Evaluation of the Critical Aspects of Sex Education Programs for the Improvement of Student Health and Wellbeing

by
Juliana Brown

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Sex education plays a critical role in the development of youth sexual health and wellbeing. An ideal program is taught with honesty in an inclusive and respectful environment where students learn strategies to lower their risk of unwanted sexual outcomes, communication skills to build and navigate relationships, and necessary knowledge to recognize and seek help for sexual violence or abusive relationships. Programs need to be inclusive of and respectful to people of all gender and sexual identities and be tailored to best meet the needs of students in each community, particularly students most vulnerable to poor sexual health outcomes. By these standards and experimental evidence, programs that discuss only abstinence for risk prevention are inadequate for the educational needs of teens and young adults. Many HIV and pregnancy-prevention programs are effective at reducing unwanted sexual health outcomes but comprehensive programs that stress responsible sexual behaviors and risk prevention better meet the needs of young people and most appropriate in high school health education. For implementation of good programs, legislation and funding policies must support them, otherwise, as shown in many US states, students are especially vulnerable to poor sexual health outcomes like high teen pregnancy and HIV infection rates.

Key Words: Sex education, teen pregnancy, HIV/AIDS, sexual risk behavior, prevention programs, and prevention policies.

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I understand that my project will become part of the permanent collection of Oregon State University, Honors College. My signature below authorizes release of my project to any reader upon request.

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INTRODUCTION

Statement of the Problem

Sex education is an important and controversial political topic in the United States. It is critical that children and young adults learn about sexuality and reproduction, topics which are relevant throughout life to physical, mental, and social aspects of health and wellbeing. Adults have varying beliefs about whether children should be taught about sex, at what age groups, and what content sex education should include if taught. Through politics, these beliefs often impact state and national sex education laws, funding available for certain types of programs, and the sex education curriculums that are taught in public schools.

Problems arise when some of these sex education programs (or lack thereof) do not help to facilitate good sexual health outcomes for students which include both an absence of sexually transmitted infection and unwanted pregnancy and actively practicing sexual abstinence or safer sexual behaviors and affirmative consent practices. Notable disparities in the rates of unintended pregnancies, sexually transmitted infections and acts of intimate partner violence are evident among different geographic locations in the United States as well as among people of different races, genders, and sexual/gender orientations. While these health disparities are multifaceted, they may be partially attributed to differences in sexual education programs that students have participated in. Since sex education does the best job at reducing unwanted sexual outcomes when performed in environments where students can be well supported throughout the learning process, it is beneficial to optimize not only program curriculum but also the quality with which programs are implemented.

Each state has legislation that dictates what must be taught in schools, but within these guidelines school districts can decide what to teach. The curriculum of these programs is usually

decided by community members based on what they think is most appropriate for students to learn and these opinions vary greatly from person to person. Not all programs are effective at promoting good sexual health and wellbeing outcomes for the students that participate in them, and there arises a need to analyze and evaluate different types of programs to determine what components are needed to strengthen curriculum being taught in schools and ultimately improve the health and wellbeing of students.

There are many programs being already being taught that have been shown to be effective at reducing at least one risk behavior, or unwanted sexual outcome. Understanding of the fundamental components making these programs effective through comprehensive study may provide a good basis for creating other programs. After a general framework for effective sex education programs is established, the programs will need to be tailored to the needs of the communities in which they are being implemented with the hope that more students will be helped if programs align with community values and are implemented with the needs of students at high risk for poor sexual outcomes in mind. For example, teen pregnancy rates are higher than the national average for African American, Hispanic, and Native American teens and LGBT+ teens are more likely to acquire a sexually transmitted infection than their straight peers. Working specifically to address disparities like these in school classrooms is vitally important.

Research Questions

The following questions were used to guide the research conducted about sex education:

1. What are the essential components of an effective sex education program?
2. How do outcomes differ for students who participate in different types of sex education programs?
3. What strategies can be used to help students at high risk for unwanted sexual outcomes?

4. What role does policy play in program administration and outcome?

The first two research questions were developed out of a desire to better understand how different aspects of sex education curriculum and implementation can dictate the quality of student sexual health and safety outcomes, ultimately to provide a baseline for development and implementation of effective sex education programs. Answers to the third research were designed to better understand how educators can work to address the significant disparities noted between student outcomes like teen pregnancy and STI acquisition. The fourth research question is based upon an interest in factors that influence the types and quality of programs being taught in schools. Particularly, legislature and funding that provide restrictions of the depth or inclusivity of content which suggests that sex education be taught in ways that have been shown to reduce program effectiveness.

REVIEW OF LITERATURE

Essential Components of Sex Education

Educators and policy makers need to understand the fundamental components needed for a successful sex education program so that they can design and implement programs that will help students make safer and healthier sexual decisions. The following is an analysis of these components as documented in sex education literature.

Desired Outcomes of Sex Education

Comprehensive sexual health education "must provide young people with honest, age-appropriate information and skills necessary to help them take personal responsibility for their health and overall wellbeing" (Bridges, & Houser, 2014). The ideal outcome for a student participating in a sex education program is for them to be safe and healthy people. The authors of the 2011 *Sexual Health Education Curriculum Review* define sexually safe and healthy people as those who meet the following criteria. They should be able to express love and intimacy in appropriate ways, avoid exploitative or manipulative relationships, show respect for those with different values while recognizing their own, take responsibility for the consequences of their own behavior, communicate effectively, discuss sexual activity with a partner before it occurs, plan effectively for reproductive health and disease prevention, and seek health information when they need it (Hidde, Dorn, Kanikeberg, Burke, & Vavrus, 2011). This list of goals represents an ideal scenario, where a culmination of factors like receipt and quality of formal sex education, personal and family values, quality and duration of family discussion about sex-related topics, emotional wellbeing, quality of peer groups, and many other life experiences help dictate how well students will meet these goals and their ability or desire to be receptive to the material that is taught. Out of this list of factors, the sex education students receive in schools

can be regulated at state and local levels, ideally helping students meet as many of the criteria for safe and healthy people as possible.

There are many topics that are fundamentally important to creating a sex education programs that helps students become safe and healthy individuals, as specified in multiple different sex education evaluation models. The topical categories that will be addressed in this paper are as follows: human development; pregnancy prevention; STI prevention; sexual abstinence; sexual health service, personal skills; violence prevention; relationships; identity; social influences on sexuality and identity; and program implementation factors.

Human Development

SIECUS guidelines for comprehensive sexuality education include in-depth recommendations for teaching about human development at several different age-levels. At the high school level, students should know the formal names for male and female sexual and reproductive body parts with the understanding that some individuals are born intersex and their genitals may vary from typical development. They should also understand how sexual and reproductive organs change during puberty including how menstruation and sperm production signify a person's ability to reproduce, whereas menopause marks the end of reproduction for females only. Students should understand which sexual activities can result in fertilization and pregnancy, and which types of contraception are effective at reducing this risk. Additionally, students should be aware of adoption, surrogacy and fertility treatments that are available for people who want children but are otherwise unable to have their own (SIECUS, 2004 p. 24-27).

The assessment tools utilized in the 2011 Sexual Health Education Curriculum Review provided similar recommendations for topics to include. The following human development topics are critical: sexual anatomy; the physical, social, and emotional changes that happen

during puberty; how conception happens; pregnancy stages; and how the menstrual cycle relates to conception (Hidde, et al., 2011).

Pregnancy Prevention

Pregnancy is a critical topic to cover to ensure that students can minimize risks of unwanted pregnancy using methods that work best for them. In 2017 US teen pregnancy rates reached an all-time low, yet there are significant disparities in these rates by race and geographic location that need to be addressed. For example, teen pregnancy rates are higher than the national average for black, Hispanic, American Indian/Alaska Native, and Pacific Islander teen girls. Teen pregnancy rates also vary dramatically by state, with teen girls in Arkansas having the highest national risk of becoming pregnant at between the ages of 15 and 19. A variety of factors exacerbate these disparities including economic status, education level, and presence of racial neighborhood segregation (Social Determinants, 2019), each of which should be considered and addressed in pregnancy prevention curriculum being taught in schools.

The Louisiana Public Health Institute recommends that when implementing a comprehensive sex education program, students should learn how pregnancy happens and what parental responsibilities are like. Additionally, students should learn decision-making skills related to pregnancy avoidance and be provided with medically accurate information about the pregnancy risk-reduction of condoms and other contraceptives (Louisiana Public Health Institute, 2016). The Future of Sex Education organization recommends that students learn about reproduction along with information about abstinence and contraception so they have the skills to delay sexual activity until they are ready and use contraceptive methods when they are sexually active (Bridges & Houser, 2014).

The Sexual Health Education Curriculum Review program assessment tools recommend that in addition to understanding the physiology of pregnancy and reproduction, students should learn about parental responsibilities and the importance of avoiding alcohol and other drug use while pregnant. They should also learn accurate information about the safety and effectiveness of "all FDA approved pregnancy reduction methods" and the importance of using contraception correctly and consistently in order to prevent or reduce unintended pregnancy (Hidde, et al., 2011).

SIECUS recommends teaching about contraception, pregnancy and prenatal care and abortion as they relate to sexual health. Students should learn about the different types of 'over the counter' and prescription contraception methods including where to get them, the advantages/disadvantages and effectiveness rates of each type; the benefits of using condoms along with another type of birth control; and emergency contraception's value as a backup method with the emphasis that this should not be used as primary form of birth control. Students should understand that drug and alcohol use during pregnancy as well as some sexually transmitted infections like HIV can cause birth defects, so women that are trying to become pregnant or suspect they are pregnant should avoid drug use, see a health provider and get tested for STIs. They should also know that some babies are born with serious health problems in the absence of preventable behaviors like drug use during pregnancy. The option of abortions for unintended pregnancies should be addressed sensitively in terms of the legal rights women and girls have to abortions at different stages of pregnancy, how abortion should not be used as a form of contraception, and the factors that influence personal opinions and decisions about abortion (SIECUS, 2004, p. 57-62).

STI Prevention

Sexually transmitted diseases can cause serious damage to the human body if left untreated. It is a growing problem that chlamydia, gonorrhea, and syphilis rates have been on the rise since 2014 and new infections are very common among teenagers and young adults (CDC, 2019) making it very important to teach teenagers STI prevention skills. SIECUS guidelines advise teaching about STIs with emphasis on HIV/AIDS. Students should learn about routes of STI transmission (vaginal, oral, and anal intercourse, needle sharing, mother-child), the types of STIs that are curable (gonorrhea, chlamydia and syphilis) or treatable without a cure (HIV, HPV, herpes, and hepatitis), the symptomology of each STI, the importance of STI testing if sexually active even if symptoms are not present, and how to use condoms and dental dams during sexual activity to reduce the risk of spreading STIs (SIECUS, 2004, p. 64-65).

Students should also learn the following information about HIV/AIDS. HIV can only be spread through exposure to infected blood, semen, vaginal fluid or breast milk, not with casual contact with an HIV positive individual. HIV-positive individuals often encounter rejection or discrimination because of their status and need particularly strong support from their friends and families as they cope with their diagnosis. HIV attacks human immune systems making HIV-positive individuals particularly susceptible to illness from other infections. An AIDS diagnosis can be made when an HIV-positive patient has a lowered CD4 cell count and/or opportunistic infections related to the disease, but an HIV test can detect HIV antibodies in the absence of symptoms (which may not manifest until several years becoming infected). Risk of HIV infection can be reduced by abstaining from sexual activity, using condoms and dental dams during oral, anal and vaginal intercourse, and using only clean or sterile needles. Lastly, HIV can

be treated with medications which must be taken daily for a lifetime, but cannot be cured, so precautions should be taken to minimize HIV-related risk factors (SIECUS, 2004, p. 64-67).

Similarly, the Sexual Health Education Curriculum Review's list of critical STI prevention topics include the following: accurate information about how STIs are and are not transmitted, with emphasis on HIV; the signs and symptoms of STIs, particularly HIV; clarification about which STIs can be treated and/or cured; the effectiveness of condom use at reducing HIV, HPV, and other STI rates when used correctly and consistently; and the effectiveness of all FDA-approved STI-reduction methods (Hidde, et al., 2011). Lastly, in addition to medically accurate information about how condoms can reduce the risk of transmitting and acquiring HIV, HPV and other STIs, skills-based training on the use of condoms is also necessary to ensure that students are able to use them correctly (LPHI, 2016).

Sexual Abstinence

Sexual abstinence involves choosing not to engage in certain sexual behaviors. There is more than one way to be sexually abstinent, but sexual abstinence as a form of pregnancy and STI prevention requires abstinence from sexual behaviors that can result in pregnancy or STDs. Some religions teach that sexual activity should only occur in a marriage. Ultimately students should learn how to make informed decisions about sexual activity including talking to a trusted adult about the safest ways to engage in sexual activity, considering their personal beliefs, discussing their sexual limits with all potential partners, and respecting sexual limits set by their partners. Students should learn that many teenagers have not engaged in sexual intercourse and that sexual and romantic feelings can be expressed in many ways that do not involve intercourse. Additionally, they should learn that people can choose to be sexually abstinent at any point, even if they have been sexually active in the past (SIECUS, 2004).

The Sexual Health Education Curriculum Report also indicates that sexual abstinence should be addressed as the safest, most effective form of preventing pregnancy, STI transmission, and other risks associated with sexual behavior. (Hidde, et al., 2011).

Sexual Health Services

Students need to be provided with health care resources that they feel safe accessing, are private, and are affordable to them. Otherwise, advising them to seek testing or treatment in certain instances will be meaningless. Teachers should provide their students with a list of appropriate local resources where they can seek health services. This may include sexual health screenings, immunizations, and checkups; STI and HIV testing and medical care; contraceptive counseling; and pregnancy care (Hidde, et al., 2011).

Personal Skills

This section encompasses the personal and interpersonal skills that adolescents and adults need to develop and maintain wholistic sexual health and wellbeing.

Values. Values are what guide human behavior and give purpose and direction to our lives. Students should learn the difference between universal and more personal values that may be taught to them by their families, peers and communities. Sex education programs should help students to evaluate values that others have taught them and ultimately determine their own set of values to help guide their decision making, sexual and otherwise. Additionally, since people's values differ, students should learn the importance of respecting the beliefs of others. It may be especially difficult for students to have different values than one's family, religion, or culture, yet many people choose to accept the people that hold those values and the validity of their beliefs even when they do not agree with them, and students should learn that they can do the same (SIECUS, 2004, p. 42-43).

Goal setting and decision making. Teenagers and adults often make important decisions about sexual behaviors. These decisions may involve choosing if, when, with whom, and what kind(s) of sexual behavior(s) they engage in. These decisions can be difficult to make because they can be powerfully influenced by sexual feelings and pressure from partners or peers. Students should learn how to evaluate the risks of engaging in sexual activity and to create a risk-reduction plan before engaging in sexual activity to improve the likelihood of making decisions they are comfortable making and that align with their values (SIECUS, 2004). Decision-making skills are important and applicable far beyond the scope of sexual activity. Students should learn strategies that help with the decision-making process. One strategy involves careful evaluation of the advantages, disadvantages, and consequences of each possible choice. To do so requires knowing accurate information about the potential outcomes of each possible decision. Another strategy involves evaluation of past decisions in order to learn from experiences and avoid repeating mistakes. Additionally, it may be helpful to talk to a trusted adult or close friend about the evaluation process of an important decision and to hear their opinions about the decision. Students should learn that it is okay to reevaluate decisions and modify associated behaviors at any point. Ultimately, the best decision is usually one that is "consistent with one's own values and does not involve risking one's health/safety, other people's health/safety, or breaking the law." Before making a decision, students should learn to evaluate their options with these criteria in mind, particularly in regards to their personal values, as this may help them to make better decisions (SIECUS, 2004).

According to the National Health Education Curriculum Analysis Tool (2011), students should be able to use decision-making skills to enhance their health. Accurate information about the short and long-term consequences of sexual activity is an essential component of being able

to make informed sexual decisions. They also need to know how to set and respect sexual limits and share the responsibility of using protection against pregnancy and STIs with their partners. They should learn how to set personal goals about health behavior, take steps towards achieving their goals, and monitor their progress. Additionally, the sexual behavior-related social pressures that often impact students should be addressed in an activity (Hidde, et al., 2011).

The Louisiana Public Health Institute also stresses the importance of using engagement and interactive activities for decision-making skill development. They recommend discussing the roles popular culture, media, technology, peer-pressure, and alcohol/drugs can play in the sexual decision-making process (LPHI, 2016).

Communication. Effective communication skills can help students avoid potentially harmful situations and enhance health. In a sex education program, they should be provided models for effective communication, negotiation, and refusal skills and be given the opportunity to practice those skills. Additionally, they should be able to recognize appropriate ways to discuss needs, wants and feelings (Hidde, et al., 2011). Engagement and interactive activities are required for communication skills development (LPHI, 2016).

As outlined in the SIECUS sex education guidelines, students should be able to recognize the importance of good communication, differentiate components of good and poor communication, and be able to improve their own communication. Effective communication is critical for comprehension and conveying ideas in both personal and work relationships. Communication about sexual feelings, desires, and boundaries can improve sexual relationships, and ensures that consent for sexual behavior is present for both parties. “Verbal and nonverbal communication may have many meanings depending on the individual, family, gender, cultural background, and situation” which can lead to confusion, but utilizing strategies to improve

communication while reducing behaviors that impair communication can help maximize understanding. Some factors that improve communication are "listening well; making eye contact; stating feelings; using messages that start with "I" to indicate that the person is speaking for him/herself; trying to understand the other person(s); offering possible solutions to problems; giving positive nonverbal messages such as a smile or touch; asking for clarification." Factors that impair communication include "not listening; yelling; blaming, criticizing, or name calling; making the other person feel guilty; giving negative nonverbal messages such as frowning or scowling; and interrupting." Ultimately, students should ideally learn to communicate assertively, rather than aggressively, passively, or passive-aggressively because this is the most effective way to state their needs without hurting or overpowering others (SIECUS, 2004, p. 45-46)

Assertiveness. Assertiveness can be defined as "communicating feelings and needs while respecting the rights of others" (SIECUS, 2004). This is different than aggressiveness, which interferes with the rights of others. Assertiveness is an important communication skill to have that anyone can learn how to improve. Assertiveness can others to better understand one's needs and wants but does not ensure that people will always get what they want. Practicing assertion can help people to act according to their own beliefs and avoid being pressured to act in particular ways, and students should be given opportunities to do so in a classroom setting. Practicing assertion is particularly important in sexual relationships so that partners can effectively communicate their needs and limits (SIECUS, 2004).

Assertiveness may involve repeating one's position on an issue, offering a compromise, or walking away. Some behaviors that help people to be more assertive include: "being honest; being direct; communicating feelings and needs as they come up instead of waiting; using

assertive body language; speaking for oneself; and taking responsibility for one's feelings and needs." Students should be aware that they have the right to express how they feel; disagree with others; refuse a request, including sexual requests; and expect to be treated fairly and not be intimidated (SIECUS, 2004).

Negotiation. Negotiation is a communication strategy that allows people to solve problems or resolve conflicts without the use of guilt, anger, or intimidation. Often, relationship conflicts can be resolved, and sexual behaviors and limits can be determined using negotiation strategies (SIECUS, 2004). Students should be taught how to effectively negotiate and have opportunities to practice this skill themselves.

