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A formative evaluation to inform the development of an online condom distribution program

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## Abstract

A formative evaluation to inform the development of an online condom distribution program

By Margaret Haughney

Young people ages 15 to 24 have the highest risk for STIs and unintended pregnancy, but barriers like cost and embarrassment prevent them from obtaining condoms, which can reduce risk. To overcome such barriers, web-based condom distribution programs (CDPs) offer a free and private way to acquire safer sex supplies. This evaluation assessed characteristics of web-based CDPs and elicited user feedback to inform the Jane Fonda Center's development of a web-based CDP. Twenty websites were identified through internet searches; data on 87 variables were collected, and descriptive statistics were calculated in Microsoft Excel. Then, interview data from nine university students ages 19-22 were thematically analyzed using MAXQDA.

Analysis of the features of existing CDP websites did not align with the expressed preferences of interview participants. Most websites did not allow custom packages and only offered male condoms and lubricant, but participants thought that customization and alternatives to male condoms would be useful. Participants also wanted more information about contents of supply packages than most websites provided. Regarding website aesthetics, participants preferred bright color schemes, which most websites had, and simple layouts that facilitated navigation. While most websites used a neutral rather than positive tone towards sex, participants preferred sex-positive imagery and language. They also thought clinical- or professional-appearing websites conveyed the idea that the websites were intended for people with health problems rather than people looking to make positive health choices. Websites mainly focused on STI/HIV prevention, but participants suggested providing information on pregnancy prevention too. To improve information delivery and create more "scannable" text, participant recommendations included subheadings and bullet point lists.

Overall, this evaluation identified certain gaps between current websites for CDPs and what student participants preferred. A better understanding of what target audiences need and want from an online CDP will allow CDPs to target their services to increase user satisfaction and rates of use. With increased access to and use of safer sex supplies, young peoples' risk of STIs and unintended pregnancy will likely decrease. These findings will provide a starting point for the Jane Fonda Center's work to increase safer sex supply access in Atlanta.

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## TABLE OF CONTENTS

INTRODUCTION .....	1
Background.....	1
Problem, purpose, and significance .....	2
Definition of terms.....	3
LITERATURE REVIEW .....	4
Condom use and sexual and reproductive health in young people.....	4
Barriers to condom acquisition and use .....	5
Condom distribution programs (CDPs) .....	8
Web-based or online CDPs.....	14
Marketing.....	17
Assessing characteristics of and user preferences for online CDPs .....	19
METHODS .....	21
Introduction.....	21
Part 1: Website assessment of online CDPs .....	21
Part 2: Interviews .....	23
Ethical considerations .....	26
WEBSITE ASSESSMENT RESULTS .....	27
General program and website characteristics .....	27
Customer information to request a safer sex supply package.....	29
Safer sex supply inventory.....	30
Package contents and delivery .....	32
Health information .....	33
INTERVIEW RESULTS .....	34
Introduction.....	34
Safer sex supply purchasing habits .....	34
Website user experience .....	37
Inventory and ordering process.....	45
User preferences regarding health information delivery .....	48
Other findings .....	52
DISCUSSION .....	55
Summary.....	55

Theme 1: Safer sex supply purchasing habits.....	56
Theme 2: Website user experience .....	61
Theme 3: Ordering and inventory.....	66
Theme 4: Information delivery .....	69
Theme 5: Pregnancy vs STI information .....	71
Limitations .....	73
Public Health Implications.....	75
APPENDICES .....	76
Appendix A. List of websites included in the website assessment.....	76
Appendix B. Interview guide.....	78
REFERENCES .....	81



## LIST OF TABLES

Table 1. Program demographic characteristics of U.S.-based online CDPs.....	27
Table 2. General program information of U.S.-based online CDPs featured on their websites....	28
Table 3. Website style characteristics of U.S.-based online CDPs.....	28
Table 4. Required and optional information consumers give to request safer sex supplies from U.S.-based online CDPs.....	29
Table 5. Safer sex supply inventory and website display from U.S.-based online CDPs.....	30
Table 6. Variety in brand and/or type of safer sex supply available from U.S.-based online CDPs.....	31
Table 7. Package content and delivery information on U.S.-based online CDPs.....	32
Table 8. Type of information about safer sex supplies and sexual health provided on U.S.-based online CDP websites.....	33
Table 9. Demographic characteristics of interview participants.....	34

## LIST OF FIGURES

Figure 1. Homepage of the <i>Texas Wears Condoms</i> website.....	38
Figure 2. Homepage of the <i>Status Update</i> website.....	38
Figure 3. First frame of the <i>OHIV</i> homepage.....	39
Figure 4. Second frame of the <i>OHIV</i> homepage.....	40
Figure 5. Homepage of <i>Knowyo</i> website.....	41
Figure 6. Condom order page on <i>Status Update</i> , featuring a hashtag in its webpage header.....	43
Figure 7. Standard-sized condom inventory webpage on <i>Texas Wears Condoms</i> .....	46
Figure 8. Water-based lubricant inventory webpage on <i>Texas Wears Condoms</i> .....	46

Figure 9. Inventory display on <i>OHIV</i> order page.....	47
Figure 10. Inventory display on <i>Status Update</i> order page.....	47
Figure 11. Information formatting of how to use a male condom on <i>OHIV</i> .....	49
Figure 12. Main STI navigation page on <i>Status Update</i> .....	51
Figure 13. Free safer sex supply page for the University of Rochester online CDP, Safe Sex Express.....	64
Figure 14. New homepage for <i>OHIV</i> .....	66
Figure 15. Original homepage for <i>OHIV</i> .....	66

## INTRODUCTION

### Background

Young people ages 15-24 are the most at-risk population for contracting sexually transmitted infections (STIs). This vulnerability is attributed to factors such as having multiple partners or a lack of open conversations with healthcare providers regarding sexual and reproductive health (CDC, 2017). Although advancements in technology make it easier and faster to find reliable sexual health information, STI rates continue to increase among people in this age group, and fewer than half report having used a condom during each instance of sexual intercourse in the past year (CDC, 2018; Cohen, 2017). Possible reasons for this include the cost of condoms and stigma or embarrassment from buying them (D. Cohen, Scribner, Bedimo, & Farley, 1999; Dahl, Gorn, & Weinberg, 1998; Essien, Meshack, Peters, Ogungbade, & Osemene, 2005; Moore, Dahl, Gorn, & Weinberg, 2006).

Condom distribution programs (CDPs) have existed for decades as a way to provide free safer sex supplies, particularly male condoms, but they do not necessarily offer privacy because people must get them from a physical location (Arnold & Cogswell, 1971). Online CDPs have the ability to reach more young people through a common medium (the internet) because they overcome stigma and cost barriers via free delivery of discrete and free safer sex packages that may also contain sexual health information. Universities such as Boston University and the University of Georgia have established their own online CDPs that deliver free supplies to students. Reports from their programs indicate that students perceive online CDPs as more comfortable and convenient than getting condoms from student health services and buying them online or in stores (Janousek, 2016; Mooney, 2014).

## **Problem, purpose, and significance**

For people who experience barriers to getting safer sex supplies, an online CDP could enable them to increase their condom use and, thus, decrease their risk of getting an STI. There are no online CDPs serving metropolitan Atlanta, but the team at the Jane Fonda Center wants to change that (M. McCool-Myers, personal communication, 2018) The Jane Fonda Center is a research center affiliated with the Emory University School of Medicine that aims to improve the sexual and reproductive health of adolescents and young adults through conducting research and implementation science about family planning, health disparities, health education, and teen pregnancy, among other topics. The Jane Fonda Center also provides medical direction to Grady Hospital's Teen Services Program, which offers adolescent healthcare and counseling to help teens make informed decisions about their health (Jane Fonda Center, 2019). Their ATLwraps project is designed to increase free condom distribution in Atlanta, and current research for the project investigates the physical barriers, e.g. locked cabinets or placement behind the cash register, that exist in stores where people can buy condoms in Atlanta (McCool-Meyers, 2017).

Despite the long history of CDPs, online CDPs are relatively new (Renaud et al., 2009). There is no publicly available comprehensive list of online CDPs, and there is little published research about users' experiences with online CDPs. The purpose of this formative evaluation is to expand upon the Jane Fonda Center's ATLwraps project and to inform their team's strategy for creating an online CDP for adolescents in Atlanta. To obtain information that the Jane Fonda Center can use to guide the development of an online CDP, this evaluation has two objectives:

**Objective 1:** To identify characteristics of online US-based CDPs that provide free safer sex supplies online with free delivery to individuals

**Objective 2:** To elicit website user feedback and participant preferences for website navigation and aesthetics; inventory and ordering; and health information formatting through in-depth interviews

This evaluation will help the Jane Fonda Center create an informative, user-friendly online CDP that will help young people to access safer sex supplies in Atlanta. Additionally, an overview of current online CDPs will act as a reference point for other organizations across the US who are interested in developing their own online CDP.

### **Definition of terms**

*CDP* – condom distribution program; a program which provides free safer sex supplies (see definition below) in-person or via a receptacle such as a dispenser or open basket

*Online or web-based CDP* – a condom distribution program that has an online platform, i.e. a website, through which people can request free safer sex supplies to be sent to them with no processing and shipping fee

*Safer sex supplies* – male condoms, internal condoms, dental dams, and lubricants

*Sex-positive* – having positive attitudes about sex, e.g. acknowledging that sex is a healthy part of life and accepting, not judging, different sexual orientations and lifestyles (International Society for Sexual Medicine, n.d.; Ivanski & Kohut, 2017)

*STI* – sexually transmitted infection

## LITERATURE REVIEW

### **Condom use and sexual and reproductive health in young people**

People ages 15 to 24 account for about a quarter of the US's sexually active population (CDC, 2013). However, they make up about half of the 20 million new sexually transmitted infection (STI) cases in the US each year due to factors such as biological vulnerability, lack of transparency with healthcare providers, and lack of access to healthcare (CDC, 2017; Satterwhite et al., 2013). Stratifying by STI, about 70% and 60% of all reported chlamydia and gonorrhea cases respectively in 2017 were among young people ages 15 to 24 (CDC, 2018d). Not only are adolescents and young adults at higher risk for STIs, but women ages 15 to 24 also have the highest unintended pregnancy rates among sexually active women in the US (Finer, 2010).

Condoms can be used to reduce one's risk of acquiring or transmitting an STI and of unintended pregnancy, but young people do not use condoms during every instance of sex. The National Survey of Family Growth reported that, among people who had sexual intercourse in the prior 12 months, nearly 60% of women and 80% of men ages 15 to 19 used condoms alone or with another contraceptive (Copen, 2017). Those percentages did not indicate consistent condom use, though. Just over a third of women and about half of men ages 15 to 19 reported that they always used condoms during sexual intercourse in the prior 12 months. For people ages 20 to 24, the percentages were lower. About a third of women and half of men ages 20 to 24 used condoms alone or with another contraceptive, but only approximately 20% of women and 30% of men reported that they always used condoms.

While there are no statistics for how many young people in the US experience barriers to obtaining condoms, there is research on what barriers exist for young people. Examples of such barriers include condom cost and embarrassment from purchasing condoms, and understanding

how young people navigate those barriers can help adapt interventions like CDPs to the needs of their target populations (Stevens & Gillam, 1998).

### **Barriers to condom acquisition and use**

#### *Cost as a barrier*

One condom currently costs about one dollar in the US on average, but the cost per unit can increase or decrease depending on brand, store, and size of package (Planned Parenthood, 2019). Paying one dollar per condom can become expensive, especially if one frequently uses condoms. A study conducted in Louisiana found that even the low cost of 25 cents per condom significantly decreased the number of people who obtain and use condoms (D. Cohen et al., 1999). In a qualitative study in a low-income housing project in Houston, TX, cost was reported as a barrier to condom use among people at a higher risk for HIV infection (Essien et al., 2005). Almost half of the focus group participants reported having unprotected sex; one reason they gave was that they did not have enough money to buy condoms. Price could also disproportionately affect rural populations, especially those of a lower socioeconomic status, as was suggested in a systematic review that identified barriers to condom use in studies published from 1993 to 2007 (Sarkar, 2008).

There have been some concerns about whether free products are less attractive due to their lack of monetary value and are, thus, less likely to be used compared to a low-cost product (O'Reilly, Fonner, Kennedy, & Sweat, 2014). Condom social marketing of subsidized condoms has been shown to positively affect condom use (Sweat, Denison, Kennedy, Tedrow, & O'Reilly, 2012). However, an attempt to conduct a parallel systematic review comparing condom social marketing to free condom distribution in developing countries failed (O'Reilly et al., 2014). The

effects of free condom distribution could not be isolated because all 34 included studies investigated free condom distribution as part of larger condom use interventions rather than as stand-alone interventions.

While O'Reilly et al. (2014) and Sweat et al. (2012) looked at developing countries, there is limited research on condom social marketing in the US. It is also unknown how cost affects condom access for US university students of any socioeconomic status, yet research specific to student populations could provide support for the implementation of free condom distribution at schools.

#### *Embarrassment as a barrier*

Even if cost were not a concern for some people, embarrassment could prevent them from obtaining condoms. Both males and females have reported feeling embarrassment from buying condoms, with mixed findings regarding gender differences on embarrassment. Female university students have been reported to feel more inhibited or embarrassed than males about carrying and keeping condoms (Sacco, Levine, L. Reed, & Thompson, 1991). Although women participants had positive attitudes about condom use, they reported more negative attitudes towards buying condoms and were less likely to buy them. The authors suggested that women's negative attitudes towards purchasing condoms may result in less frequent condom use because they would then depend upon their male partners to provide condoms. In a 1994 study with University of California-Los Angeles undergraduates, male students who reported less embarrassment from buying condoms were more likely to report frequent condom use, but female students did not show any significant correlations between embarrassment from purchasing and condom use (Helweg-Larsen & Collins, 1994).



Embarrassment can also affect people even if they have bought condoms before. Dahl et al. (1998) sampled male and female students from the University of British Columbia to complete a survey on condom purchase habits and feelings of embarrassment during condom purchase. Eligible participants had experience purchasing condoms previously, yet only 34% of females and 41% of males reported having no embarrassment when purchasing condoms. While the gender difference regarding embarrassment was not significant, women reported buying condoms significantly less often. Additionally, people who reported embarrassment did not buy condoms as often, as recently, or in as large quantities compared to participants who did not report embarrassment (Dahl et al., 1998).

A 2006 study in a large North American city furthered the investigation into embarrassment and condom use among adults ages 18 to 26 (Moore et al., 2006). Focus groups and surveys were conducted about five stages of condom use that could result in embarrassment (purchasing, carrying, storing, using, and disposing) and coping strategies that people employ during the purchase stage. Although all participants had purchased condoms before, 64% of participants reported moderate embarrassment in at least one stage of condom use. They felt the most embarrassment during the purchasing stage, with the majority reporting moderate embarrassment. As in Sacco et al. (1991), women reported significantly higher levels of embarrassment than men in the purchasing, carrying, and storing stages. They also purchased condoms less often. Given that people who felt more embarrassment also purchased condoms less often, they also may not use condoms as often and, thus, be at higher risk for STIs as well as pregnancy, if condoms are their sole form of contraception (Dahl et al., 1998; Helweg-Larsen & Collins, 1994; Moore et al., 2006; Sacco et al., 1991).

In terms of understanding why young people may feel embarrassment, Bell (2009) conducted focus groups and interviews with school and youth workers, young parents, transient workers, and British youth ages 12-17 in rural and seaside towns to assess why young people would not apply their knowledge about sexual health and practice safer sex. The youths said that lack of privacy and stigma from buying condoms were barriers to obtaining condoms, especially in small communities where there is less anonymity. For example, one student did not think of the local pharmacy as a confidential location because one of the pharmacists was her uncle's girlfriend. A school teacher explained how "horrified" two of her students looked when they saw her at the local family planning clinic. Due to such experiences, participants worried that they would become "village gossip" if people they knew saw them buying condoms. Girls, especially, felt hindered from buying condoms because they thought they would develop a negative reputation if other people knew they had condoms.

Overall, these studies indicated that people with higher levels of embarrassment caused by purchasing condoms were less likely than those who felt less embarrassment to purchase condoms. In order to overcome embarrassment as a barrier to obtaining condoms, Bell (2009) suggested adding practical skills like embarrassment coping strategies to sex education curricula. Two versions of CDPs (vending machines and websites) were also recommended by Dahl et al. (1998) and Moore et al. (2006) to provide young people with a private way of obtaining condoms.

