. However, these states have experienced multiple implementation issues at the individual school district level (Arons et al., 2016; Constantine, 2007).

3.0 Methods

3.1 Setting and Subjects

No subjects were utilized in this study. The study was conducted as a literature search and review with policy recommendations. No additional materials were used to conduct this research. All research was conducted via electronic databases. Funding was not required. Approval from an Institutional Review Board was not needed because this study does not include human subjects as defined under federal regulation 46.102 (Government Publishing Office (GPO), 2018). This study focused primarily on adolescents. Age of these adolescents varied by source and is noted as such throughout the research.

3.2 Design

The design for this study was a literature review. Existing literature was reviewed and data were collected. The aim of the study was to research existing information around current sexuality education curricula, adolescent reproductive statistics, and sexually transmitted infection and disease rates. Sexual health behaviors, such as contraceptive use, relationship behavior, and relationship violence, were also researched. From the research through this study, a policy recommendation was made.

3.3 Data Collection

Two main points were studied in this review: the type of sexuality education mandated by each state and adolescent sexual health outcomes, including reproductive information (adolescent pregnancies, adolescent births, and adolescent abortions), adolescent sexual behaviors, adolescent contraceptive use, adolescent relationship behavior and violence, and sexually transmitted infections. The research aimed to evaluate the evidence linking the sexuality education requirements in schools to the sexual health outcomes of adolescents in each state.

Collecting this information was achieved through searches in PubMed for peer-reviewed published studies in the English language after the year 2000. Searches were also completed through the CDC, SIECUS, the United States Department of Health and Human Services (DHHS), the United States Food and Drug Administration (FDA), and the National Conference of State Legislatures via their websites and online reports.

The following terms were used to generate searches: sex education, sexuality education, sexual health, sexual health outcomes, health outcomes, sexually transmitted diseases, sexually transmitted infections, STD, STI, reproductive health, reproductive health outcomes, teenager, adolescent, teen pregnancy, teenage pregnancy, adolescent pregnancy, young adults, condoms, HIV, HIV education, comprehensive sex education, comprehensive sexuality education, birth control, birth control methods, contraceptive, barrier methods, IUD, intrauterine device, implant, birth control pills, oral contraceptive, sexual behavior, relationship behavior, dating, dating violence, relationship violence, medically accurate, evidence based, evidence-based, policy, mandate, law, abstinence, abstinence only, abstinence only education, Title V, California, Delaware, Idaho, Georgia, Ohio, Pennsylvania, Rhode Island, births, pregnancies, abortions, unplanned, unintended, diagnosis, youth, youth-oriented, sexuality, sexual orientation, funding.

Seven specific states were chosen to research for this study: California, Delaware, Georgia, Idaho, Ohio, Pennsylvania, and Rhode Island. Each of these states was selected for its representation of varying requirements on sexuality education. Additionally, they each had similar requirements to multiple other states, making this particular sample very representative of the nation as a whole (Guttmacher Institute, 2019). Research into each state's current sexuality education curriculum showed the differences across the country. All data were collected and organized into tables in order to compare data from each state.

4.0 Results

Sexuality education curricula for each of the states were reviewed. Sexual health outcomes for American adolescents were researched and compared across the seven states examined in this literature review. The following sections outline all of the sexual health outcomes studied. They include birth, pregnancy, abortion, sexual behavior, birth control use, relationship behavior, and sexually transmitted infections.

4.1 Current Curriculum

Current sexuality health curriculum requirements vary from state to state and even across individual school districts within the same state. For the purpose of this research, curricula in seven states, California, Delaware, Georgia, Idaho, Ohio, Pennsylvania, and Rhode Island, were examined in order to study the effects of sexuality education on sexual health outcomes in adolescents. These particular states were chosen because of the variation in sexuality education requirements. Table 1 outlines the general requirements for sex and HIV education (Guttmacher Institute, 2019).

Table 1 General Requirements for Sex and HIV Education

State	Sex Education Mandated	HIV Education Mandated	When provided, sex or HIV Education must			
			Be Medically Accurate	Be Age Appropriate	Be Culturally Appropriate and Unbiased	Cannot Promote Religion
California	X	X	X	X	X	X
Delaware	X	X				
Georgia	X	X				X
Idaho						
Ohio	X	X				
Pennsylvania		X		HIV		
Rhode Island	X	X	X	X	X	

(Guttmacher Institute, 2019)

California is the only state that mandates actual comprehensive sexuality education be taught in schools (Constantine et al., 2007; Guttmacher Institute, 2019). The California Comprehensive Sexual Health and HIV/AIDS Prevention Act of 2003 required that sex education classes must start by 7th grade and be age appropriate, factual, medically accurate, objective, and cover abstinence as well as all contraceptive and sexually transmitted disease prevention methods approved by the United States FDA (Constantine et al., 2007). Despite support from the state, implementation of comprehensive sexuality education remains challenging, even more than 15 years after the 2003 mandate. Approximately 94 percent of middle school and high schools sampled from a California school district reported providing sex education or sexually transmitted disease prevention education, but 88 percent violated at least one of the provisions of the California state education code. Notably, 48 percent reported not covering the required subjects at all (Constantine et al., 2007).

One justification that the California Department of Education has continually heard for omission of required aspects of comprehensive sexuality education is fear of community opposition. School districts do not believe that the state and national surveys, which consistently show high levels of support for comprehensive sexuality education, represent their particular

school district (Constantine et al., 2007). However, a random digital dial survey of California parents confirmed that 89 percent showed support for comprehensive sexuality education (Constantine et al., 2007). These levels of support were high across all regions, races and ethnic groups, age groups, and education levels (Constantine et al., 2007). Another issue with implementation that was discovered was improper alteration of the set curricula. Because so many schools were adapting curricula incorrectly, the study concluded that in addition to providing curricula to agencies, guidelines should be included to allow for appropriate and correct adaptations of the material being taught (Arons et al., 2016).

More recently, California renamed the California Comprehensive Sexual Health and HIV/AIDS Prevention Act as the California Healthy Youth Act in 2016 (California Department of Education, 2019). The law combines instruction of both comprehensive sexuality education and HIV prevention education, requiring school districts to ensure that all students, grades seven through twelve, receive this type of education. The California Health Youth Act has five primary purposes: provide pupils with the knowledge and skills to protect their sexual and reproductive health from HIV and other sexually transmitted infections and from unintended pregnancy; provide pupils with the knowledge and skills to develop healthy attitudes concerning adolescent growth and development, body image, gender, sexual orientation, relationships, marriage, and family; promote understanding of sexuality as a normal part of human development; ensure that pupils receive integrated, comprehensive, accurate, and unbiased sexual health and HIV prevention instruction and providing educators with clear tools and guidance to accomplish that; and provide pupils with the knowledge and skills necessary to have healthy, positive, and safe relationships and behaviors (California Department of Education, 2019).

While these goals are in line with what research has shown to work, the California Healthy Youth Act requires that both comprehensive sexuality education and HIV prevention education are taught only once in middle school and once in high school (California Department of Education, 2019; SIECUS, California, 2017; Shapiro, 2018). California is also one of only three states across the country that prohibit the promotion of religion within sexuality education programs (SIECUS, California, 2017, 2019). California, like the majority of other states, allows parents or guardians to remove their children from sexuality education and/or sexually transmitted diseases/HIV education classes via its opt-out policy (SIECUS, California, 2017).

Delaware also mandates sex education and HIV education across the state. Unlike California, Delaware does not require that sex education and/or HIV education be medically accurate, age appropriate, or culturally appropriate (Guttmacher Institute, 2019). Additionally, Delaware is not one of the three states examined in this review that prohibit the promotion of religion in their sex education programs. Like California, Delaware does require all five of the life skills shown in Table 2 to be included in its programs (Guttmacher Institute, 2019). While the state law requires sexuality education to be a part of the health education for kindergarten through twelfth grade, the education requirements are coordinated by an employee in each school district. This allows for great variability in topics taught across the state.