During negotiations, both parties must decide what trade-offs they can accept, and which issues cannot be compromised. To effectively negotiate, certain learnable skills are needed, including "careful observation of other people; use of open body language; good verbal communication; imagining oneself in other people's positions; identifying all the options in a situation; and reaching mutual agreement." Negotiation is most effective when a conflict or problem is addressed in its early stages. Sometimes people fail to reach an acceptable compromise after negotiations and may choose to walk away from the situation rather than pursue it further. It is important to note that negotiations involving ultimatums or threats are often ineffective. Additionally, manipulation, the act of trying to unfairly control someone's behavior or decisions without considering their feelings or needs, is not a form of negotiation or a healthy behavior to practice (SIECUS, 2004).

Seeking help. Sometimes people are in situations that they don't know how to handle on their own. Educators should teach students that while it can be difficult to admit to needing help, reaching out to a trusted adult, friend, or professional for help can often be a wise and helpful

decision. Students should learn that problems involving alcohol, drugs, money, violence, health, and abuse may require help from someone trained to help with these problems. Seeking professional help can be a sign of strength. Additionally, students should learn to carefully evaluate information found on the internet for credibility and to avoid trying to replace the support of family, friends, or professionals with information found on the internet or in other sources.

Violence Prevention

Sexual violence is a very sensitive and important topic to include in sex education. As stated by Bridges and Houser, “eight percent of high school students have been forced to have intercourse, while one in ten students say they have committed sexual violence. Good sex education teaches young people what constitutes sexual violence, that sexual violence is wrong, and how to find help if they have been assaulted” (Bridges & Houser, 2014). According to the 2011 Sexual Health Education Curriculum Review, students should be able to analyze how power and control differences in relationships can contribute to aggression and violence, acknowledge that it is wrong to trick, threaten, or coerce another person into having sex, and that it is an individual’s responsibility to verify that all of their sexual contact is consensual. Additionally, students should practice analyzing and identifying situations where someone might be experiencing coercion or pressure to have sex and be taught to avoid pressuring others (including friends) to engage in sexual risk behaviors (Hidde, et al., 2011).

SIECUS recommends teaching about sexual abuse, assault, violence, and harassment. Students should learn how to recognize and distinguish between sexual abuse, sexual coercion, sexual harassment, sexual assault, rape, and domestic/dating violence. This lesson should be taught sensitively in acknowledgement of the likelihood that some students have personally

experienced sexual violence. They should be taught that those who are sexually assaulted or experiencing any other form of sexual violence are never at fault. Sexual violence is a crime that can reported to the police but reporting a perpetuator and participating in a trial or investigation can be a very difficult process for sexual violence survivors. Some people choose not to report sexual violence for this reason, and this decision should be treated with respect, as should those who do report this crime. There are many support resources available to help survivors of sexual violence, and educators should provide their students with a list of local resources, so they know where to seek help if they need it. Additionally, students should learn about self-defense and violence-prevention techniques that can reduce the likelihood of getting assaulted. It should be emphasized that not all sexual abuse, assault, violence, and harassment can be prevented, so a survivor should never be blamed for any crimes a perpetuator committed against them (SIECUS, 2004, p. 67-69).

Relationships

Everyone should learn how to build and maintain healthy, respectful and meaningful relationships and how to deal with difficult ones (Hidde, et al., 2011). These are skills that can be applied not only to romantic or sexual relationships, but are also applicable to relationships with friends, family and peers. Students of all ages can benefit from education about building and maintaining healthy relationships and practicing the skills needed to do so. In this paper, relationships will be discussed in several sections: family relationships; friend and peer relationships; romantic and sexual relationships; marriage and long-term relationships; and raising children.

Family relationships. Practicing the skills needed to build healthy relationships and communicate positively with other people can begin very early in life with family and friends,

who are the foundations of social support in any young person's life. Knowing how to be a part of a healthy relationship provides a groundwork for building respectful romantic and sexual relationships later in life. Education about family relationships are a great place to start because as stated in the SIECUS Guidelines for Comprehensive Sexuality Education, most people are raised in families and live in families as adults. Students should be aware that healthy families are dependent on love, communication, cooperation, mutual respect, and support through difficult times, not on whether they conform to societal standards about family life. Conflict is not unusual within families, especially as family members grow and the roles they play change. Often adolescents will have conflicts with their parents as they grow into more independent and self-sufficient people, but with caring, respect, and good conflict-management skills these are problems that can be worked through. It is important to note that some families have significant problems and may require the help of counselling, or to break apart to protect the health and safety of the family members (SIECUS, 2004, p. 33-35).

Friend and peer relationships. Friend and peer relationships also exist from an early age, and it is appropriate to start educating children about friendships at an early age. They can be a great source of support, provided they are based on respect, honesty, and willingness to work through conflict. Friends can be good or bad influences on people, and so it is important to choose friends that are supportive of one's values and important decisions, that the support is reciprocated (SIECUS, 2004, p. 35-36). At a later age, students should learn that they can help their peers make safe and healthy choices, sexually and otherwise by supporting their healthy decisions including avoidance or reduction of sexual risk behaviors (Hidde, et al., 2011; LPHI, 2016).

Romantic and sexual relationships. People begin to participate in romantic and sexual relationships later than they form friendships and family relationships, so the following topics should be added to existing discussions relationships in general at developmental stages where these topics are appropriate and relevant may be helpful. These topics include: identifying healthy and unhealthy relationships, love, and dating.

Identifying healthy and unhealthy relationships. According to Bridges and Houser, maintaining a healthy relationship requires positive communication, conflict management, and negotiation of decisions about sexual activity because a lack of these skills can result in unhealthy and even violent relationships. In order to prevent relationship violence, students should learn how to differentiate healthy from unhealthy relationships and how to avoid or end unhealthy ones (Bridges & Houser, 2014).

Love. Love typically plays a huge role in romantic and sexual relationships. It is a tricky concept to define or recognize because it can often be mistaken for other intense emotions such as sexual attraction, lust, infatuation, jealousy, and control, but students should learn that it can be one of life's greatest joys. Love involves vulnerability to express and understand because it may not be returned or last forever, but with that risk, love can also be expressed and experienced mutually. Being in a loving relationship requires reciprocity and often involves shared values commitment, and intimacy. Some loving relationships involve sexual intimacy, while others do not (SIECUS, 2004).

Dating. People choose to date for companionship, love, intimacy, friendship, or to simply share the experience with someone. There are many gendered expectations about dating, like who pays, what types of sexual activity should be engaged in, or that may influence parental expectations and rules about dating, but people can choose to follow their own expectations

about dating while working with parental figures to negotiate reasonable rules about dating. Sometimes one or both parties in a relationship may become emotionally or physically abusive. It's important for students to be able to recognize signs of an abusive relationship and know that there are free, confidential, and anonymous resources available to help. (Hidde, et al., 2011, p. 33-41)

Marriage and long-term commitments. Students should learn about marriage, the commitments it involves, alternatives to marriage, and reasons people choose to marry or participate in long-term, committed relationships without marriage.

Marriage. Marriage involves two adults making a legal commitment to spend their lives together and support each other. People may choose to marry for a variety of reasons that are often influenced by cultural expectations. Successful marriages involve mutual effort realistic expectations, honesty, and mutual acceptance between partners. They may also benefit from friendship, commitment, shared values and interests, mutual support, and sexual attraction. Not all marriages are healthy or successful, and couples can seek counseling to help with their relationship difficulties or may choose to end their relationship (SIECUS, 2004).

Long-term commitments. Many adults choose to be in long-term committed relationships without being married. Culture, religion, and gender all influence how people will react to non-married people living together and having sexual relationships (SIECUS, 2004). These factors also contribute to varying acceptance-levels of same-sex relationships and marriage. The United States Supreme Court ruled same-sex marriages legal in all 50 states in June 2015 after years of contention on the issue (Chappelle, 2015).

Raising children. Raising children is an enormous, long-term commitment because children require "a home, food, clothing, love, support, time, education, and caring adults to help

them grow and develop." Parenting may be particularly challenging for teenagers because parenting responsibilities can interrupt schooling, employment plans, social opportunities, and family life. Teenage parents may or may not receive support for their families, but support from community services may lessen the burden of teen pregnancy and parenting. Sex education programs should teach students about the challenges and responsibilities of parenting in general, the particular challenges of teen parenting, and the many ways in which adults can become parents, including having biological children, adopting children, becoming a step-parent, or becoming a guardian or foster parent. Parenting can be done independently, but it is often easier when people have the support of their families or partners to help with parental responsibilities. Students should also learn that while there are many societal pressures on adults to raise children, it is okay to decide not to and that it is not necessary to raise children in order to live happy, fulfilling lives (SIECUS, 2004).

Identity

People categorize their personal characteristics in many types of identities. These identities influence how they see themselves as well as how others see them. It is important to help students understand their own identities and the identities of others with a focus on respecting and supporting the diversity of identities. To do so, gender identity, gender roles, sexual orientation, and body image are topics that are critical to include in sex education curriculum and should be taught in an inclusive and respectful manner. Scientific study and normalization and acceptance of the variety of gender and sexual identities is relatively new and is still changing rapidly. Thus, educators should revisit relevant aspects of their curricula regularly and update this information to better reflect current terminology and understanding of this topic.

Gender identity. Gender identity is a person's internal sense of being male or female or a combination of these. Biological sex is typically refers to the genitals and/or chromosomes a person has. Most people's gender identities align well with the biological sex they are born with and can be referred to as cisgender. People whose gender identity doesn't match societal expectations of them based on their biological sex are referred to as transgender. Some transgender individuals take hormones and/or have surgery to alter their bodies so they better match their gender identity. Transgender individuals often experience harassment, violence, or other forms of discrimination because of their identity, and because of this, some people are afraid to share or express their gender identity because they are afraid of being discriminated against. There are federal and state laws in place to help protect transgender people from facing discrimination, yet these laws do not prevent all discrimination from happening (SIECUS, 2004).

There are support services, hotlines, and resources available for people to talk about gender identity. The internet is one place to find information about gender identity, but some of it is inaccurate. There are also online communities where transgender people can find friendship and support, but people should practice caution and good internet-safety habits when meeting people on the internet (SIECUS, 2004).

Gender roles. Males and females receive different messages about their expected behaviors, sexual and otherwise from their families, friends, the media, and society. These gender role stereotypes are harmful for both men and women and can lead to problems like "poor body image, low aspirations, low paying jobs, relationship conflict, stress-related illness, anxiety about sexual performance, sexual harassment, and date rape." Some people, primarily women and girls are denied equitable treatment because of their gender despite laws that prohibit

discrimination. These laws include those that protect the rights of both men and women to hold jobs and participate equally in athletic activities (SIECUS, 2004).

Accepting gender role stereotypes can limit a person's life. People should be allowed to make their own choices about what roles are appropriate from them to play as men and women and be given the same opportunities as they grow up. Additionally, in a relationship, both partners in a relationship should have equal rights and responsibilities, regardless of gender (SIECUS, 2004).

Sexual orientation. "Sexual orientation is determined by a combination of a person's [physical and/or romantic] attractions, fantasies, and sexual behaviors" to individuals with same and/or a different gender. Students should learn about different sexualities including gay, lesbian, bisexual, and straight and how they can be defined in terms of what gender(s) they can be attracted to and fall in love with (SIECUS, 2004). Students should learn to treat people of all sexual orientations with courtesy and respect (Hidde, et al., 2011). People do not choose their sexuality orientation and it cannot be changed by therapy or medicine. Students should be assured that people of all sexual orientations can have relationships that are equally fulfilling, and they can have children biologically or through adoption if they wish to be parents (SIECUS, 2004).

Sharing identities and outing. It can be difficult for people who do not identify as heterosexual to disclose their sexual orientation to other people because they fear a negative reaction from those they tell. It is very important that students learn the importance of respecting people who have shared information about their gender or sexual identities by not sharing information about another person's sexual or gender identities without their express permission, as it can be very harmful to their wellbeing to do so.

Sexual orientation-related resources. There are organizations that provide support services and other resources for those wanting to talk about sexual orientation, and there are communities where people of all sexual orientations can find friendships and support and educators should include information about relevant resources like these in the curriculum (SIECUS, 2004).

Marriage equality. A big step towards equality for people of all sexualities happened when same-sex marriage was legalized in all 50 US states in 2015 (Chapelle, 2015).

Body image. People's images of their bodies can affect their feelings and behaviors. Helping students to build better body image while being empathetic to the body image challenges people face and to practice respect for people with all types of bodies, including their own is important. Body image can be discussed as follows.

The size and shape of people's bodies can vary significantly, both between individuals and throughout life, including the size and shape of the sexual organs. A person's body shape and size may affect how they are treated and viewed by others. Many people feel pressure to change their bodies by gaining or losing weight or having surgeries, sometimes to the extent that they develop disordered eating patterns. The media portrays a very narrow and limited idea of beauty, which contributes to pressure to conform to these standards, yet people of all shapes, sizes, and abilities can have a positive body image. People are attracted to a variety of physical and non-physical qualities in a potential partner, because attraction and a person's value is comprised of much more than their physical appearance (SIECUS, 2004).

Social Influences on Sexuality and Identity

"Social and cultural environments shape the way individuals learn about and express their sexuality." Each society and culture communicates its norms and taboos about sexuality, and

these messages may vary based on age and gender. Sometimes people receive conflicting messages about sexuality from their families and cultures, which can be difficult to sort through and understand. Every individual needs to critically evaluate the messages they receive from different sources and use this to establish guidelines for their own behavior (SIECUS, 2004) Students should be able to analyze the influence of culture, media, technology, and other sources on sexual health in order to reduce social pressures on sexual behaviors (Hidde, et al., 2011).

Sexuality and religion. All world religions have views about sexuality's place in the human experience. Each religion's views on sexuality range from liberal to conservative and can play a significant role in sexual decision-making of its participants. For example, many religions teach that sexual intercourse should only occur in a marriage. It can be difficult to cope with when people's values about sexuality differ than the values taught by their religion, but some people continue to respect their religion's teachings and traditions while believing that some specific values are not personally relevant. Contemporary religions struggle with many controversial sexuality and reproduction-related issues. Some congregations openly welcome gay, lesbian, bisexual, and transgender people (SEICUS, 2004).

Sexuality and the media. The media has a profound effect on sexual information, values and behavior. Yet, the media presents unrealistic images of many aspects of sexuality. For example, actors and actresses are made to look flawless, which is impossible for anyone to attain in real life. Relationships in the media sometimes provide positive models of relationships and sexuality but are too often portrayed to require less effort than is required in real-life relationships. Heterosexual people and relationships are portrayed much more often in media than people of other sexualities, and sometimes when other people of other sexualities are portrayed, it is done using stereotypes instead of diverse characters. Additionally, the media

presents unrealistic imagery of gender roles, parenthood, marriage, and love. It is important to realize that media images may be unrealistic and stereotypical because this helps people to be less negatively affected by this imagery (SIECUS, 2004).

Sexuality and the law. There are laws in place that govern sexual and reproductive rights. Because of Supreme Court rulings, people have the right to make personal decisions, to a certain extent, about sexuality and reproductive health matters like abortion and contraception (SIECUS, 2004). 39 US states currently mandate HIV or sex education be taught in schools (Sex and HIV Education, 2019). State laws govern the age of consent for sexual behaviors, students should learn about the age of consent laws in their state. Some states and cities have passed laws banning discrimination based on sexual orientation and/or gender identity. Child pornography and sexual abuse, assault, and harassment are illegal in all states (SIECUS, 2004). As of 2015, same-sex marriage has been legalized in the United States (Chappell, 2015).

Sexual diversity. Culture, race, ethnicity, religion, biological sex, sexual orientation, gender identity, physical ability, and age all play a role in how individuals appear, think, and behave. There is much diversity of sexual attitudes and behaviors in our society, and some people are unfairly discriminated against because of "biological sex, appearance, sexual orientation, gender identity, family, and living arrangement." Discrimination can have negative consequences like "lower self-esteem, unequal opportunities, and physical and emotional problems" on the individual level and also "limits a society's ability to utilize the full potential of all its members." Discrimination is illegal, and people have the right to speak up when they notice discrimination against themselves or others. Societies work best when people respect the views of others, and so it is important for students to examine their own biases and prejudices

(SIECUS, 2004). Ultimately, students should learn to recognize and respect people with differing personal values (Hidde, et al., 2011).

Implementation Factors

A good sex education program needs more than just a well-written comprehensive curriculum to be successful at helping young people develop safe and healthy sexualities. The program also needs to be well implemented. According to the 2011 Sexual Health Education Curriculum Review, the best programs are medically and scientifically accurate, and culturally and age appropriate for their audience. They utilize theoretical approaches that have shown to be effective at reducing risky health behaviors and narrowly focus on specific behaviors like condom use to reduce sexual risk. Lessons should involve students with activities and personalize information to be more relevant to students' lives. Teachers should be well-trained and comfortable with the material. Additionally, involving families in the education, and providing supplementary sexual health resources and access to community resources can also be helpful (Hidde, et al., 2011).

The Louisiana Public Health Institute toolkit also stresses developmentally appropriate and medically accurate content as well as using interactive activities, particularly when trying to develop students' communication and decision-making skills. Educators should work with the communities and families of the children being taught to create a program that respects their values. It is also important to protect student confidentiality and to build a "safe, supportive, non-judgmental, student-centered environment with well-trained instructors" (LPHI, 2016).

Lastly, according to Kirby's article about the impact of sex and HIV education program on young people throughout the world, effective programs cover topics in a logical sequence. They create a safe social environment for youth participants to learn. They focus on clear health

goals and specific behaviors leading to those health goals, clear messages regarding behaviors, and situation context for behavior avoidance. Additionally, multiple activities should be included to change each targeted risk/protective factor and they should be appropriate for the participants and involve them in a way that allowed them to personalize the information being taught (Kirby, Laris, & Rolleri, 2007).

Sex Education Programs by Type

A wide variety of sex education programs are taught to young people in the United States. They fall roughly into four main categories: Abstinence-Based programs which focus heavily on abstinence as the sexual risk reduction method; Disease Prevention programs which focus on reducing rates of HIV and other STIs, often stressing condom use and STI testing; Pregnancy Prevention programs which focus on reducing teen pregnancies through abstinence and/or contraception use; and Responsibility Education programs which encourage students to practice safe and healthy sexual behaviors and often includes education about communication and relationship building in addition to a focus on risk prevention. Many disease and pregnancy prevention programs also address relationships and other comprehensive sex education topics, so strategies included in these programs may overlap with and be relevant to responsibility education programs as well.

Abstinence Education

The abstinence category of sexual education programs includes those that only or primarily teach curriculum that stresses the importance of being abstinent until a later point and may go so far as to shame those who choose not to be. These programs are mainly taught in states where legislature mandates this type of education or prevents more comprehensive programs from being taught in schools.

History of funding for abstinence education. Funding for health education plays a critical role in determining which programs are taught in certain states and school districts. This is due in part to restrictive funding legislature. Grantees of government funding for abstinence-only-until-marriage programs or "Sexual Risk Avoidance Education" must teach curriculum aligns with the funding's exclusive purpose to promote abstinence outside of marriage. Therefore, discussion of other important topics is-off limits or only permitted in a certain context. For example, condoms and contraception may only be discussed in terms of its limitations and failure rates. For this reason, some states have chosen not to accept any of this funding because it conflicts with their legislature or ideologies (A History, 2018).

Sexual Risk Avoidance Educatio*n*. Sexual Risk Avoidance Education (SRAE) is a "rebranded" abstinence-only-until-marriage grant program pioneered in 2016 that promotes "voluntarily refraining from non-marital sexual activity." This program teaches "success sequencing" as a way for students to reduce their risks of ending up in poverty. "Success sequencing" tells students to, in this order, finish high school, get a full-time job, and wait until they are 21 to get married and have children in order to avoid poverty. These claims sound reasonably logical but are not founded on scientific evidence of success (A History, 2018).