### **Condom distribution programs (CDPs)**

CDPs are common in other countries, but they are not as widespread in the United States (US) despite their health and financial benefits (Judem, 2012). According to the Centers for

Disease Control and Prevention (CDC), a CDP is generally a structural intervention that distributes condoms to prevent the spread of HIV (CDC, 2018a). CDPs do not have to solely focus on HIV, but they gained traction in the 1980s as an HIV/AIDS prevention strategy (Giuliano, 2019). Small-scale free condom distribution was cited in literature as occurring as early as the 1960s (Arnold & Cogswell, 1971). On a larger scale, New York City started providing free condoms in STI clinics through the health department in 1971 (City of New York, 2019). They expanded distribution to HIV organizations and other social service organizations in the 1980s and have since started offering internal condoms and other types of male condoms, beyond the standard-sized latex condom.

#### *Effects of physical placement of free condoms on condom acquisition*

During the 1980s, Honnen and Kleinke (1990) addressed condom use as a way to prevent HIV transmission. In their experiment, they found that the number of condoms taken from gay bars in Anchorage, AK increased by 47% when two signs were present. The first sign cited the number of deaths due to AIDS in Alaska and said that condoms can prevent HIV transmission, whereas the second sign included instructions for how to use condoms and a reminder that free condoms were available in the bar. The bars with more visible signage, meaning they were in a lighted area, had greater increases in the number of condoms taken.

However, Amass, Bickel, Higgins, Budney, and Foerg (1993) found that having signs present or absent at two locations in a “drug abuse treatment clinic” did not affect the number of condoms taken. Rather, they concluded that people took more condoms from the private location, the restroom, compared to the public setting, the waiting room. A possible cause for the differences in numbers of condoms taken between the two studies could be their different

populations and settings. Amass et al. (1993) theorized that people felt more comfortable taking condoms in a social, casual setting where the presence of others could create anonymity (i.e. in a bar), rather than taking condoms in a waiting room where their actions would be visible to others.

These studies suggest that people will take free condoms in health and non-health settings, but they will be more likely to take them provided that the condoms are visible and in a more private location.

### *Feasibility and reach of CDPs*

#### CDPs in businesses and health organizations

From 1993 to 1996, D. A. Cohen et al. (1999) conducted a study on the first statewide condom social marketing intervention in the US through the Louisiana Department of Health and Hospitals (LDHH). Over 1000 businesses in Louisiana neighborhoods with high STI/HIV rates participated, and pilot testing was conducted in New Orleans. In 1996, over 13,000,000 condoms were distributed, a marked increase from the 320,000 condoms distributed in 1992. Not only did LDHH distribute many more condoms, but data from self-administered surveys of women in Louisiana public health clinics and street-intercept surveys of African-American men in New Orleans showed significant increases from 1994 to 1996 in the percentage of women and African-American men who obtained free condoms and knew where to get them. The street-intercept surveys also showed an increase in the percentage of men who had used the free LDHH condoms during their last sexual encounter, from 40% in 1994 to 61% in 1996. During the study period, STI rates in Louisiana decreased, and it is possible that the statewide intervention contributed to the reduction. In either case, the study showed that large-scale condom social

distribution can be effective in providing and increasing awareness of free condoms. Community response was also positive, which suggests the feasibility of implementing similar programs.

It is also feasible to distribute free condoms and information on a smaller scale (Rovniak et al., 2010). In 2005 and 2006, businesses in Hillcrest, San Diego, chosen because it had the highest AIDS rate in San Diego County, were recruited to distribute free condoms. Over 12,000 condoms were taken out of the more than 13,000 condoms that were distributed, and about 75% of the HIV-testing brochures distributed to businesses were also taken. Business owners and managers reported positive experiences with the program, and customers supported condom and HIV-prevention brochure distribution in businesses. However, business owners and managers recommended targeting condom and brochure packaging for different settings and businesses.

### School-based CDPs

Among students, CDPs can result in positive sexual health behaviors without increasing sexual activity. A systematic review conducted by Wang, Lurie, Govindasamy, and Mathews (2018) assessed eight school-based programs in the US and one in Mexico that served students ages 13 to 18. Overall, schools reported an increase in number of students who obtained condoms, but condom use results varied. While three studies showed significant increases in condom use, one reported a 6% decrease in condom use during the last three months of the program's run. None of the nine school-based programs were associated with increased sexual activity, which Wang et al. believe provides evidence to counter the belief that offering condoms at school will lead people to have more sex.

At the university level, students use in-person and online CDPs and perceive them positively. Students at the University of Georgia (UGA) and Boston University (BU) have

reported high levels of satisfaction and likelihood of repeated use of their respective online CDPs (Janousek, 2016; Mooney, 2014). Francis et al. (2016) conducted a quantitative, cross-sectional study on student satisfaction with a new free condom dispenser program that was implemented at a large public university in the Southeastern US. About half of respondents were aware of the dispensers, and the most common way students learned about them was through word of mouth. About 25% of respondents had taken condoms from the dispensers, and almost half of respondents who had condoms at the time of the survey had obtained them from the dispensers. Being male, reporting prior condom use, and having positive attitudes about using the dispensers were associated with having stronger intentions to use them in the next six months. Overall, students perceived the dispensers positively, felt comfortable getting condoms from them, and thought they were convenient. For future programs, these results suggest that peer interactions might be an effective advertising method and that on-campus condom dispensers are a successful and acceptable method for students to obtain free condoms.

### Addressing the target audience

Although CDPs increase access to free condoms, it is important to make sure that target populations benefit from the initiatives. For example, men who have sex with men (MSM) have the highest risk for HIV infection in the US, and black MSM are at a higher risk for HIV infection than MSM of other racial groups (CDC, 2018b). However, the impact of CDPs on the MSM population has not been well-researched. Khosropour and Sullivan (2013) evaluated the reach of CDPs and condom use among MSM across the US who use social networking and dating websites. The majority of participants obtained free condoms in the prior year, and 73% of them used the condoms. Additionally, black MSM respondents were more likely to use free

condoms than white MSM respondents. For individuals who do not live in metropolitan areas or do not typically go to places that distribute free condoms, such as STI testing clinics or gay bars, the authors suggested that web-based CDPs could be a useful alternative to traditional CDPs.

From 2007 to 2008, the New York City Department of Health and Mental Hygiene (DOHMH) conducted the first studies of a large-scale condom distribution campaign in a US city, focusing on New York residents' awareness of and experiences with DOHMH's NYC-branded condom (Burke et al., 2009; Burke et al., 2011). Intercept surveys were conducted at STI clinics and large public events where attendees consisted of DOHMH's priority populations, i.e. people of color, gay persons, and other groups of people with higher HIV prevalence. Approximately three-fourths and two-thirds of respondents at public events and STI clinics, respectively, knew about the branded condom and had picked one up. While nearly 70% of respondents at public events who had picked up one of the free condoms reported that they had used it, approximately 80% of respondents at STI clinics had done so. These studies provided additional evidence that CDPs have the capability to turn reach into use.

Prior studies have also shown success in getting people to pick up free condoms (Amass et al., 1993; D. A. Cohen et al., 1999; Honnen & Kleinke, 1990; Renaud et al., 2009), but there is reason to believe that CDPs could better meet users' needs. Close to 80% of both STI clinic and public event respondents in the DOHMH study desired other options for male condoms, with extra-large, ultra-thin, and extra-strength condoms being the most popular (Burke et al., 2009; Burke et al., 2011). These NYC-branded condom studies are the first published studies to look at user preferences of CDPs and suggest that a greater diversity of supplies could increase program satisfaction.

### *Web-based or online CDPs*

#### Web-based ordering for businesses and organizations

Recently, web-based ordering has become a more widespread way for businesses or organizations to get free condoms. Some programs also allow individuals to request free condoms for personal use. The New York City DOHMH started their free web-based condom ordering system for organizations in 2005 and advertised it to small businesses and health and social service organizations (Renaud et al., 2009). However, they did not directly recruit any gay bars under the assumption that they would receive free condoms from one of the health and social service organizations. From interviews and surveys with organization and business managers, it was found that approximately 80% of DOHMH-funded HIV/AIDS programs and 70% of syringe exchange programs utilized the online ordering system, and customer feedback indicated that the online ordering system was reliable and easy to use. DOHMH also nearly tripled their free condom distribution from 5.8 million condoms in 2004 to 17.3 million in 2006. Although the largest number of condoms were sent to areas with the highest HIV prevalence, less than a quarter of gay bars used the online ordering system. DOHMH realized that they would have to market and deliver to gay bars directly in the future. Renaud et al. (2009) provide further evidence that CDPs can be an effective means of mass condom distribution and of reaching high-need populations. It also provides support that a web-based program can positively impact condom distribution, but the authors recommend targeting recruitment more specifically to different businesses and populations.

#### Web-based ordering for individuals

Publicly available studies do not exist for web-based CDPs that individuals can use. However, some programs have made data available online or presented them at conferences. BU



and UGA have reported data from the beginnings of their programs. In 2013, BU created the Condom Fairy Program, and data from the first three semesters it was active show that over 1,000 orders were completed each semester (Mooney, 2014). UGA's Condom Express program was created in 2015, and over 1,200 orders were placed by more than 900 unique users, approximately 10% of the on-campus student population, in the program's first six and a half months (Janousek, 2016). About half of Condom Express survey respondents heard about the program from a friend or peer, similar to students in Francis et al. (2016). For Condom Fairy, in-person promotional presentations at residence halls and student events were successful and resulted in spikes in the number of Condom Fairy orders (Mooney, 2014).

For both Condom Fairy and Condom Express, male condoms and lubricant were the most-ordered items, while less than a third of users ordered internal condoms and dental dams (Janousek, 2016; Mooney, 2014). Most survey respondents also reported, a month after receiving their packages, that they had used a majority of the items they received or planned to use them in the future. This supports prior findings that users of CDPs use the items they receive (Burke et al., 2009; Burke et al., 2011; Francis et al., 2016; Khosropour & Sullivan, 2013).

Programs also have the opportunity to change behaviors, such as getting people to try new barrier methods or seek out STI testing. Condom Express collected data on first-time use of items as a result of the program (Janousek, 2016). Almost half reported their first time using flavored male condoms, and 28% reported using unflavored male condoms for the first time. Less than a quarter tried internal condoms and dental dams for the first time. Condom Fairy pre- and post-test survey results showed an increase in the number of students who reported that they had been tested for STIs at least once, of whom 15% directly attributed their decision to get tested to Condom Fairy educational materials (Mooney, 2014).

Online CDPs remove cost as a barrier to condom use by offering free supplies and may also remove embarrassment as a barrier because students thought acquiring safer sex supplies from Condom Fairy and Condom Express was more convenient and comfortable compared to alternative sources, i.e. student health services, stores, vending machines, and online ordering (Janousek, 2016; Mooney, 2014). The private nature of ordering from web-based CDPs can remove the embarrassment in buying condoms that other studies report (Bell, 2009; Dahl et al., 1998; Moore et al., 2006; Sacco et al., 1991).

User satisfaction was positive with both Condom Express and Condom Fairy, expanding on the small body of research done on CDP user preferences (Burke et al., 2009; Burke et al., 2011; Janousek, 2016; Mooney, 2014). Nearly 100% of respondents for both online CDPs said they would recommend the program to a peer or friend, and 97% of Condom Express users said they were likely or very likely to use the service again (Janousek, 2016; Mooney, 2014). Students at both universities also attributed their behavior changes to the online CDPs; over 90% stated that they found it easier to practice safer sex due to the programs.

Despite the highly positive user reviews, Condom Fairy users suggested increasing the diversity of condoms, such as including larger sizes, which reflects findings from Burke et al.'s studies on the DOHMH CDP (Burke et al., 2009; Burke et al., 2011; Mooney, 2014). Other suggestions for Condom Fairy included increasing the condom limit from five condoms per order, as well as shortening the 5-7 business day delivery time which approximately 15% of respondents thought was inadequate. Prior studies recommended targeting CDP marketing to certain businesses or populations (Renaud et al., 2009; Rovniak et al., 2010), and Condom Fairy organizers also aimed to target their future program materials to the LGBT and minority students on campus, among whom there were lower Condom Fairy usage rates (Mooney, 2014). The

results from these programs at UGA and BU indicate that web-based free condom distribution is a comfortable and convenient method of obtaining safer sex supplies and that it translates to safer sex practices.

## **Marketing**

### *Condom social marketing*

Social marketing is the application of commercial marketing concepts to achieve social goals, such as the increased use of condoms. Like CDPs, condom social marketing became popular in the 1980s during the early days of the HIV epidemic as a way to normalize condom use and increase perceptions of condoms as desirable, available, and accessible. The marketing strategies that an organization uses should be targeted to the desired locale and population, and condom social marketing can be combined effectively with educational materials and condom distribution to create a holistic public health intervention (UNAIDS, 2000).

Mass media communication, community-based promotion, and program-specific branding are examples of social marketing tools that have been successful in creating demand for condoms in several countries for a variety of populations (UNAIDS, 2000). Evidence has shown increases in knowledge, awareness, and prevention practices related to HIV/AIDS and condom use due to social marketing programs (Chapman et al., 2012; D. Cohen et al., 1999; Keating, Meekers, & Adewuyi, 2006; Martinez-Donate et al., 2010; Robinson et al., 2014; UNAIDS, 2000). However, the magnitude of effect sizes from social marketing are inconsistent, and results are not equitably distributed across all target populations or products, suggesting that future interventions need to be customized to specific subsets of the population (e.g. women, low-income individuals, rural populations) and to products being advertised (e.g. male or internal

condoms) (Chapman et al., 2012; Keating et al., 2006; Knerr, 2011; Plautz & Meekers, 2007; Research to Prevention, 2011; Terris-Prestholt & Windmeijer, 2016). Additionally, more rigorous studies and program evaluations of how condom social marketing affects health outcomes is advised (Knerr, 2011; Peters, 2004).

### *Online marketing options for CDPs*

With the rise in technology, the internet is increasingly used to obtain health information, and the majority of adults in the US have searched for health information online (Fox, 2011). Social media has also become widely used, especially by young people. Approximately 90% of teens ages 13 to 17 report being online several times a day (Anderson & Jiang, 2018), and nearly 90% of 18- to 29-year-olds use at least one social media platform (Smith, 2018). The majority of social media users on Facebook, Snapchat, and Instagram check those platforms at least once a day.

The near universal use of the internet and social media presents condom social marketers with a wide-reaching advertising platform. However, there is little research on the effectiveness of social media marketing on condom use. In Turkey, the social marketing company DKT International conducted an 18-month internet and social media campaign to promote the purchase of their Fiesta branded condom (Purdy, 2017). They worked with a media group and public relations firm to create a website, Facebook page, and advertisements for use on a variety of online platforms. The advertising methods that resulted in the most website visitors were Facebook, Google Adwords, and an online free sample promotion. Fiesta became the top-selling condom on Turkey's largest online store, indicating its general popularity. Compared to a control condom that they launched at the same time, the Fiesta condom outsold the control by more than

1.5 million units. Advertising online was also more cost-effective for DKT than advertising through traditional media. Although the study could not determine causality, they found it reasonable to conclude that the internet and social media campaigns increased condom sales.

The university-based Condom Fairy and Condom Express programs did not detail how they promoted their services, but data from the Philadelphia Department of Public Health (PDPH) showed how advertising on social media was successful for them (Hoffman, 2017). Between 2011 and 2013, they ran five Facebook ad campaigns for two weeks each and saw spikes in monthly condom requests during the campaign runs. They also launched social media advertisements on dating apps, Instagram, and Facebook in 2016 with different types of text and images. After tracking which images and messages were clicked on the most and how many viewers they reached, they concluded that real pictures instead of cartoons and messages with exclamatory sentences and commands resulted in greater reach and number of clicks. Compared to the dating app ads, Facebook and Instagram advertising resulted in over eight times the orders per day of advertising and were more cost-effective despite a lower click-through rate. Other online CDPs could benefit from using social media to advertise their services. They may be able to use DKT's methodology to inform advertising efforts, but formative research is necessary to create an effective marketing strategy for US populations.

### **Assessing characteristics of and user preferences for online CDPs**

Overall, there is considerable evidence that CDPs are effective at reducing barriers to condom use, and beneficiaries of CDPs also report using free condoms (Amass et al., 1993; Burke et al., 2009; Burke et al., 2011; D. Cohen et al., 1999; Francis et al., 2016; Honnen & Kleinke, 1990; Janousek, 2016; Mooney, 2014; Renaud et al., 2009; Wang et al., 2018).

However, there is a need for more rigorous studies that can create stronger arguments for the effectiveness of condom social marketing and online CDPs on condom distribution (Knerr, 2011; Peters, 2004). Although web-based CDPs are relatively new, especially for individual ordering, program data suggest that users feel comfortable using them and find them convenient (Janousek, 2016; Mooney, 2014).