Table 2 Life Skills on Sexual Consent, Relationships and Prevention of Violence

State	Healthy Relationships	Sexual decision-making and self-discipline	Refusal skills and personal boundaries	Consent	Dating and sexual violence prevention
California	X	X	X	X	X
Delaware	X	X	X	X	X
Georgia			X		X
Idaho	X	X			
Ohio	X				X
Pennsylvania	X				
Rhode Island	X	X	X		X

(Guttmacher Institute, 2019)

Delaware is unique for this select group of states though, as the state law sets a minimum number of hours of "comprehensive health education and family life education" (SIECUS, Delaware, 2017) to be taught per grade. For grades kindergarten through fourth, a minimum of 30 hours per grade must be taught. Ten of those 30 must be dedicated to drug and/or alcohol education. The minimum hours for grades five and six are increased to 35 hours, with 15 being dedicated to drug and/or alcohol education. There is a relatively significant increase in the number of minimum hours required in grades seven and eight to 60 hours per grade. Again, 15 of those hours must be dedicated to drug and/or alcohol education. This specific set of requirements is more promising than those in states that do not have a structured minimum hour standard per grade, but it is still problematic since each school district can ultimately decide which curriculum is taught. Also unlike California, Delaware does not have an opt-out policy for their students and does not require parental permission for students to participate in sexuality or HIV/AIDS education (SIECUS, Delaware, 2017, 2019).

Georgia mandates sex education and HIV education across the state. Georgia is similar to Delaware and Ohio, in that sex and HIV education are both mandated, but that education is not required to be medically accurate, age appropriate, or culturally appropriate and unbiased. It is

also similar to California, in that the state prohibits the promotion of religion in its programs (Guttmacher Institute, 2019). However, Georgia relies on the majority of its funding from the Title V State Abstinence Education Program while California receives no funding from the Title V program (Guttmacher Institute, 2019; SIECUS, California, 2017, 2019; SIECUS, Georgia, 2017; Georgia Department of Human Services Division of Family & Children Services, 2019).

While the Georgia State Board of Education determines the minimum guidelines that any sexuality education program within the state must meet, it is ultimately up to the local school board to decide the specific topics included in the curriculum and the grade levels in which they are taught. Georgia also has an opt-out policy if parents or guardians want to remove their children from the sexuality education program (SIECUS, Georgia, 2017, 2019). The programs in Georgia do not have to include content on contraception or sexual orientation, but do stress abstinence and include the importance of sex only within marriage (Guttmacher Institute, 2019).

Idaho was chosen because it does not have any statewide sexuality education mandates (Guttmacher Institute, 2019; SIECUS, Idaho, 2017, 2019). Neither sex education nor HIV education is required by the state. Furthermore and as seen in Table 1, if a school does choose to include sex education and/or HIV education in its curriculum, the requirements are very minimal (Guttmacher Institute, 2019). The state of Idaho believes that the "primary responsibility of family life and sex education rests with a student's home and church and that the schools can only complement and supplement those standards which are established in the family" (Idaho Legislature, 2019). The only way that sexuality education is taught in school is if the local school board deems that sexuality education is required, and even then, the program has to focus all teaching on the home, family, and church. Unique to Idaho is its requirement that sexuality education programs must include "knowledge of the power of the sex drive and the necessity of

controlling that drive by self-discipline" (SIECUS, Idaho, 2017). Similar to other states examined in this study, Idaho also has an opt-out policy, allowing parents or guardians to excuse their children from sexuality education (SIECUS, Idaho, 2017, 2019).

Ohio seems similar to Delaware, in that both states mandate sex education and HIV education, but neither requires the curriculum to be medically accurate, age appropriate, culturally appropriate or unbiased. Additionally, neither Ohio nor Delaware prohibits the promotion of religion in its programs (Guttmacher Institute, 2019). Also similar to other states, the sex education curriculum taught in Ohio is set by each local school district's school board, again leading to the variability of topics taught across the state. Per Ohio state law, sexuality education curriculum must focus on and stress abstinence from sexual activity until marriage, teach the negative side effects and consequences of sex before marriage, including consequences to the new child, the parents, and society, stress the seriousness of sexually transmitted infections, and advise students of laws about both the financial responsibilities of parents to children born out of marriage and possible criminal circumstances of having sex with someone under the age of sixteen (SIECUS, Ohio, 2017). Overall, the requirements for the curriculum in Ohio mirror the requirements for the federal definition of abstinence-only education. Like most other states studied, Ohio also has an opt-out policy where a student may be excused from taking any of the sexuality education classes with permission from a parent or guardian (SIECUS, Ohio, 2017, 2019).

Pennsylvania is different from the other states examined here, because while it requires that HIV education be taught, it does not have the same mandate for sex education. Of the seven states examined in this study, Pennsylvania was the only one that mandated one type of education; other states required both sex education and HIV education or neither. Pennsylvania,

like Delaware, Georgia, Idaho, and Ohio, does not require the education taught to be medically accurate or culturally appropriate and unbiased. However, Pennsylvania does require that the mandated HIV education be age appropriate. Pennsylvania does not prohibit the promotion of religion in the curriculum either (Guttmacher Institute, 2019). Again, similar to other states, the specific materials and curriculum are determined by local school districts.

Pennsylvania law requires schools to teach HIV education and sexually transmitted disease prevention education in primary, intermediate, middle and high schools. However, in primary school, instructors are permitted to completely omit instruction on sex-related modes of disease transmission (SIECUS, Pennsylvania, 2017, 2019). Additionally, the Pennsylvania state law requires schools to use materials that stress abstinence as "the only completely reliable means of preventing sexual transmission" (SIECUS, Pennsylvania, 2017). Students can also be excused from these programs in Pennsylvania at the request of parents or guardians (SIECUS, Pennsylvania, 2017, 2019).

The general requirements for sex and HIV education for Rhode Island are very similar to those of California, as seen in Table 1 (Guttmacher Institute, 2019). Rhode Island requires that both sex education and HIV education be taught in schools throughout the state (Guttmacher Institute, 2019; SIECUS, Rhode Island, 2017; 2019). Rhode Island also requires that the curriculum be medically accurate, age appropriate, and culturally appropriate and unbiased, but does not prohibit the promotion of religion within the programs (Guttmacher Institute, 2019). Again, similar to the other states examined here, students may be removed from the sex and HIV education programs at the request of a parent or guardian as part of the state's opt-out policy.

Interestingly, Rhode Island does have specific state standards and resources for individual schools to develop sex and HIV education curricula. The three resources provided by the state

are *Rules and Regulations for School Health Programs, Comprehensive Health Instructional Outcomes,* and the *Health Education Framework,* all written and published by the Rhode Island Department of Elementary and Secondary Education. None of the other states examined here mentioned use of any resources or specific state government-made resources made available to their school districts (SIECUS, Rhode Island, 2017; 2019).

4.2 Pregnancy, Birth, and Abortion

Information in Table 3 and Tables 5 through 10 represent the most up to date data reported by the United States DHHS (Office of Adolescent Health, 2019). Below, notable trends among seven states examined are discussed. Table 3 summarizes national information on reproductive statistics for comparison.