The Family Research Council's webpage about SRAE highlights potential risks and expenses for taxpayers associated with sexual activity. They also emphasize that no contraceptive device or condom is failsafe. They claim that "SRA education reduces teen sexual activity by approximately 50%" (Grossu, et al., 2019). This claim is based off of only one study (Jemmont, J. B., et al., 2010) conducted on African American 6th and 7th graders, a focus group that is not representative of teens in general, and is a young age group where most teens are not

yet engaged in sexual activity. This study, therefore, cannot be credibly used to make claims about "teen sexual activity."

The SRAE program is somewhat more progressive than previously implemented abstinence-only programs because it a medically accurate curriculum and discussion of material in a manner than does not traumatize or ostracize students who have already been sexually active are built into the framework of their programs (Sexual Risk Avoidance, 2019).

History of government funding for abstinence education. Government funding for abstinence education began in 1981 and has continued in various amounts and support levels since then. At some points, this meant that resources were redirected from other areas like pregnancy-prevention programs in order to fund these programs. This was not due to these programs being shown to reduce pregnancy or even reduce the number of teens that are sexually active. To the contrary, evaluation of abstinence-only-until-marriage programs carried out using Title V (a significant source of abstinence-only government funding) funding showed no "statistically significant beneficial impact on young people's sexual behavior." (A History, 2018).

In 2017, President Trump abruptly terminated funding for teen pregnancy prevention programs (TPPP) in the middle of their grant periods. Then, in April 2018, the Department of Health and Human Services released new opportunities for funding that required grantees to utilize an abstinence-only-until-marriage approaches which unlike the TPPP, do not require programs to be evidence-based or focused on evaluation. Much of this has been ruled unlawful in several court cases and ultimately, funding for TPPP has been reinstated for now, but further attempts are being made to dismantle the program in the future while increasing funding for abstinence-only-until-marriage programs (Trump Attempts, 2018).

Legislation for abstinence education. State laws and policy vary greatly regarding sexual education. An example of a state policy that aligns well with abstinence-based sexuality programs is Alabama. While Alabama state law does not require that any sexuality education be taught, except for instruction about HIV/AIDS, it does strictly regulate the type of sexual education that can be taught. As of 2018, sexual education curriculum taught in Alabama schools must include and emphasize that "abstinence from sexual intercourse is the only completely effective protection against unwanted pregnancy, STDs, and AIDS when transmitted sexually" and that "abstinence from sexual intercourse outside of lawful marriage is the expected social standard for unmarried school-age persons." There are also requirements that the curriculum be age-appropriate, include statistics about reliability of various contraceptives in relation to pregnancy and STDs, and emphasize that "homosexuality is not a lifestyle acceptable to the general public and that homosexual conduct is a criminal offense under the laws of the state" (The SIECUS State Profiles Fiscal Year 2017) and (Alabama FY18 State Profile).

Specific abstinence education programs. The Alabama Abstinence Education Program is a federally funded program that strives to "provide effective, evidence-based abstinence education programs to middle-school youth to equip them to resist sexual risk behaviors and to make better choices as they mature into young adulthood" (Abstinence Education, 2018). This program provides funding to community-based projects like Crittenton Youth Services and Aim for Hope, Inc. which were grantees in the 2017 fiscal year. Crittenton Youth Services used this funding to implement a program called *Managing Pressures Before Marriage for Preteens* to 6th and 7th grade students and provide additional outreach in their communities (Crittenton Youth Services, 2017). Aim for Hope, Inc. used their funds for the "AIM Project" which utilized trained facilitators and teen leaders to "promote youth decisions to abstain from sexual activity,

make healthy choices, and avoid all youth risk behaviors" within both school and community settings (Aim for Hope, 2018).

Summary of abstinence education. Abstinence education programs are those that stress abstinence as the most effective and often the only valid way to prevent disease and pregnancy in young people. They may not teach students about alternative methods to protect themselves, and some programs that discuss contraceptives stress the failure rates as a scare tactic.

While there has been very little in the way of supportive evidence for these programs, Abstinence-only-until-marriage programs have a long history of federal support in the way of funding. These funding programs may require recipients to follow a very strict curriculum that prevents them from teaching more comprehensive subjects. Some states have similar restrictions in their legislature that prevent schools from teaching subjects that do not align well with the values that many abstinence-only-education proponents have.

Some middle school programs have been shown to decrease age of sexual initiation, such as *Promoting Health Among Teens* which stresses abstinence until teens are prepared to handle the consequences of sex. Programs like this may be appropriate for younger teens, but most abstinence programs have not been shown to have positive impacts for the students who participated in them, especially those taught in high school where students are much more likely to be having sex already.

Disease Prevention

Sex education programs that are disease-prevention-based are those that focus most heavily on preventing the transmittance of HIV and other sexually transmitted diseases, ultimately reducing the extent of harm these diseases cause their participants. These programs often outline the symptoms associated with a variety of STIs, discuss the behaviors that can lead

to transmission of STIs, and provide behavioral strategies that students can use to reduce their risk of acquiring or transmitting sexually transmitted diseases.

Well-designed and well-implemented HIV/STI prevention programs can decrease sexual risk behaviors among students, including delay of first sexual intercourse, reduction in the number of sexual partners, and increase in condom use while simultaneously decreasing instances of unprotected sex. HIV prevention programs have not been shown to hasten initiation of sexual intercourse for participants, even when programs encouraged the use of condoms during sexual activity (Effective HIV and STD Prevention Programs for Youth, 2010).

Disease-prevention sex education programs are not equally effective. A meta-analysis of 289 evidence-based interventions that targeted STI's and sexual risk behaviors showed the significance of the disparity of program types. Abstinence-focused interventions had no effect on STI-incidences, while more-comprehensive programs reduced STI-rates by 24%. Programs that taught condom-use, communication, or negotiation skills or that succeeded in reducing the number of sexual partners participants had or their sexual intercourse frequency were most successful. These programs reduced STI rates as much as 28 to 26% (Petrova & Garcia-Retamero, 2015).

Objective of disease prevention programs. The overall objective of a disease-prevention sex-education program is to reduce transmission of sexually transmitted diseases in a population. New York State Department of Health has 5 main goals in place that guide the action taken to prevent HIV and STIs in New York. Their goals are to "decrease HIV morbidity," "increase early access to and retention in HIV care," "decrease STD morbidity," particularly related to chlamydia, gonorrhea, and syphilis, " decrease HIV and STD disparities," and to "increase and coordinate Hepatitis C Virus (HCV) prevention and treatment capacity" in New

York State (New York, 2016). While these goals are specific to New York, similar objectives can help guide the focus of STI prevention programs.

Intervention strategies. There are a wide variety of intervention strategies used to prevent the spread of sexually transmitted diseases. STI-interventions can be educational programs taught in schools or other settings to educate individuals about safer-sexual behaviors, biomedical interventions that can provide people with STI testing and treatment as well as tools to reduce the spread of STIs like condoms and needle exchanges, or systemic interventions that attempt to address factors that increase the susceptibility certain populations have of acquiring sexually transmitted infections.

"The best ways to prevent new HIV infections is to ensure timely diagnosis and engagement in care and treatment for those who are living with HIV to increase the percentage of persons with HIV who have achieved viral suppression; target prevention resources to the places with the largest burden of disease and populations at greatest risk; and ensure that the most effective prevention strategies are prioritized and widely implemented" (HIV.gov, 2017).

Behavioral, biological, and structural interventions for HIV prevention. HIV is a very important sexually transmitted disease to prevent and treat because the symptoms are very serious when untreated and many new infections emerge each year around the world. HIV prevention programs are most effective when they combine behavioral, biomedical, and structural prevention strategies. Behavioral interventions aim to reduce HIV transmission by addressing risky behaviors. For example, the object of a behavioral intervention may be to reduce the number of sexual partners that participants have, or to increase consistent and correct use of condoms. These interventions often occur during sex education classes, counselling, programs designed to reduce stigma and discrimination, or in guidelines about safe infant

feeding. Biomedical prevention strategies utilize clinical and medical strategies to reduce HIV transmittance and have been shown to be most effective when combined with behavior interventions. Examples of biomedical prevention strategies include provision of male and female condoms, sex and reproductive health services, drug treatments or prevention treatments for HIV, HIV testing and treatment, and needle and syringe exchange programs. Structural interventions work to address the factors that make certain populations particularly vulnerable to HIV infection. These factors include poverty, gender inequality, and social discrimination. Some structural interventions used to reduce these problems are programs that increase women's access to education; legislation that reduces intimate partner violence; decriminalization of same-sex relationships, sex work, and drug possession; and removal of barriers that prevent access to sexual and reproductive health services (HIV Prevention Programmes, 2019). While some of these interventions are specific to HIV prevention, these strategies can be generalized and applied to reduction of other sexually transmitted infections.

Common factors in evidence-based HIV interventions. Shown to be common among evidence-based interventions for HIV-prevention are establishment of a framework to help understand behavioral change; provision of issue-specific and population-specific information that is necessary for healthy actions; building cognitive, affective, and behavioral self-management skills; addressing environmental barriers to behavioral change; and provision of tools for development of ongoing social and community support for healthy behaviors. To motivate participants to make behavioral changes, interventions should frame the importance of the desired behavioral changes in terms of a broader identity transformation that could help participants to meet their life goals. Interventions need to convey applicable information about HIV-related issues that are specific to the program's target population, such as providing

additional parenting information to HIV-positive mothers, or comprehensive sexuality information to youth in HIV-prevention programs. Interventions need to teach participants skills that encourage self-regulated emotions, goal setting, planning, and problem-solving, all of which can help participants work towards practicing healthy behaviors. Interventions cannot support sustainable changes if environmental barriers to implementing desired behaviors are in place for their participants. These barriers might include lack of local STI testing clinics or affordable contraception methods. To address the issue of environmental barriers preventing positive behavioral change, interventions can target environmental barriers at the community and structural levels to change community norms, policies, and increase accessibility to healthcare and condoms, and they can also help teach participants how to problem-solve when they face barriers to implementing health behaviors. Lastly, effective interventions should provide participants with resources and tools to maintain long-term behavioral changes. For example, this might include building ongoing social support (ongoing healthcare, counselling, and social groups) for behavior change, and helping participants plan for maintenance of behavioral changes at different stages of progress (Rotheram et al., 2008). Many of these factors can be applied in a sex education class setting, while access to relevant health care or counseling could be provided to students by local free or low-cost health care resources.

Effectiveness and practicality of STI interventions. According to Peterman and Carter, the effectiveness and practicality of several different types of interventions used to reduce sexually transmitted diseases varies. Intervention may include behavioral counseling, STI-screening programs, partner notification, medical care for additional conditions, and policy changes or multiple types of interventions together. Behavioral counseling can offer an effective intervention strategy, particularly for young heterosexual people who are at “moderately high-

risk" for contracting an STI and is effective in settings both inside and outside STI clinics. Screening programs work very well and are relatively low-cost if they are done routinely in a clinical setting, while outreach testing is more expensive and less effective method. Partner notification is an effective but costly method of identifying infected individuals during outbreaks, but it is often difficult to link those individuals to affordable treatment. An effective partner notification strategy is for patients to bring medication to their partners, which has been shown to reduce reinfection rates. Simply treating an STI may not be a sufficient medical intervention in some cases, so providing medical care for additional conditions often seen in people with STIs can be another important intervention strategy. For this to be an effective intervention strategy, patients need to be actively linked to care rather than passively referred to medical or social services. Lastly, policy changes that enable better access to education or health services can be an important step in reducing the spread of sexually transmitted infections, but for these policies to have an impact, they require practical changes in education or health services (Peterman & Carter, 2016).

Cost-effective and effective HIV-prevention strategies. The CDC summarizes HIV-prevention interventions that are cost-effective and have been proven to be effective. These strategies are listed as follows: HIV and other STI testing and linkage to care, antiretroviral therapies, access to condoms and sterile syringes, prevention programs for those at high risk of acquiring HIV or to help those living with the infection prevent transmission to their partners, and substance abuse treatment. HIV-prevention intervention strategies are particularly effective when they are structured to address social, community, financial, and structural factors that put certain groups at disproportionate risk of acquiring an HIV infection. HIV testing is critical for prevention, because a known HIV-positive status is necessary to begin treatment and may

encourage individuals to take additional measures to prevent transmission of the virus to others. HIV-positive individuals need to be linked to care, including antiretroviral therapy, as soon as possible which can dramatically reduce the risk of transmitting HIV to others and save lives of those infected. Individuals should also be tested and treated for other STIs to reduce the viral load in HIV positive individuals. This is especially important because certain STIs increase rates of HIV transmission and can be easily treated. Condoms and sterile syringes are both important prevention tools, critical for the success of HIV prevention efforts. Increased availability of condoms and sterile syringes can reduce HIV risk. Prevention programs are important for those at high risk of HIV infection, as well as those already living with the infection and their partners. These programs can help reduce risky behaviors that are associated with the spread of HIV and other STIs and help link current and former partners of HIV positive individuals to testing and care. Lastly, substance abuse treatment can help reduce the risk of acquisition or transmission of HIV through injection drug use (HIV Prevention Works, 2017).

Education-based intervention strategies to reduce HIV and STD morbidity. New York State Department of Health outlines several education-based intervention strategies that can be used to reduce HIV and STD morbidity in a community. The first strategy they outline is ensuring that public and charter schools provide “comprehensive, evidence-based, age-appropriate, medically accurate, unbiased sex education” to their students, using oversight to ensure school compliance. Another strategy is to launch educational campaigns to improve health literacy and patient participation in health care, particularly focusing on high-need populations like Hispanic and LGBT groups. Additionally, peer-led interventions can be used to improve HIV care navigation and testing (New York State, 2016).

Specific disease prevention programs. Many different types of interventions are designed to reduce STI transmission. The following summary will highlight the diversity of STI-prevention programs for youth participants. All the programs included have an educational and behavior-change component, and some of them provide access to condoms for their participants.

Becoming a Responsible Teen. Becoming a Responsible Teen (BART) is a comprehensive HIV-prevention program that incorporates interactive discussions, games, and skill building activities into its curriculum. This program has been shown to reduce participants' number of sexual partners, decrease unprotected sexual activity and increase condom use in comparison with a 2 hour HIV education session that included HIV prevention information (Program Success Center, n.d.). BART is conducted in 8 sessions lasting between 90 minutes and 2 hours. The session topics are as follows: Understanding HIV and AIDS; Making Sexual Decisions and Understanding Your Values; Developing and Using Condom Skills; Learning Assertive Communication Skills; Practicing Assertive Communication Skills; Personalizing the Risks (students hear from an HIV-positive guest speaker); Spreading the Word (students practice applying the skills they learned and roleplay talking to others about HIV); and Taking BART with You (review and discussion) (ETR Associates, n.d.).

Street Smart. Street Smart is an HIV and STI prevention program for homeless and runaway youth aged 11-18. This program consists of individual and group sessions and is designed to be conducted by a community organization. This program uses education about HIV/AIDS risk and harm reduction strategies, personal skills building, peer support, and active involvement in role playing and practicing correct condom usage. This program has been shown to increase participant’s condom use, decrease risky sexual behaviors, and reduce substance use (Street Smart, 2018).

Sisters Informing Healing Living and Empowering. Sisters Informing Healing Living and Empowering (SIHLE) is a peer-led, group-level intervention intended to reduce HIV-risk behaviors for sexually active African American teen girls. This program emphasizes ethnic and gender pride while also enhancing awareness of HIV risk reduction strategies including sexual abstinence, consistent condom usage, and having fewer sexual partners. This program also includes a homework assignment intended to involve male partners in safer sex behaviors. SIHLE has been shown to improve condom application skills, increase consistent condom use, and reduce the numbers of new sex partners, instances of unprotected sex, and incidences of sexually transmitted infection and pregnancy (SIHLE, 2017).

Community PROMISE. Community PROMISE is a community-level intervention that utilizes "role-model stories and peer advocates to reduce HIV risk behaviors and increase engagement related to the HIV continuum of care." This program is designed to serve any population at risk for acquiring HIV including intravenous drug users, men who have sex with men, and high-risk youth. This program has been shown to increase consistent condom-use and condom-carrying among communities where this program was implemented (Community PROMISE, 2018).

Mpowerment. Mpowerment is a project designed to motivate young gay and bisexual men to reduce their sexual risk taking, get tested for HIV, and form healthy social connections. This program includes formal and informal educational activities and social events, as well as peer-led discussion groups and condom distribution. Overall, this program has been shown to effectively reduce instances of unprotected anal sex in young gay and bisexual men (Mpowerment, 2018).

Summary of disease prevention. STI and HIV-prevention programs include a wide range of intervention strategies that are intended to reduce transmittance of and harm from these infections. Some STI-prevention programs are abstinence-based and have not been shown to be effective at reducing STI instances, while more comprehensive interventions are often able to reduce rates of STI acquisition and sexual risk behaviors like having sex without use of a condom. Effective programs often combine several types of interventions to better serve the needs of program participants than a single intervention type can alone. For example, a program might include an educational component that addresses the importance of consistently using condoms during sexual activity, while also providing condoms for their participants and linking participants to affordable STI testing and treatment resources.

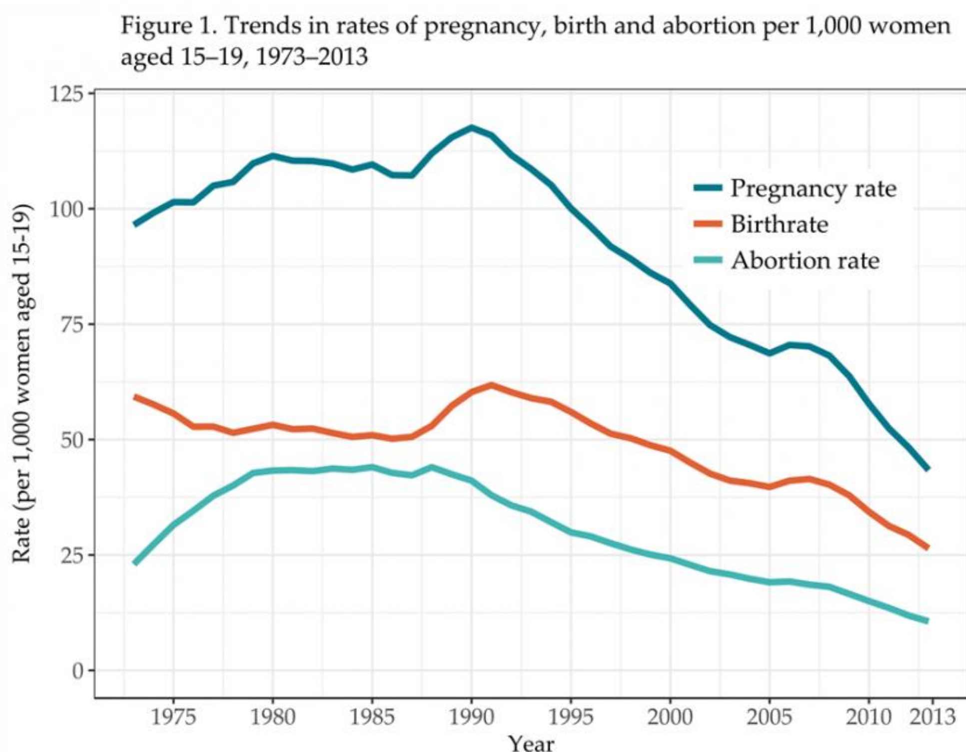
Some programs are designed to serve high-risk populations that may be more likely to acquire HIV or another sexually transmitted infection. These high-risk groups include intravenous drug users, homeless youth, or young gay and bisexual men. For these programs to be effective, they need to address the specific needs of these populations. For example, intravenous drug users need access to sterile needles and to be educated about the importance of not sharing needles with others. Simply addressing safer sex behaviors with these individuals would not be enough to confidently and effectively help them reduce their risk of acquiring HIV and other diseases spread through body fluids.