This evaluation aims to assess the current landscape of online CDPs and their offerings in order to inform future programs, specifically for the team at the Jane Fonda Center, a sexual and reproductive health research center, that plans to increase free safer sex supply distribution to adolescents and young adults in Atlanta (M. McCool-Myers, personal communication, 2018). It will also investigate university students' perceptions of online CDPs and their thoughts on the website-user experience because targeting programs to the intended audience is vital. I found no studies about user preferences of CDPs besides those about New York City's DOHMH-branded condoms, which recommended that learning more about what products program users want may improve customer satisfaction and increase use (Burke et al., 2009; Burke et al., 2011). There is also little available data from online CDPs about customer feedback and program success. Given the lack of data about online CDPs, this thesis will act as a preliminary formative evaluation to serve the Jane Fonda Center team as they move forward in creating their own online CDP.

## METHODS

### **Introduction**

This project was designed to assess website characteristics of U.S.-based online CDPs and to obtain website user feedback and preferences from young people, ages 18-24. It was completed via a quantitative website assessment and in-depth qualitative interviews.

### **Part 1: Website assessment of online CDPs**

#### *Research design*

A standardized assessment was designed to conduct a descriptive evaluation of online CDP websites. The assessment form was created in Microsoft Excel. Eligible websites were found through Google searches, press articles, and recommendations from contacts at existing online CDPs. The phrases “online condom distribution program,” “free condoms online,” “free safer sex supplies online,” “free safer sex supplies by mail” and “free condoms by mail” were selected for the Google search. In cases where data were inaccessible without a login, such as university programs that were restricted to students, the organizations were contacted to obtain the necessary information.

Data were collected from publicly available information on the websites and entered into the form. Where a website user could customize the quantity of safer sex supplies they could receive, the maximum number was used for analysis. To validate the extracted data, double entry was performed by a second independent researcher. Discrepancies were resolved via discussion.

#### *Sample*

Websites that were included in the assessment were all based in the U.S. and had to meet three criteria: offered free safer sex supplies, offered free shipping, and allowed individuals (not

organizations) to request supplies. Between August and October 2018, 21 websites for online CDPs were identified. One was excluded from analysis because it required a student login and requests for information were unsuccessful; therefore, it could not be assessed.

### *Instrument*

The assessment form was an original instrument that was created for this study. A pilot test of the form was conducted on ten websites. Afterwards, the variable definitions and answer options were revised to better capture the desired information from the websites. The final instrument contained 87 variables to obtain data that were organized into five categories: 1) general program and website characteristics, 2) information to request a safer sex supply package, 3) inventory and supply diversity, 4) package contents and delivery, and 5) health information. For the color saturation and brightness variables, I used a color matching website ([https://www.ginifab.com/feeds/pms/pms\\_color\\_in\\_image.php](https://www.ginifab.com/feeds/pms/pms_color_in_image.php)) that identified the HSL or “hue, saturation, and light” (or brightness) of images. Screenshots of the website colors were individually input to determine the levels of saturation and brightness. In the case that there was a mix of bright and dull colors on a single webpage, I deferred to whichever category the majority fell into or the main color used. If the background was white or black, I looked at the accent colors. In determining whether a website had a professional or informal appearance, I used recommendations from a variety of website design research groups and publications (e.g. Nielsen Norman Group, UX Magazine, Stanford Persuasive Technology Lab) to identify characteristics of professional-appearing websites, such as high-quality images, flat design, and color and font consistency.



### *Data analysis*

Descriptive statistics were calculated for each variable in the online website assessment in Microsoft Excel to observe general demographics and website characteristics of online CDPs.

## **Part 2: Interviews**

### *Population and sample*

The target population was males and females ages 18 to 24 in Atlanta, GA from Emory University. The population was chosen based upon the Jane Fonda Center's focus on adolescents, residence in Atlanta, and the high risk that adolescents and young adults have for acquiring STIs (CDC, 2017). The resulting sample consisted of Emory University female and male students. Participants ranged from 19 to 22 years of age, with a median age of 21 years. Seven female students and two male students took part in the interviews.

### *Recruitment*

Recruitment for the interviews took place on the Emory University campus. Participants were recruited via convenience and snowball sampling from student organizations and an undergraduate class. Recruitment materials involved emails and flyers which contained a summary of the study and my contact information. The flyers were posted on bulletin boards on campus and distributed in an undergraduate public health class. Correspondence following initial contact by prospective participants was conducted via text messaging and email between individual participants and the researcher.

### *Incentives*

Recruitment materials stated that participants would be compensated for their time with a

small monetary amount and refreshments. Upon initial contact, participants were informed that the monetary compensation would be a \$10 Amazon gift card, sent to them via email immediately following the interview.

### *Research design*

This study consisted of in-depth interviews to gather qualitative data. Participants provided demographic information, but no health information or identifiable data were provided as part of the interview. Interview transcripts were assigned a numerical study code and did not include any identifiable data.

Upon initial contact via email or text, participants were sent three links to online CDP websites: *Texas Wears Condoms*, *Status Update*, and *OHIO HIV/STI Hotline (OHIV)*. Prior to the interviews, they were asked to explore the three websites and identify which website they would be most likely to use. They were also instructed to explore specific webpages with the following content: inventory and ordering; STI information; how to use condoms; and either consent or how to talk to partners about STI testing. The websites were chosen based on their distinct aesthetics, comparatively easy navigation, and provision of health information in various formats, i.e. video, text, or dialogue examples. Websites with distinct aesthetics were chosen in order to obtain more thorough data on user preferences because, to my knowledge, research on online CDP website styles had not been conducted. In keeping with the iterative nature of qualitative research, a fourth website, *Knowyo*, was introduced after the first interview to elicit data about how humor would affect participants' interaction with online CDPs. Thus, the results associated with *Knowyo* in the Website Assessment Results section are drawn from eight interviews only.

Interviews were conducted to gain an understanding of young peoples' thoughts about online CDPs. The interviews took place in Emory University meeting rooms, campus coffee shops, and via phone. Participants were asked about safer sex supply purchasing habits, their thoughts on website navigability and aesthetics, what they thought people their age would prefer regarding inventory and ordering, and how young people would prefer to receive sexual health information online. I audio-recorded and transcribed the nine interviews, which lasted 33 minutes on average.

### *Instrument*

An original interview guide was created and consisted of seven interview questions with additional probes and four demographic questions (age, gender identity, race/ethnicity, and sexual orientation). To test the flow and clarity of the questions, pilot interviews were conducted with two of my peers from the Rollins School of Public Health. Using a grounded theory approach, the interview guide was also adjusted throughout the interview process to incrementally adjust for emerging themes (Hennink, Hutter, & Bailey, 2010). Before the interviews, I verbally administered the informed consent to the interview participants and reminded them that all interview content would be kept private and confidential, that audio recordings would be deleted upon submission of the thesis project, and that participants could stop the interview or decline to answer questions at any time.

Qualitative data from interviews were an ideal complement to the quantitative portions of this study. Instead of relying mainly on existing websites for guidance in creating an online CDP, the Jane Fonda Center team will, thus, have some understanding of the preferences of people in the same age group as their intended users so that they can target their own website. The

interview was worded so that the questions were about the preferences of people who were the participant's age and not necessarily about the participant themselves, which may have encouraged them to speak genuinely.

### *Data analysis*

All transcripts were coded in MAXQDA and analyzed using thematic analysis with a grounded theory approach (Hennink et al., 2010). A codebook was created with 16 codes based on the questions from the interview guide, such as “sex supply embarrassment” for when participants mentioned themselves or others feeling embarrassed in obtaining safer sex supplies and “navigation” for when they discussed navigability of the websites in a negative or positive manner.

### **Ethical considerations**

This project was determined to be exempt by the Emory University Institutional Review Board because it was not considered “human subjects research.” This project is an evaluation, and its findings are not meant to be generalized to a broader population. Additionally, all participant names have been changed to protect privacy.

## WEBSITE ASSESSMENT RESULTS

### General program and website characteristics

Table 1 shows program location, service restrictions within populations and location, and the primary health focus of their informational content. Eight of the programs (n=8) are located in the Northeast, and half (n=10) do not restrict their services to specific populations. While eleven websites focus equally on STI and HIV, only small numbers of programs focus on STIs (n=1) or HIV only (n=3). Five websites (25%) do not demonstrate one primary content focus, meaning that they include information on STIs, HIV, and pregnancy prevention. However, none of the websites focus primarily on pregnancy prevention.

In terms of program information, the majority of sites (n=18) have their organization names visible on each page of their website, but just over half of the programs (n=12) list their organization's phone numbers (Table 2). Despite wide usage of Facebook (n=18) and Twitter (n=16), few programs (n=6) encourage users to engage with their social media platforms.

*Table 1. Program demographic characteristics of U.S.-based online CDPs*

<b>Demographic characteristics (N=20)</b>	<b>n (%)</b>
Region of the US	
<i>Northeast</i>	8 (40)
<i>South</i>	5 (25)
<i>West</i>	4 (20)
<i>Midwest</i>	3 (15)
Target population	
<i>General</i>	10 (50)
<i>College students</i>	6 (30)
<i>Teens</i>	2 (10)
<i>Males</i>	1 (5)
<i>LGBTQIA</i>	1 (5)
Location restriction	
<i>State</i>	6 (30)
<i>College</i>	6 (30)
<i>City</i>	5 (25)
<i>County</i>	3 (15)
Primary health issue <sup>1</sup>	
<i>STI/HIV only</i>	11 (55)
<i>HIV only</i>	3 (15)
<i>STI only</i>	1 (5)
<i>Pregnancy only</i>	0
<i>All</i>	5 (25)

<sup>1</sup>*The focus on STIs or HIV only was determined if the website emphasized HIV over other STIs regarding its content.*

**Table 2.** General program information of U.S.-based online CDPs featured on their websites

Program information featured on websites (N=20)	n (%)
Organization name visible on each webpage	18 (90)
Organization phone number listed	12 (60)
Social media platforms used (N=18) (platforms not mutually exclusive)	
<i>Facebook</i>	18 (100)
<i>Twitter</i>	16 (89)
<i>Instagram</i>	10 (56)
<i>YouTube</i>	5 (28)
<i>Pinterest</i>	2 (11)
<i>LinkedIn</i>	2 (11)
<i>Google+</i>	2 (11)
Includes link to at least one platform on website	17 (94)
Encourages users to engage (e.g. “Subscribe” or “Follow us”)	6 (33)
Hotline number listed (crisis situation, STD, pregnancy, sexual assault)	6 (30)

**Table 3.** Website style characteristics of U.S.-based online CDPs

Style characteristics (N=20)	n (%)
Tone	
<i>Professional</i>	12 (60)
<i>Informal</i>	8 (40)
<i>Positive</i>	7 (35)
<i>Neutral</i>	12 (60)
<i>Negative</i>	1 (5)
Coloring	
<i>Bright</i>	10 (50)
<i>Dull</i>	7 (35)
<i>Red</i>	3 (15)
<i>Saturated</i>	15 (75)
<i>Less saturated</i>	5 (25)

Most websites have a professional tone (n=12) compared to an informal one; ten websites use bright color schemes, seven use dull color schemes, and three, a red theme (Table 3). Red is categorized separately due to its association with HIV/AIDS, and two of the websites with a red theme have a primary focus on HIV over STIs more generally or pregnancy. Approximately one-third of websites (n=7) express a positive tone with their graphics and language, e.g. photos of smiling people and exclamatory sentences with encouraging language such as “Don’t let your finances or where you live be a barrier to safe sex!” (AIDS Services Coalition, n.d.). However, the majority (n=12) maintain a neutral, objective tone through a lack of photos and the use of declarative sentences that provide sexual health information but do not include sex-positive

phrases. The one program with a serious tone is categorized as “negative” due to its photos depicting straight-faced people and its lack of encouraging language.

### Customer information to request a safer sex supply package

The most common pieces of information that websites require customers to give, besides a mailing address for the safer sex supply package, are contact information, including name (n=18) and email address (n=14) (Table 4). Fewer online CDPs ask for age/birth year (n=8) and phone number (n=7), and less than a quarter of programs require gender, birth date (month/day), or other information. Additionally, individual programs asked for some of the following information: university login credentials (i.e. student ID/password), interest in receiving a copy of the program’s

**Table 4.** Required and optional information that consumers give to request safer sex supplies from U.S.-based online CDPs

Type of information (N=20)	n (%)
Name	18 (90)
<i>Optional</i>	1 (5)
Phone number	7 (35)
<i>Optional</i>	1 (5)
Email address	14 (70)
<i>Optional</i>	3 (15)
Age/birth year	8 (40)
<i>Optional</i>	1 (5)
Gender	4 (20)
<i>Optional</i>	2 (10)
Birth date (month/day)	4 (20)
Confirmation about information and intended safer sex supply usage	4 (20)
Other required information	
<i>Race</i>	3 (15)
<i>Ethnicity</i>	3 (15)
<i>Sexual orientation</i>	2 (10)
<i>How the customer found the service</i>	2 (10)
<i>Quantity of supplies desired</i>	2 (10)
<i>School ID</i>	2 (10)
Other optional information	
<i>Comments/special requests</i>	4 (20)
<i>How the customer found the service</i>	3 (15)
<i>Graduation year</i>	2 (10)
<i>Permission to email about updates or feedback</i>	2 (10)

magazine, on- or off-campus living situation, relationship status, latex allergy, email opt-in for local health department updates, gender at birth, condom knowledge questions, prior use of the CDP, exposure to program’s public health campaign, and “Why I don’t buy condoms.”

**Table 5. Safer sex supply inventory and website display from U.S.-based online CDPs**

<b>Safer sex supply inventory and display</b>			
	<b>Offered, n (%)</b> <i>(not mutually exclusive)</i>	<b>Unknown if offered</b>	<b>Items were pictured, if offered</b>
<b>Male condoms</b>	20 (100)	0	9 (45)
<b>Internal condoms</b>	10 (50)	0	3 (30)
<b>Dental dams</b>	9 (45)	1 (5) <sup>2</sup>	1 (11)
<b>Lubricant packets</b>	12 (55)	1 (5) <sup>3</sup>	3 (25)

<sup>2</sup>Website offered an unspecified variety pack, and it was unclear what was included in the variety pack.

<sup>3</sup>Website stated on one page that lubricant and condoms were sent, but no lubricant was mentioned on the ordering page.

### **Safer sex supply inventory**

While all 20 programs offer male condoms, approximately half offer dental dams, internal condoms, or lubricant packets (Table 5). Fewer than half (n=9) show pictures of their male condom inventory, and about a third or less of websites that offer internal condoms, dental dams or lubricants show pictures of them.

Most programs (n=13) give customers the option to choose among different types of male condoms, but the most common alternatives are a latex-free or large condom (Table 6). With condom brands, only four programs give the option to choose a brand, and close to half list what brands are supplied (n=9). Among the condom brands that websites identify, Lifestyles, Trojan, and One condoms are most common, and the diversity is primarily due to *Texas Wears Condoms*, which is the only program to offer half of the brands listed in Table 6. Online CDPs also lack diversity in dental dam and lubricant offerings, as only one program gives the choice of flavored or unflavored dental dams and only two programs offer lubricant options (water- or silicone-based and flavored or unflavored).



**Table 6.** Variety in brand and/or type of safer sex supply available from U.S.-based online CDPs

<b>Variations in safer sex supply offerings</b>	<b>n (%)</b>
<b>Male condom types (N=20)</b>	
Option to choose different types	13 (65)
Different types offered (N=13) (not mutually exclusive)	
<i>Latex-free condoms</i>	9 (69)
<i>Large condoms</i>	9 (69)
<i>Snug condoms</i>	1 (8)
<i>Flavored condoms</i>	4 (31)
<i>Differently shaped or textured condoms</i>	4 (31)
<b>Male condom brands (N=20)</b>	
Options to choose different brands	4 (20)
Brands listed on website	9 (45)
Brands offered on websites that listed brands (N=9; not mutually exclusive)	
<i>Lifestyles</i>	6 (67)
<i>Trojan</i>	6 (67)
<i>One</i>	5 (56)
<i>Trustex</i>	2 (22)
<i>Kimono</i>	1 (11)
<i>Caution Wear</i>	1 (11)
<i>Night Light</i>	1 (11)
<i>Atlas</i>	1 (11)
<b>Dental dam types (N=9)</b>	
Option to choose between flavored and unflavored dental dams	1 (11)
<b>Lubricant types (N=11)</b>	
Option to choose between water- and silicone-based lubricants	2 (18)
Option to choose between flavored and unflavored lubricants	2 (18)
<b>Special offers available (N=4)</b>	
<i>Anal lubricant</i>	1 (25)
<i>Subscription (delivery every two weeks)</i>	1 (25)
<i>Unspecified variety pack</i>	2 (50)

<sup>4</sup>There is only one type and brand of internal condom, which is why it is not included in the table.