Table 3 Adolescent Reproductive Statistics

State	Teen Birth Rate (births per 1,000 females ages 15-19), 2016	Teen Pregnancy Rate (estimated pregnancies per 1,000 females ages 15-19), 2013	Teen Abortion Rate (abortions per 1,000 females ages 15-19), 2013
United States	20.3	43	11
California	17.0	44	14
Delaware	19.5	46	15
Georgia	23.6	47	10
Idaho	20.1	36	4
Ohio	21.8	41	8
Pennsylvania	15.8	35	9
Rhode Island	12.9	32	10

(Office of Adolescent Health, 2019)

The teen pregnancy rate, pregnancies per 1,000 females ages 15-19 years, in the United States is 43. Among the states examined, four states have lower than national average teen

pregnancy rates and three states have higher than the national average. California, Delaware, and Georgia report 44, 46, and 47 pregnancies per 1,000 females, respectively the highest rates among the states included in this review. California and Delaware both had lower than average teen birth rates but higher than average teen pregnancy rates, which appears contradictory. However, California and Delaware have higher than average teen abortion rates, which could account for the discrepancy. Georgia had the highest teen birth rate and teen pregnancy rate among the states included in this review. Georgia also had lower than average abortion rates (Office of Adolescent Health, 2019). Data suggest that more teens are becoming pregnant and continuing the pregnancies to term in Georgia as compared to the other six states.

The United States' average teen birth rate, births per 1,000 females ages 15-19, is 20.3. The majority of the states examined had a lower teen birth rate than the national average. The two states with the highest teen birth rates were Ohio, at 21.8 and Georgia, at 23.6 per 1,000 females (Office of Adolescent Health, 2019). Both Ohio and Georgia mandate sex education and HIV education. However, neither of these states requires sex and HIV education materials to be medically accurate, age appropriate, or culturally appropriate and unbiased (Guttmacher Institute, 2019).

The three states with the lowest teen birth rates were California, Pennsylvania, and Rhode Island with 17.0, 15.8, and 12.9 births per 1,000 females aged 15-19 years, respectively (Office of Adolescent Health, 2019). Rhode Island and California both mandate sex education and HIV education. Unlike Ohio and Georgia though, Rhode Island and California require that sex and HIV education programs be medically accurate, age appropriate, and culturally appropriate and unbiased. Rhode Island and California also have similar content requirements for their sex and HIV education programs; see Table 1 (Guttmacher Institute, 2019). Pennsylvania, however, is

much different than Rhode Island and California. Despite the fact that Pennsylvania does not mandate sexuality education, it had the second lowest birth rate of the seven states examined here (Guttmacher Institute, 2019; Office of Adolescent Health, 2019). Pennsylvania mandates only HIV education, so topics such as contraceptives and abstinence to protect against unintended pregnancy are not required to be covered (Guttmacher Institute, 2019).

Table 4 Content Requirements for Sex and HIV Education

State	When provided, sex education must include:					When provided, HIV education must include:	
	Contraception	Abstinence	Importance of sex only within marriage	Sexual Orientation	Negative outcomes of sex	Condoms	Abstinence
California	X	Cover		Inclusive		X	Cover
Delaware	X	Stress		Inclusive		X	Stress
Georgia		Stress	X				Cover
Idaho		Stress				X	Stress
Ohio		Stress	X		X		Stress
Pennsylvania							Stress
Rhode Island	X	Stress		Inclusive	X	X	Stress

(Guttmacher Institute, 2019)

4.3 Sexual Behaviors

Sexual behaviors were examined and compared across the states (see Table 5). However, not all of the states had the needed data to compare. There were no reported data for sexual behaviors among high school students for Georgia or Ohio (Office of Adolescent Health, 2019). Interestingly, both Ohio and Georgia receive the majority of their funding from Title V because they teach abstinence-only education. More research is needed to understand why there are no data for sexual behaviors for these two states specifically.

Table 5 Sexual Behavior among High School Students (Grades 9 – 12), 2017

State	Percent of high school students who report they have ever had sexual intercourse	Percent of high school students who report they had sexual intercourse for the first time before 13 years of age	Percent of high school student who report they have sexual intercourse with 4 or more persons
United States	40	3	10
California	32	2	6
Delaware	45	4	12
Georgia	No data	No data	No data
Idaho	35	3	No data
Ohio	No data	No data	No data
Pennsylvania	38	4	9
Rhode Island	36	4	8

(Office of Adolescent Health, 2019)

Forty percent of American high school students, grades 9 through 12, have reported ever having sexual intercourse. Delaware was the only state examined that had a higher percentage than the national average (45 percent) (Office of Adolescent Health, 2019). Delaware does mandate both sex education and HIV education, but it does not require sex and HIV education programs to be medically accurate, age appropriate, or culturally appropriate and unbiased. However, Delaware does require specific content for the sex and HIV education programs. The content requirements mandate that schools must teach contraception and sexual orientation, but they must stress abstinence. Delaware does not require sex and HIV education programs to include the importance of sex only in marriage or negative outcomes of sex (Guttmacher Institute, 2019)

California has the lowest percentage of high school students reporting ever having sexual intercourse, at 32 percent (Office of Adolescent Health, 2019). Of all of the states, including ones not examined here, California is the only state with a legitimate comprehensive sexuality education program (Constantine, 2007; Guttmacher Institute, 2019). California also has the

lowest percentage of high school students reporting having had sexual intercourse for the first time before 13 years of age and the lowest percentage of high school students reporting having sexual intercourse with four or more persons (Office of Adolescent Health, 2019). It is possible that these lower levels of risky sexual behavior are a result of California's mandated comprehensive sexuality education program.

4.4 Birth Control Use

Slightly over half, 54 percent, of sexually active American high school students report that they or their partner used a condom during their last sexual intercourse (see Table 6). Some data on the states examined in this review are lacking. Neither Georgia or Ohio had data reported through the US DHHS on birth control use among high school students, while Idaho had very minimal data. Pennsylvania and Rhode Island had the highest percentage of high school students reporting they or their partner used a condom during the last sexual intercourse at 59 percent and 58 percent respectively (Office of Adolescent Health, 2019). Overall, Rhode Island had the highest percentage (37) of high school students reporting they or their partner used some type of non-barrier birth control method, including birth control pills, intrauterine contraceptive device (IUD), implant, shot, patch, or birth control ring, before their last sexual encounter. While this number is much higher than the national average of only 29 percent, it is still quite concerning that the majority of high school students are not using some type of non-barrier birth control method, since the barrier method, condoms alone, is significantly less effective in protecting against pregnancy than IUDs, implants, birth control shots, transdermal patches, vaginal rings, or oral birth control pills (United States FDA, 2018).

The average percentage of American high school students who reported they or their partner did not use any method to prevent pregnancy during the last sexual intercourse was 14 (Office of Adolescent Health, 2019). This was lower than estimates anticipated prior to this review. However, if you take into account that there are some 40 million adolescents in the United States, that 14 percent translates to a staggering number of exposed adolescents (United States Department of Health and Human Services, 2018).

Table 6 Birth Control Use among Sexually Active High School Students (Grades 9 – 12), 2017

State	Percent of high school student who report they or their partner used a condom during last sexual intercourse	Percent of high school students who report they or their partner used birth control pills before last sexual intercourse	Percent of high school students who report they or their partner used an IUD or implant before last sexual intercourse	Percent of high school students who report they or their partner used a shot, patch, or birth control ring before last sexual intercourse	Percent of high school students who report they or their partner used birth control pills; an IUD or implant; a shot, patch, or birth control ring before last sexual intercourse	Percent of high school students who report they or their partner used both a condom during last sexual intercourse and birth control pills; an IUD or implant; a shot, patch, or birth control ring before last sexual intercourse	Percent of high school students who report they or their partner did not use any method to prevent pregnancy during last sexual intercourse
United States	54	21	4	5	29	9	14
California	55	19	6	4	30	7	11
Delaware	53	19	6	5	31	9	16
Georgia	Missing Data	Missing Data	Missing Data	Missing Data	Missing Data	Missing Data	Missing Data
Idaho	54	Missing Data	Missing Data	Missing Data	Missing Data	Missing Data	Missing Data
Ohio	Missing Data	Missing Data	Missing Data	Missing Data	Missing Data	Missing Data	Missing Data
Pennsylvania	59	24	3	5	32	13	12
Rhode Island	58	29	4	4	37	11	12

(Office of Adolescent Health, 2019)

More teens reported using condoms or birth control pills as their primary protection against unintended pregnancy (Office of Adolescent Health, 2019). Both combined oral contraceptive pills and extended/continuous oral contraceptive pills have an expected pregnancy rate of 9 per 100 women. Male condoms have an expected pregnancy rate of 18 per 100 women, and female condoms, which are much less frequently used, have an expected pregnancy rate of 21 per 100 women. IUDs, both copper IUDs and progestin IUDs, and implants have an expected pregnancy rate of less than 1 per 100 women (US FDA, 2018). These methods of birth control are known as long-acting reversible contraceptives, more commonly referred to as LARC. The lack of use of LARC methods among adolescents could be a result of lack of awareness of these options and/or some arguing that teaching children about different types of contraceptive methods, other than abstinence, sends mixed messages and promotes sexual activity (Stanger-Hall, 2011a).