Pregnancy Prevention

The overarching goal of pregnancy-prevention programs is generally to reduce the rate of teen pregnancies. These programs can help enable teens to delay pregnancy until an appropriate time in their lives by informing them about specific behavior that causes pregnancy, benefits of avoiding early pregnancy, and behaviors that can reduce the risk of unwanted pregnancy like

abstinence and use of contraceptives. Additionally, students need support to access contraception and other reproductive health-care resources to help them prevent unwanted pregnancies, so many programs provide reference to affordable, teen-friendly reproductive resources or even link their students to relevant health care related to contraception, pregnancy testing, and pregnancy care when needed.

Justification of need for pregnancy prevention programs. Teen pregnancy and birth rates in the United States have reached historic lows recently. In 2013, the teen pregnancy rate was 43 pregnancies per 1000 girls aged 15-19. In 2017, the teen birth rate was 18.8 births per 1000 girls (National Data, 2020). As shown in Figure 1, pregnancy, birth, and abortion rates have declined significantly from their peak rates around the year 1990**.**



When viewed more closely, teen pregnancy and birth data also highlight significant disparities in pregnancy rates between different races and ethnicities as well as between different

US states. These differences may reflect systemic inequalities like disparities in access to comprehensive sex education or health care services that need to be addressed (Pregnacies, Births and Abortions, 2017).

In 2017, the US national teen birth rate for girls ages 15 to 19 years of age was 18.8 births per 1000 girls. The national average for Non-Hispanic White teen girls was only 13 births per 1000 girls. Comparatively, the national average for Non-Hispanic Black girls was 28 births per 1000 girls, for Hispanic girls was 29 births per 1000 girls, and for American Indian and Pacific Islander girls was 33 births per 1000 girls (National Data, 2020).

Disparities in birth rates by state also highlight the significance of racial disparities in the US. Massachusetts had the lowest teen birth rate of all states in the US, at 8.1 births per 1000 teen girls. However, the birth rate for Hispanic girls was much higher at 28 births per 1000 girls. Arkansas had the highest national birth rate in 2017 at 32.8 births per 1000 girls. The birth rate for Non-Hispanic White girls in Arizona was slightly lower than the state average at 29 births per 1000 girls. The birth rates for Non-Hispanic Black girls was 43/1000 girls and the Hispanic birth rate was 39/1000 (National Data, 2020). These disparities highlight the need to improve teen pregnancy prevention interventions to better serve Black, Hispanic, and American Indian/ Pacific Islander populations.

Effectiveness of the Teen Outreach Program. A recent review of Teen Outreach Program, an adolescent pregnancy-prevention program showed only non-significant evidence for effectiveness when compared to “business as usual”. The program has been shown to be effective at lowering the risk of pregnancy in one randomized controlled study in 1997 and then widely implemented. This follow up assessment highlighted the need for broader study of teen pregnancy-prevention programs to make sure they are effective. “The general lack of evidence

underscores the importance of continuing to evaluate evidence-based programs that were shown to be effective at a particular point in time, in a specific implementation context, and with specific populations. Because most programs identified by the TPP Evidence Review as of 2016 are based on evidence from single studies, the extent to which these programs will be effective in different settings and with different populations over time is a critical question as the evidence base continues to evolve" (Francis et al., 2016).

Intervention strategies for pregnancy prevention. Intervention strategies for preventing unintended adolescent pregnancies include educational interventions, contraception-promoting interventions, and a combination of educational and contraceptive-promoting interventions. In a meta-analysis of pregnancy-prevention interventions conducted by Oringanje and his colleges in 2016, educational interventions were unlikely to delay initiation of sexual intercourse, but did significantly increase condom use during program participant's last sexual intercourse. The direct impact of educational interventions, if any, were not reported in the studies included in this analysis. Participants in contraception-promoting interventions were significantly more likely to use hormonal contraceptives than control participants, but there was little or no difference in the risk of unintended pregnancy reported for these participants. Multiple interventions (educational and contraceptive-promoting) significantly lowered the risk of unintended pregnancy among adolescents (Origanje et al., 2016).

It has been demonstrated that innovative, multicomponent, community-wide initiatives are effective at reducing teen pregnancy and birth rates in communities where these rates are high (Communitywide Initiatives, 2016). The components utilized in these interventions are community mobilization and sustainability; evidence-based programs; increased teen access to contraceptive and reproductive health care services; stakeholder education; and working with

diverse communities. Community mobilization involves cooperation to acquire necessary resources, spread information, and generate support needed to support the sustainability of teen pregnancy prevention efforts. Evidence-based teen pregnancy prevention programs are those that have been shown to reduce rates of teen pregnancy, STIs, or sexual risk behavior and utilized to reduce teen pregnancy and associated risk factors through education. Youth access to contraception and reproductive health care is a critical partner to educational behavior interventions because it allows program participants to act on their behavioral changes. Clinics should be teen friendly and easily accessible to all young people within a community. Stakeholders like civic leaders and parents need to be educated about evidence-based strategies than reduce teen pregnancy and adolescent reproductive health. Teen pregnancy is linked to the social determinants of health, including access to health care and health literacy so it is important that educational programs and reproductive health care services are culturally and linguistically appropriate and accessible for the communities they are serving so all young people can utilize these resources (Communitywide Initiatives, 2016).

Specific pregnancy prevention programs.

Love Notes. Love Notes is a program that was developed to educate participants about healthy relationships. It “embeds pregnancy and disease prevention messages in a curriculum that emphasizes the importance of forming healthy relationships and avoiding intimate partner control and violence in order for individuals to reach their life goals.” Some topics covered by this program are decision-making, communication, conflict resolution, prevention of pregnancy and STIs, and overall safety. In a study conducted with high-risk youth participants in out-of-school settings in Louisville, six months after participation the following outcomes were observed. Youth in Love Notes were more likely to use both condoms and other forms of birth

control, less likely to have had sex in the last three months, and less likely to get pregnant or get another person pregnant (Cunningham et al., n.d.)

Reducing the Risk. A version of Reducing the Risk that was adapted and condensed for rural counties in Kentucky was delivered to 9th and 10th grade students in a mandatory health class (Evaluating a Teen Pregnancy Prevention Program, 2018). Reducing the Risk program includes lessons about abstinence, sex and pregnancy prevention, sex and HIV prevention, refusal skills, "delaying tactics," avoiding high-risk situations, and getting and using protection (Cunningham et al., 2016). It was shown to reduce the likelihood of sexually active students having sex without a condom and to increase students' knowledge of contraception and STIs compared to standard school curriculum. It did not change students' attitudes, refusal skills, communication with parents or intentions to have sex (Evaluating a Teen Pregnancy Prevention Program, 2018)

Carrera In-School Teen Pregnancy Prevention Program. The Children's Aid Society Holistic Carrera In-School Teen Pregnancy Prevention Program begins serving boys and girls at age 10 or 11 and continues supporting them through high school. Participants live in underserved communities with disproportionately high rates of poverty, unemployment, teen pregnancy, and high school dropout. In incorporates general educational support, a weekly career and money-management club, weekly comprehensive, medically accurate, age appropriate sex education sessions, provision of medical and dental care services by local partners, individual and group mental health services, and sports fitness activities and self-expression workshops. When implemented in Tulsa, program youth were 9% less likely to have ever had sex, and 3% less likely to have ever been pregnant or caused a pregnancy. In NYC, CAS Carrera Program participants were more likely to have used a condom at last sexual intercourse than a comparison

group and were less likely to become pregnant or cause a pregnancy (Philliber, 2016). Carrera can be implemented either as an after-school program or be taught during the school day. The in-school version is more cost-effective to implement and allows more youth to participate than the after-school version, but it is more difficult to administer and often has a much higher student-to-staff ratio (Office of Research and Evaluation, 2017).

Wise Guys. Wise Guys is a program designed to help adolescent males "make responsible decisions about their sexual behavior and avoid early fatherhood by promoting male responsibility." (Focusing on the Boys, 2018). This program covers the following topics: values, masculinity, communication, puberty, abstinence, sex, contraceptive methods, STIs, parenthood, decision-making, goal setting, and dating violence. This program was implemented by facilitators that were not school staff and who were able to (according to school officials and program participants) create an environment where the boys felt safe and trusting while discussing masculinity, gender roles, teen pregnancy prevention, and fatherhood (Wise Guys, 2017). When evaluated in middle schools in Davenport, Iowa the program increased boys' knowledge of contraception and STIs and changed their attitudes contraception to view condom use as more important. This program was not shown to change boys' motivation to avoid getting someone pregnant, intentions to have sex, relationship attitudes, goal-setting abilities, or communication skills (Focusing on the Boys, 2018).

Wyman's Teen Outreach Program. Wyman's Teen Outreach Program is a 9-month program that aims to reduce teen pregnancy as well as course failure and academic suspension. This is done by increasing autonomy and connectedness with others (through community service). This program covers topics like emotion management, problem-solving, decision-making, goal-setting, health and wellness, communication, relationships and community and

empathy. Outcomes of this program are inconsistent between implementation trials. These outcomes include statistically weak reduction in becoming pregnant, increased pregnancy prevention for current teen parents compared to comparison programs, and significant reduction in reported recent risky sex and sexual intentions. In several of the trials, no significant changes were found related to pregnancy or sexual behavior (Wyman's Teen Outreach Program, 2019).

Teen Choice. Teen Choice is a program designed to serve students attending alternative schools or educational programs for youth at risk of academic failure who are at high risk for teen pregnancy and STIs. This program is delivered in a series of twelve sessions small-group interactive sessions (New Issue Brief, 2018). Discussion topics vary between classes but may include sexuality issues, human sexual growth, consequences of teen pregnancy, birth control, relationship formation, family life, values clarification, and peer pressure (Teen Choice of Inwood House, 1994). The curriculum concludes with participants creating action plans to avoid sexual risk behaviors and maintain healthy relationships. Inconsistent attendance was a challenge that program administrators worked to improve by providing students with small incentives like snacks or gift cards for attending class, and by scheduling the classes in the middle of the school day. Despite these issues, participants were generally engaged and willing to participate in group discussions when they did attend. Participants demonstrated increased knowledge about contraception and STIs after completing the program (New Issue Brief, 2018). Other outcomes from program participation include reduced frequency of unprotected sexual intercourse and increased male responsibility for birth control (Teen Choice of Inwood House, 1994).

Steps to Success. Steps to Success is a home-visiting program for adolescent mothers intended to promote healthy birth spacing by providing support services and access to contraception. This program also supports mothers' educational and career aspirations as well as

encouraging father involvement. This program was evaluated in San Angelo, Texas and was found to increase mothers' use of long-acting reversible birth control methods, decreased the incidences of unprotected sex. There were no significant differences found between this program and traditional home visitation groups regarding father engagement, educational and career aspirations, or personal or co-parenting behavior (Enhancing a Home Visitation Program, 2018).

Summary of pregnancy prevention. Teen pregnancy-prevention is a significant goal of most teen sexual education programs. Young people need to have to have tools to delay pregnancy until they can care for a child. Teen-pregnancy prevention programs often focus on reducing behaviors that lead to unwanted pregnancies and promote using contraception or abstinence to achieve pregnancy-prevention goals. Contraception promotion and education needs to be included in these programs to provide sexually active students with a reliable method of preventing pregnancy.

Nationally, teen pregnancy is at an all-time low, suggesting that pregnancy-prevention education has largely been very successful, and that young people are successfully utilizing contraception or abstinence in order to prevent early pregnancies. There is still a critical need for effective pregnancy-prevention programs though, because young Black, Hispanic, Pacific-Islander, and American Indian girls are much more likely to become pregnant than young White or Asian girls. This is likely a problem that has arisen due to current and historic racial disparities that affect things like economic status and access to good-quality education and healthcare. Some programs provide extra support and education for these students, yet racial disparities persist, so a wider-spanning intervention is likely needed.

Responsibility Education

Sex education programs that promote responsible sexual behaviors are those that aim to provide young people with the knowledge and skills needed to make safe and responsible decisions about sex. These programs typically include information about STIs and pregnancy and strategies that can be used to reduce risk of pregnancy or STI acquisition. Abstinence is commonly taught as a risk-reduction strategy, but in programs promoting responsible behavior, other strategies like condom use and hormonal birth control are also addressed to best empower students to make safe choices. Many of these programs also teach students skills needed to build safe and healthy relationships, communicate with others, and prevent and/or seek help from sexual violence.

Effectiveness of responsibility education programs. Douglas Kirby (Kirby, 2008) reviewed 56 studies of program curricula aiming to reduce unintended pregnancy and sexually transmitted disease. These studies included abstinence programs which have curricula encouraging only abstinence, and comprehensive programs which emphasize abstinence as the safest sexual behavior while also promoting condom and contraception use for those who do have sex. Out of 9 abstinence programs included in the analysis, only 3 had any significant positive effects on any sexual behavior. Most abstinence programs reviewed in this analysis did not delay initiation of sex. In contrast, about ⅔ of the 48 comprehensive programs evaluated showed strong evidence that they "positively affected young people's sexual behavior, including both delaying initiation of sex and increasing condom and contraception use among important groups of youth." Kirby asserts that based on this review, "abstinence programs have little evidence to warrant their widespread replication; conversely, strong evidence suggests that some comprehensive programs should be disseminated widely." Also indicated in this analysis based

upon program outcomes is that comprehensive sex education programs can both delay initiation of sex and increase use of condoms or other contraceptive use among teens (Kirby, 2008).

A study conducted by Laura Lindberg and Isaac Maddow-Zimet examined whether formal sex education is associated with sexual health behaviors through analysis of data from the 2006-2008 National Survey of Family Growth. Associations between receipt of sex education by type (abstinence only, abstinence and birth control, or neither) and sexual behaviors and outcomes were studied. Receipt of sex education of either type (abstinence only or abstinence and birth control) was associated with delays in first sex when compared with no sex education. Those who received instruction about both abstinence and birth control were significantly more likely to use contraception or a condom during the first time they had sex and less likely to have an age-discrepant partner (Lindberg & Maddow-Zimet, 2012).

A study published by Nicole Jaramillo and colleges (Jaramillo, et al., 2017) examined the associations between reports of receiving education on sex education topics (prior to age 18 years) and contraceptive use at last sex for heterosexually active males between the age of 15 and 20 years old in the United States. The sex education topics studied are as follows: taught about sexually transmitted diseases; taught how to prevent HIV/AIDS; taught how to say no to sex; educated on waiting until marriage to have sex; taught how to use a condom; taught about methods of birth control; and taught about where to get birth control. Participants were also asked about contraceptive use at last sex with possible answers including no contraceptive method, use of barrier method only, use of "female controlled effective method" only, and dual use of barrier and "female controlled effective method." This analysis found that "instruction on how to say no to sex and where to get birth control were associated with a threefold greater odds of reporting dual method use compared to no contraception," perhaps because these topics can

increase partner communication. Exposure to a larger number of sex education topics is associated with young men's report of dual contraception use at last sex which suggests that "comprehensive sex education, [which focuses] on a range of topics, may be most effective at promoting safer sex among adolescent males" (Jaramillo, et al., 2017).

These studies suggest that comprehensive sex education, that includes information about abstinence, use of contraception and condoms as ways to prevent STIs and pregnancy can most effectively prepare young people to make safer sexual decisions than those who do not receive this instructions. These studies did not include much information about other important topics such as relationship-building, communication, or sexual-violence prevention, so the impact of including these topics in sex education may need to be studied further.

'Rights. Respect. Responsibility. program values as a model. The program, Rights. Respect. Responsibility. provides a model for incorporating values into sex education curriculum in an intentional manner (Advocates for Youth, n.d.). Rights. Respect. Responsibility. values are as follows:

- "Parents/caregivers are the primary sexuality educators of their children. School districts and community-based organizations should function as partners with parents/caregivers in providing sexuality education. Together, these institutions have the responsibility to provide young people with honest, age-appropriate sexuality education.
- Sexuality is a natural and healthy part of being human.
- At every stage of their development, children have the right to age-appropriate information about health, sexuality and relationships.
- Every person has dignity and worth and deserves respect. Diversity in gender, identity, race, religion, culture, and sexual orientation should be celebrated.

- It is wrong to use psychological pressure, fear, or physical force to make people do things without their consent.
- People are responsible for their own behaviors and the consequences of those behaviors.
- Cisgender boys and men are often demonized or simply ignored when it comes to sexuality education. But boys aren't the bad guys. In fact, no one is. Normalizing everyone's right and ability to make positive choices about sexuality, sex, and relationships, regardless of what their peers are doing – regardless of their gender or the gender of their partners – can send a powerful message to all students.
- Open communication is an important part of maintaining healthy relationships.
- It is good for young people to be able to talk openly and comfortably about sexuality issues with their parents/caregivers, peers, trusted adults and, in the future, romantic partners.
- Relationships should never be coercive or exploitative, but instead should be based on mutual respect.
- It's normal to have sexual feelings; however, feelings should not always be acted upon.
- Until a teen is old enough to act responsibly and protect themselves and their partner, it is healthiest to seek ways other than vaginal, oral or anal sexual intercourse to express their romantic and sexual feelings.
- Young people have the responsibility to prevent unwanted pregnancies and sexually transmitted disease by abstaining from risky behavior or using effective contraception and/or condoms" (Advocates for Youth, n.d.).

Explicitly stating values fundamental to a sex education program being taught may help curriculum developers and educators better understand the program and better guide students to

develop similar values. While each program's goals and values vary, this list provides a model for other comprehensive programs to base fundamental values upon.

Specific responsibility education programs.

FLASH. FLASH is a sexual health curriculum designed to prevent teen pregnancy, STDs, and sexual violence and is taught in elementary, middle, and high school levels as well as in special education classrooms. The curriculum is based on the Theory of Planned Behavior (Ajzen, 1985), which postulates that behavior is shaped by a combination of attitudes towards behavior, subjective norms, and self-efficacy. The program is designed to support young people in making healthy choices like abstaining from sex, using protection, seeking health care, communicate effectively with their families, and respecting other's decisions not to have sex. The FLASH curriculum attempts to prevent sexual violence by focusing heavily on increasing respect for all genders and breaking down harmful gender stereotypes (About the FLASH curriculum, 2018).

Rights. Respect. Responsibility. 'Rights. Respect. Responsibility.' is a sex education curriculum developed by Advocates for Youth that is based on the belief that youth have the right to honest sexual health information, deserve respect, and have the responsibility to protect themselves with help from society which has the responsibility to provide young people with tools needed to "protect their sexual health." The program teaches the following lessons in this order: understanding gender (gender, gender identity, and sexual orientation) ; sexual decision making; rights, respect, responsibility-don't have sex without them (consent, respectful relationships, and decision-making skills); planning and protection-avoiding or managing STIs; getting savvy about STI testing; know your options (for pregnancy prevention); using condoms effectively; what are my reproductive rights (as a minor to access healthcare); is it abuse if?

(identification of relationship abuse and resources); and my life, my decisions (San Diego Unified School District, n.d.). This program satisfies the National Sexuality Education Standards and the curriculum scored well on a SHECAT curriculum review, indicating that it meets effectiveness criteria for comprehensive sex education curriculum (Advocates for Youth, n.d.).