## Package contents and delivery

Across online CDPs, there is a lack of detail regarding package contents and delivery information (Table 7). The majority of programs do not state if there is an order limit (n=14) or what the expected delivery time is (n=10). Among those that provide that information, six online CDPs limit orders to one per month, and nine estimate processing and delivery within two weeks. The program with the longest processing and delivery time of up to four weeks also offers the most customization and the most diverse array of items; customers may select up to 25 items.

**Table 7.** Package content and delivery information on U.S.-based online CDPs

<b>Package information (N=20)</b>	<b>n (%)</b>
<i>Known limit to number of packages one can request</i>	6 (30)
1 per month	6 (100)
<i>Known delivery time</i>	10 (50)
Within 1 week	2 (10)
Within 1-2 weeks	7 (35)
Over 2 weeks	1 (5)
<i>Option to pick up package in person</i>	2 (10)
<i>Provides locations of in-person CDPs</i>	8 (40)
<i>Option to choose quantity of items</i>	5 (25)
<i>Known maximum number of male condoms in package</i>	14 (70)
4-5	4 (29)
10-12	6 (42)
20-25	4 (29)
<i>Known maximum number of internal condoms in package (N=10)</i>	8 (80)
2-3	6 (60)
6-10	2 (20)
<i>Known maximum number of lubricant packets in package (N=12)</i>	8 (67)
4-5	5 (63)
6-10	3 (38)
<i>Known maximum number of dental dams in package (N=9)</i>	6 (67)
2-3	4 (67)
6-10	1 (17)
21-25	1 (17)

Few programs allow users to choose the number of items they receive (n=5), and the number of items one can receive ranges from two to 25 (Table 7). Although most online CDPs

state how many items one would receive, approximately 20 to 40 percent do not provide that information, depending on the item. While the plurality of online CDPs offering male condoms provide ten to 12 male condoms, the most common number of items is four to five for lubricant packets and two to three for internal condoms and dental dams.

### Health information

Table 8 shows the distribution of health information that online CDPs provide. The most prominent topics include how to use male condoms; general STI/HIV information like symptoms and testing; general information on lesser known STIs (e.g. herpes or trichomoniasis); and information on PrEP and/or PEP. Half of or fewer online CDPs included information about each of the following topics: how to use alternative safer sex supplies, the risks of drug/alcohol abuse, consent, and sexual abuse. Concerning instructions for using safer sex supplies, there is a mismatch between programs offering a product and also providing instructions on how to use this product. For example, only 13 included information on how to use male condoms, despite all 20 online CDPs offering them (Tables 5 and 8).

**Table 8.** *Type of information about safer sex supplies and sexual health provided on U.S.-based online CDP websites*

<b>Topics on online CDPs (N=20)</b>	<b>n (%)</b>
How to use male condoms	13 (65)
How to use internal condoms	9 (45)
How to use lubricant	6 (30)
How to use dental dams	3 (15)
STIs/HIV	19 (95)
STIs not including gonorrhea, chlamydia, HIV or syphilis	14 (70)
Drug/alcohol use	10 (50)
PrEP or PEP	15 (75)
Consent	7 (35)
Sexual abuse	6 (30)

## INTERVIEW RESULTS

### Introduction

The nine interview participants ranged in age from 19 to 22 years (median age = 21 years), and two participants were male, as seen in Table 9. Five participants identified as heterosexual, two as bisexual, and two as lesbian. The participant interviews addressed the following themes: (1) safer sex supply purchasing habits, (2) effect of website navigability on user experience, (3) effect of website aesthetics and tone on user experience, (4) effect of website inventory and ordering process on user experience, and (5) user preferences regarding website health information content and delivery.

Although the interview questions always referred to “safer sex supplies” and although participants were told that the term included male condoms, internal condoms, lubricant, and dental dams, all participants primarily spoke about male condoms in terms of buying supplies or getting them for free. Other products were only mentioned in response to questions specifically about the websites: *Texas Wears Condoms*, *Status Update*, *Ohio HIV/STI Hotline (OHIV)*, and *Knowyo*.

### Safer sex supply purchasing habits

When asked where young people go to get safer sex supplies, three participants said that young people get them from stores and on-campus locations. The other six participants initially

**Table 9.** *Demographic characteristics of interview participants.*

Characteristic (N=9)	n (%)
<i>Age</i>	
19	1 (11)
20	2 (22)
21	3 (33)
22	3 (33)
<i>Women</i>	7 (78)
<i>Sexual orientation</i>	
Heterosexual	5 (56)
Bisexual	2 (22)
Lesbian	2 (22)

*Note: The percentages for age do not add to 100 due to rounding.*

said that people their age prefer to buy condoms from the store, most often mentioning the CVS store located walking distance from campus. Three main reasons were provided by participants for buying condoms from the store: being able to get them quickly, the negative reputation of free on-campus condoms, and the lesser likelihood of being seen by other students. However, when probed further, those six participants acknowledged that young people may also get free condoms on campus due to cost or a need to get them even more quickly.

### *Speed is key*

No participants said that they bought condoms online, and the reasons they provided were that it would require more planning and waiting to get the condoms prior to having sexual intercourse. Storing condoms, or keeping condoms in their home, also did not seem to be common; the majority (n=7) said that they do not store condoms because, in college, sex is often spontaneous and unplanned. Some participants (n=3) specifically mentioned that people who have sex frequently and people in relationships would be more likely to get condoms online and store them. If young people believe they will have sex with someone, “they're more likely to go to the library or go to CVS and get stuff if they have a date that night, rather than just keeping a bunch of condoms” (Abby, female, 19). To accommodate those who need supplies more quickly, one participant suggested that online CDPs could let users pick up packages at a physical location rather than waiting for a delivery.

### *Perception that free means poor quality*

In addition to speed and convenience, five participants said that buying condoms from the store was preferable because students perceived the free on-campus condoms to be of poorer

quality, described as “cheap” (Jane, female, 20) or that the condoms “get dry faster - not that they break, but they just don't feel as good” (Molly, female, 21). Two participants also commented that people might not trust the condoms because they are placed in open boxes and have been “sitting in the dining hall for however many months, weeks...who knows?” (Ria, female, 22).

### *Embarrassment from being seen getting condoms by peers*

Because the free on-campus condoms are placed in public spaces, several participants (n=4) said that young people would not want to pick them up. When speaking about embarrassment, they expressed a stronger aversion to being seen getting condoms by friends and peers than by retail employees. Participants did not think that other students obtained condoms on campus because “people are uncomfortable doing it when there's other people around that they know. They'd rather just go to CVS at two in the morning when there's no one around” (Ian, male, 21). Interacting with a store employee was also not seen as prohibitive “as long as the employee isn't looking at them judgmentally and is just ringing it up, putting it in a bag, giving it to them asking no questions or making weird looks... kids really don't care” (Ian, male, 21). In fact, although almost all participants (n=8) remarked that young people in general could feel embarrassed by buying condoms from a retail employee, they did not personally report being discouraged from buying condoms in a store. In order to avoid any discomfort from buying condoms in a store, three participants mentioned that self-checkout can help young people feel more comfortable.

In terms of buying condoms online, one participant suggested that people his age might order online, if not for the fact that some parents monitor their children's purchases:

“I know a lot of my friends, for example, have parents whose accounts are online, and their parents would go online and see a history of what [they buy]. It’s better for them to just go to the store, get it, and that’s a receipt for the price. If you look on a bank statement, it’s not gonna say what you bought. It’s just a price.” (Ian, male, 21)

### **Website user experience**

Prior to the interview, all participants had been asked to identify which website they would be most likely to use: *Texas Wears Condoms*, *Status Update*, or *OHIV*. The majority (n=6) selected *Texas Wears Condoms*, and the rest chose *OHIV*. The primary reasons given by participants for selecting *Texas Wears Condoms* included easy navigation and/or a positive, fun aesthetic (n=5) and safer sex supply options (n=1). Participants who chose *OHIV* cited its comprehensive information (n=2) and its clean aesthetic that aided navigation (n=1) as the deciding factors.

### *Website navigability*

#### Features of good website navigability

The features that made website navigation easiest for participants were clear fonts, tabs with labels that obviously identified where information users could find where (e.g. Free Condoms & Lube, Get Tested, STI Info), and minimal text. Most interview participants (n=6) reported that *Texas Wears Condoms* was the easiest to navigate, and two explicitly said that they had spent more time exploring this website than the others because it was easy to navigate. When website users tried to find free condoms, they were able to navigate more easily on *Texas Wears*

Condoms and Status Update than on OHIV due to the clearly labeled tabs at the top of the webpages (Figures 1 and 2).



Figure 1. Homepage of the Texas Wears Condoms website.

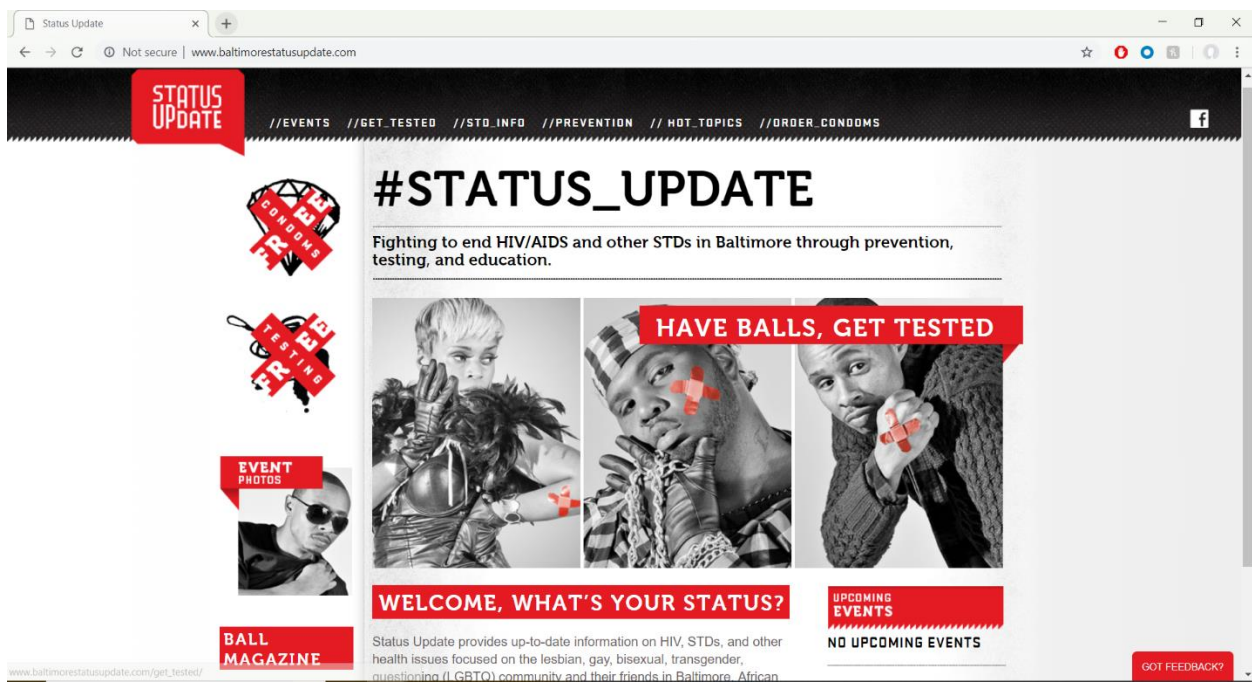
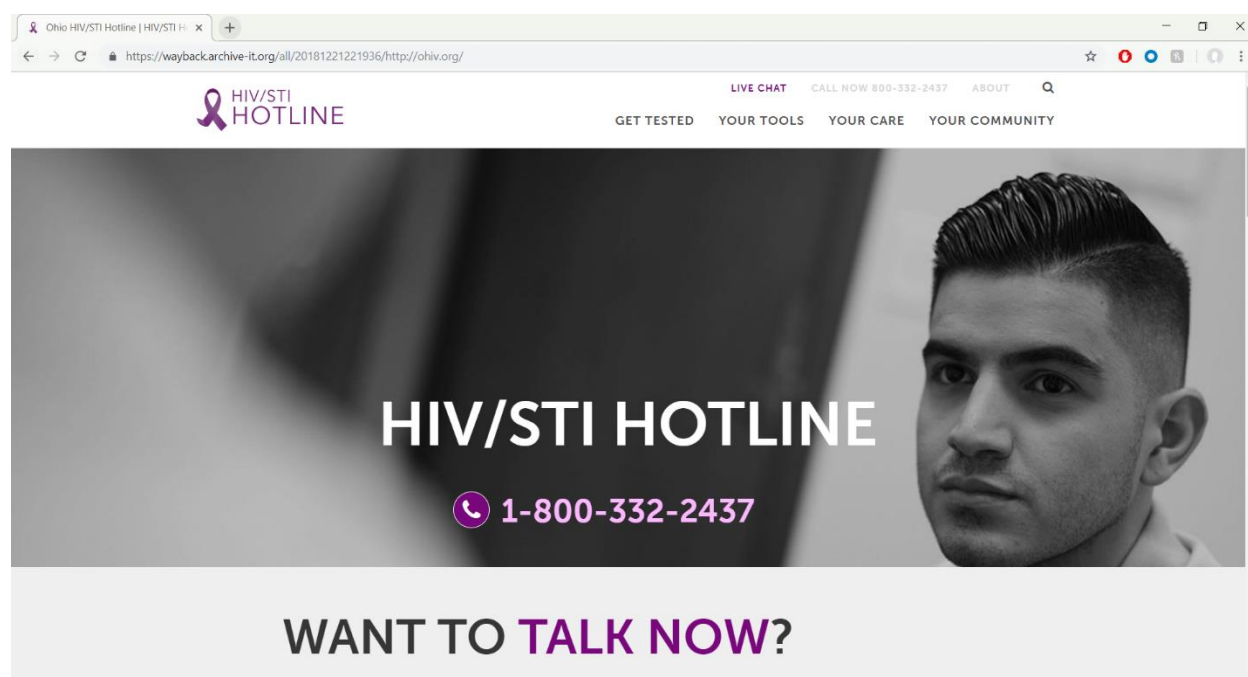


Figure 2. Homepage of the Status Update website.



Those who thought *OHIV* was easier to navigate (n=3) focused less on the ease of finding free condoms and more on navigation to other features, such as STI testing information. However, they thought navigation was easy for the same reasons that the others provided for liking the Status Update and Texas Wears Condoms sites: a few main tabs at the top and minimal text (Figure 3). Ria (female, 22) identified the logical arrangement of information on *OHIV* as a positive feature. She thought the placement of the link for the “Tell Your Partners” page right under the main tab labeled “Get Tested” anticipated what users might need.



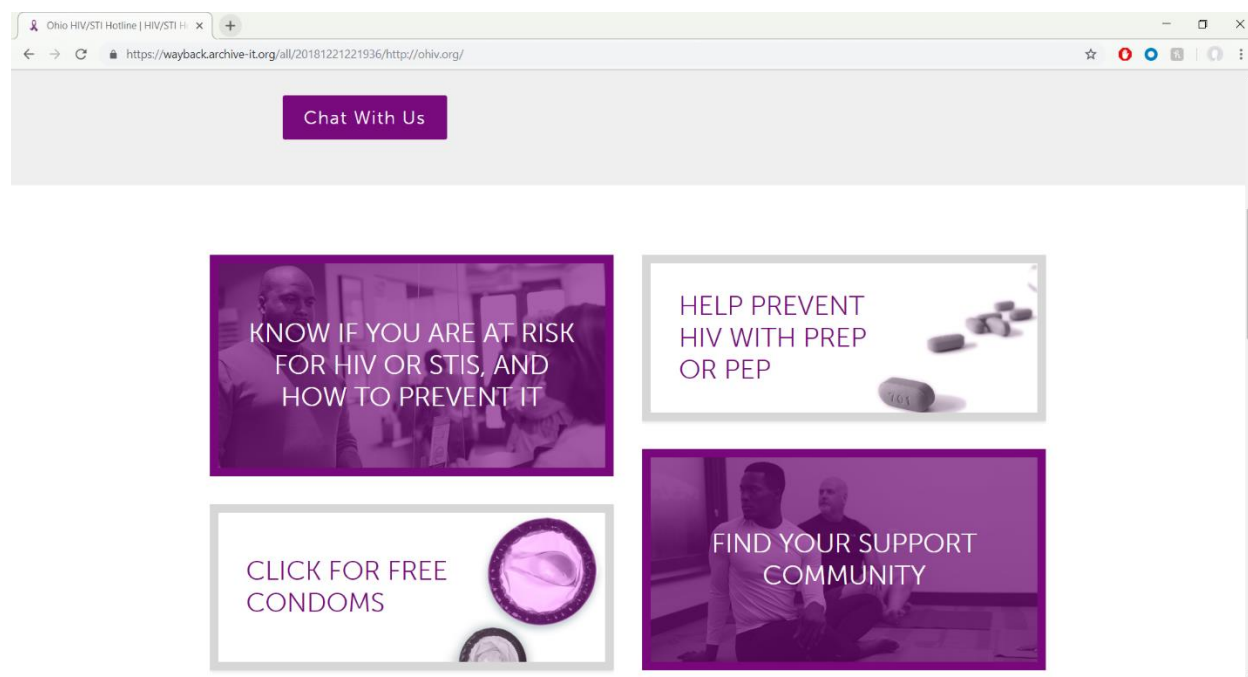
*Figure 3. First frame of the OHIV homepage.*

### Features of poor website navigability

When discussing which website components made navigation difficult, five participants described unclear labeling of tabs as their main issue with *OHIV*, a feature which was not as important to three other participants who chose *OHIV* as their favorite. Those who thought the labeling was unclear said the location of the “Free Condoms” link under the “Your Tools” tab was confusing because the meaning of “Your Tools” was unclear (Figure 3). Users could also

scroll down to the second frame of the homepage to get to the hyperlinked box for the “Free Condoms” page, but only one participant noticed this (Figure 4).