4.5 Relationship Behavior and Violence

Estimates of relationship behavior among high school students were generally similar across the states and the nation, excluding Georgia and Ohio because of the lack of available information. The states with the most high school students who report that they were ever physically forced to have sexual intercourse were Idaho, Pennsylvania, and Rhode Island, all with 9 percent reporting (see Table 7) (Office of Adolescent Health, 2019). None of these states requires all of the life skills content described in Table 2 to be taught. However, it is important to point out that while Idaho and Pennsylvania do not teach refusal skills and personal boundaries, consent, or dating and sexual violence prevention, Rhode Island requires that its mandated sex

and HIV education programs include refusal skills and personal boundaries and dating and sexual violence prevention, although it does not require that consent be taught (Guttmacher Institute, 2019).

Table 7 Relationship Behavior among High School Students (Grades 9 – 12), 2017

State	Percent of high school students who report they experience physical dating violence, including being hit, slammed into something, or injured with an object or weapon on purpose by someone they dated or went out with	Percent of high school students who report they were ever physically forced to have sexual intercourse when they did not want to
United States	8	7
California	8	7
Delaware	10	6
Georgia	Missing Data	Missing Data
Idaho	8	9
Ohio	Missing Data	Missing Data
Pennsylvania	7	9
Rhode Island	9	9

(Office of Adolescent Health, 2019)

Delaware and California have the lowest percentages of high school students reporting that they were every physically forced to have sexual intercourse at 6 and 7 percent respectively (Office of Adolescent Health, 2019). These low percentages could be linked to the states' current sexuality education programs. Both of these states mandate sex and HIV education to be taught in schools. Furthermore, California and Delaware require their sex and HIV education programs to include all of the life skills topics listed in Table 2: healthy relationships, sexual decision-making and self-discipline, refusal skills and personal boundaries, consent, and dating and sexual violence prevention (Guttmacher Institute, 2019).

4.6 Sexually Transmitted Infections

The most recent data from the CDC were compiled and organized into Tables 8, 9, and 10. Table 8 shows that the overall average rate of reported chlamydia cases in the United States in 2018 was 539.9 cases per 100,000. Four of the states examined had higher rates than the national average. Georgia reported 632 cases per 100,000 and Delaware reported 628 cases per 100,000. For gonorrhea, the national average was 179.1 cases per 100,000. Ohio and Georgia both reported higher than national average cases in 2018 at 216 and 200 cases per 100,000 respectively. The national average rate of reported primary and secondary syphilis in the United States was 10.8 cases per 100,000 in 2018. California reported 19.2 cases, almost double the national average, and Georgia reported 15.4 cases per 100,000. Overall, Georgia had either the highest or second highest rate of reported cases of chlamydia, gonorrhea, and primary and secondary syphilis (CDC, 2019a). It is important to remember that Georgia, while mandating both sex and HIV education, stresses abstinence-only education (SIECUS, California, 2017, 2019; SIECUS, Georgia, 2017; Georgia Department of Human Services Division of Family & Children Services, 2019).

Table 8 STD 2018 Total Reported Cases

State	Rates of Reported Chlamydia Cases by State, 2018 (per 100,000)	Rates of Reported Gonorrhea Cases by State, 2018 (per 100,000)	Rates of Reported Primary and Secondary Syphilis Cases by State, 2018 (per 100,000)
United States	539.9	179.1	10.8
California	585	200	19.2
Delaware	628	176	3.1
Georgia	632	200	15.4
Idaho	383	66	2.7
Ohio	542	216	6.3
Pennsylvania	463	124	6.2
Rhode Island	518	126	9.1

(CDC, 2018)

Table 9 focuses on the reported cases of chlamydia and gonorrhea among only females aged 15-24 years old. Information for primary and secondary syphilis broken down by age and sex was not available and therefore is not presented. For 15-24 year old females, Delaware, Georgia, and Ohio had the highest reported rates of chlamydia (4,704 cases, 4,332 cases, 4,074 cases of chlamydia per 100,000 females aged 15-24 years, respectively). Similarly, for gonorrhea, the highest rates of reported cases were in Ohio, Georgia, and Delaware, with 930, 697, and 634 reported cases per 100,000 females aged 15-24 years, respectively. The trends among females in this age group are overall very similar to those among all cases (CDC, 2019a).

Table 9 STD 2018 Reported Cases among 15-24 year old Females

State	Rates of Reported Chlamydia Cases among 15-24 year old females by State, 2018 (per 100,000)	Rates of Reported Gonorrhea Cases among 15-24 year old females by State, 2018 (per 100,000)
California	3373	447
Delaware	4704	634
Georgia	4332	697
Idaho	2830	180
Ohio	4074	930
Pennsylvania	3336	416
Rhode Island	3326	315

(CDC, 2018)

Table 10 shows the rates of reported cases of chlamydia and gonorrhea for only males aged 15-24 years. For chlamydia, Delaware, Georgia, and Ohio have the three highest rates reported, with 1,943 cases, 1,620 cases, and 1,504 cases, respectively. Gonorrhea cases among young males were highest in Ohio at 612 reported cases per 100,000. Georgia had 604 reported cases, and Delaware had 584 reported cases. Again, the trends among 15-24 year old males match the overall trend of cases among all Americans (Centers for Disease and Prevention, 2019).

Table 10 STD Reported Cases among 15-24 year old Males

State	Rates of Reported Chlamydia Cases among 15-24 year old males by State, 2018 (per 100,000)	Rates of Reported Gonorrhea Cases among 15-24 year old males by State, 2018 (per 100,000)
California	1241	468
Delaware	1943	584
Georgia	1620	604
Idaho	984	168
Ohio	1504	612
Pennsylvania	1382	413
Rhode Island	1336	416

(CDC, 2018)

Delaware, Georgia, and Ohio had the highest reported cases of chlamydia and gonorrhea, even when breaking down the information by sex and age of individual (CDC, 2019a). Referring back to Tables 1 and 4, all of these states mandate sex education and HIV education. However, none of these states requires that education be medically accurate, age appropriate, or culturally appropriate and unbiased. Furthermore, each of these states stresses abstinence-only in its sexuality education programs (Guttmacher Institute, 2019).

4.7 Funding

The type of funding received by a state influences the type of sexuality education programs taught therein (SIECUS, 2017). Section 510 of Title V of the Social Security Act prohibits instruction in or promotion of the use of contraceptive methods (Constantine, 2007). In 2010, the Obama administration reduced funding for abstinence-only education and increased funding for evidence-based sex education programs nationwide by $185 million (Jaramillo et al.,

2017). Despite this, some states still heavily rely upon Title V Abstinence Education Program Funds to support their sexuality education programs (Sexuality Information and Education Council of the United States, 2017).