Haslett Public Schools. Haslett Public Schools provide sex education intended to provide "developmentally appropriate, comprehensive, factual, and up-to-date curriculum about human sexuality and reproduction" for their students. Their comprehensive curriculum includes the following list of topics: attitudes and self-respect; relationships; growth and development; social issues; health and wellness; and decision-making and personal safety. These topics are taught at different levels to elementary, middle, and high-school classes (Haslett Public Schools, n.d.).

Get Real. Get Real is a comprehensive sex education program that for middle and high school students that educates with factual, medically accurate, age appropriate information. It has been shown to delay sexual activity and reduce risky sexual behavior for both girls and boys compared with peers who did not complete the program. The curriculum emphasizes "social and emotional learning skills like self-awareness, self-management, social awareness, relationship skills, and responsible decision making." The program curriculum includes information about the benefits of abstinence, accurate information about safe and effective methods that can be used to protect against STIs and pregnancy, and skills needed for effective communication and negotiation. The program also helps to facilitate a family dialog for discussion of sex and sexuality by including family take-home activities in the curriculum (Get Real, Comprehensive sex education for middle and high schools). Topics included in the high school Get Real curriculum are as follows: reproductive anatomy; gender, sex, and shared responsibility; sexual identity; reasons and methods for preventing pregnancy; preventing STIs and HIV; sexual risks

and low-risk intimacy; negotiating postponement and protection; social media literacy and sexuality; healthy and unhealthy relationships; and assessing risk and accessing sexual health care (Get Real, n.d.).

APREP. The Alabama Personal Responsibility Education Program (APREP) provides federal funding to community-based projects to educate adolescents about adulthood preparation topics and both abstinence and contraception to prevent pregnancy and STIs among Alabama youth. The goal is that these programs will "equip youth to resist sexual risk behaviors and to make choices that promote better health and well-being as they mature into young adulthood." Adult preparation topics taught in these programs include healthy relationships, adolescent development, and healthy life skills. Two programs funded by APREP are SMARTS, and 'L.I.F.E.'. SMARTS delivers STI-prevention services to high-risk youth between the ages of 10 and 19 in the Tuscaloosa, Bibb and Pickens County areas including a juvenile detention center and local foster care home groups. L.I.F.E. is a Decatur Youth Services program that utilizes "evidence-based curriculum to educate adolescents on both abstinence and contraception, empowering youth to change their behavior in ways that will reduce their risk of an unplanned pregnancy or becoming infected with HIV and other STIs (Alabama Department of Public Health, 2017).

Promoting Health Among Teens. The comprehensive version of Promoting Health Among Teens is a 12-hour program designed to "reduce risky sexual behavior for African American teens through various types of sex education, including HIV/STI and pregnancy prevention, safer sex, and abstinence education." This program is designed to serve "African American 6th and 7th grade students living in urban settings." Participants in this program were significantly less likely to report sexual partners than participants in a control group that

participated in an 8-hour health promotion group that focused on health behaviors unrelated to sexual contact (Blueprints for Healthy Youth Development, n.d.).

Summary of responsibility education. Responsibility sexual education programs generally include a variety of important topics related to sexual health and behaviors. These topics almost always include a discussion of abstinence and condom and/or contraception use for STI and pregnancy prevention. Other topics included in these programs are adolescent development, healthy relationships, communication, sexual and gender identity, seeking health care, and sexual violence prevention. Programs vary depending on the target participant group's needs including their age group and constraints like budget, time, and legislature, but overall, these are frequently shown to be effective at promoting healthy behaviors for youth participants.

Implementation Challenges of Sex Education

It can be challenging to implement an effective sex education program. The goal should be to help all students in the program improve their health and wellbeing as it relates to sex and sexuality in as many ways as possible. Students taking similar programs may have a wide variety of life circumstances, some of which may help or hinder their ability and desire to make safe sexual choices, care for their sexual health, and develop wholistic sexual wellbeing. It is important to understand as many of these factors as possible and learn how to tailor programs to address the specific needs of students, particularly those at high risk for unwanted sexual health outcomes.

The ability to implement good quality programs also depends on the policy choices at national, state, and local levels that govern what can and cannot be taught in schools. Usually sex education laws and guidelines are made at state and local levels, and these laws vary considerably, as do the overall outcomes of students in different geographic regions of the

United States. Sex education laws in several states with overwhelmingly positive sexual health outcomes will be compared with sex education laws in states with overwhelmingly poor outcomes to see if any patterns exist that may support or reject current guidelines about what is needed in good quality sex education. Additionally, program funding, often regulated at the national level, may play a considerable role in what types of programs can reasonably be implemented, funding and its role in program implementation will also be examined.

High-Risk Students

It is important to consider and address the risks associated with sexual behavior in sex education programs. High risk sexual behaviors are those that often lead to unwanted pregnancies or transmission of sexually transmitted infections like sex without the use of a condom or while intoxicated. Teens and adults that participate in these behaviors are at particularly high risk for having unwanted sexual outcomes. A goal of sex education is to identify sexual risk behaviors and better understand why some groups of people are particularly vulnerable to participation in these behaviors or having poor sexual outcomes, then identify effective strategies for reducing participation in sexual risk behavior and implement these strategies in sex education programs to reduce poor sexual outcomes for program participants.

Sexual risk behavior. Exploration of sexuality is a normal part of adolescent development that can help teenagers learn to manage and express feelings and desires as well as negotiate new types of romantic relationships. Exploration of sexual behaviors can be healthy when accompanied by positive relationships, access to health care and condoms, and knowledge and skills that can improve sexual health, but when these supporting factors are missing or inadequate, engaging in certain behaviors increases a person's risk of unintended health consequences like STIs and pregnancy. The risks of specific sexual behaviors will be outlined

below, but it is important to note that sexual decision making is complex and can be affected by risk and protective factors at the societal, social, interpersonal, and personal level, each of which are important to consider when designing interventions to improve adolescent health.

The following list outlines the risks associated with specific sexual behaviors:

- Oral sex performed on a penis, vagina, or anus without condoms or dental dams carries some risk of HIV exposure, but much less than vaginal or anal intercourse. Herpes, chlamydia, gonorrhea, syphilis, and hepatitis A and B can all be transmitted through oral sex.
- Vaginal intercourse without condoms puts both partners at risk for STI acquisition. “The risk of HIV transmission through penile-vaginal intercourse is roughly twice as high for the female/receptive partner as for the male/incentive partner. Teen girls are at higher risk of HIV transmission because the vaginal tissue is more fragile at this age.” Without contraception, a sexually active female has a 90% chance of pregnancy within a year.
- Receptive anal sex carries the highest HIV and STD risk of any sexual behavior. While condoms offer protection, particularly when used with lubrication, they break more frequently during anal sex than during other types of sexual activity.
- Skin-to-skin contact and sharing sex toys can lead to the transmission of HPV, herpes, and trichomonas vaginalis.
- Any sexual behavior that causes bleeding or cuts in the vagina or anus increases the risk of HIV and other STD transmission.
- Having multiple partners is associated with elevated risks of HIV and other STI acquisition.

- "Bisexual behavior is associated with higher levels of risk behavior: sex at an early age, multiple partners, decreased condom use (among boys), higher numbers of male partners (among girls)."
- Youth who combine sex with the use of alcohol or other drugs are more likely to have multiple partners.
- Having sex at an early age (under 16) associated with a greater number of sexual partners, having concurrent partners, and increased likelihood of alcohol and other drug use during sexual activity (Sexual Behaviors and Health in Adolescence, n.d.).

Elaboration on sexual risk behavior definition. "High-risk sexual behavior puts people at risk for sexually transmitted infections (STIs), unplanned pregnancy, and being in a sexual relationship before being mature enough to know what makes a healthy relationship." Teens and young adults are at higher risk than adults. High-risk sexual behaviors include: sexual intercourse or mouth-to-genital contact without the use of a condom or other barrier protection method; sexual activity before the age of 18; having multiple sexual partners; having a sexual partner who has or does inject drugs; and exchange of sex for drugs or money (Healthwise Staff, 2017).

Certain sexual behaviors like early sexual initiation, multiple sex partners, sex without a condom, or incorrect condom use increase risk of acquiring STDs and/or unwanted pregnancy. Male adolescents have been shown to be more likely to engage in these behaviors than female adolescents. Early initiation of sexual intercourse is often defined by researchers as penile-vaginal intercourse before the age of 16. This is a risk factor for teen pregnancy, is less likely to involve contraception, and less likely to be consensual than sexual initiation at a later age. Early sexual intercourse is also associated with a greater number of sexual partners, having concurrent partners, and using alcohol or other drugs during sex. Sexually experienced youth (age 14-19)

are quite likely to report having multiple sex partners when sex is defined broadly as including oral, anal, and vaginal sex. About 45% of sexually active females and 55% of sexually active males aged 14-19 have had three or more partners. Adolescents often engage in sex without a condom including anal sex which carries especially high risk for transmission of HIV and other STIs. Sexually active high school students who identify as lesbian, gay, or bisexual are less likely to have used a condom the last time they were sexually active than their heterosexual peers. Condom misuse can lead to condom breakage or slippage, significantly reducing the effectiveness of the condom, a problem that is more common for adolescents than adults. In a study of African American high school girls, condom problems were reported in about 10% of incidents of vaginal intercourse, and about 55% of instances of anal intercourse, demonstrating the need for better education about correct condom use particularly in regard to anal sexual intercourse (Youth Statistics, n.d.).

Reasons for participation in high risk sexual behaviors. There are a variety of reasons why people participate in high-risk sexual behaviors that put them at higher risk for acquiring and transmitting STIs. Some of these reasons are included in the following list: lack of understanding about STI transmission and STI-associated health outcomes; not discussing safer sex practices with sex partners; lack of preparation or understanding inhibiting use of protective measures against STIs; lack of awareness of STI symptoms; not seeking medical care for STI symptoms; inability to access or afford treatment; or use of alcohol or other drugs during sexual activity (Healthwise Staff, 2017).

Trends in sexual risk behaviors. CDC data has shown steady declines in sexual risk behaviors among students from 2007 to 2017. The number of high school students who have ever had sex decreased from 48% to 40% and the number of students who have had sex with

more than 4 people has declined as well. However, condom use is relatively low among students, as 46% of high students reported not using a condom the last time they had sex, putting them at risk for STI transmission and pregnancy. Lesbian, gay, and bisexual students are at disproportionally high risk for some negative health outcomes. 16% of LGB students experience sexual dating violence, 33% experience bullying, 47% have seriously considered suicide, and they also about twice as likely as their peers to have used illegal drugs. These statistics draw attention to a need to implement better strategies to serve LGB students to work towards reducing these disparities (Division of Adolescent and School Health, 2018).

Survey for assessing student risk behavior. The 2019 State and Local Youth Risk Behavior Survey (2019) is a tool for anonymously assessing student risk. The questions in this survey that relate to sexual risk are listed as follows:

- Have you ever had sexual intercourse? (yes or no)
- How old were you when you had sexual intercourse for the first time? (includes several categorical answers)
- During your life, with how many people have you had sexual intercourse? (several categorical answers)
- During the past 3 months, with how many people did you have sexual intercourse? (several categorical answers)
- Did you drink alcohol before you had sexual intercourse the **last time**? (yes or no)
- The **last time** you had sexual intercourse, did you or your partner use a condom? (yes or no)

- The **last time** you had sexual intercourse, what method [if any] did you or your partner use to prevent pregnancy? (answers to this question include no method, condoms, birth control pills, an IUD, a shot, or the withdrawal method).
- During your life, with whom have you had sexual contact? (answers: males, females, or males and females)
- Which of the following best describes you? (answers: heterosexual, gay or lesbian, bisexual, or not sure)
- Have you ever been tested for HIV, the virus that causes AIDS? (yes or no)
- During the past 12 months have you been tested for a sexually transmitted disease other than HIV, such as chlamydia or gonorrhea? (yes or no)

(2019 State and Local Youth Risk Behavior Survey, 2019).

This tool provides guidelines for assessing and monitoring student risk behaviors. The questions related to sexual orientation do not directly assess risk behaviors but might be a valuable way to study the intersection between sexual orientation and sexual risk behaviors, provided this information is utilized to help specific groups of students reduce their risk behaviors if any are disproportionately high.

Youth Risk Behavior Survey data (1991-2017). The Youth Risk Behavior Survey monitors health behaviors contributing to leading causes of death, disability, and social problems by surveying high school students in the US every two years. The YRBS data allows study of trends in youth sexual risk behaviors. As shown in Figure 2, from 1991 to 2017, the percentage of students who ever had sexual intercourse decreased from 54% to 40%, had sexual intercourse before the age 13 decreased from 10% to 3.4%, had sexual intercourse with four or more persons decreased from 18.7% to 9.7%, are currently sexually active (in the last 3 months) decreased

from 37.5% to 28.7%, and drank alcohol or used drugs before last sexual intercourse decreased from 21.6% to 18.8%. Other health trends are less clear to follow. For example, the percentage of students who used a condom during the last time they had sexual intercourse increased from 46% in 1991 to 63% in 2003, but then decreased steadily to 53.8% in 2017. The percentage of students who did not use any method to prevent pregnancy was 16.5% in 1991, it decreased to 11.3% in 2003, and then increased again to 13.8 in 2017 (YRBSS, n.d.)

Figure 2: National Trends in the Prevalence of Sexual Behaviors and HIV Testing National YRBS 1991-2017

Trends in the Prevalence of Sexual Behaviors and HIV Testing National YRBS: 1991—2017

The national Youth Risk Behavior Survey (YRBS) monitors health behaviors that contribute to the leading causes of death, disability, and social problems among youth and adults in the United States. The national YRBS is conducted every two years during the spring semester and provides data representative of 9th through 12th grade students in public and private schools throughout the United States.

Percentages														Trend from 1991–2017[1]	Change from 2015–2017[2]
1991	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015	2017		
Ever had sexual intercourse															
54.1	53.0	53.1	48.4	49.9	45.6	46.7	46.8	47.8	46.0	47.4	46.8	41.2	39.5	Decreased 1991—2017	No change
Had sexual intercourse before age 13 years															
10.2	9.2	8.9	7.2	8.3	6.6	7.4	6.2	7.1	5.9	6.2	5.6	3.9	3.4	Decreased 1991—2017	No change
Had sexual intercourse with four or more persons (during their life)															
18.7	18.7	17.8	16.0	16.2	14.2	14.4	14.3	14.9	13.8	15.3	15.0	11.5	9.7	Decreased 1991—2017	No change
Currently sexually active (had sexual intercourse with at least one person during the 3 months before the survey)															
37.5	37.5	37.9	34.8	36.3	33.4	34.3	33.9	35.0	34.2	33.7	34.0	30.1	28.7	Decreased 1991—2017 Decreased 1991—2013 Decreased 2013—2017	No change
Used a condom (during last sexual intercourse, among students who were currently sexually active)															
46.2	52.8	54.4	56.8	58.0	57.9	63.0	62.8	61.5	61.1	60.2	59.1	56.9	53.8	Increased 1991—2017 Increased 1991—2005 Decreased 2005—2017	No change
Used an IUD or implant (before last sexual intercourse to prevent pregnancy, among students who were currently sexually active)															
—[3]	—	—	—	—	—	—	—	—	—	—	1.6	3.3	4.1	Increased 2013—2017	No change

Where can I get more information? Visit www.cdc.gov/yrbss or call 800–CDC–INFO (800–232–4636).

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of Adolescent and School Health

Percentages														Trend from 1991–2017[1]	Change from 2015–2017[2]
1991	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2013	2015	2017		
Used birth control pills (before last sexual intercourse to prevent pregnancy, among students who were currently sexually active)															
20.8	18.4	17.4	16.6	16.2	18.2	17.0	17.6	16.0	19.8	18.0	19.0	18.2	20.7	Increased 1991—2017 Decreased 1991—1995 Increased 1995—2017	No change
Did not use any method to prevent pregnancy (during last sexual intercourse, among students who were currently sexually active)															
16.5	15.3	15.8	15.2	14.9	13.3	11.3	12.7	12.2	11.9	12.9	13.7	13.8	13.8	Decreased 1991—2017 Decreased 1991—2007 No change 2007—2017	No change
Drank alcohol or used drugs (before last sexual intercourse, among students who were currently sexually active)															
21.6	21.3	24.8	24.7	24.8	25.6	25.4	23.3	22.5	21.6	22.1	22.4	20.6	18.8	Decreased 1991—2017 Increased 1991—1999 Decreased 1999—2017	No change
Ever been tested for HIV (not counting tests done if they donated blood)															
—[3]	—	—	—	—	—	—	11.9	12.9	12.7	12.9	12.9	10.2	9.3	Decreased 2005—2017 No change 2005—2013 Decreased 2013—2017	No change

[1] Based on linear and quadratic trend analyses using logistic regression models controlling for sex, race/ethnicity, and grade, $p < 0.05$. Significant linear trends (if present) across all available years are described first followed by linear changes in each segment of significant quadratic trends (if present).
[2] Based on t-test analysis, $p < 0.05$.
[3] Not available.

Associated factors to sexual risk behavior. As of 2017, many high school students are engaged in sexual risk behaviors that relate to unintended pregnancies and STIs. Nationally, 39.4% of high school students have ever had sexual intercourse, 9.7% have had sexual intercourse with four or more people, and out of the students who are currently sexually active, 53.8% reported that they or their partner used a condom during the last time they had sexual intercourse. The YRBSS found that sexual risk behaviors were significantly higher among sexual minority students than other students, placing them at risk for unnecessary or premature mortality, morbidity, and social problems. Based upon these findings, high school students, particularly sexual minority students need to be provided with better education, health care, and other evidence-based interventions to reduce sexual risk behavior (Kann et al., 2017).

Abuse and bullying. A study about peer victimization and adolescent sexual risk taking analyzed the relationships between bullying, cyberbullying, and dating violence victimization and future sexual risk-taking behaviors (Holt et al., 2018) This study was conducted on 220 sexually active high school students in Illinois. At baseline as assessed by completion of a student survey, levels of cyberbullying and verbal teen dating violence, but not bullying victimization, were associated with more sex under the influence of alcohol. A year later, participants completed another survey so researchers could assess any changes over time. They found that changes over time in verbal teen dating violence victimization were associated with changes over time of sex under the influence of alcohol. These results highlight the need for schools to work to intervene and prevent peer victimization exposure and sexual risk-taking behaviors "in concert" with each other (Holt et al., 2018).

Substance use. An association between substance use and sexual risk behaviors in adolescence has been identified in youth studies. These sexual risk behaviors include having ever

having sex, having multiple sex partners, not using a condom, and pregnancy before the age of 15 years of age (Substance Use and Sexual Risk Behaviors Among Youth, 2018). As the frequency of substance use increases, so do the likelihood of having had sex and the number of sex partners. Sexual risk behaviors have been shown to increase in adolescents who use alcohol, and are highest among students who use marijuana, cocaine, sedatives, opioids, and stimulants. Adolescents who report no substance use are least likely to engage in sexual risk-taking behaviors. Protective factors against both adolescent substance use and sexual risk behaviors include supportive school environments and positive engagement with parents (Substance Use and Sexual Risk Behaviors Among Youth, 2018).

LGBT+ youth. Young men who have sex with men (YMSM) are at high risk for contracting an HIV infection, about 8000 new diagnoses were made in 2011 for MSM between the ages of 13 and 24. Black YMSM are at particularly high risk making up about 58 of the YMSM diagnoses in 2011, and this risk increased significantly from 3762 diagnoses in 2008 to 4619 diagnoses in 2011. These disparities do not appear to reflect racial or ethnic differences in risk behaviors. Possible factors contributing to these differences may include inadequate HIV education and intervention, limited awareness of infection, low perception of the risks of HIV infection, alcohol and other drug use, and feelings of rejection and isolation often faced by LGBT+ youth. Schools can work to address some of the underlying factors that contribute to increased rates of HIV infection of YMSM. For example, schools can implement practices that reduce bullying and sexual harassment, as a safe and supportive school environment has been shown to be associated with decreases in depression, suicidal behaviors, substance use, and unexcused school absences in LGBT youth. Additionally, schools can provide sex education

programs that are inclusive to LGBT students and help students access sexual health services like testing for HIV and other STIs (HIV and Young Men Who Have Sex with Men, 2014).