Similarly, two participants experienced navigation difficulty with the unclear tabs on *Status Update* when they were searching for information such as how to talk to a partner and how to use a condom. Cassie (female, 20) suggested that a search bar would have facilitated navigation to those pages. All participants also remarked that navigation was more difficult on *Status Update* due to a hard-to-read font and distracting graphics, such as the diamond on the upper left-hand side with the text ‘Free Condoms’ criss-crossed on top (Figure 2).



**Figure 4.** Second frame of the OHIV homepage.

### *Aesthetics and tone*

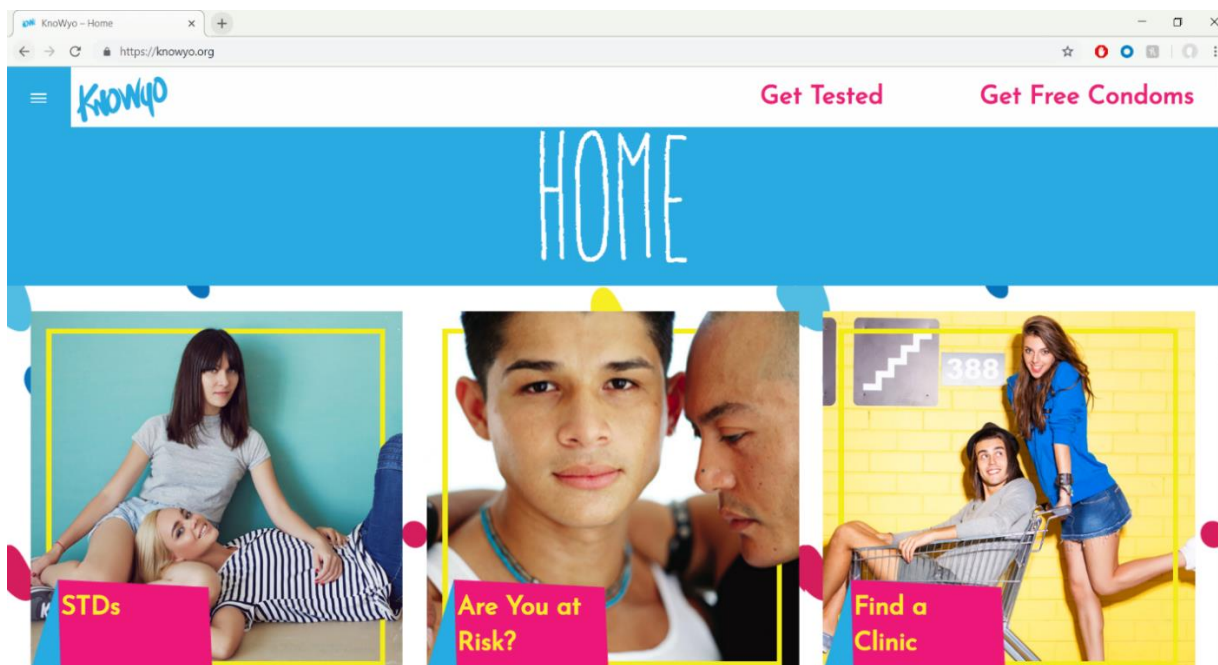
Overall, most participants (n=7) viewed a colorful aesthetic with a sex-positive tone the most favorably, while a professional or clinical appearance was seen negatively because it conveyed the idea that website users need medical help rather than preventive health (n=7):

“For the Ohio one, I feel like you would go there if you have a problem, like, “Hmm, is something wrong with me?” And you go there like you go to WebMD or something, to like diagnose yourself. Whereas for [*Texas Wears Condoms*], I think it's like, ‘Oh, I [need] condoms. Let me just go on this website.’” (Cassie, female, 20)

Additionally, most participants (n=7) thought a colorful yet minimalist appearance, similar to *Knowyo*, was ideal.

### How color affects user experience

Those who thought *Texas Wears Condoms* was the most visually appealing (n=7) remarked that the bright colors made them feel happy and drew them in. Laura said that “the colors popped. It kind of made it seem cool to talk about sex and condoms” (Female, 22). The majority (n=7) also liked *Knowyo*'s bright colors (Figure 5). Comparing the colors of *Knowyo* to *Texas Wears Condoms*, one participant said that *Knowyo* was “colorful and eye-catching in a way that isn't almost annoying [...] it follows more of a color scheme” (Wendy, female, 22).



*Figure 5. Homepage of Knowyo website.*

The *OHIV* color scheme was grey, white, and purple, which the majority (n=6) thought was “sad” and “depressing” (Molly, female, 21). In contrast, some participants (n=3) appreciated this style because, for them, the minimalistic color scheme conveyed professionalism, and two participants said the purple created a calm, pleasant effect. *Status Update* also did not elicit a positive reaction from most participants (n=5) with its red, black, and white color scheme. Negative comments included that “red screams alert” (Laura, female, 22) and that the color scheme was “less welcoming [and] a little caustic” (Molly, female, 21).

#### How imagery and language convey tone

In terms of graphics and images, most participants (n=7) liked *Texas Wears Condoms* because the cartoons made it appealing and approachable, although two did comment that these were childish and distracting. All eight participants who viewed *Knowyo* spoke positively of the high quality and inclusivity of the images: Participants noted that the people pictured were of different races and appeared to represent a range of sexual orientations. They also thought it was effective to show people “having fun” because “it’s very sex-positive. It’s like, ‘We don’t care if you’re having sex with multiple partners, and we don’t care if you’re gay or lesbian or trans or whatever, or if you’re having anonymous sex. Just be careful’” (Abby, female, 19).

This contrasted with the opinions of the images on *OHIV*, which the majority (n=6) found to be “depressing” and uninviting because the people in the photographs appeared “serious” and “pensive.” The participants expressed that, while sexual health is important:

“When you’re talking about sex and young people you have to come at it very sex-positive. This seems more like, ‘Be careful,’ you know? [...] The black and white sh\*t isn’t really the way I would go about it.” (Abby, female, 19)

Participants also commented positively on the humorous, light-hearted tone that was used in *Knowyo*'s text. Five participants said that they thought using humor would be effective because people tend to avoid “things that make them worried. So, serious language...I didn't read all of it, but what I assume the Ohio one would give is not really making me wanna read it, even though it's important” (Cassie, female, 20). In contrast, two participants were skeptical of using humor for sexual health information because it can “feel forced” (Jacob, male, 21) and, “if people are coming on [the website] for STI information, it's not a funny situation” (Ian, male, 21).

Participants did not speak much on the language used on the other websites, but two participants shared that they thought the use of hashtags as headers on each webpage of *Status Update* was confusing and “trying to be trendy” (Abby, female, 19) (Figures 2 and 6). With *OHIV*, only two participants commented on the language; they thought the ‘hotline’ aspect of the website and that its name was intimidating because it set a tone suggesting that people should use the website if they have a problem. One participant compared the contrasting effects of the *OHIV* and *Texas Wears Condoms* names:



**Figure 6.** Condom order page on *Status Update*, featuring a hashtag in its webpage header.

“It's called the HIV/STD Hotline. [...] ‘Hotline’ is a problem we're dealing with, not something to prevent or something to avoid. So I would say that the big upside to the Texas Wears Condoms site is that the name's fun. [...] I do think that the name has a lot to do with it, setting the tone.” (Ria, female, 22)

### Overall appearance/aesthetic

Some participants (n=4) assessed the appearance of *Status Update* as trendy and edgy, but most participants did not state whether the style had a positive or negative effect on their website experience. However, Ian found the overall effect of *Status Update* to be less trustworthy:

“I don't understand the pictures or the Band-Aids really. I just ignored this whole option. The red X's everywhere [made it seem sketchy]. First off, the color scheme. Red is an aggressive color. Black and white is just sketchy. It's always sketchy. The words, the hashtag. It's very much...too much graphics. It just seems like if you've ever gone on those websites, an ad pops up on something.” (Male, 21)

*OHIV* had the opposite effect. Due to its clinical, professional appearance, most (n=7) said that a website like *OHIV* would be a good source of health education or support with a health issue, and Jane explained how a young person's use of *OHIV* may differ from that of *Texas Wears Condoms*:

“The Texas one promotes good sexual health in a more energetic and fun way. So, if I wanted to get condoms, that is more of the website I would use, but if I wanted to learn more about HIV or STIs, I would probably use *OHIV*.” (Female, 20)

### **Inventory and ordering process**

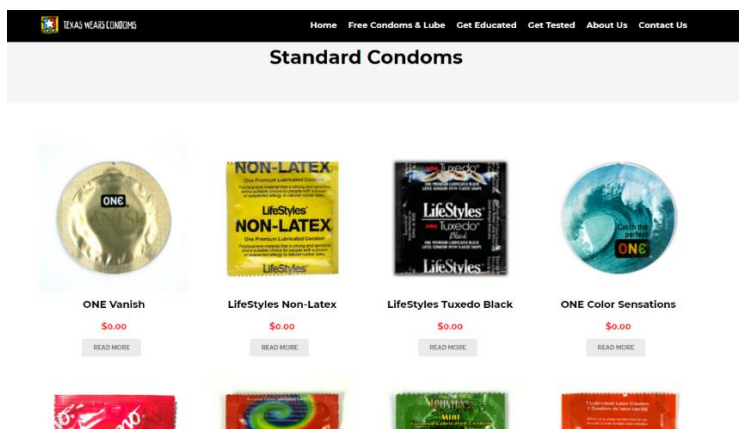
Five participants said that they appreciated when websites offered items in addition to male condoms, i.e. lubricant, internal condoms, and dental dams, but the other four did not talk about those additional products. During interviews, the bulk of participant comments revolved around male condoms, and five specifically noted that they liked the different types and brands of condoms offered by *Texas Wears Condoms*. Overall, male and female participants were willing to use unfamiliar condom brands (n=7), preferred the option to customize a safer sex supply package instead of getting a pre-selected one (n=8), and appreciated knowing exactly what came in a package (n=8).

### *Brand recognition*

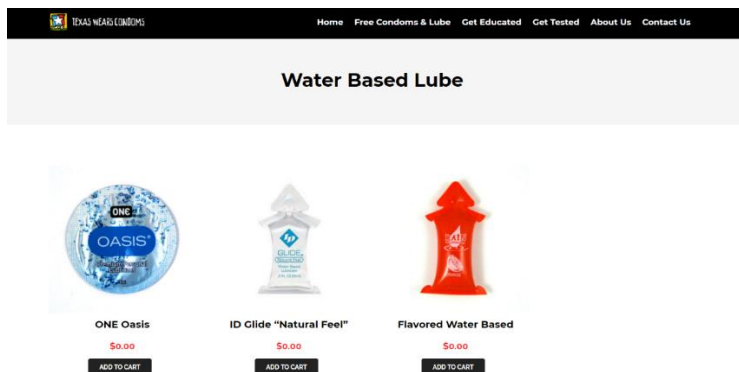
When participants were asked about how brand recognition would influence a young person's willingness to use an online CDP, the majority (n=7) said they themselves would be willing to use unfamiliar condom brands. However, participants (n=4) also thought that people their age would be more likely to use an online CDP that offered familiar brands than one with unfamiliar brands. Across the five participants who named brands with which they were familiar, Trojan and Durex were the only brands mentioned. Only *Status Update* offered Trojan condoms, and none of the three websites offered Durex. Two participants specifically mentioned that young people have a preference for Trojan Magnum extra-large condoms because "a lot of people just recommend that girls have those ones, because it's an ego thing [...] with all the stereotypes and ideas around masculinity and girth" (Ria, female, 22). Participants (n=4) also said that young people may not trust the quality of unfamiliar brands, partially due to the reputation of free condoms being poorer in quality.

### *Inventory display and ordering process*

As part of its online shopping format, *Texas Wears Condoms* displays images of its products and allows users to add what they want to the online shopping cart. Almost all participants (n=8) preferred being able to see what exactly they would receive and appreciated the clear pictures on *Texas Wears Condoms* which made it obvious that users could request male condoms and lubricant (Figures 7 and 8). Two participants explained that *OHIV* and *Status Update* did not make it obvious what brands or items were available (Figures 9 and 10), and Cassie pointed out that *OHIV* “doesn't really do a great job at explaining with visuals” what comes in a package (female, 20).

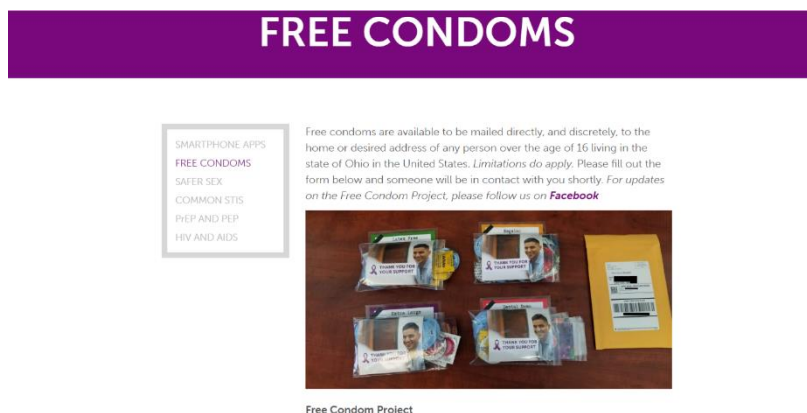


**Figure 7.** Standard-sized condom inventory webpage on *Texas Wears Condoms*.

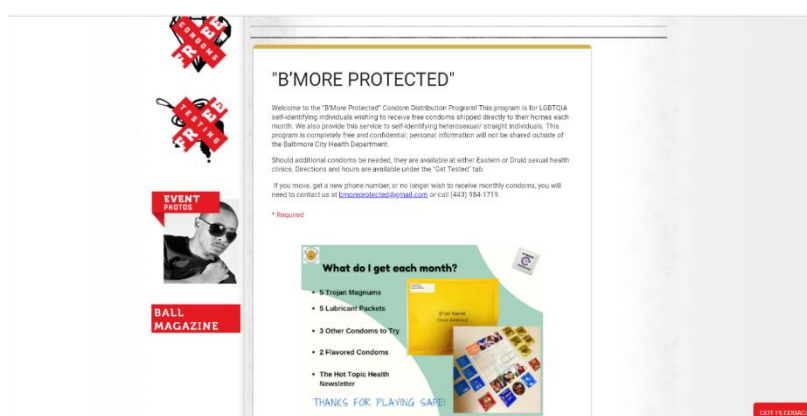


**Figure 8.** Water-based lubricant inventory webpage on *Texas Wears Condoms*.





**Figure 9.** Inventory display on OHIV order page.



**Figure 10.** Inventory display on Status Update order page.

Although brand recognition did not matter to most participants ( $n=7$ ), almost all of them ( $n=8$ ) found it appealing to customize the brands and supplies in a package on *Texas Wears Condoms*. Five participants expressed that the familiar online shopping format (compared to choosing a preselected package through a submission form like Google Forms on *OHIV* and *Status Update*) normalized the experience of buying condoms and made it approachable:

“This kind of store format where they can scroll through and look at them and stuff, I think that would make it more appealing. No one wants to be like, ‘Hey, babe. You want to look on this health website with me and order some condoms?’ But I could see

somebody sitting down with someone and scrolling through [*Texas Wears Condoms*] to pick something out together.” (Ria, female, 22)

Another benefit of customization that participants mentioned (n=3) was the freedom to request a different product if a customer did not like a product they had received previously. With preselected packages, participants noted that items could go to waste if customers did not like certain products that were included in the packages.