Table 11 shows the breakdown of the type and amount of funding provided to each state examined here (SIECUS, 2017). California does not receive any Title V Abstinence Education Program Funds because it is in direct conflict with the California Healthy Youth Act, previously known as The California Comprehensive Sexual Health and HIV/AIDS Prevention Act (Constantine, 2007; SEICUS, California 2017). Delaware also does not receive Title V funding because the state requires a minimum number of hours for comprehensive health education and must include contraception in sex education programs (Guttmacher Institute, 2019; SEICUS, Delaware, 2017). Since Idaho mandates neither sex education nor HIV education, it receives no Title V funding either (Guttmacher Institute, 2019; SEICUS, Idaho, 2017). Rhode Island too does not receive Title V funding (SEICUS, Rhode Island, 2017). It mandates both sex education and HIV education be taught, and further requires contraceptives to be covered in the curriculum (Guttmacher Institute, 2019).

Table 11 Funding Amount and Type Provided to State

State	Division of Adolescent and School Health Funds Received by State (in $)	Personal Responsibility Education Program Funds Received by State (in $)	Title V State Abstinence Education Program Funds Received by State (if applicable) (in $)
California	415,000	5,860,140	n/a
Delaware	400,000	250,000	n/a
Georgia	65,000	1,623,109	2,782,342
Idaho	75,000	275,647	n/a
Ohio (*2016 fiscal report)	65,000	1,890,738	2,663,748
Pennsylvania	414,966	1,819,324	2,215,568
Rhode Island	415,000	250,000	n/a

(SIECUS, 2017)

Three of the states examined receive large amounts of Title V Abstinence Education Program Funds. Georgia, Ohio, and Pennsylvania all receive over $2 million each from Title V (SIECUS, 2017). None of these states requires that sex education and/or HIV education programs be medically accurate or culturally appropriate and unbiased, or to include information on contraceptives, sexual orientation, or the use of condoms to prevent HIV (Guttmacher Institute, 2019). Georgia, the state with one of the highest rates of sexually transmitted infections among young people, one of the highest rates of teen birth, and one of the highest rates of teen pregnancy, receives the most Title V Abstinence Education Program Funding (SIECUS, Georgia, 2017).

5.0 Discussion

The paper's initial assumption was that states that required comprehensive sexuality education in schools, education that was mandated to include both sex education and HIV education and to be medically accurate, age appropriate, and culturally appropriate and unbiased, would have better sexual health outcomes among adolescents.

The results of this study did not fully support the expected assumption. While some of the findings show that states with required comprehensive sexuality education, such as California, have better sexual health outcomes, findings were not consistent for all outcomes (Guttmacher Institute, 2019).

California had a lower than average teen birth rate, but it was not the lowest birth rate in the group of states examined here. California had a higher than average teen pregnancy rate and teen abortion rate, but neither of those were the highest in the group of states studied. Those data did not fully support the assumption.

When examining sexual behaviors, California reported lower than the US average for the percentage of students who reported ever having sexual intercourse. In fact, the percentage reported in California was the lowest in this group of states examined. Additionally, California reported lower than average percentage of students who reported having had sexual intercourse before the age of 13 years. This again was the lowest percentage reported in the group of states. California had lower than average percentage of students who reported they were having sexual intercourse with four or more partners. This was also the lowest reported percentage of this group (Office of Adolescent Health, 2019). When examining birth control use and relationship behavior and violence, California was average compared to the United States across all

categories. This was not what was expected. Furthermore, it was expected that California would have fewer or even the least number of sexually transmitted infection cases. California actually had higher than the American average for total cases of chlamydia, gonorrhea, and primary and secondary syphilis per 100,000 population (CDC, 2019a).

Looking at the opposite end of the spectrum, it was expected that states that did not require comprehensive sexuality education would have worse sexual health outcomes among adolescents. The findings did support this. Georgia and Ohio both mandate sex education and HIV education, but they do not require that education to be medically accurate, age appropriate, or culturally appropriate and unbiased. Neither state requires their sex education programs to include information on contraception or sexual orientation. Their HIV programs also do not have to include information on condom use (Guttmacher Institute, 2019). Both Georgia and Ohio have higher than the national average for teen birth rates and teen pregnancy rates (Office of Adolescent Health, 2019). Both states ranked higher than the national average in reported cases of chlamydia and gonorrhea. They ranked second and third highest, out of the states examined, for reported cases of chlamydia among both males and females aged 15-24 years. Georgia and Ohio had the highest and second highest reported cases of gonorrhea among both males and females in the same age group (CDC, 2019a). It is also important to point out that Georgia and Ohio each receive over $2.5 million from Title V abstinence education program funds (SEICUS, 2017).

5.1 Policy Recommendation Part 1

Due to the 10th Amendment of the Constitution of the United States, which determined that the powers not delegated to the United States by the Constitution are reserved to the States or to the people, the American government cannot technically enact a federal sexuality education policy outlining which subjects need to be taught and when in public schools (National Constitution Center, 2020). However, the United States Congress does have the ability to direct what is able to be taught in schools by allocating funds to states contingent on the states teaching only certain subjects (Kaiser Family Foundation, 2018).

5.1.1 Executive Summary

When Congress enacted Title 5, Section 510, federal funding significantly increased for abstinence-only education programs in attempt to promote sexual abstinence among teens (US DHHS, 2007). Under this program, the federal government allocated money annually for programs that exclusively teach abstinence-only. Table 12 outlines the requirements to meet the federal definition of abstinence education and receive funding (Kaiser Family Foundation, 2018).

Table 12 "A-H" Federal Statutory Definition of Abstinence Education

A. Exclusive purpose is 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 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 increase vulnerability to sexual advances
H. Teaches the importance of attaining self-sufficiency before engaging in sexual activity

Funding through Title V, Section 510 is administered annually by the US Department of Health and Human Services under a matching block grant program, meaning that states must match the federal funding at 75 percent (US DHHS, 2007). Abstinence-only education has had few or no impacts on behaviors surrounding sexual abstinence and unprotected sex or knowledge of unprotected sex risks and sexually transmitted infection consequences (US DHHS, 2007). If it is already known that Title V, Section 510 federal funding for abstinence-only education is not working, the best, but most politically challenging, option is to repeal and replace Title V, Section 510 with comprehensive sexuality education.

An alternative option to this is to tackle reallocation of funds so less money is given to Title V, Section 510 and more is given to evidence-based sexuality education programs. However, it is important to realize that ensuring proper allocation of those funds every year is subject to the whims of the political tides in America. Figure 1 shows a timeline highlighting various challenges to evidence-based sexuality education over just the last ten years (SIECUS,

2019). As shown, continued reallocation would be quite challenging, which is why a recommendation for total repeal and replacement is presented