Black youth and MSM: HIV risk. About 20 million new STIs are reported every year, and half of these are found among young people (age 15-24), despite young people making up only 25% of sexually active individuals. HPV is the most common STI while rates of new chlamydia, gonorrhea, and syphilis infections in teens has been climbing since 2013. HIV is a problem that effects black youth disproportionately. In 2017, 61% of youth (age 13-19) diagnosed with HIV were black, while only 14% of the total youth population is black. A similar disparity was also observed in the young adult population (age 20-24). While only 15% of young adults were black, 50% of all the young adults diagnosed with HIV were black. Young men who have sex with men are also at a disproportionately high risk for acquiring HIV. In 2017, among males aged 13-19, male-to-male sexual contact accounted for 94% of HIV diagnoses. Young men in general are much more likely to have an HIV diagnosis (85%) than young women (15%). Out of females with an HIV diagnosis, 85% of the diagnoses were accounted for by heterosexual sexual contact (Youth Statistics, n.d.).

Strategies for reducing sexual risk behaviors. Risk-taking is common in adolescence and can have serious or even life-threatening consequences. In the case of risky sexual behaviors, these consequences might include acquiring sexually transmitted infections, having an unintended pregnancy, or becoming a teen parent. Strategies to address risky behaviors often work to address malleable risk factors like academic difficulties, ineffective family management practices, affiliation with delinquent peers, or living in an unsafe, unsupportive neighborhood. Risk-taking behaviors are frequently found to co-occur, suggesting that strategies designed to address factors associated with multiple risk-taking behaviors may be most beneficial. The list

below describes strategies have been shown to affect two or more risky behaviors. Young people need good support from their families, schools, and communities as well as opportunities to participate in positive activities and to develop good social and emotional skills. These factors can reduce the likelihood that a young person will engage in risky behaviors. The following list explains these factors in more detail.

“1. Support and strengthen family functioning: Teaching parents how to cope with stress, communicate clear expectations, eliminate coercive parenting, and reward positive behaviors appears to prevent and deter children and youth from engaging in risky behavior.;

2. Increase connections between students and their schools: Children and youth who feel connected to their schools are less likely to bully or be bullied, to engage in delinquent behavior, and to use drugs and alcohol.;

3. Make communities safe and supportive for children and youth: Children and youth who live in safe, supportive communities are less likely to use drugs, exhibit aggressive behavior, commit crimes, and drop out of school.;

4. Promote involvement in high quality out-of-school-time programs: Involvement in high quality out-of-school-time programs has been linked with decreased drug abuse, delinquency, and sexual risk-taking behaviors.;

5. Promote the development of sustained relationships with caring adults: Children and youth who report that they have positive relationships with adults and those who receive mentoring in the context of a long-term supportive relationship are more likely to succeed on multiple fronts.;

6. Provide children and youth opportunities to build social and emotional competence: Children and youth with strong social and emotional competence are less likely to engage in risky behaviors related to aggression, substance use, and sexual risk taking.; and

7. Provide children and youth with high quality education during early and middle childhood: Children who receive high-quality early care and/or high-quality education in elementary school are less likely to engage in substance use and risky sexual behavior when they get older" (Terzian, Andrews, & Moore, 2011).

To help young people adopt healthy sexual attitudes and behaviors, schools can teach HIV, STI and teen-pregnancy prevention programs that provide basic and accurate health information that: contributes to health-promoting behaviors and decision-making; addresses the needs of youth who are sexually active as well as those who are not; provides youth with the education and skills needed to protect themselves and others from unwanted pregnancy and STIs; involves students and parents in program development; is consistent with community values and policies, and includes HIV education and awareness in the curriculum (Sexual Risk Behaviors, 2019).

Risk factors are personal or environmental factors that some people experience, making them more likely to experience a problem. Protective factors help to reduce a person's risk of experiencing this problem. In summation, the risk and protective factors a person has/experiences will contribute to their overall risk of having the problem. "Risk and protective factors are key to figuring out how to address community health and development issues. It's a matter of taking a step back from the problem, looking at the behaviors and conditions that originally caused it, and then figuring out how to change those conditions." Personal factors are a main type of risk and protective factors. Personal factors include knowledge and skills needed to address a problem, such as by problem solving, goal setting, and predicting the outcomes of potential choices; experiences like discrimination, abuse, or neglect, or privilege, caring, and a history of achievement; and personal predisposition to health status based on things like gender,

age, genetic predisposition, chronic illness, and cognitive, mental and physical abilities. Environmental factors are aspects of the social and physical environment that affect a specific group of people in a community. Environmental factors include social support; availability of resources and services; the degree of physical access of services; the degree of communication accessibility based on languages spoken and availability of interpreters; social approval or disapproval of particular behaviors; the time and effort needed to accomplish certain actions; policies like eligibility requirements for services; financial barriers and resource allocation; exposure to hazardous conditions; quality of available living conditions; and poverty. To solve a societal problem like disparities of HIV infection in the young black MSM community, one would identify personal and environmental factors that contribute to higher rates of HIV infection, then rank how important and how changeable each factor is. Ideally, interventions should focus on reducing/improving several important and malleable risk/protective factors related to the problem they are trying to solve (Understanding Risk and Protective Factors, n.d.).

Supportive factors needed by developmental stage. People need different things to help them develop healthy sexualities depending on their life stage. “Children need stable environments, parenting that promotes healthy social and emotional development, and protection from abuse. Adolescents need education, skills training, self-esteem promoting experiences, and appropriate services related to sexuality, along with positive expectations and sound preparation for their future roles as partners in committed relationships and as parents. Adults need continuing education as they achieve sexual maturity--to learn to communicate effectively with their children and partners and to accept continued responsibility for their sexuality, as well as sexual and reproductive health care services.” Additionally, several variable risk and protective factors

can impact a person's sexual health and level of responsibility of the sexual behavior they engage in, including:

- Biological factors that influence the levels of reproductive hormones an individual makes, which in turn impacts their physical sexual response;
- Quality of a child's relationship with their parent(s): close, warm relationships are associated with postponement of sexual intercourse and more consistent contraceptive use, while parental supervision is associated with postponement of sexual activity or reduction in number of sexual partners an adolescent has;
- School attendance and participation in school activities which are correlated with a reduction in adolescent sexual risk-taking behaviors including age of sexual initiation, pregnancy, and childbirth, likely due in part to the sexual education and communication skills taught in school;
- The communities to which a person belongs: which help to determine what responsible sexual behavior is, as well as how it's practiced and enforced. "Economic conditions, racial and ethnic composition, residential stability, level of social disorganization, and service availability [of a community] have demonstrated associations with the sexual behavior of their residents, including initiation of sexual activity, contraceptive use, out-of-wedlock childbearing and risk of STD infection." Within a shared culture, "strong prohibitions against sex outside of marriage can have protective effects with respect to STD/HIV infection and adolescent pregnancy [while] undue emphasis on sexual restraint and modesty can inhibit family discussion about sexuality and perhaps contribute to reluctance to seek sexual and reproductive services. Gender roles that accord higher status and more permissiveness for males and passivity for females can have a negative

impact on the sexual health of women if they are unable to protect themselves against unintended pregnancy or STD/HIV infection. Economic inequities [in minority communities, seen] in the form of reduced educational and employment opportunities, and the poverty that often results, has obvious implications for accessing and receiving necessary health education and care. In addition, a history of exploitation has, in some cases, led to distrust and suspicion of public health efforts in some minority communities;"

- The media's portrayal of sexuality in music videos, movies, and online: sexual behavior is rarely depicted by the media in the context of a long-term relationship, with the use of contraceptives, or with possible negative consequences of sexual behavior. The media can also provide sexuality information and education to the public.;
- The extent of an individual's commitment to a religion: "An adolescent's frequent attendance at religious services is associated with less permissive attitudes about premarital sexual activity and a greater likelihood of abstinence. For adolescents who are sexually active, frequency of attendance is also associated with decreased use of contraceptive methods among girls and increased use by boys;"
- The level of comfort and communication ability health care professionals have when discussing sexuality.;
- The law, which can impose penalties for certain kinds of sexual activities, regulate marriage, divorce, and child custody and support. It can also regulate school standards for sexual education, and limit minors' access to sexually explicit materials.;
- The availability of reproductive health services, including pap smears and screening for STI, as well as counseling or education related to sexual and reproductive health. For

these services to be accessible, they need to be conveniently located, available when needed, provide confidential, respectful, culturally sensitive care, and be affordable (Office of the Surgeon General, 2001).

Summary of youth risk behaviors. One important role of sex education is to reduce the rates of student participation in behaviors that place them at higher risk of undesirable sexual health outcomes. Researchers track this data to measure progress and to address areas where improvement is needed. Since schools educate students from different backgrounds and different intersecting risk and protective factors, it is important that those developing and teaching sex education learn about how to best tailor their programs to best help all of their students, and in certain cases even administer supplementary programs to provide additional support for students who need it.

In addition to understanding the role of personal, social, and community risk factors in student outcomes, it is also important to understand the role of policy plays. Each policy decision can impact the outcomes of many students, making it a desirable target for positive change, yet it may take years to implement small changes at this level. A wholistic approach to improving the implementation of sex education should be the most valuable to students, helping to meet as many of their sexual health and wellbeing needs as possible.

Policy

In order to examine how sex-education policy relates to youth outcomes, it is important to examine and compare the sex-education legislation and program funding of several states with varying level of youth sexual health outcomes. Specifically, comparisons will be made between Arkansas and Alabama state legislature and program funding and Massachusetts and New Hampshire state funding because Arkansas and Alabama have very high teen pregnancy rates,

while Massachusetts and New Hampshire's teen pregnancy rates are much lower. Differences in youth outcomes cannot be directly attributed to state sex education legislation, the funding received for different types of sex education programs, and the corresponding differences in sex education being taught since many other factors contribute to youth outcomes, such as socioeconomic status which also varies geographically in the United States. However, qualities of helpful and unhelpful sex education legislature may be identified from this examination, helping legislators to make more informed decisions about the policy they implement.

Youth educational outcomes. There are notable disparities in youth sexual health outcomes by geographic region in the United States. This analysis will focus on teen birth rate, teen HIV infection rate, rates of sexually active high school students, and rates of sexually active high school students who did not use a condom the last time they had sex. Additionally, the percentage of schools that reported teaching about the benefits of sexual abstinence and how to correctly use a condom in each selected state will be examined. Teen birth rates and HIV rates were selected because teen pregnancy and HIV acquisition are two very serious, life changing, and typically unwanted health outcomes. Teen birth rates will be compared rather than teen pregnancy rates because more recent information is available about teen births. While these two measures are not equivalent, they tend to follow similar trends. Condom use education and use were selected because condoms are a very common and important way to prevent pregnancy and HIV, so not wearing them during sexual activity is very risky. Lastly, rates of sexually active students and abstinence education taught in schools are studied because abstinence education is the focus of many sex education programs, and for this to be effective at reducing unwanted sexual outcomes, they need to effective at reducing rates of sexual activity.

Teen birth rate in 2016, per 1000 young women ages 15-19. In the United States, the 2016 teen birth rate was 22.3 out of 1000 young women. Alabama and Arkansas both had higher teen birth rates than the national average (28.4 and 34.6, respectively) while Massachusetts and New Hampshire both had teen birth rates that were lower than the national average (8.3 and 9.3, respectively) (The SIECUS State Profiles, n.d.).

Teen HIV diagnosis rate in 2016, per 100,000 adolescents ages 13-19. The United States rate of teen HIV diagnoses was 5.7 per 100,000 adolescents. Alabama's rate was slightly higher at 5.9 per 100,000 adolescents, while Arkansas was notably higher at 7.6 per 100,000. Massachusetts was lower than average at 3.2 per 100,000, and New Hampshire had an incredibly low rate of HIV diagnosis at 0.0 per 100,000 adolescents (The SIECUS State Profiles, n.d.).

Percent of high school students who reported being currently sexually active in 2017. The US average rate of high school students that reported being sexually active in 2017 was 28.7%. Alabama, Arkansas, and New Hampshire all had higher rates of sexually active students than the national average (34.9%, 30.8%, and 29.8% respectively), while only 25.0% of high schoolers in Massachusetts reported being sexually active. These numbers don't vary strongly from the average, making it difficult to discern a clear pattern (The SIECUS State Profiles, n.d.).

Percent of high school students in 2017 who reported not using a condom at last sexual intercourse. In 2017, 45.9% of sexually active high school students in the United States reported not using a condom the last time they had sexual intercourse. More students in Alabama and Arkansas did not use a condom the last time they had sex than the national average (49.2% and 51.3% respectively), while in Massachusetts and New Hampshire these rates were lower (41.9% and 40.5% respectively) (The SIECUS State Profiles, n.d.).

Percent of schools that reported teaching the benefits of being sexually abstinent in 2017. Out of states in the sample group, Massachusetts had the lowest percentage of schools teach about the benefits of being sexually abstinent in 2017, at 85.0% of schools. Alabama and Arkansas had very similar rates in the middle of the sample (93.8% and 93.9% respectively), and New Hampshire has the highest rate of schools teaching about sexual abstinence at 98.5%. No national average was reported for comparison (The SIECUS State Profiles, n.d.). While there are differences in the percentage of schools that teach this topic by state, all the rates were high.

Percent of schools that reported teaching how to correctly use a condom in 2017. In 2017, there were two states of interest that had a low percentage of schools teach their high school students about how to correctly use a condom. 43.1% of Alabama high schools taught this skill, while 49.9% of Arkansas high schools taught it. In contrast, 72.5% of Massachusetts and 83.1% of New Hampshire high schools taught students how to use a condom correctly (The SIECUS State Profiles, n.d.).

The role of legislation in sex education curriculum in selected states. Legislation plays a key role in determining what types of sex education curriculum is taught in schools. Some state policies do not require that sex education programs be taught at all, but do have laws restricting what may be taught, some state laws are ambiguous, allowing for local governments and school boards to decide what gets taught, and some state laws provide very clear guidelines about what sex education must be taught. Because not all state policy about sex education is clearly indicative of what gets taught in schools, this information is most useful when considered in conjunction with curriculum data provided by schools, indicating what subjects are taught. Four states were selected for study of sex education legislature. Alabama and Arkansas were selected as representatives of states with poor youth sexual health outcomes while Massachusetts

and New Hampshire were selected as representatives of exceptionally good sexual health outcomes.

Alabama legislature. Alabama schools are not required to teach sex education, but students are required to receive HIV/AIDS instruction in grades 5-12. When sex education is taught by schools it must emphasize that "abstinence from sexual intercourse is the only completely effective protection against unwanted pregnancy, sexually transmitted diseases (STDs), and AIDS when transmitted sexually and that abstinence from sexual intercourse outside of lawful marriage is the expected social standard for unmarried school-age persons." Additionally, curriculum must emphasize that "homosexuality is not a lifestyle acceptable to the general public and that homosexual conduct is a criminal offence under the laws of the state." The state has an opt-out policy for parents to remove their children for sex educational instruction for religious reasons. Additionally, while Alabama has no standard requiring medically accurate sex education instruction it does require inclusion of current medical information when providing contraceptive education (The SIECUS State Profiles, n.d.).
A 2020 legislative session house bill is pending to eliminate anti-LGBTQ language and mandate that sex education instruction be medically accurate. A similar bill failed in the house in 2019 (The SIECUS State Profiles, n.d.).

Arkansas legislature. Arkansas schools are not required to teach sex education or HIV/STI instruction. If sex education or HIV/STI instruction is taught, abstinence must be stressed, as "it is the policy of the State of Arkansas to discourage … sexual activity by students." Furthermore, every public-school sex education and AIDS prevention education program must "emphasize premarital abstinence as the only sure means of avoiding pregnancy and the sexual contraction of [AIDS] and other [STDs]." Age-appropriate dating violence

education must be taught as a mandatory component of health and safety education in grades 7-12 and be based on scientific research. Local school boards may establish school-based health clinics which may provide sex education, which must include abstinence instruction. School-based health clinics may prescribe and distribute contraceptives with written parental consent but cannot provide abortion referrals. No condoms or contraceptives may be purchased with Arkansas state funds (The SIECUS State Profiles, n.d.)

In 2019, a bill failed in the senate that would have required for instruction on pregnancy and STI-prevention to be age-appropriate and use primary prevention/risk avoidance approaches. The bill would have also established the right of parents or guardians to remove their children from instruction on teen pregnancy and STIs (The SIECUS State Profiles, n.d.).

Massachusetts legislature. Massachusetts state law does not require schools to teach sex education. If sex education is implemented at a local level, the Massachusetts Board of Education policy urges for instruction about HIV/AIDS to be available to students at every grade level. Additionally, districts with a human sexual education curriculum must adopt a policy that ensures parental/guardian notification and allows parents or guardians "the flexibility to exempt their child from any portion of said curriculum though written notification to the school principal" (The SIECUS State Profiles, n.d.).

The Massachusetts Comprehensive Health Framework suggests that curricula include information about "abstaining from and postponing sexual intercourse," and approaches reproduction and sexuality "in an appropriate and factual fashion". In addition, it states that human sexuality instruction should discuss HIV/AIDS, teen pregnancy, family violence, sound health practices, and "define sexual orientation using the correct terminology (such as heterosexual and gay and lesbian)." (The SIECUS State Profiles, n.d.)

New Hampshire legislature. According to New Hampshire state law, school boards must "ensure that health education [is] taught to pupils as part of the basic curriculum" and "are thoroughly taught, especially physiology, hygiene, and health and physical education as they relate to the effects of...HIV/AIDS, and STDs on the human system...The Department of Education is required to develop curriculum frameworks that address those subjects and provide information on HIV/AIDS to all public and private schools to assist them in developing courses and programs." Public schools have health education standards they must follow based on grade level. Topics required to meet high school standards are as follows: families and relationships (including violence and date rape), sexual behavior, HIV and other STD prevention, and pregnancy prevention. New Hampshire guidelines state that abstinence is the most effective means of preventing pregnancy, HIV, and other STDs (The SIECUS State Profiles, n.d.).

The role of funding in sex education. Funding for health education plays a critical role in determining which programs are taught in certain states and school districts. Education is expensive, and many schools rely on state and/or federal funding generally and to fund health programs. The following federal programs for sex education funding are will be discussed: Division of Adolescent and School Health (DASH), Teen Pregnancy Prevention Program (TPPP), Personal Responsibility Education Program (PREP), and Sexual Risk Avoidance Education (SRAE). DASH funds HIV-prevention efforts, TPPP funds evidence-based teen pregnancy prevention programs, PREP funds evidence-based programs and research that help prevent teen pregnancy, HIV, and STDs, and SRAE funds programs that exclusively promote abstinence-only-until marriage ideology.

Division of Adolescent and School Health (DASH). DASH is a CDC-based organization that works to help schools implement HIV prevention efforts by providing funding to state and

local education agencies, implementing HIV/STD prevention programs, and collecting and reporting data on young people's risk behaviors. In 2017, each state of interest received money from DASH for this purpose. Additionally, the Boston Public Schools were awarded a grant of $378,750 to strengthen student health "through sexual health education that emphasizes HIV and other STD prevention, increases access to key sexual health services, and establishes safe and supportive school environments for students and staff (The SIECUS State Profiles, n.d.).