While almost all participants liked customization, two participants noted that the simple submission forms on *Status Update* and *OHIV* would be faster and easier because this format removes the need to choose from multiple products. Another participant thought that some people might prefer the submission form because it “feels a little more private, just because it's not ‘out there.’ Most of the time [buying condoms] is not a comfortable thing for everybody, so [images of condoms are] not necessarily something you want popped up on your screen” (Ian, male, 21).

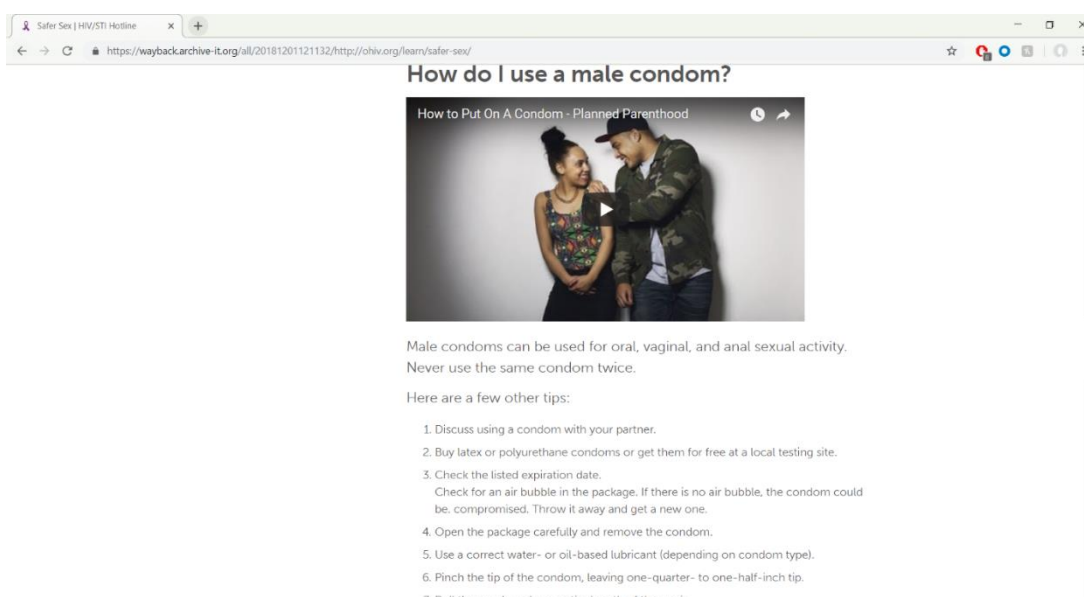
### **User preferences regarding health information delivery**

There was a general desire for multimedia information delivery, with both text and visuals. While most participants appreciated alternative methods of learning, such as videos, they said that a website should have its own concise text separated by headers and bullet points to facilitate quick reading.

### *Visuals and dialogue examples*

Videos were used to explain consent on *Texas Wears Condoms* and to provide instruction on male and internal condom use on *Texas Wears Condoms* and *OHIV*. Whereas *Texas Wears*

*Condoms* only included videos and had no text, *OHIV* accompanied its videos with step-by-step instructions (Figure 11). The majority of participants (n=7) liked having the option to watch a video: while three participants appreciated the ease of watching a video instead of having to focus on text and actively read, another three focused on the utility of a visual tool to explain how to use a condom, specifically. Two participants noted that a diagram or picture with accompanying text would also have been a useful way to explain how to use a condom, without the need to spend time watching a video.



**Figure 11.** Information formatting of how to use a male condom on *OHIV*.

The consent videos also included examples of dialogue to show what consent sounds like, and *Status Update* included written examples of how people can talk with partners about STI testing. Most participants (n=6) thought including dialogue examples would be valuable for young people because talking about sex can be awkward and stressful, but they did not discuss the possible use of dialogue examples for topics beyond what was seen on the websites. However, participants differed in their opinions about how to best deliver the dialogue: one participant thought that hearing people talk in an attractive way about an awkward topic made

consent engaging, but two participants found listening to dialogue examples to be uncomfortable or “cheesy” (Abby, female, 19).

Although most participants liked the inclusion of video, a common critique (n=4) was that they could not skim through the information to quickly find the most relevant content for their situation. Four participants also thought young people would prefer to read examples rather than to watch a video, if they were using the website in public, because text is more discreet.

### *Finding information quickly and easily*

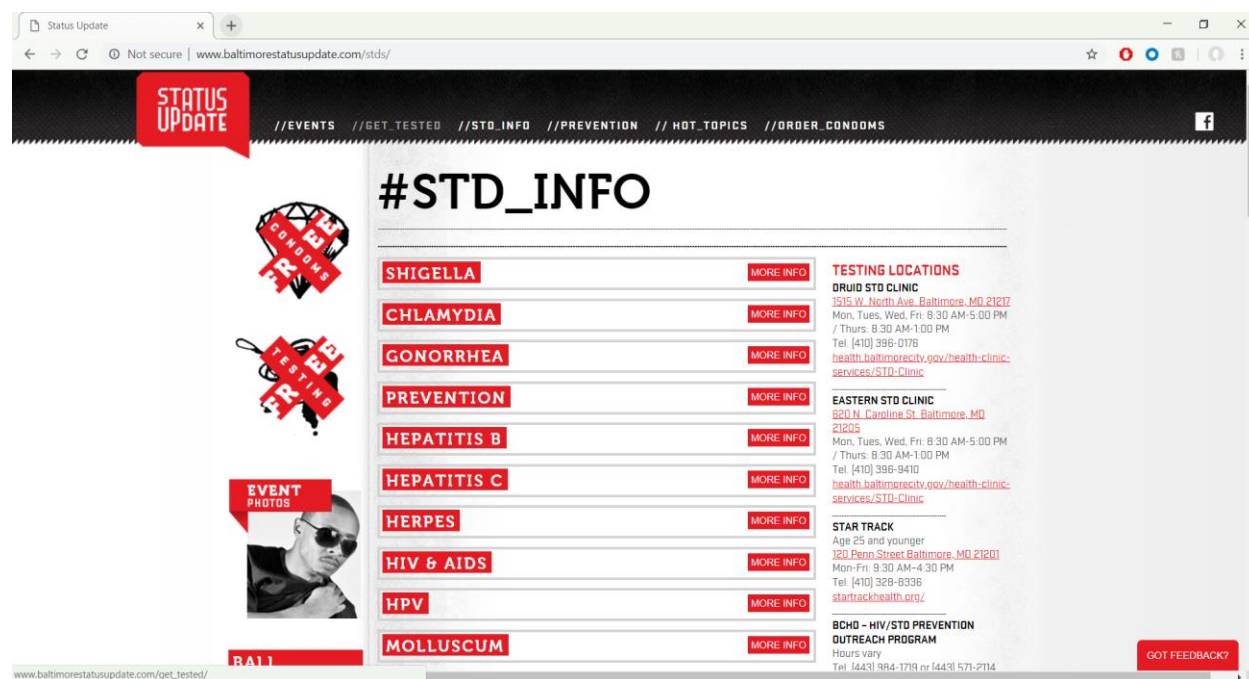
Prior to their interviews, participants were asked to explore each website for information about STIs and HIV. Most participants (n=8) preferred features that facilitated quick reading and skimming, i.e. concise text separated into easy-to-find categories by bold headers and bullet points. They reported that young people were less likely to read long paragraphs or information for which they had to scroll far down a page. One participant made a distinction that, for symptoms and other information that suits a list format, she “wouldn’t even read [paragraphs]. I would just see ‘Symptoms’ and look at the bullets” (Cassie, female, 20). Otherwise, precise sentences and short paragraphs were ideal.

### *Links to external websites*

The STI education page on *Texas Wears Condoms* had icons for various STIs and HIV that were hyperlinked to open a new window from the website for CDC. However, almost all participants (n=8) said that young people would not like to have a new window open when clicking on a link because it was more convenient to have all the information within the same page. They wanted to quickly skim the webpage so that they could identify topics that were

relevant to them and choose whether to read further. The difficulty of identifying important information quickly on *Status Update* was discussed by Ria:

“What is molluscum? That is a big, scary word in capital letters in red that just doesn't make me enticed to find out more information. If it was ‘Molluscum’ and then a one sentence description of what it is, and then ‘More information,’ [...] I can decide if I want more information on it. But if I know that I'm going to have to click eleven times, I'm not going to open all eleven of those. But I would have read a one sentence description of all of them.” (Female, 22) (Figure 12)



*Figure 12. Main STI navigation page on Status Update.*

One participant noted that young people would prefer expanding sections on an existing page so that, on a slow network, they would not have to wait for new windows to load. Another participant thought that people his age would feel nervous about having a new window open after clicking a link, especially on *Status Update* which he thought was “sketchy” (Ian, male, 21) and could be opening a pop-up ad instead of linking to a safe source. To resolve the external link

problem, participants (n=4) suggested paraphrasing information from a scientific source like CDC and including the link to CDC at the bottom if people wished to learn more, which is the approach that *OHIV* employed.

Another benefit that participants (n=4) mentioned of writing new text based on information from CDC was that the website could make the information more engaging. Although most participants (n=6) liked that the information came from a trustworthy source such as CDC, some (n=4) also perceived CDC webpages to be "dry and not very pleasant to read" (Jacob, male, 21) due to the large amount of information on the website and its reputation as a scientific organization.

## **Other findings**

### *Using condoms for pregnancy or HIV/STI prevention*

Throughout the interviews, only one participant noticed and pointed out, unprompted, that the websites lacked information on birth control. Participants had not been asked to explore the websites for information on contraception prior to the interview because *OHIV* was the only website that included that information. After participants were asked about the lack of contraceptive information, the majority (n=7) suggested that the websites should add that information. Five participants explained that adding contraceptive education was important for young people because they considered pregnancy to be a larger concern for them than STIs and HIV. Of those five participants, three held the belief that young people do not realize how prevalent STIs are and do not think STIs will affect them. In the context of being a student, one participant said that young people hear more about pregnancy and, thus, are "immediately thinking about baby, baby....we can't have a baby because we're in school" (Ian, male, 21).

Although almost all participants thought pregnancy was a more pressing issue, several participants described examples why websites may not provide pregnancy prevention information. Male and female participants noted that many women use a separate form of birth control (n=3) and spoke on the differing priorities of individuals who have intercourse with people of the same sex and thus would not be concerned about pregnancy (n=3). Even so, participants supported adding contraceptive information because “if they're talking about STDs, they should be talking about pregnancy because it's like, are we gonna pretend that condoms aren't for protecting against pregnancy?” (Abby, female, 19)

#### *Inclusion and exclusion of target populations*

When discussing website images, several participants (n=4) brought up the power that images have to target a specific audience through the people they depict. Participants said that users would be less likely to look at a website that depicts people who do not look like them. All participants who viewed *Knowyo* (n=8) thought it would appeal to everyone based on its inclusive images of people of different races and in both opposite-sex and same-sex couples. A few participants (n=3) noted that the pictures on *Status Update* only featured African-American people. They thought that the images could be negatively associating STIs with only African-Americans, but the website also specifically stated that its target audience was African-American LGBTQ youth in Baltimore.

In terms of addressing users across gender identities and sexual orientations, three participants thought the websites could be more inclusive with the health information and inventory. When non-heterosexual sex was mentioned, Jacob noticed it was about “men who have sex with men, but that's not everything [...] Having a more diverse representation of what

sex is is useful” (male, 21). This was echoed by Ria, who pointed out that lesbian sexual health was neglected:

“There’s a gaping empty space where information about lesbian safe sex is. Lesbians are never included in statistics. They’re never included in your LGBTQ facts for sex. A lot of people don’t know that there is any female sex stuff. They don’t know how to use it.”

(Female, 22)

One participant, realizing that only *Texas Wears Condoms* offered dental dams, suggested that the other websites should provide dental dams and internal condoms for people that would not use male condoms.



## DISCUSSION

### Summary

This evaluation had two objectives:

**Objective 1:** To identify characteristics of online US-based condom distribution programs that provide free safer sex supplies online with free delivery to individuals

**Objective 2:** To elicit website user feedback and participant preferences for safer sex supply purchasing and sexual health information through in-depth interviews

Although all websites promoted safer sex practices, most provided information focused on using the supplies for STI/HIV prevention rather than pregnancy prevention. Sixty percent of online CDPs (n=12) only offered male condoms and lubricant, and most had a professional appearance, neutral tone, and bright color schemes. However, there were many programs that did not provide information about ordering and delivery, such as how many items were included in a package or processing and shipping times, which customers receive on typical online shopping websites.

Through interviews, I also elicited website user feedback and participant preferences for website appearance and ways to deliver information. Overall, interview participants expressed that most people their age go to the store to buy safer sex supplies or pick up free ones at campus locations. They preferred websites with a simple layout, bright colors, and positive imagery. Most participants also appreciated the ability to choose which products they wanted because they could tailor their order to their needs and they would know exactly what they were getting. While most participants did not care about brand offerings, some said brand familiarity would make the selected websites more appealing.

The majority of interviewees reported that they would not go to the *Status Update* or *OHIV* websites for safer sex supplies because those websites seemed to target people with STI or HIV health issues rather than people who wanted supplies to improve their preventive health practices. However, most people liked to have information about sexual health issues on the website. They preferred information to be provided in a concise and easy-to-find manner, using subheadings and bullet points, emphasizing the importance of navigability. Participants liked the option to view videos and diagrams as forms of information delivery, but they all thought some text was necessary for quick health information consumption. Although the interview questions used the phrase “safer sex supplies” and did not solely focus on male condoms, participants overwhelmingly focused the conversation on male condoms.

### **Theme 1: Safer sex supply purchasing habits**

#### *Speed*

Speed in acquiring condoms was important for the participants because of the lack of planning involved in many sexual encounters. For this reason, they preferred getting condoms in stores or on campus to waiting for an online order to arrive. Unless they were in a relationship or had frequent sexual intercourse, the participants indicated that young people did not store condoms. To my knowledge, there is little research exploring spontaneous sex and condom purchasing habits, but focus group research in homosexual and bisexual male adolescents, ages 16 to 18, found that spontaneous sex was a reason for not using a condom during sex for over 80% of participants (Mustanski, DuBois, Prescott, & Ybarra, 2014). While the present study’s participant demographics differed from those of Mustanski et al., these college-aged participants seemed to be discouraged from obtaining condoms online because they did not plan future sexual

encounters with enough time to purchase condoms online, and they did not store condoms to use in case of unplanned sex.

In contrast to these findings, in a survey of online CDP users conducted by UGA, approximately 50% of respondents (n=132) said they planned to keep the CDP supplies on hand in case they engaged in sex (Janousek, 2016). Most online CDPs that state their delivery time on their websites deliver orders within 1-2 weeks (Table 7), but there is a lack of data indicating whether or not CDP users are satisfied with that timeframe. For BU students who used their school's online CDP, 85% of survey respondents felt that a delivery time of five to seven business days was adequate (Mooney, 2014). In the present study, the participants' belief that young people do not store condoms and are unwilling to wait for an online order may be unique to the participants' personalities; it also may be their own misperception of what people their age do.

#### *Trust in a condom brand*

Additionally, participants preferred to buy condoms in stores rather than pick up free on-campus ones because of greater trust in a familiar condom brand and in the interest of increased discretion. They doubted the quality and safety of Emory's free condoms due to their peers' negative accounts of the quality and the fact that the condoms are available to passersby in open baskets. Prior research does not assess willingness to use free condoms, but research on New York City's DOHMH CDP contradicts the opinion expressed in the present study that free condoms are of poorer quality than other condoms (Burke et al., 2009). The street-intercept survey of adult New York City residents at large public events assessed awareness and experience with the free DOHMH-branded condoms. On average, respondents rated the

DOHMH condom (a standard-size, lubricated, Lifestyles male condom) as 6.55 on a scale of 1 to 10, where 1 was much worse than other male condoms and 10 was much better than other male condoms.

The condom offered at Emory University is a Durex male condom. However, the lack of interest in using the free Durex condoms seems to originate from what participants heard from others about the quality rather than personal experiences. So, it may be the case that the participants would not notice a difference in their experience using a Durex condom instead of one that they perceive to have a better reputation. The unwillingness among some participants to use free condoms that are made available in an open container and may not have been replaced for an unknown amount of time would presumably be overcome by mailing them because the condoms would come directly from the organization to the user.