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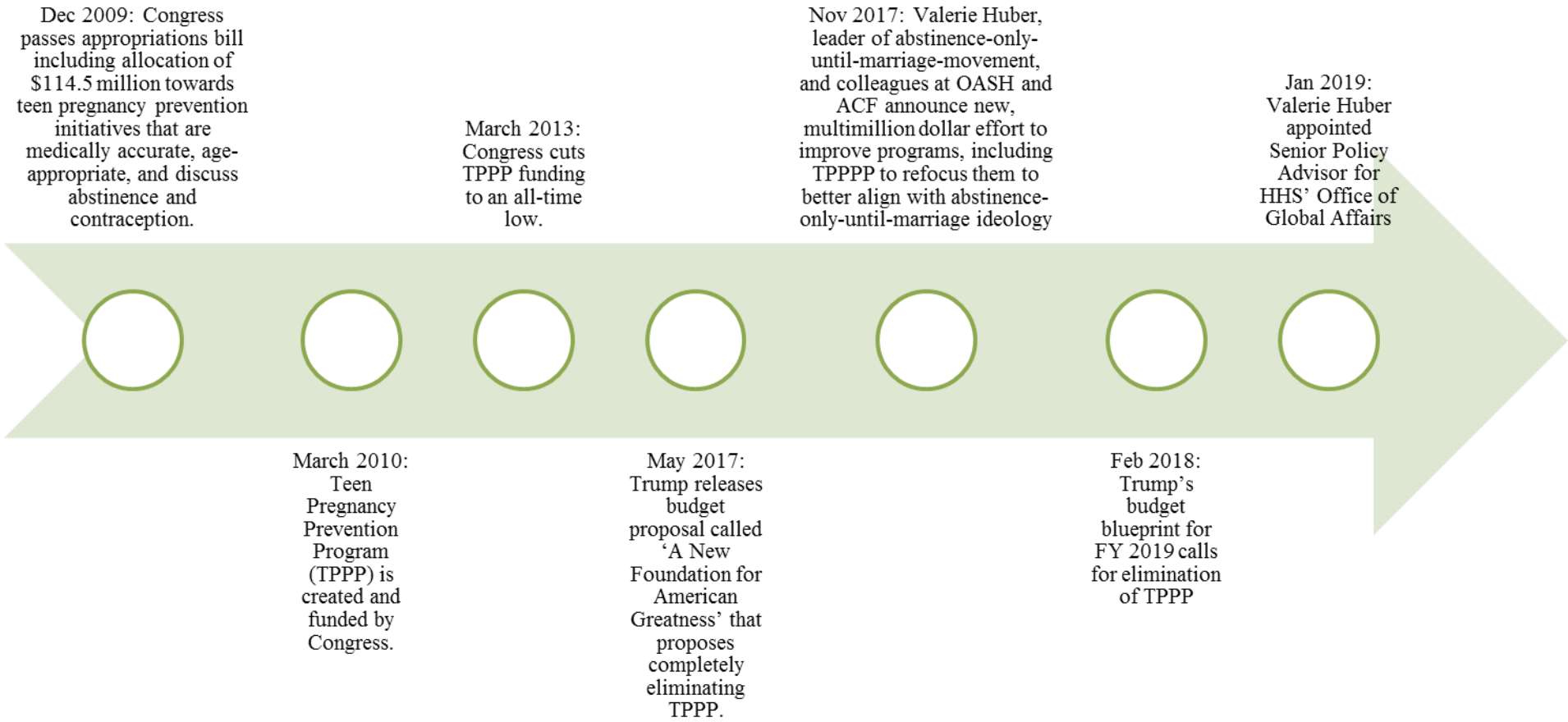

Figure 1 Timeline of Evidence-Based Sexuality Education Funding

5.1.2 Background and Scope of Problem

Currently, Title V Section 510 of the Social Security Act provides funding to states under the guidelines that all schools must teach abstinence-only education according to the "A-H" federal definition of abstinence education (refer to Table 12 above) (Kaiser Family Foundation, 2018). However, through previous studies, evaluations, and this literature review, it can be concluded that abstinence-only education does not result in better sexual health outcomes for American adolescents.

Despite continued Title V Section 510 funding to states to teach abstinence-only education, there has been no significant effect on delaying sexual debut among American adolescents (Fonner et al., 2014). In contrast, comprehensive sexuality programs have been proven to be effective in reducing certain sexual risk behaviors (Fonner et al., 2014). The ACOG concludes that comprehensive sexuality education is effective and recommends that it should be medically accurate, evidence-based, and age appropriate (ACOG Committee on Adolescent Health Care, 2016). Disregarding this educated recommendation, the government continues to provide annual federal support to abstinence-only education programs instead of comprehensive sexuality education (Guttmacher Institute, 2017).

Under the Obama Administration, federal funding for sexual health programming began shifting from abstinence-only education to more evidence-based programming. Now under the Trump Administration, reallocation threatens to drastically decrease federal funding for evidence-based programming and again increase the funding available under Title V, Section 510 (Guttmacher Institute, 2017). Some of the evidence-based programs currently being used are the State Personal Responsibility Education Program (PREP), Teen Pregnancy Prevention

Program (TPPP), and Division of Adolescent and School Health (DASH) (US DHHS, 2016; 2018). Each of these programs works to promote health and well-being of adolescents by implementing evidence-based programs and policies (Trust for America's Health, 2019).

5.1.3 Position Statement and Policy Recommendation

If Title V, Section 510 were repealed and replaced with federal funding for comprehensive sexuality education, funding could go towards the already existing evidence-based programs, PREP, TPPP, and DASH. Policy makers might be more open to this repeal and replace option if extensive evaluations were first completed for states, such as California, that already have comprehensive sexuality education programs as well as states, such as Georgia, that rely on abstinence-only education. Below are key elements to this recommendation:

- Conduct in-depth evaluation(s) for any state(s) with current comprehensive sexuality education program(s).
- Conduct in-depth evaluation(s) for any state(s) with current abstinence-only education program(s).
- Present evaluation results to Congress.
- Repeal Title V, Section 510 requiring abstinence-only education following the "A-H guidelines."
- Replace Title V, Section 510 with a new statute requiring comprehensive sexuality education with the following guidelines required to receive federal funding:
    - Program must include both sex education and HIV education;
    - Program must be medically accurate, age appropriate, and culturally appropriate and unbiased;
    - Program must not promote religion;
    - Sex education program must equally stress the instruction of all FDA approved contraception methods, abstinence, sexual orientation, and relationship behaviors; and
    - HIV education program must include equal coverage of condoms, abstinence, and all FDA approved pre-exposure prophylaxis.
- Decrease the state match from 75 percent to 70 percent.
- Require each state that receives federal funding for the new comprehensive sexuality education program to use the remaining five percent (see previous point)

to pay for mandatory compliance officers who will be required to monitor and audit every school that is given this federal funding.
    - Monitoring will occur at every school biannually.
    - Compliance officers will monitor to evaluate if the school is following the new statute guidelines.
    - If compliance officers determine that the school fails to comply with the guidelines, the school funding for the next fiscal year (FY) will be decreased.
- After the first four years under the new comprehensive sexuality education statute, federal funding will pay for an extensive evaluation to determine the efficacy of this repeal and replace recommendation.

5.2 Policy Recommendation Part 2a

As may be imagined, the policy recommendation presented in part one is rather challenging and may simply not be feasible. Policy recommendation part 2a gives an alternative. Rather than telling states what and how to teach sexuality education in their schools, the type of funding offered to each state for these programs could be adjusted in order to encourage states to begin including more comprehensive sexuality education in the curricula. Each state would continue to be responsible for the administration of funds made available under Title V Section 510 funding (U.S. Department of Education, 2004). This policy recommendation would require reallocation of federal funds on a yearly basis. This could be challenging because it would be a constant argument between two opposing political ideologies, but it will nonetheless be presented as an option.

5.2.1 Executive Summary

Under Title V, Section 510, the federal government annually disperses funds to states, which in turn administer grants to various school districts and other public entities (Guttmacher

Institute, 2001). Recent changes in the political climate have shown that the bulk of federal funding is moving back towards abstinence-only education (Guttmacher Institute, 2017). In order to combat this, this policy recommendation suggests a plan for reallocation of federal funds given the evidence presented in many previous studies and this literature review.

5.2.2 Background and Scope

Despite continued Title V, Section 510 funding to states to teach abstinence-only education, there has been no significant effect on delaying sexual debut among American adolescents (Fonner et al., 2014). Comprehensive sexuality programs have shown a reduction in certain sexual risk behaviors (Fonner et al., 2014). For comprehensive sexuality education to be considered effective, ACOG concludes that it should be medically accurate, evidence-based, and age appropriate (ACOG Committee on Adolescent Health Care, 2016).

Multiple evidence-based programs already exist, including the State Personal Responsibility Education Program (PREP) awarded by Family and Youth Services Bureau (US DHHS, 2016), the Teen Pregnancy Prevention Program (TPPP) through the Office of Population Affairs (US DHHS, 2018), and the Division of Adolescent and School Health (DASH) via the CDC (Trust for America's Health, 2019). In addition to Title V, Section 510, the federal government also funds a program called Sexual Risk Avoidance Education (SRAE) (Kaiser Family Foundation, 2018). Figure 2 (Kaiser Family Foundation, 2018) below shows an accurate breakdown of 2017 federal funding for teen sexual health education programs. Total federal funding for teen sexual health education programs in 207 was $299 million (Kaiser Family Foundation, 2018).