Teen Pregnancy Prevention Program (TPPP). The Teen Pregnancy Prevention Program is administered by OAH, a branch of the US Department of Health and Human Services. TPPP funds evidence-based or innovative evidence-informed, medically accurate, and age appropriate programs to reduce teen pregnancy. In 2017, The Massachusetts Alliance on Teen Pregnancy and New Hampshire Department of Health and Human Services were awarded TPPP funds, but in 2018, none of the states of interest received TPPP grant money.

In 2017, the Trump administration attempted to shorten an existing TPPP grant period from five years to 3, although this was challenged in court by several grantees after having their projects abruptly cut short, and Trump administration's action was ruled unlawful. Additionally, in 2018 the funding opportunities announced by the OAH were significantly shifted away from funding evidence-based programs while prioritizing funding of abstinence-only programs. This funding opportunity announcement was also challenged in court and the funding allocations for the replicating programs (but not the new and innovative strategy type programs) were ruled to be illegal for violation of congressional intent (The SIECUS State Profiles, n.d.).

Personal Responsibility Education Program (PREP). PREP, another HHS program funds a PREP State-Grant Program that supports "evidence-based programs that provide young people with medically accurate and age-appropriate information for the prevention of unintended

pregnancy, HIV, and other STDs...target[ing] young people who are experiencing homelessness, are in foster care, are living in rural areas or areas with high rates of adolescent births, and are from minority groups."; Personal Responsibility Education Innovative Strategies which "funds local entities through a competitive grant program to support research and demonstration programs to develop, replicate, refine, and test innovative models for preventing unintended teen pregnancy, HIV, and other STDs among young people ages 10-19."; Tribal Personal Responsibility Education Program which "supports the development and implementation of pregnancy, HIV, and other STD-prevention programs among native young people within tribes and tribal communities."; and Competitive Personal Responsibility Education Program, which grants "support evidence-based programs that provide young people with medically accurate and age-appropriate information for the prevention of unintended pregnancy, HIV, and other STDs" (The SIECUS State Profiles, n.d.).

In 2017, Alabama, Arkansas, and Massachusetts Departments of Public Health, and New Hampshire Department of Health and Human Services all received PREP funding. In 2018, PREP data was withheld from the public, so it is unknown if the states of interest received funding in 2018 (The SIECUS State Profiles, n.d.).

Title V Sexual Risk Avoidance Education (SRAE) program. The SRAE program provides funding for public and private entities for programs that "teach young people to voluntarily refrain from non-marital sexual activity and prevent other youth risk behaviors." These programs are also required by statute to "teach the benefits associated with self-regulation; success sequencing for poverty prevention; healthy relationships; goal setting and resisting sexual coercion; dating violence; and other youth risk behaviors, such as underage drinking or illicit drug use, without normalizing teen sexual activity." In 2018 the State of Massachusetts

received a SRAE grant, and in both 2017 and 2018 the states of Alabama and Arkansas received SRAE grants (The SIECUS State Profiles, n.d.)

"Success sequencing" is promoted by SRAE programs as a strategy for students to avoid poverty. The strategy is supposed to work if students complete the following in this order: finishing high school, getting a full-time job, and waiting until they are 21 to get married and have children. These claims sound reasonably logical but are not founded on scientific evidence of success (A History, 2018).

The Family Research Council's webpage about SRAE claims that "SRA education reduces teen sexual activity by approximately 50%" (Grossu, et al. 2019) but these claims are based on only one study conducted in 2010 by Jemmont and colleagues on African American 6th and 7th graders, a focus group that is certainly not representative of all teens. This program is somewhat more progressive than previously implemented abstinence-only programs because medically accurate curriculum and discussion of material in a manner that does not traumatize or ostracize students who have already been sexually active are built into the framework of their programs (Sexual Risk Avoidance, 2019).

Government funding for abstinence education began in 1981 and has continued in various amounts and support levels since then. At some points, this meant that resources were redirected from other areas like pregnancy-prevention programs in order to fund these programs. This was not due to these programs being shown to reduce pregnancy or sexual activity rates. To the contrary, evaluation of abstinence-only-until-marriage programs carried out using Title V (a significant source of abstinence-only government funding) funding showed no "statistically significant beneficial impact on young people's sexual behavior." (A History, 2018).

Grantees of government funding for abstinence-only-until-marriage programs or "Sexual Risk Avoidance Education" must teach curriculum aligns with the funding's EXCLUSIVE purpose to promote abstinence outside of marriage. Therefore, discussion of other important topics is off limits or only permitted in a certain context. For example, condoms and contraception may only be discussed in terms of its limitations and failure rates. For this reason, some states have chosen not to accept any of this funding because it conflicts with their legislature or ideologies (A History, 2018).

Funding overview. Figure 3 provides detailed information about the amount of funding each state of interest received from DASH, TPPP, PREP, and SRAE in 2017 and 2018. For example, in 2018 none of the states of interest received funding from TPPP because of changes made to national funding allocations. This was challenged in court, and allocation of funding has again been changed, but in 2018, states that had previously received financial support from this program did not receive funding, likely reducing the quality of sex education that students attending schools where this money had previously been used were able to receive that year.

Figure 3:

Federal Funding 2017 (The SIECUS State Profiles, n.d.)				
	Alabama	Arkansas	Massachusetts	New Hampshire
DASH	$60,000	$393,184	$708,797	$65,000
TPPP	$0	$0	$749,999	$250,000
PREP	$719,919	$451,596	$975,141	$0

SRAE	$1,304,186	$791,939	$0	$0
Total	$2,084,105	$1,636,719	$2,433,937	$315,000

Federal Funding 2018 (The SIECUS State Profiles, n.d.)				
	Alabama	Arkansas	Massachusetts	New Hampshire
DASH	$100,037	$99,999	$510,000	$100,000
TPPP	$0	$0	$0	$0
PREP	Data Withheld	Data Withheld	Data Withheld	Data Withheld
SRAE	$1,161,183	$749,406	$808,578	0
Total	$1,261,220	$849,405	$1,318,578	$100,000

Summary of legislation and funding for sex education. Legislation and funding for sex education can be supportive of high-quality, evidence based comprehensive sex education programs that support positive outcomes for student health and wellbeing, restrictive in a way that prevents those types of programs from being taught, or somewhere in between. Students have better sexual health outcomes in states where more comprehensive programs are taught, perhaps because when correct condom use is taught and encouraged, students use condoms more often during sexual activity. High school sexual activity rates remain similar for all states of interest, suggesting both that abstinence-only programs are not effective at discouraging sexual

activity and that more comprehensive programs that stress condom use do not encourage more students to be sexually active.

ANALYSIS OF RESEARCH QUESTIONS

In this analysis, four research questions will be addressed. The first research question is an analysis of the fundamental components of an effective sex education program. The second question investigates how outcomes differ for students who participate in different types of sex education programs. The third question identifies strategies that can be used to better help students who are particularly vulnerable to poor sexual health outcomes. The final question investigates the roles that policy plays in program administration and program outcomes.

Research Question #1: What are the essential components of an effective sex education program?

The main goal of sex education is to teach students to develop a conception of sexuality that helps them to be safe and healthy individuals throughout their lives. To achieve this goal, educators must work to create a class environment that is conducive to learning about sex. The class should focus on health and safety and provide students with knowledge and skills needed for reduction of sexual risk factors. Students must learn how to build and maintain healthy relationships, to communicate effectively about their needs and wants, and to think critically to develop personal values. The curriculum must also be as inclusive and respectful to the identities of as many students as possible so that all students can engage with and learn from the materials.

Class Environment

A good sex education program is one that is taught in a classroom that promotes respectfulness between all its members. Teachers should be open and honest with their students while providing them with material appropriate for their age-level. Teachers should practice good listening skills and encourage their students to ask questions about the material. These questions should be answered respectfully and honestly so that students will continue to feel safe

asking questions and engaging with the material (Kirby, Laris, & Rolleri, 2007; LPHI, 2016). Teachers should work with their students to create a set of classroom rules that should provide guidelines for how the members of the classroom can treat each other in a respectful manner. This is critical, because students need to feel safe and comfortable learning and sharing about sexuality in their classroom for a sex education program to be meaningful to them.

Risk Reduction

In order to promote safe and healthy students, a program must provide students with the knowledge and skills needed to effectively reduce their risk of unwanted outcomes like teen pregnancy and transmission of STIs. In order to do so, accurate and honest information about different sexual behaviors and their associated risks should be provided. Then, students should learn different types of safe and effective risk-prevention methods designed to reduce the risk of unwanted outcomes, including methods appropriate for all the students in the classroom (Hidde, et al., 2011). For example, in a high-school classroom it should be assumed that some students are sexually active while others are not. In this setting, it is appropriate to teach STI-reduction strategies that are abstinence-based for students who are not currently sexually active while also teaching reduction strategies that involve the use of barrier STI-protection methods for students who are or will become sexually active. However, it would be inappropriate to only teach abstinence-based STI-reduction strategies to a high-school class because this would exclude and be unhelpful for many of the students.

A good way for students to learn risk-reduction strategies is by individualized and interactive activities. By encouraging students to participate and to personalize and think critically about the information, the hope is that they will be able to more effectively utilize the

strategies they learned in situations where they are appropriate (Hidde, et al., 2011; Kirby, Laris, & Rolleri, 2007).

Relationships

Interpersonal relationships are immensely important to human life. There are many types of relationships, including friends, family, and sexual and/or romantic partners, yet building and maintaining healthy relationships of all types requires a set of widely applicable skills (Hidde, et al., 2011; SIECUS, 2004, p. 33-41). Students should learn about and practice skills like effective communication, negotiation, and conflict-management so that they can better apply them in real-life settings. Students should learn how to evaluate the health of a relationship using criteria like mutual respect and trust between parties. Teachers should also provide students with information about how to recognize violence and abusive patterns in relationships along with resources where students can seek help should they need it, helping their students to be as safe as possible in their relationships (Bridges & Houser, 2014; Hidde, et al., 2011; SIECUS, 2004, p. 67-69) .

Communication

Effective communication involves expressing needs and wants in a manner that is respectful and assertive. In order to participate in healthy relationships, particularly romantic and sexual relationships, strong communication skills are needed. Students should learn about healthy communication strategies like assertiveness and negotiation and then practice using these strategies with their peers. Students should also learn how to use their communication skills to obtain affirmative consent for sexual activity. Additionally, it is important that students learn how to recognize unhealthy communication strategies like manipulation and coercion so they can avoid using them in their relationships (SIECUS, 2004).

Critical Thinking

Young people receive many different messages from society about sexuality, many of which are not healthy. It is important that they learn to think critically about these societal messages and to be able to create a healthy conception of sexuality for themselves. Sex education classes should help students develop a set of intrapersonal and interpersonal values that represent their individual and collective identities and morals (SIECUS, 2004, p. 42-43). Students should then be able to use these values as a reference to utilize when making decisions. Values that a good sex education program might help students develop include the prioritization of safe and healthy behavior and respect for other people and identities.

Identities

For students to learn from a sex education program, they must be able to feel welcome and included as a member of the class. Including sexual health information that is inclusive of and relevant to a diverse array of identities is critical in order to avoid alienating members of the class. This should be done by including both a section that comprehensively discusses identity as it relates to sexuality and a mindful and respectful inclusion of information relevant to different identities throughout the curriculum. The section about identities should include discussion of gender and sexual identities, culture, race, religion, and differing abilities. Some examples of how a curriculum can be written to include a variety of identities throughout are as follows. Sexual activity and contraception can be discussed in terms of the sexual and reproductive organs a person has rather than in terms of the sex or gender of the individual to be inclusive to people who are transgender or intersex. Discussions of raising children should include adoption, sperm donation, and surrogacy as valid options for LGBT+ individuals and anyone who might otherwise be infertile. Abstinence can be discussed as an option encouraged by many religions as

well as an effective risk-reduction option for people of all faith backgrounds including atheism. A sex education course designed to be relevant to as many students as possible that works to make students with identities that are often disrespected or invalidated feel comfortable and normal should be able to help the most students possible to become safe and healthy individuals.

RQ#2: How do outcomes differ for students who participate in different types of sex education programs?

Participation in sex education can lead to a variety of different outcomes for the students. These outcomes are often measured by analysis of self-report data at the group level, either as a comparison of participant responses before and after participating in the program, or as a comparison of the group being studied to a control group with similar demographics that are taught different content. Effective programs are usually those who promote delays in the initiation of sexual activity, increases in positive sexual behaviors like consistent condom use or a decrease in unwanted sexual outcomes like sexually transmitted infections, sexual violence, or teen pregnancy. While outcomes observed vary within the program categories in this analysis (abstinence, pregnancy prevention, disease prevention, and responsibility education programs) because of differences in program content, duration, target audience, and overall quality, extrapolation of these results will be utilized to broadly compare the effectiveness of these program categories.

Abstinence

Receipt of any sex education is better than none and is associated with delays in first sex when compared with no sex education (Lindberg & Maddow-Zimet, 2012). Yet there is very little evidence that sex education programs that focus only on abstinence as a method of birth control and disease prevention are beneficial, particularly when compared with more

comprehensive programs. In Kirby's analysis of sex education programs in 2008, only 3 out of 9 abstinence programs were shown to have any significant positive effects on any sexual behavior, and most did not delay initiation of sex (Kirby, 2008). Additionally, abstinence-focused interventions have not been shown to influence STI-interventions (Petrova & Garcia-Retamero, 2015). "Abstinence programs have little evidence to warrant their widespread replication; conversely, strong evidence suggests that some comprehensive programs should be disseminated widely" (Kirby, 2008).

Disease Prevention

Well-designed and well-implemented HIV/STI prevention programs can decrease sexual risk behaviors among students, including delay of first sexual intercourse, reduction in the number of sexual partners, and increase in condom use while simultaneously decreasing instances of unprotected sex. HIV prevention programs have not been shown to hasten initiation of sexual intercourse for participants, even when programs encouraged the use of condoms during sexual activity (Effective HIV and STD Prevention Programs for Youth, 2010). Comprehensive disease-prevention programs that teach about condom-use, negotiation, or communication skills are much more successful than abstinence-focused STI-prevention interventions. Abstinence-based interventions have not been shown to influence STI instances, while comprehensive programs can reduce STI rates as much as 26-28% (Petrova and Garcia-Retamero, 2015).

Outcomes for students who participated in disease prevention programs included in this analysis are as follows: Reduction in instances of unprotected anal sex in young MSM (Mpowerment, 2018), increased condom use (Community PROMISE, 2018; Program Success Center, n.d.; SIHLE, 2017; Street Smart, 2018), improvement in condom application skills

(SIHLE, 2017), increase in consistent condom carrying (Community PROMISE, 2018), decrease in risky sexual behaviors (Street Smart, 2018), reduction in participants' number of sexual partners (SIHLE, 2017; Program Success Center, n.d.), reduction in substance use (Street Smart, 2018), reduction in pregnancies (SIHLE, 2017), and reduction of sexually transmitted infections (SIHLE, 2017).

Disease prevention programs that focus on promoting healthy sexual behaviors like consistent condom use and limiting numbers of sexual partners participants choose to have can be effective, both at promoting those behaviors and at achieving their main goal of reducing HIV and STI instances in program participants. Abstinence-focused STI-prevention programs have not been shown to be effective, so more comprehensive programs should be implemented instead.

Pregnancy Prevention

The pregnancy prevention programs included in this analysis are designed to serve a wide variety of different participants. Some are generally applicable to students attending traditional middle and high schools, another is designed to serve teens at alternative high schools for youth at risk of academic failure, and a home-visitation program for teen mothers is also included.

Outcomes observed from these programs include increased student knowledge about contraception and STIs (Enhancing a Home Visitation Program, 2018; Evaluating a Teen Pregnancy Prevention Program, 2018; Focusing on the Boys, 2018; Teen Choice of Inwood House, 1994), reduced risk of students having unprotected sexual intercourse (Evaluating a Teen Pregnancy Prevention Program, 2018; Philliber, 2016; Teen Choice of Inwood House, 1994), increased likelihood of using both condoms and other forms of birth control (Cunningham et al., n.d.), reduction of instances of risky sex (Wyman's Teen Outreach Program, 2019), increased

male responsibility for birth control (Teen Choice of Inwood House, 1994), changed student attitudes about condom use to view them as more important (Focusing on the Boys, 2018), reduction in the likelihood of having sex in the last three months (Cunningham et al., n.d.), or having ever had sex (Philliber, 2016), and reduced likelihood of getting pregnant or getting another person pregnant (Cunningham et al., n.d.; Philliber, 2016; Wyman's Teen Outreach Program, 2019).

This array of evidence supports that well-designed and implemented pregnancy-prevention programs, most of which are relatively comprehensive and include information about contraception use can effectively reduce the risk of participants getting pregnant. They can also increase knowledge about and use of condoms and other contraceptive methods or even increase the likelihood that some students will become or stay abstinent longer than students not participating in these programs, which are effective pregnancy-prevention behaviors.

Responsibility Education

Desired outcomes of responsibility sex education programs include increases in responsible sexual behaviors and reduction in unwanted outcomes like STIs, teen pregnancy, and sexual violence. This type of program is often labeled a comprehensive sex education program because it covers a wide variety of topics. Some of the pregnancy and disease-prevention programs included in this paper utilize similar curriculum and may also be considered comprehensive programs but are categorized separately due to their primary focus on preventing teen pregnancy or STI transmission.

There is much evidence that comprehensive programs can be effective at promoting positive sexual outcomes for their participants. About ⅔ of the 48 comprehensive programs evaluated by Kirby in 2008 showed strong evidence that they "positively affected young

people's sexual behavior, including both delaying initiation of sex and increasing condom and contraception use among important groups of youth." Comprehensive sex education programs can both delay initiation of sexual activity and increase use of condoms or other contraceptive use among teens (Kirby, 2008). Sexual outcomes get better for groups of teens who receive education on more sexual education topics. Exposure of sexually active adolescent males to more sex education topics is associated with increased used of dual contraception at last sex, particularly those who were instructed about how to say no to sex and where to get birth control. This suggests that comprehensive sex education that focuses on a range of topic may be most effective at promoting safer sex among adolescent males (Jaramillo, et al., 2017).

Two responsibility education programs in this analysis have been shown to promote positive outcomes for participants. These outcomes included delays in sexual activity (Get Real, n.d.), reduction in risky sexual behavior (Get Real, n.d.), and reduction in sexual partners (Blueprints for Healthy Youth Development, n.d.). Other programs in the responsibility education analysis teach comprehensive curriculum, including 'Rights. Respect. Responsibility.' which has meets national standards for sex education curriculum, yet they have not been tested for effectiveness. This is a limitation of these programs, and further study should be done to determine if these programs promote healthy behaviors and outcomes.

Summary of RQ#2

Sex education is a good tool to help young people make safe and healthy sexual decisions. Participation in any form of sex education program can delay the age of sexual initiation. Beyond that, however, program quality can vary greatly. Abstinence-only interventions have almost no evidence supporting effectiveness at improving health outcomes. Conversely there are many teen-pregnancy- and STI-prevention programs that are effective at

promoting healthy behaviors while reducing risky ones, and some have been shown to reduce instances of pregnancy and/or STIs for their participants. There are many responsibility sex education programs that are well written and includes strong curriculum in comparison to sex education standards, yet not all of them have themselves been evaluated for effectiveness, so it is difficult to assess their credibility and effectiveness individually. Overall, comprehensive programs that promote condom and contraception use to prevent pregnancy and STIs are much more effective than those only promoting abstinence as a prevention method.