### *Cost*

Cost did not seem to be a personal barrier to acquiring condoms for any participant, but they suggested it would be an important consideration for other young people, especially for students who may still be reliant on parents or guardians for living expenses. Their belief about other young people aligns with research that has found cost to be a barrier to getting condoms (C. E. Cohen, 2017; Essien et al., 2005; Sarkar, 2008). The interview participants' thoughts may also be unique to them, but participants had seen empty condom baskets and students taking free condoms, which indicates that Emory students take the free on-campus condoms. Whether that is due to cost or their socioeconomic status could not be evaluated.

### *Embarrassment*

Similar to the lack of effect of condom cost on condom purchasing habits among participants, embarrassment was also not a barrier to getting condoms for the participants in this

study, despite some saying the experience could be awkward and that other young people might feel embarrassed about getting condoms. This latter perception aligns with research that has shown that young people experience embarrassment from buying condoms and would prefer discretion (Bell, 2009; Dahl et al., 1998; Helweg-Larsen & Collins, 1994; Moore et al., 2006; Sacco et al., 1991). Survey responses from BU's and UGA's online CDP evaluations showed that over 90% of respondents thought ordering through the online CDP was either "very" or "somewhat" comfortable, while obtaining supplies from student health services and from the drugstore was only rated very or somewhat comfortable by between 40 and 60% (Janousek, 2016; Mooney, 2014).

However, participants in the current study indicated that feeling embarrassed did not prevent them from getting condoms. This could be due to self-selection bias rather than a true indicator of how embarrassment affects Emory students' condom purchases. The participants might have been more comfortable with sexual health than other Emory students, and, during the interviews, several participants showed interest in sexual health or talked about working with campus organizations that do sexual health work. Another reason why the participants may not have been deterred from buying safer sex supplies in stores was self-checkout. Self-checkout allows people to purchase products without employee interaction, which Dahl et al. (1998) also suggested could be circumvented through vending machines or the internet. Several participants mentioned that using self-checkout while buying condoms was more comfortable, which could explain why any feelings of embarrassment did not deter them from purchasing condoms. Additionally, participants explained that going to a store off-campus would be more comfortable than picking up condoms from a basket in the library, where they would be surrounded by peers. This indicates that being seen by someone they know while they get condoms could be

embarrassing enough that they would not obtain a condom in that instance, as was the case for the adolescents in Bell (2009), and would prefer to go to the store and interact with a stranger who works there.

### *Safer sex supply purchasing habit recommendations*

To assist the Jane Fonda Center team in their plans to increase condom access for adolescents and young adults in Atlanta by creating an online CDP, they should investigate safer sex supply purchasing and storage practices as they relate to safer sex practices among adolescents and young adults in Atlanta. Knowing the prevalence of spontaneous sex among young people and understanding their attitudes towards ordering and storing condoms in advance of potential sex could help the online CDP create an outreach plan to address the causes of their lack of planning.

Additionally, given that almost half of UGA's survey respondents had heard about UGA's online CDP from a friend or peer (Janousek, 2016) and that participants in the present study had formed their opinions of Emory's free Durex condom based on what they heard from peers, the Jane Fonda Center team could use CDP user testimonials to advertise the program to their target audience. Research has shown that customers had greater trust in a restaurant and were more likely to eat there when given recommendations from friends and third-party reviews on websites such as Facebook or Yelp rather than reviews posted on the restaurant's own website (Meuter, McCabe, & Curran, 2013). Thus, encouraging users to provide recommendations or post reviews on a third-party website could increase trust in and willingness to use the online CDP, even if it did not offer familiar condom brands. The Jane Fonda Center should also conduct an assessment of their target audience's attitudes towards condom brands. Conducting further

research on brand recognition and willingness to use unfamiliar condom brands could inform their inventory choices and thus increase the likelihood that their target audience would choose to use their online CDP.

Regarding cost and embarrassment as potential barriers to obtaining safer sex supplies, this evaluation did not find that they prevented acquisition for the participants, but other research indicates that many groups of people do experience them as barriers. For the Jane Fonda Center and other online CDPs that are located in urban areas where young people may have easy access to stores, conducting a survey or focus groups with their target audiences would be useful to see if the cost or embarrassment prevents them from obtaining safer sex supplies and whether the online option would help them overcome those barriers. As one participant suggested, it would be useful to give an in-person pick-up option in addition to delivery in order to get supplies to people more rapidly, yet only Knowyo and UGA Condom Express (for off-campus students) offer that alternative.

## **Theme 2: Website user experience**

### *Navigation*

Participants were more likely to use a website if the aesthetic and layout promoted easy navigation. They indicated that easy navigation results from a simple, minimalist layout with clear text and obvious placement of links. These findings align with prior research on website navigability which have shown that a minimalist aesthetic can improve easy viewing and use (Dahal, 2011; Harley, 2015; Whitenton, 2014). Website users also form quick opinions about websites, and they spend the most time looking at the top, bottom, and main images of a page

(Dahal, 2011; Harley, 2018; Thomson, 2006). Based on those findings, having the main navigation tools at the top of the screen is a logical way to improve navigation.

### *Colors*

Additionally, the participants preferred bright colors, happy images, and positive language because they felt that it created a tone that encouraged them to engage in healthy sexual behavior, such as obtaining and using condoms. Colors such as green, blue, and yellow have been viewed most positively in several studies over colors like red, orange, or black (Coursaris, Swierenga, & Watrall, 2008; Cyr, Head, & Larios, 2010; Dahal, 2011; Kaya & Epps, 2004). Similar to the predominantly blue, green, and yellow accents on *Texas Wears Condoms* and *Knowyo* that the participants preferred, the majority of college students in Kaya and Epps's study (2004) associated green (96%), yellow (92%), and blue (78%) with positive emotions such as happiness, calm, and comfort. These high positive ratings contrast with the high negative ratings of black and grey, which over 75% associated with emotions such as depression and sadness. While red, purple, and white evoked a mix of positive and negative emotions, over 30% associated them with negative emotions. The Kaya and Epps study participants linked red to anger and happiness, purple to sadness and calm, and white to emptiness and innocence. The negative emotions linked to black and red matched those given by most participants in this evaluation regarding *Status Update*, as did the findings for grey and purple with comments about *OHIV*.

### *Images*

Prior research also supported the participants' preference for the happy images of real people on *Knowyo* over the cartoons on *Texas Wears Condoms* and the "depressing" pictures on



*OHIV*. Photos of real people rather than cartoons have been found to attract more Web users (Hoffman, 2017), and genuine happiness in photos results in a more positive perception of the product or organization compared to frowning or neutral faces (Peace, Miles, & Johnston, 2006; Soderlund & Rosengren, 2003). Additionally, having too many images on a webpage, such as the homepage of *Status Update*, was viewed negatively by the study's participants, which also aligns with the prior support for a minimalist aesthetic (Dahal, 2011).

### *Language*

Over half of the participants liked the humor and a light-hearted approach taken by *Knowyo*, but humor has had mixed results in print health campaigns. Some research indicates that humorous risk messaging can actually weaken peoples' health intentions for disaster preparedness or vaccination (Fraustino & Ma, 2015; Moyer-Guse, Robinson, & McKnight, 2018), while others indicate that humorous health materials are more persuasive than non-humorous or threatening ones about smoking, skin cancer, alcohol, and obesity (Blanc & Brigaud, 2014; Mukherjee & Dube, 2012; Sheer, Shen, Tse, & Chan, 2018). To my knowledge, there is no available research about the use of humor in print STI risk messages.

### *Website assessment*

Combining these findings with the results of the website assessment, 13 websites were categorized as neutral or serious. However, participants reported that they would be more likely to use a website with a positive tone. Changing a website's tone from serious or neutral to positive may require a change in color, images, or language. I did not categorize images during the assessment, but eight websites may benefit by changing their color schemes from dull to

bright colors or altering their red color scheme. Additionally, twelve websites could engage more users with a more informal look, similar to *Texas Wears Condoms*, instead of a clinical, professional look like *OHIV*. Most participants thought the professional appearance would suit a website designed to give health information when the user has a health problem, whereas the informal look felt appropriate for when users wanted to use a service to get safer sex supplies. Figure 13 shows a webpage with dull colors and a professional appearance that could alter its appearance in accordance with the present study's findings.



**Figure 13.** Free safer sex supply page for the University of Rochester online CDP, *Safe Sex Express*. This is an example of a website with dull colors and a professional appearance.

### *Website user experience recommendations*

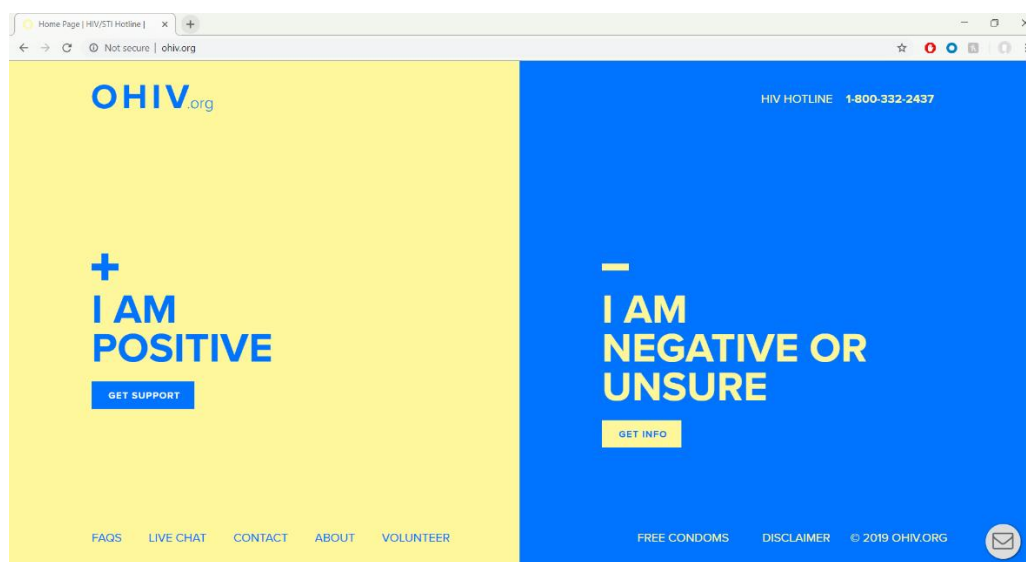
When creating a website for an online CDP, the Jane Fonda Center and other organizations should aim to create a positive tone through the colors, images, and language holistically rather than individually. When participants said that the grey and purple of *OHIV* seemed “boring” or “depressing,” the comments were inherently tied to the greyscale images of stoic-looking people. *Texas Wears Condoms* also featured black in the background, but

participants focused on the bright colors in the cartoons. Regarding the positivity of *Knowyo*, participants consistently discussed both its bright colors and images of happy, smiling people.

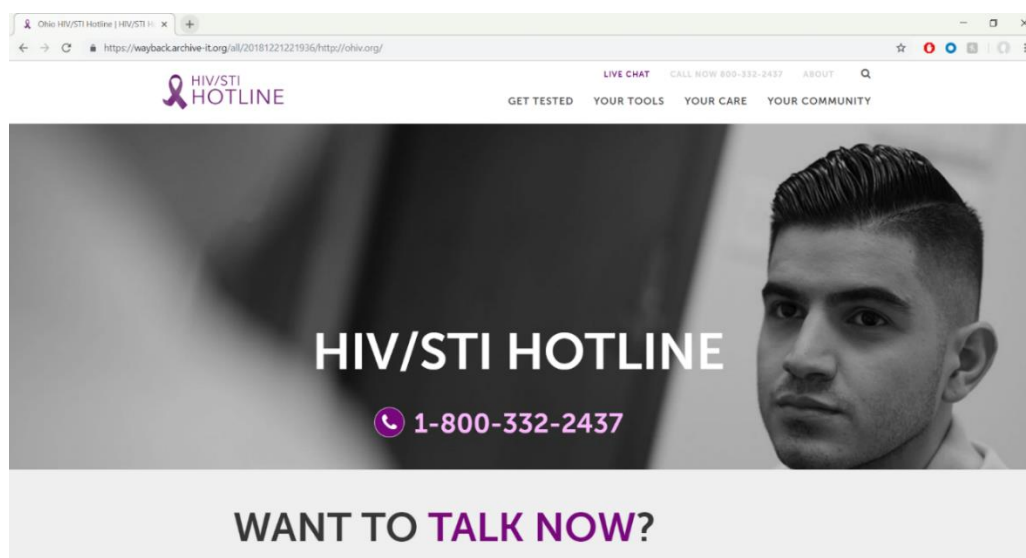
Moving forward, the Jane Fonda Center team should test different layouts, images, colors, and language, keeping in mind that the literature and participant findings favored a minimalist aesthetic, bright colors, happy images, and positive language, in contrast to the visual style of most reviewed online CDPs. Having an easy-to-navigate website is important because website users will be more likely to use and explore a website with good navigability. If a young person is on the website for an online CDP, their goal is, presumably, to get free safer sex supplies. Thus, an online CDP should make sure that the link to the free supplies page is obvious and easy to find, such as in the main navigation bar at the top of the homepage. If an organization wishes to use red due to its association with HIV/AIDS, it should incorporate red into a lighter color scheme that evokes positive emotions rather than combining it with black like on *Status Update*, which participants thought seemed “caustic.” The Jane Fonda Center team should also conduct further research into what types of language would be most effective at increasing a young person’s intention to use safer sex supplies. There may also be differences in responses to humor between male and female users/participants/young people. The two participants who doubted the positive effects of using humor were both men, but the small number of interviews and lack of data saturation indicate there is more to be explored.

While this evaluation was being written, *OHIV* changed their website layout and appearance in a way that aligns with these findings (Figures 14 and 15). The changes target many components that participants disliked about the original website: the colors, photos, and the placement of the link to the “Free Condoms” page. Now, *OHIV* features a minimalist layout with large text, two bright colors that evoke positive emotions, and a “Free Condoms” button on

the bottom right corner. They removed the photos entirely, and there is now only one frame to the homepage, so people do not need to scroll in order to find the “Free Condoms” link.



**Figure 14.** New homepage for OHIV. Prominent changes include a new color scheme, minimalist layout, and a direct link to the “Free Condoms” page at the bottom.



**Figure 15.** Original homepage for OHIV. Note the grey and purple color scheme, straight-faced person in photo, and lack of a “Free Condoms” link in the first frame.

### Theme 3: Ordering and inventory

#### Ordering

Being able to see what the different package options included prior to ordering created trust in the online CDP for participants. When asked about how the CDPs showed their products online, almost all participants commented that they could see exactly what products were available on *Texas Wears Condoms*, whereas *OHIV* had no photos and *Status Update* provided one photo in which the items were too small to identify. This preference supports prior research that found that photos of an organization's services or products contribute to a website user's trust in a website. Web users trust a website more when they have informative, high-quality photos of everything the website offers, particularly if those are not generic photos but ones that are specific to the organization's purpose (Harley, 2016; Nielsen, 1999). Similarly, e-commerce websites have greater sales when they have better quality images, e.g. high brightness, a clean background, and in-focus products (Di, Sundaresan, Piramuthu, & Bhardwaj, 2014).

The data indicate that being able to customize the CDP package was more useful and resulted in less waste for participants due to the ability to tailor package contents, and a typical online shopping format increased the sense of familiarity in using an online CDP. Although the online CDPs offered products free of charge, the participants liked customization just as paying consumers value customization and are willing to pay for more personalized products or services (Deloitte, 2019). No published research exists on the ways in which online CDPs with an online shopping format could affect the sense of comfort that users feel towards using the CDP, but the participants indicated that incorporating an online shopping format could increase the number of people who are likely to use it.

### *Inventory*

Participants focused more on male condom brands and the presence of other safer sex supplies than specific types of male condoms, but they liked the ability to choose different

condom types and brands, in general, as seen on *Texas Wears Condoms*. While most participants did not mind using an unfamiliar condom brand, some said that young people would be more likely to use an online CDP with familiar brands, i.e. Trojan and Durex. Out of the nine websites that listed the brands they stocked, six websites said that they offered Trojan and none had Durex (Table 6). To my knowledge, no research on CDPs or online CDPs has addressed how brand recognition might affect a person's choice to use the CDP. Choosing a different type of condom is possible for 13 online CDPs (Table 6), but most of those offer latex-free or extra-large condoms as the only alternatives to standard condoms, which does not represent a true choice for those who have latex allergies or need a larger size. Ultra-thin, extra-large, and extra-strength condoms were among the top three most desired condom types in Burke et al.'s studies (2009; 2011), but very few online CDPs offered differently shaped or textured condoms (Table 6). The BU online CDP, Condom Fairy, has also received feedback from users to offer condoms of different sizes and types (Mooney, 2014).