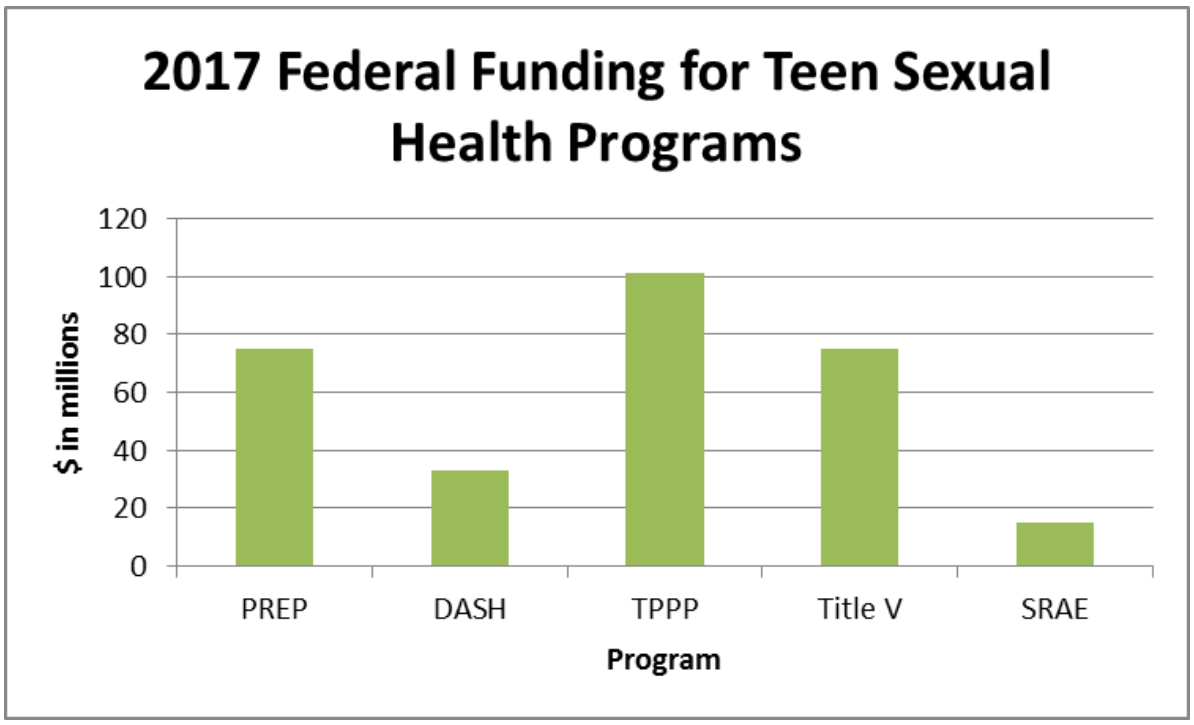

Figure 2 Federal Funding Breakdown in 2017

5.2.3 Position Statement and Recommendation

If this policy recommendation were to be successful, there would need to be annual reallocation of federal funds. The thought would be to start this reallocation process very gradually, slightly decreasing funds provided to both Title V, Section 510 and SRAE while simultaneously slightly increasing funds provided to PREP, DASH, and TPPP. The focus would initially be on just PREP, DASH, and TPP. However, over time, the ultimate goal would be to have the vast majority of federal funding for teen sexual health programs be allocated to the various evidence-based programs, such as PREP, DASH, TPPP, and others, with a much smaller percentage of federal funds being allocated to abstinence-only education (Title V, Section 510 and SRAE). Below are various key elements to this policy recommendation:

- At year one of reallocation plan, decrease federal funding to Title V, Section 510 by two percent.
- At year one of reallocation plan, decrease federal funding to SRAE by one percent.
- At year one of reallocation plan, increase federal funding to PREP, DASH, and TPPP each by one percent.
- Continue implementing the state matching block grant program for all federal funds.
- At year two of reallocation plan, decrease federal funding to Title V, Section 510 by 2.5 percent; at year three by three percent; at year four by four percent; and at year five, decrease federal funding to Title V, Section 510 by five percent.
- At year two of reallocation plan, decrease federal funding to SRAE by 1.5 percent; at year three by two percent; at year four by 2.5 percent; and at year five, decrease federal funding to SRAE by three percent.
- Annually, at years two through five, use the decrease in funding to Title V, Section 510 and SRAE to increase the federal funding for PREP, DASH, and TPPP.
    - This will ensure no major increase in overall federal funding for teen sexual health education programs will be required.
    - Please see Figure 3 below for projection of year five to the actual 2017 federal funding (Kaiser Family Foundation, 2018).
- Keep all standards for the evidence-based programs as is and do not allow abstinence-only education as an option for instruction by PREP, DASH, or TPPP.

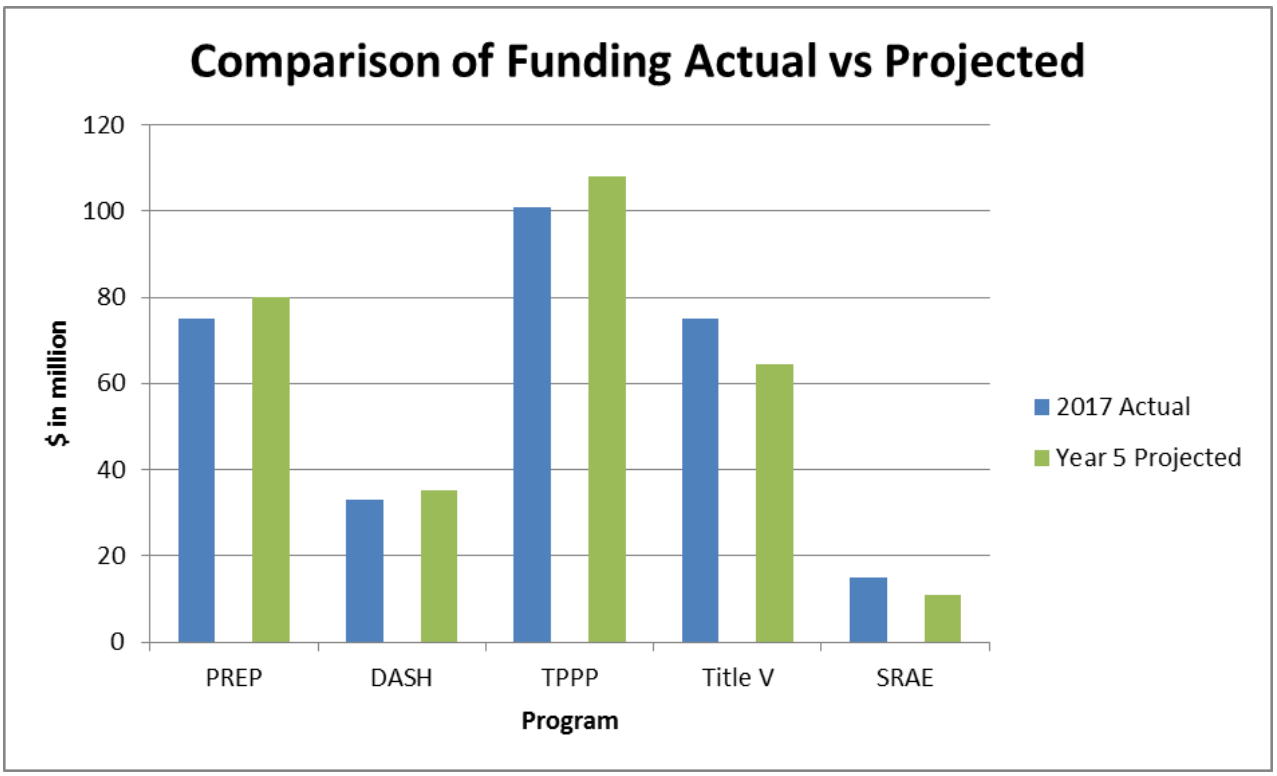

Figure 3 Comparison of 2017 Federal Funding to Projected Year 5 Funding

5.3 Policy Recommendation Part 2b

In addition to the reallocation of federal funds, it is recommended to tackle policy at the state level as well. As noted above, the 10th Amendment of the Constitution of the United States does not allow for a federal law that outlines what subjects need to be taught in every American public school (National Constitution Center, 2020); - a policy recommendation for the state of Pennsylvania is outlined below.