RQ#3: What strategies can be used to help students at high risk for unwanted sexual outcomes?

It has been well documented that certain populations of teenagers and young adults are at higher risk than their peers for unwanted sexual outcomes like sexual violence, STI acquisition, and teen pregnancy. Notably, black and/or sexual minority teens are particularly vulnerable to these types of outcomes (HIV and Young Men Who have sex with men, 2014; Kann et al., 2017; Youth Statistics, n.d.). While some successful programs are already in place, working to help those at high risk, more needs to be done to counter the disparities that are hurting racial and sexual minority students. Many different factors intersect to impact a student's ability to receive good quality sexual health information that is applicable to them, seek sexual health services, acquire condoms and contraception, and have the support of peers and adults to help them make safe choices.

Identification of Risk and Protective Factors for Improvement

Understanding the risk factors that black and LGBT+ students face more often, or protective factors they are missing is a good place to start when designing an intervention. These factors will vary between communities so it would be most beneficial to survey local students

about their risk and protective factors, allowing for better personalization and understanding of the most effective interventions. If several common areas of vulnerability are identified in a community, like poverty, limited parental supervision, and poor school attendance, researchers should select the most important and malleable factors for intervention. Poverty and limited parental supervision might be very important factors contributing to frequent risky behaviors, but they are difficult to change in a significant way, particularly if the lack of parental supervision is related to poverty and long working hours are needed to pay the bills. It might be easier to work on improving school attendance with incentivization or home checkups for absentee children, or to address some other important factors related to poverty, such as providing free or low cost health clinics where students can receive sexual health services and contraception (Terzian, Andrews, & Moore, 2011; Understanding Risk and Protective Factors, n.d.).

Effective Interventions for Youth Risk Behaviors

It may be most beneficial to address multiple risk factors that affect youth risk taking behavior together. Effective interventions include those that support family functioning and help children build quality relationships with adults, improve the safety and supportiveness of communities, provide high quality education and student involvement both at school and in after-school programs, and those that encourage young people to build social and emotional competency (Terzian, Andrews, & Moore, 2011). While it would be difficult and costly to build a program that addressed all these areas, strengthening one or more of the weakest areas in a vulnerable community should improve overall health and wellbeing of that community.

Improving Sexual Health and Sexual Responsibility

Other areas that could be addressed to improve sexual health and sexual responsibility include breakdown of strict gender roles that make women more vulnerable to unwanted sexual

outcomes, economic and social inequalities in minority communities that reduce the quality of health education and care they receive, expansion and improvement of sex education by media outlets and social media, increased training of medical professionals to enable them to comfortably talk about sex and sexuality to address the needs of their patients, improvement of legal standards for sex education, and increased availability and accessibility of reproductive health services, education, and counseling (Office of the Surgeon General, 2001).

Improving School Sexual Health Programs

School sexual health programs can improve sexual health outcomes for all students when they provide students with accurate information about sexual health risks and the knowledge and skills needed to reduce risks of pregnancy, HIV, and other STIs (Sexual Risk Behaviors, 2019). Not all programs are inclusive to LGBT+ individuals. Some use strictly gendered language, neglect discussions of sexual and gender identity or even admonish certain sexual orientations or gender identities, neglect to provide information about sexual safety that is relevant to a wide range of sexual behaviors, or otherwise fail to help sexual minority students become the safest and healthiest individuals possible. Working to reduce some of these problems in general sex education programs and make them more inclusive and accessible to LGBT+ students may help to reduce some of the health and wellbeing disparities seen in the LGBT+ community.

Summary of RQ#3

In order to best help populations of young people that are at high risk for participating in risky sexual behaviors and having poor sexual health and wellbeing outcomes, program developers need to first work to understand the specific needs of students in their communities, and work to address the factors that play a big role in student outcomes and can reasonably be changed within the scope of a sexual health program. Some examples include improving access

to low-cost sexual health services and programs for low-income youth, broadening the scope of sexual health programs to be inclusive to people of all genders and sexual orientations, and providing mentorship to students that may be lacking needed parental support.

RQ#4: What role does policy play in program administration and outcome?

Sex education policy dictates what can and cannot be taught in school sex education programs, both directly through legislation and indirectly through available funding resources. Since sex education can impact student health and wellbeing outcomes, it is important to understand what is indicative of policies that are supportive of good youth sexual health outcomes and what policies are less supportive. To do so, four states were chosen for further analysis of their legislation and funding to determine if there is any correlation between the sex education legislation, funding received for sex education programs, topics covered in sex education programs, and student health outcomes in these states. Massachusetts and New Hampshire were chosen to represent states with high quality youth sexual health outcomes while Arkansas and Alabama were chosen to represent states with lower quality youth sexual health outcomes.

Legislation

Federal and state policies regarding sex education legislation and funding intersect to create a set of constraints that help dictate what types of sex education programs are taught. Some legislation dictates that sex-education and/or HIV education must be taught, and then provides guidelines for the curriculum that must, may, and cannot be taught. Other states have legislation that leaves it up to school districts to decide if sex education is taught, but often provides rules about what can and cannot be taught, leaning towards either abstinence-only or more comprehensive curriculums.

Sex education legislation in the states of interest varied considerably. Massachusetts schools are not required to teach any type of sex education or HIV education. The state does have guidelines in place urging schools to teach HIV/AIDS instruction and suggesting that they teach certain topics (abstinence, teen pregnancy, family violence, sound health practices) and use correct terminology to define sexual orientation. Alabama and Arkansas schools are also not required to teach sex education, with some stipulation. Alabama schools are required to teach students about HIV/AIDS and Arkansas is required to teach dating violence prevention that is based on scientific evidence. Alabama and Arkansas guidelines for when sex education is taught heavily stress abstinence. Alabama legislature requires that anti-‘homosexual’ curriculum be emphasized when sex education is taught. New Hampshire laws do require that health education addressing HIV/AIDS prevention, families and relationships and pregnancy prevention be taught, while emphasizing that abstinence is the most effective way to prevent pregnancy, HIV and STIs (The SIECUS State Profiles, n.d.).

Ultimately, this legislature requires New Hampshire to teach a comprehensive program to students and encourages Massachusetts schools to do the same when taught. However, Alabama and Arkansas schools that teach sex education must rely more heavily on abstinence education, which has not been shown to be an effective manner of reducing students sexual activity rates or unwanted outcomes like teen pregnancy or HIV acquisition rates, and Alabama’s legislature still encourages that demeaning anti-LGBT+ curriculum is taught.

Funding

Federal funding also helps to dictate what can be taught. Some regions of the United States rely heavily on federal funding for schools, and so the distribution of available grant money for abstinence-only education and for pregnancy or HIV-prevention programs, or grants

for more comprehensive programs narrows the availability of curriculum choice for some school districts or states.

DASH provided grant funding to all the states of interest in both 2017 and 2018, which supports HIV-prevention efforts. In 2017, both Massachusetts and New Hampshire received TPPP funding for pregnancy-prevention efforts, but in 2018 none was received, potentially limiting the ability of these states to maintain all their existing teen pregnancy-prevention programs. In 2017, all the states of interest but New Hampshire received PREP funding for evidence-based comprehensive sex education programs, but in 2018 this information was not disclosed, so it is uncertain if this funding continued. In 2017 and 2018, both Arkansas and Alabama received SRAE funding and in 2018 Massachusetts also received money from this funding-source. (The SIECUS State Profiles, n.d.) It is not surprising that Arkansas and Alabama received this money because their legislature restricts any sex education programs being taught to abstinence-only, but it's more surprising that Massachusetts did given that the state guidelines suggest a more comprehensive, less exclusive type of program being taught. Yet, because no sex education is required and no official rules are in place restricting what may and may not be taught, it leaves local legislatures free to implement abstinence-only sex education programs if desired, perhaps making them an ideal candidate for the SRAE funding that the Trump administration redirected from the TPPP.

Outcomes

The student outcomes selected followed a rather interesting pattern where condom use rates corresponded with condom use education, likely playing an important role in sexual health outcomes overall. Teen birth rates, teen HIV diagnoses rates, and rates of students who did not use a condom during their last sexual intercourse were split between Alabama and Arkansas

which had high rates of the above outcomes and Massachusetts and New Hampshire which had low rates. The rates of teens who were sexually active in each state did not vary strongly from the national average (The SIECUS State Profiles, n.d.).

For the school outcomes selected, schools teaching correct condom use was split between the high and low student outcome states. Most schools in New Hampshire and Massachusetts taught this skill while a much lower percentage of school in Alabama and Arkansas did. The percentage of schools teaching students about abstinence was high across the board (The SIECUS State Profiles, n.d.).

While there is no statistical evidence that these variables are causally linked, the states where many schools did not teach condom use, less students wore condoms the last time they had sex, and teens were more likely to be diagnosed with HIV or give birth. If abstinence education was adequate at helping students avoid unwanted sexual outcomes, all states would have similarly low pregnancy and HIV rates because it is taught so frequently. It does not seem like high school sexual activity varies much between these states either, so it would be difficult for proponents of abstinence-only education to argue that teaching this type of education helps for more students to be abstinent than more comprehensive education, the only way in which abstinence-only education could feasibly help students to avoid unwanted sexual outcomes. Instead, it seems that teaching more comprehensive programs that include teaching students how to use condoms correctly plays a more important role in helping students to be safe and healthy than the other components analyzed.

Summary of RQ#4

There is already overwhelming evidence that abstinence-only sex education is not an adequate way to help students to avoid unwanted sexual outcomes. Pushing for expanding

funding for this education at the expense of funding for programs better supported by evidence is not a good way to promote health and wellbeing for teens, nor is passing legislation that supports abstinence-only education at the expense of comprehensiveness and inclusivity of sex education programs being taught. Instead, comprehensive sex education that promotes condom use as method of avoiding unwanted pregnancy and exposure to STIs is a much more effective alternative and deserves to be better funded.

Conclusions of Research Questions

Effective sex education programs need to teach sex education inclusively and honestly in a setting that is respectful of all participants. Most fundamentally, sex education curriculum must provide adequate and accurate information about the risks associated with different sexual activities and several effective strategies for reducing those risks. It must also teach students what constitutes healthy and unhealthy relationship patterns and strategies to improve relationships like improving communication skills and promoting respect for others. Many programs analyzed in this paper include these components and have been shown to be successful at promoting aspects of youth sexual health and wellbeing. Abstinence-based programs have very little evidence to support them being beneficial and are inappropriate for adolescents and youth adults.

Nationally, the United States has significant variation in outcomes shown both at the state and the individual level. Legislation varies by state and helps to dictate what types of curriculum is included in sex education. Funding opportunities for different types of sex education programs are regulated at the national level and are highly subject to the current political climate. Together, legislation and funding guide the programs that are administered, in many cases providing students with subpar sex education that fails to address important topics like how to

use condoms or seek consent for sexual activity. In many cases, the overall sexual health outcomes of the students who participate in poor sex education programs are poorer than those participating in better programs, shown at state and program levels. Programs also inadequately address sexual health disparities observed for LGBT+ youth and youth of color. There is a need to identify specific strategies to reduce these disparities and use this information to tailor programs to better meet the needs of all students in the communities they serve.

CONCLUSIONS

Fundamental Components of Sex Education

The overarching goal of sex education is to provide students with the tools to develop sexuality in a safe and healthy manner. Sex education needs to be taught in a respectful, honest and inclusive manner. It should help to provide students with knowledge about potential risks of a variety of sexual behaviors in addition to a providing instruction about a variety of effective risk reduction methods applicable to those sexual behaviors as appropriate for all students in the class such as condom and contraception use. Students should learn about characteristics for healthy and unhealthy relationships and have opportunities to practice skills needed to build and foster healthy relationships and seek help for unhealthy or abusive relationships. Critical thinking skills and evaluating societal messages can help students evaluate societal messages about sexuality and encourage decision-making through the lens of personal values. Programs should provide opportunities for students to engage with and personalize the material being taught. This will enable them to develop better understanding and potential for real-life application. Additionally, curriculum should be developed mindfully with respect to a wide diversity of identities, ensuring that the curriculum is relevant to and respectful of all potential students, so

that everyone may be fully included in the class (Bridges & Houser, 2014; Hidde et al., 2011; SIECUS, 2004).

Sex Education Program Outcomes

Sex education plays a very important role in the educational experiences of young people. Regardless of the type, receipt of sex education has been shown to delay first sexual activity in comparison with not receiving sex education (Lindberg & Maddow-Zimet, 2012). Beyond that, however, existing programs have been shown to have varying effectiveness at delaying initiation of sexual activity, increasing risk-reduction behaviors, and decreasing instances of unwanted sexual outcomes.

Abstinence Programs

Abstinence-focused intervention rarely delay sexual initiation or provide benefit in terms of birth control or disease prevention. Little evidence is present to warrant their widespread replication (Kirby, 2008). Abstinence information may be a valuable topic to teach but needs to be taught in the context of a program including other risk-reduction strategies to be particularly beneficial.

Pregnancy Prevention Programs

Pregnancy-prevention programs include those that focus on reduction of behaviors that can lead to unwanted pregnancy and have been shown to have many positive impacts on student behaviors and health outcomes. Education about contraception needs to be included in these programs to provide sexually active students with a reliable pregnancy-prevention method. Significant racial disparities are present in the United States teen pregnancy and birth rates

(National Data, 2020). These need to be addressed by expansion of programs that provide extra support and pregnancy-prevention for high-risk teens.

Disease Prevention Programs

Disease prevention sex education programs include a wide range of STI and HIV prevention strategies. Many of these programs have been shown to reduce STI acquisition and/or sexual risk behaviors without hastening sexual initiation (Effective HIV and STD Prevention Programs for Youth, 2010). The most effective methods combine several types of interventions, encourage consistent condom use, and address specific needs of high-risk target populations (Petrova & Garcia-Retamero, 2015).

Responsibility Programs

Responsibility sex education programs are intended to increase responsible sexual behavior while reducing unwanted sexual outcomes, with a comprehensive approach to sex education. These types of programs are ideal for a school setting, as they cover enough information to help students navigate sex and sexuality successfully and work to reduce unwanted pregnancy, STI acquisition, and sexual violence for the health and wellbeing of young people. Comprehensive programs can delay sexual initiation and increase condom and contraception use, with better sexual outcomes associated with education about more topics (Kirby, 2008). It may be difficult to compare effectiveness of these programs to other types, however, as many responsibility-education programs have not been tested directly for effectiveness.

Challenges to Implementing Effective Programs

It may not always be possible to implement the most effective programs possible, and certain programs may not help all demographics of students being taught to have equally positive

health outcomes, for a wide variety of reasons. Two limitations that have been addressed in this paper are high-risk students and policy, both of which need to be addressed in order to improve program quality and student outcomes.

High-Risk Students

Many young people participate in high-risk sexual behaviors like unprotected oral, anal, or vaginal intercourse, sexual activity combined with alcohol or other drug use, sexual activity at an early age, or sexual activity with multiple partners. High school students have recently demonstrated low condom usage during sexual activity (Division of Adolescent and School Health, 2018). which is concerning because it places them at higher risk for pregnancy and STI acquisition. There are many intersecting factors that may contribute to each individual's likelihood of participating in high-risk sexual behaviors, ultimately resulting in varying sexual health outcomes. For example, black and LGBT youth have been at disproportionately high risk of acquiring HIV (HIV and Young Men Who Have Sex with Men, 2014). More research needs to be done to understand reasons for these differences at the national as well as community levels, so that program developers may better determine which risk and protective factors need to be addressed to best help high-risk students improve their chances of having good sexual health outcomes.

Sex Education Policies

Federal and state policies relating to sex education legislation and funding intersect to form constraints that ultimately determine what types of sex education programs can be and are taught. Expansion of funding for abstinence-only sex education has made these types of programs more accessible, while funding for more-comprehensive programs that promote condom use as a risk-reduction method has been simultaneously reduced (A History, 2018). This

has counterintuitively restricted access to types of programs that have been consistently shown to be more effective, while promoting ineffective programs. State legislature also plays an important role in student outcomes. The states in this analysis with the lowest teen birth and HIV rates along with high condom-use rates were those that allowed for or required that more comprehensive education be taught, and where most students were taught how to use a condom (The SIECUS State Profiles, n.d.), suggesting that this legislative approach may promote healthy youth outcomes.

FURTHER RECOMMENDATIONS

Future research on youth sexual education programs and implementation should focus on:

- Study of the effectiveness of sexual violence-prevention strategies and ease of implementation.
- Expansion of testing of the effectiveness of current comprehensive sex education programs in practice.
- Effectiveness of programs tailored to high-risk populations in comparison to general programs.
- The role of parental figures in sex education, and the importance of their involvement in relation to youth sexual health outcomes.
- Developing strategies for increasing community support for comprehensive sex education in areas where legislature currently restricts sex education to abstinence education or other programs that have been demonstrated to be largely infective.
- Conducting research to better understand the most appropriate ages for teaching each sex education topic.
- Comparison of approaches to sex education worldwide in terms of development of sexual values and norms, appropriateness, expense, and outcomes.
- Development of sex education programs that are inclusive of and respectful to LGBT+ students.
- Study of how to better include people with disabilities in sex education programs.

PERSONAL VIEWPOINT

This project provided me with an opportunity to form a much better understanding about the strengths and weaknesses of sex education in the United States of America. There is a significant amount of valuable information detailing what to include in sex education programs, much of which is supported by scientific research. There are many successful program models, the appropriateness of which may vary based on the situation. I think that a comprehensive program model that covers physiology, pregnancy and STI prevention, condom use and abstinence, relationships, consent, communication, and identity is most appropriate for a program taught in a high school classroom setting because it does the best job at helping students understanding sex and sexuality and provides them with the tools they need to build healthy relationships and navigate sex safely. Programs that focus primarily on either HIV or pregnancy prevention can also be very successful, especially when they are delivered to students at higher risk for becoming pregnant at an early age or acquiring an HIV infection and include education about the importance of consistent, correct condom use. These more specific programs may be able to improve student outcomes on a lower budget and with a smaller time commitment than more comprehensive programs but are likely to leave gaps in knowledge for some students.

This project has strengthened my opinion about the importance of good quality sex education while increasing my frustration about the continuing prevalence of unsuccessful abstinence programs, some of which shame sexually active students and discourage the use of condoms and contraception. Abstinence education can be helpful and important for some students, but since many teenagers and young adults do not choose to be abstinent, it can be harmful to not provide students with alternatives to abstinence or unprotected sexual activity. High schoolers have better health outcomes and lower instances of teen pregnancy and HIV

infection when they are educated about condoms and contraception in a manner that encourages their use for students who are or will be sexually active. Support of non-comprehensive abstinence programs as a form of sex education for high school students can be a serious disservice to these students.

Honesty and openness about sex and education about how to assess sexual risk and make safe sexual choices does not encourage students to have sex at a younger age or otherwise increase their sexual risks like some supporters of abstinence-only education would lead people to believe. Instead, it provides students with the ability to make their own choices about sex, and in many cases, encourages them to make safer choices than they would without this type of education. The goal of sex education should be to improve the overall health and safety of students, so it is irresponsible for legislators to make choices about sex education legislation and funding that are not in the best interest of their students.

The research I did for this project highlighted some of the injustices present in the United States as seen in the discrepancies in a wide variety of sexual outcomes for students based on race and/or gender and sexual identity. This is a complex problem rooted in a history of social and economic injustices and there is a continued need to promote research about this problem, to implement and fund evidence-based prevention programs specifically for high-risk groups, and to improve the inclusivity of sex education programs to reduce social stigmas for LGBT+ students and to ensure that all students have access to personally relevant information about sex that helps them better understand their sexuality and make safer sexual choices.

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