Participants also liked having a variety of product options, such as dental dams or internal condoms, in addition to male condoms. Close to half of the online CDPs offered internal condoms and dental dams. Over half of Condom Fairy survey respondents who received internal condoms or dental dams reported that they had used or planned to use them, but there are no other available data from online CDPs concerning user satisfaction with inventory beyond male condoms (Mooney, 2014). Even so, offering more types of products could be successful in reaching those who may need or want internal condoms or dental dams because they may not have alternative sources of those products although they have a need for them. Over half of students who used Condom Fairy said there was no other place where they would get dental dams or internal condoms if not for the program. Of 141 survey respondents who had used

UGA's Condom Express, 14% and 24% had used dental dams or internal condoms, respectively, for the first time as a result of the online CDP (Janousek, 2016).

#### *Ordering and inventory recommendations*

The ordering and inventory findings all indicate that users want something that feels trustworthy, familiar, and normal. Over half of online CDP websites do not show pictures of their inventory (Table 5); based on interview findings and prior research, the Jane Fonda Center and existing online CDPs should include inventory photos on their websites. Rather than explaining their inventory through writing, including high-quality photos could build trust and create a familiar online shopping-like display. User customization would also be recommended if the Jane Fonda Center's budget allowed it. Conducting surveys to assess what types of products will be most desired by their users should also help guide budget allocation for different types and brands of products. If a program cannot afford to provide dental dams, they could provide information explaining how dental dams can be made from condoms in order to serve those who do not need male or internal condoms. Recommendations regarding condom brands were stated previously in Purchasing Habit Recommendations: The Jane Fonda Center should assess young peoples' recognition of condom brands and willingness to use unfamiliar brands.

#### **Theme 4: Information delivery**

The participants indicated that young people have a specific goal in mind when they explore websites for health reasons. Information formatted in a way that facilitates skimming is ideal because they want to quickly achieve their goal. Participants suggested using bold headers to differentiate sections, bullet points for listed items, and concise sentences in paragraphs. To

make information easier to navigate, they recommended putting related information on the same webpage and to use expandable, drop-down sections rather than loading a new page or tab.

Similarly, participants found links to external sources to be useful resources to learn more but not as the primary method of getting information from an online CDP.

These findings give qualitative support to prior research that found that “scannable text” improved usability through bulleted lists, sub-headings, bold and highlighted keywords, and concise language (Nielsen & Morkes, 1997, 1998). Approximately 80% of Web users will scan webpages rather than read word-by-word. So, improving the ease with which a user can review Web information will be a better way for an online CDP to convey what knowledge they want users to learn. Using links to known public health or scientific organizations (e.g. CDC, local health departments) was also viewed favorably as providing credibility to the information that the online CDP provides (Harley, 2016; Nielsen, 1999).

Because skimming is important to young people, participants suggested including text with video or static images. Providing accompanying text is especially important if the user cannot watch or feels uncomfortable watching a video in public about a sensitive subject like consent or how to use condoms, as was mentioned by several participants. However, almost all participants appreciated the inclusion of videos as an alternative to reading. There is a lack of available rigorous research into whether Web users prefer to watch videos or read text about health information such as consent or STI symptoms. However, in a marketing survey of US consumers, most millennials (ages 23 to 38 in 2019) said they prefer to watch a product video rather than read about it (Dimock, 2019; O'Neill, 2015). Four in five respondents also said that product demonstration videos are important, which supports the inclusion of visual content for



how to use condoms. Including text with video is recommended by the Nielsen Norman Group in order to give users options to obtain information and to skim the content (Schade, 2014).

### *Information delivery recommendations*

Existing online CDPs should review their information pages and revise them to facilitate skimming. When the Jane Fonda Center team creates their website, they should take into account the suggestions that prior research and the evaluation participants provided, focusing on concise information on the website itself and “scannable” formatting through bullet points and subheadings. For information like how to use condoms, which would be better delivered through a visual than a text-only format, a short video or static diagram should be added with accompanying text. If online CDPs wish to provide more information or provide credibility for the information they provide, they should add external links with the phrase “Learn more” to websites for public health agencies such as CDC or the local city or state health department.

### **Theme 5: Pregnancy vs STI information**

Participants said that pregnancy prevention was a priority for themselves and their peers, more so than STI prevention. However, STI incidence and prevalence among young people are on the rise (CDC, 2018c). Some participants mentioned that those who engage in heterosexual sex may neglect to use condoms for STI prevention because the female partner uses another form of birth control. Research indicates that young women use condoms as a back-up method for pregnancy prevention rather than specifically for STI prevention (Darney, Callegari, Swift, Atkinson, & Robert, 1999; Pazol, Kramer, & Hogue, 2010), and those who are monogamous or are in serious relationships have decreased odds of using dual protection (Harvey, Washburn,

Oakley, Warren, & Sanchez, 2017; Kottke et al., 2015). However, a survey of adolescent African-American women in Georgia revealed opposing priorities from those found in this evaluation: Kottke et al. (2015) found that approximately 75% of their participants thought STIs would be the worst thing to happen to them in the next six months, whereas about 30% thought a pregnancy would be the worst situation. Whether participants spoke about specific STIs or STIs in general was not indicated in their published research.

The difference between those findings and this evaluation's findings could be due to the studies' different participant demographics, as well as their status as college students and thoughts that pregnancy would interfere with their education more than an STI. However, prior research also indicates that young people may not realize their risk for getting an STI or the varying severity of consequences of STIs. Young people may perceive their risk of acquiring STIs to be lower than it is due to trust or assumptions that their partners do not have STIs, as well as being less knowledgeable about STI symptoms and services (Hull, Kelley, & Clarke, 2017; Kottke et al., 2015; Tilson et al., 2004). This is despite the fact that many STIs do not cause any noticeable symptoms (CDC, 2017) and despite research that shows that many women falsely believe they have been tested during a gynecological exam (Salganicoff, Ranji, Beamesderfer, & Kurani, 2014). The differences in priority also may be influenced by whether or not each study focuses on people who have sex with people of the opposite sex or with those of the same sex. Less than a quarter of online CDPs in the website assessment discuss pregnancy, but most online CDPs offer their services to people of any sexual orientation and gender (Table 1).

### *Pregnancy vs STI information recommendations*

Online CDPs have the opportunity to educate their audience about dual protection, for those who engage in sex with the opposite sex, and to remind those who engage in same-sex sexual activity that safer sex supplies should be used to prevent STIs, even if they are not at risk for pregnancy. Additionally, the online CDPs do not have much health information for the full spectrum of LGBTQIA individuals, such as lesbian or trans individuals, and focus in general on gay men. For online CDPs that wish to serve the LGBTQIA audience, conducting research on their target audience to see if they would like preventive health information specific to their sexual orientation would be valuable.

### **Limitations**

For the website assessment, it is possible that other online CDPs exist but use different terms that were not caught in the Google search for websites, which would have impacted the results. Regarding the interviews, the study population consisted of only Emory University students, and the data are not representative of or generalizable to other 18 to 24 year olds or other populations in Atlanta. The experience of Emory undergraduate students may also differ from Emory graduate school students, even within the same age range. Because the Jane Fonda Center does not exclusively serve Emory University students, they should recruit participants from other populations in Atlanta to provide feedback in the future when they build their online CDP website.

While these results give insight into the point of view of Emory University students, the interview participants self-selected to participate. The participants may have chosen to participate in this evaluation because they were more interested in or comfortable with

discussing sexual health than the general Emory University population. Additionally, only two of the nine interviews were men, and it is unclear if men would have answered in similar ways to women. The lack of male participants was likely due to a low response rate to recruitment, which also resulted in a small number of interviews. Since new information was still being presented in the final interview, the Jane Fonda Center should conduct further research in order to reach data saturation, aiming for a more gender-balanced sample.

Moreover, interviews were held instead of focus group discussions due to the low response. Focus group discussions would have been preferable to capture brainstorming between participants for the website user experience questions. However, in-depth interviews allowed each participant to provide greater detail about their thoughts and personal experiences. As this evaluation was designed as exploratory work, further research should be conducted with other demographics of adolescents and young adults in Atlanta in the process of building an online CDP.

Furthermore, participants were only invited to explore three websites prior to interviews and were shown a fourth website during interviews. There were other types of layouts and color schemes that students were not shown for reasons such as difficult navigation or a university-owned website that required a student log-in. Due to the small number of examples that participants saw, there may be other features of online CDP websites that participants would have found useful, such as sexual health blog posts or community resources for minority populations. The Jane Fonda Center should identify certain features that they would want on their website and conduct market testing to see how the target audience responds.

## **Public Health Implications**

This evaluation identified characteristics of online CDPs that will be helpful in providing a starting point and suggest avenues for further research for the Jane Fonda Center team when they create their own online CDP. Since online CDPs are relatively new compared to traditional CDPs, it is clear that more research needs to be conducted to assess user satisfaction not only with the service but also with the websites themselves. The present study also identified several areas where online CDPs could improve their websites and better engage users. Changing the colors, images, and overall tone of existing online CDP websites could provide a more welcoming experience for users and encourage them to continue using their services. Moreover, adjusting how online CDPs format health information to facilitate skimming would also make the information more accessible to users and promote learning. Online CDPs are designed to give greater access to safer sex supplies with the intention of improving peoples' sexual health and reducing their risk of STIs and unintended pregnancy. Websites that users trust and can navigate easily can help optimize the use of online CDPs. By attracting more users to use online CDPs, a well-designed website has the potential to increase access to and use of safer sex supplies.

## APPENDICES

**Appendix A.** List of websites included in the website assessment.

<b>Website Name</b>	<b>Affiliation</b>	<b>URL</b>
AIDS Service Coalition	Non-profit organization	<a href="https://www.ascms.net/">https://www.ascms.net/</a>
UGA Condom Express	University of Georgia	<a href="https://www.uhs.uga.edu/sexualhealth/condomexpress">https://www.uhs.uga.edu/sexualhealth/condomexpress</a>
Status Update	Baltimore City Health Department	<a href="http://www.baltimorestatusupdate.com/">http://www.baltimorestatusupdate.com/</a>
Condom Fairy Student Health Services	Boston University	<a href="https://www.bu.edu/shs/wellness/general-health-programs/condom-fairy/">https://www.bu.edu/shs/wellness/general-health-programs/condom-fairy/</a>
Cook County Department of Public Health	Cook County Department of Public Health	<a href="http://cookcountypublichealth.org/sexual-health/std/condom-request-form">http://cookcountypublichealth.org/sexual-health/std/condom-request-form</a>
Do You Philly	Philadelphia Department of Public Health	<a href="http://doyouphilly.org">http://doyouphilly.org</a>
H*yas for Choice	Georgetown University student organization – not university-funded	<a href="https://www.hyasforchoice.com/faq-s">https://www.hyasforchoice.com/faq-s</a>
HIV/STD Prevention Program	Detroit Health Department	<a href="https://detroitmi.gov/departments/detroit-health-department/programs-and-services/stdhiv-prevention/order-free-condoms-mail">https://detroitmi.gov/departments/detroit-health-department/programs-and-services/stdhiv-prevention/order-free-condoms-mail</a>
HIVAZ	Non-profit organization	<a href="https://hivaz.org/">https://hivaz.org/</a>
Knowyo	Wyoming Department of Health in collaboration with CDC	<a href="https://knowyo.org/">https://knowyo.org/</a>
L.A. Condom	Los Angeles County Department of Public Health in collaboration with CDC	<a href="http://lacondom.com/">http://lacondom.com/</a>
Ohio HIV/STI Hotline (OHIV)	Non-profit organization	<a href="http://ohiv.org/">http://ohiv.org/</a>
Safe Sex Express	University of Rochester	<a href="http://www.rochester.edu/uhs/healthpromotion/safessexpress/">http://www.rochester.edu/uhs/healthpromotion/safessexpress/</a>
Sexual Being	District of Columbia Department of Health	<a href="https://sexualbeing.org/">https://sexualbeing.org/</a>
Students for Sexual Health	Boston College student organization – not university-funded	<a href="https://studentsforsexualhealth.org/">https://studentsforsexualhealth.org/</a>
Take Control Philly	Philadelphia Department of Public Health	<a href="http://takecontrolphilly.org/index.php/en/home/">http://takecontrolphilly.org/index.php/en/home/</a>

TeenSource.org or The Condom Access Project	California Department of Public Health in collaboration with CDC and non-profit organization Essential Access Health	<a href="http://www.teensource.org/">http://www.teensource.org/</a>
Test Miami	Florida Department of Health in Miami-Dade County	<a href="http://www.testmiami.org">www.testmiami.org</a>
Texas Wears Condoms	Non-profit organization	<a href="http://www.texaswearscondoms.com">www.texaswearscondoms.com</a>
UHS Free Condoms	University of Texas at Austin	<a href="https://www.healthyhorns.utexas.edu/hs_freecondoms.html">https://www.healthyhorns.utexas.edu/hs_freecondoms.html</a>

## Appendix B. Interview guide.

### IDI Discussion Guide Online Condom Distribution Programs

Thank you for agreeing to participate in this interview today. As you know, I am Margaret, and I'm a student at the Rollins School of Public Health. As part of my master's thesis, I am conducting a formative evaluation of online condom distribution programs for the Jane Fonda Center. The purpose of this is to understand how young people like yourself feel about online condom distribution programs and what they offer. I am going to ask you several questions about your opinions about the websites you reviewed before today and what you think people your age would want out of an online condom distribution program. I understand that talking about sex supplies or sexual health might be a sensitive subject; so, you are free not to answer any question that makes you uncomfortable or to leave at your own discretion.

The information will only be used for the purpose of this thesis project, and only my advisors and I will see the transcripts of our discussion. The transcripts will not contain any identifying information. After the completion of my thesis, the recording will be destroyed. Furthermore, I will keep what you say confidential.

The interview may last up to 1.5 hours. Please speak loudly enough that we would be able to hear on the recording. Do you have any questions before we start?

[WAIT FOR RESPONSES]

Okay, I am going to start recording now.

Thanks again for agreeing to participate, especially since the end of the semester is coming up. What all are you looking forward to during break?

[WAIT FOR ANSWERS]

Sounds great! Well, let's start with the first question.

1. When people your age want to get safe sex supplies, where do they get them? As a reminder, safe sex supplies can be items like male condoms, female condoms, lubricant, and dental dams.
  - a. Probe: What factors do they consider when choosing where to go?
  - b. Probe: How does cost influence the decision?
  - c. Probe: How does interacting with retail employees or a clinic employee impact the decision?
  - d. Probe: How does the time a person has to wait until getting the supplies affect the decision?

TRANSITION: One option that some schools and organizations have are condom distribution programs that offer free safe sex supplies and free shipping, such as the websites you looked at earlier. I have the websites up on the screen here, and I can bring up whichever one you would like to refresh your minds as we discuss them.



2. Thinking back to the survey, you each selected one website that you would use over the others. What factors did you take into account when picking that website?
  - a. Probe: Why were those factors important to you?
  - b. Probe: How did the communication style of the website influence your choice?
  - c. Probe: How did the graphics influence your choice?
  - d. Probe: What role did the diversity of safe sex supplies that are offered impact your decision?
  - e. Probe: How did the ease of navigating the websites influence your decision?
  
3. What characteristics of the other websites did you not like?
  - a. Probe: How would you improve those characteristics to make the website more appealing?
  - b. Probe: What was missing from the websites that you would like to add?

TRANSITION: On the websites you looked at, you saw some different ways that online condom distribution programs can deliver information, whether it's a link to a CDC page about HIV/AIDS or a video about how to put on a condom.

4. How would a young person like you prefer to receive information like how to use a condom or STI prevention?
  - a. Probe: Why would people your age prefer [insert method name that the participants have discussed] of receiving information?
    - i. Probe for: Videos, links to CDC, dialogue examples, FAQ pages

TRANSITION: There are clearly many different ways one can receive information, some more convenient than others. There are also many different ways of getting products delivered to you nowadays. Some of you may be aware of the trend of subscription boxes, where you can get food, makeup, razors, etc. delivered to you on a regular basis.

5. What would influence people your age to sign up for a subscription?
  - a. Probe: Why might people your age be interested in a subscription box of safe-sex supplies? Why not?
  - b. Probe: How often you think people your age would want to receive a safe sex supply subscription box?

TRANSITION: Organizations often ask people who use their service to complete surveys about their service or other topics related to their work. For a sexual health organization, they might send a survey about sexual behavior or other purchasing habits. Imagine that you used an online condom distribution program, and they emailed you asking you to fill out a survey about sexual behavior.

6. How would a young person like you feel about filling out a survey about sexual behavior?
  - a. Probe: What would you want to know about the survey before you completed it?
  - b. Probe: What concerns would you have about filling it out?

TRANSITION: Thank you so much for your discussion.

7. Is there anything else you would like to share or comment on before you leave?

[WAIT FOR RESPONSES]

Thanks again! We appreciate your assistance in this project. Feel free to contact me if you have any other questions or comments.

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