5.3.1 Executive Summary

The California Healthy Youth Act was used as a model for this Pennsylvania policy recommendation. However, this policy recommendation will include mandatory compliance monitoring. One of the challenges with California, despite having a rather successful model for comprehensive sexuality education, is the actual implementation at the school district level (Constantine et al., 2007). To combat this, compliance monitoring would be required to qualify for continuation of grant funding. This policy recommendation would also be applicable to other states wanting to change from abstinence-only education to comprehensive sexuality education.

5.3.2 Background and Scope of Problem

California receives no federal funding from Title V, Section 510 (SIECUS, 2017). This is because California enacted the California Comprehensive Sexual Health and HIV/AIDS Prevention Act in 2003 (Constantine et al., 2007), later renamed the California Healthy Youth Act (SEICUS, California 2017). Under this state law, sex education classes must start by 7th grade and be age appropriate, factual, medically accurate, objective, and cover abstinence as well as all contraceptive and sexually transmitted infection prevention methods approved by the United States FDA (Constantine et al., 2007). Abstinence-only education is not supposed to be taught in any schools in California. Even more than 15 years after the original mandate, implementing comprehensive sexuality education continues to be challenging (Constantine et al., 2007).

This policy recommendation for Pennsylvania would be modeled after the California Healthy Youth Act with the added component of compliance monitoring required. Pennsylvania

is unique because it has actually already attempted to enact its own comprehensive sexuality education bill, the Pennsylvania Healthy Youth Act of 2009 (Keystone Coalition for Advancing Sex Education, 2017). However, this bill was overall unsuccessful, so a new, more detailed policy needs to be formulated. Currently, the majority of federal funding that Pennsylvania receives for sexual health education is from Title V, Section 510 (SIECUS, 2019). Previous studies and this literature review show that abstinence-only education does not lead to better sexual health outcomes for adolescents.

5.3.3 Position Statement and Policy Recommendation

For this policy recommendation to appeal to Pennsylvanians and be successful, specific standards with regards to adolescent sexual health should be updated in the preexisting public school regulations. Making an entirely separate mandate for sexual education could create more issues and be difficult to pass, but building on existing regulations and academic standards could prove beneficial. In order for this policy recommendation to work best, the Pennsylvania Public School Code of 1949 (Keystone Coalition for Advancing Sex Education, 2017) should be amended to require all public schools to teach comprehensive sexuality education with the following requirements:

- Create an amendment to the Pennsylvania Public School Code of 1949 requiring comprehensive sexuality education with the following guidelines required in order for a school to be administered funding through the state:
    - Program must include both sex education and HIV education;
    - Program must be medically accurate, age appropriate, and culturally appropriate and unbiased;
    - Program must not promote religion;
    - Sex education program must equally stress the instruction of all FDA approved contraception methods, abstinence, sexual orientation, and relationship behaviors; and

    - HIV education program must include equal coverage of condoms, abstinence, and all FDA approved pre-exposure prophylaxis.
- State will stop accepting federal funding via Title V, Section 510.
- State continues providing the same amount of money via the matching block grant programs.
- State applies for more federal funding via evidence-based programs (PREP, DASH, TPPP).
- State will invest in compliance officers who will be required to monitor and audit every school that is administered funding.
    - Monitoring will occur at each school biannually.
    - Compliance officers will monitor to evaluate if the school is following the new amendment guidelines.
    - If compliance officers determine that the school fails to comply with the guidelines, the overall school funding for the next FY will be decreased.
    - Schools who successfully comply with the new guidelines will receive additional yearly overall state funding.

6.0 Conclusion

Current literature on sexuality education in America shows that abstinence-only education is doing a disservice to adolescents across the country and that comprehensive sexuality education should be adopted by each state to improve sexual health outcomes among American adolescents. This paper reveals that while states with comprehensive sexuality education programs do not clearly always have better sexual health outcomes, states that do not mandate sexuality education programs do have worse sexual health outcomes. These were also often states with the most federal funding for abstinence-only education.

Overall, robust evidence shows that abstinence-only education does not work to improve the sexual health outcomes in American adolescents. However, there is less evidence to suggest that comprehensive sexuality education will significantly improve all sexual health outcomes. There is good evidence to show that comprehensive sexuality education improves certain sexual health outcomes, such as sexual behaviors. Evidence also suggests that proper and consistent implementation of comprehensive sexuality education across each school district is key to its success. In order to address all sexual health outcomes presented in this review, states with mandated comprehensive sexuality education will need to ensure adequate implementation across every school district via compliance monitoring. Only then could an evaluation be conducted on the effects of comprehensive sexuality education on sexual health outcomes.

6.1 Strengths and Limitations

This study was conducted as a literature review, which was one of its strengths. Everything that has already been researched was brought together in one cohesive review. This allowed for identification of any gaps and omissions in the existing research while also producing a summation of the current data. Because this study was set up as a literature review, the existing literature was able to be extensively researched and then critically evaluated to ultimately produce two specific policy recommendations.

A limitation of this study was there was no possible way to ensure all of the literature on this specific topic was considered. While multiple searches were completed in databases to produce various peer reviewed and published journal articles, there is no real way to ensure all of the literature on this topic was reviewed and used for this study. This could have also increased the chances of this review being incomplete because of publication bias.

Another limitation of this review was the limited sample used. To truly get an accurate sense of sexual health outcome differences across the country, each state could have been reviewed and analyzed. For the purposes of this study, only seven states were identified, reviewed, and compared. The study could have benefitted from the inclusion of additional states to create a more compelling argument for the need for comprehensive sexuality education, as this may be something policy makers point out when considering new laws and regulations about this issue.

In spite of these limitations, some very important lessons were learned throughout this literature review. Regarding the methods, research could be done on more states than just the seven chosen for this review. The scope of the review could have been defined better from the beginning. While reviewing the literature, there was quite a lack of information for some of the

states, making comparison of sexual health outcomes quite difficult. If more states were researched from the beginning, a better comparison would have been made and potentially a better argument for policy change.

6.2 Implications for Future Research

This literature review suggests that there is good evidence for further research into the types of sexuality education being taught in public schools in order to address the sexual health outcomes of American adolescents and young people. Despite not clearly proving that states with mandated comprehensive sexuality education have better health outcomes, evidence did suggest that schools without comprehensive sexuality education that relied more on abstinence-only education and funding had worse sexual health outcomes. More research could prove that the current dispersion of federal funding to each state needs to be reevaluated and restructured. Possible future studies could focus more on the individual level. Potential study designs would include observational or intervention studies among students to evaluate the impacts of different sexuality education programs on their sexual health outcomes.

Furthermore, with the ever-changing political climate, more rigorous evaluations would be able to solidify sexuality education as a health issue across the United States instead of a social issue. This would allow law makers to make policy decisions more easily without worrying about crossing party lines. Again, future studies should address and evaluate each state in order to get a comprehensive view on the sexual health outcomes and needs of this population and to have more data available for state lawmakers. While not in the scope of this paper, international comparison in future studies might look at strategies other countries are using in

regards to sexuality education. Particular interest could be paid to communities geographically close to those in the US, such as those along the Canadian border.

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