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DETERMINANTS OF COMMERCIAL-SECTOR CONDOM SOURCE CHOICE AMONG ADOLESCENTS

Jamaica and Urban Cameroon

Ruth Berg, PhD & Sara Zellner, PhD

JULY 2004

Determinants of Commercial-Sector Condom Source Choice Among Adolescents: Jamaica and Urban Cameroon

Ruth Berg, PhD
Sara Zellner, PhD

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ABOUT THE AUTHORS

Ruth Berg, PhD, is the Research Director for the Commercial Market Strategies project. Sara Zellner, PhD, serves as Senior Research Associate for the Commercial Market Strategies project.

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COVER PHOTO

Adolescent boys in Jamaica. Photo courtesy of the Pan American Health Organization.

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Commercial Market Strategies Project
1001 G Street NW, Suite 400W
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ABSTRACT

This study provides a quantitative analysis of the factors that promote and deter commercial-sector condom source choice among adolescents in Jamaica and urban Cameroon to better inform efforts to strengthen commercial reproductive health services for youth. Using data from recent adolescent household surveys, the study specifically examines the effects of service access (financial, geographic, and psychological), the demand for service quality, and the demand for condom quality on commercial-sector source choice relative to three alternatives: informal-sector source choice (e.g., friends, partners, or relatives), public-sector source choice, and non-use of any contraceptive method (e.g., no source). The findings suggest that the commercial sector's key strengths with respect to condom provision are that youth perceive it to offer relatively high-quality products. A central limitation, however, is that some young people cannot afford commercial-sector condoms and may choose either not to use condoms at all (e.g., Cameroonian girls) or to rely on informal sources, such as friends and relatives, for condoms. The findings also suggest that commercial-sector outlets can be even more successful than they already are at attracting young people by improving privacy, making condom purchase less embarrassing, and providing health information.

KEY WORDS

Adolescents, commercial sector, private sector, informal sector, condoms, Jamaica, Cameroon, source choice.

RECOMMENDED CITATION

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Determinants of Commercial-Sector Condom Source Choice Among Adolescents: Jamaica and Urban Cameroon

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EXECUTIVE SUMMARY

This study provides a quantitative analysis of the factors that promote and deter commercial-sector condom source choice among adolescents in Jamaica and urban Cameroon to better inform efforts to strengthen commercial reproductive health services for youth. Using data from recent adolescent household surveys, we specifically examine the effects of service access (financial, geographic, and psychological), the demand for service quality, and the demand for condom quality on commercial-sector source choice relative to three alternatives: informal-sector source choice (e.g., friends, partners, or relatives), public-sector source choice, and non-use of any contraceptive method (e.g., no source).

Key findings from the analysis include the following:

- Financial access was an important determinant of whether youth used the commercial sector as a source of condoms, not only in Jamaica, a fully commercial condom market, but also in urban Cameroon, a heavily subsidized condom market.

- Embarrassment surrounding the purchase of condoms increased the likelihood that girls in both countries relied on informal sources, such as sexual partners, for condoms instead of the commercial sector.

- With respect to the demand for service quality, a preference for privacy and low prices reduced the likelihood that Jamaican boys obtained condoms from the commercial sector, rather than from informal condom sources, such as friends and relatives. Additionally, a preference for condom outlets with health information decreased the likelihood that Jamaican boys obtained condoms from the commercial sector and increased the likelihood that they procured them from public-sector outlets.

- Regarding condom quality, Jamaican boys concerned about condom strength and reliability were more likely to procure condoms from commercial sources than from the informal sector, even after controlling for measures of financial access, such as working for pay and socioeconomic status.

Taken together, the findings suggest that the commercial sector's key strengths with respect to condom provision are that youth perceive it to offer relatively high-quality products. A central limitation in both Jamaica and urban Cameroon, however, is that some young people cannot afford commercial-sector condoms and may choose either not to use condoms at all (e.g., Cameroonian girls) or to rely on informal sources, such as friends and relatives, for condoms. The findings also suggest that commercial-sector outlets can be even more successful than they already are at attracting young people by improving privacy, making condom purchase less embarrassing, and providing health information.

1 Introduction

INTRODUCTION

As international donors and governments struggle to meet the growing demand for reproductive health services around the world, the needs of adolescents merit special attention. Twenty percent of the developing world's population — more than 1 billion people — are between the ages of 10 and 19 (US Census Bureau, 2002). Many young people are sexually active and face associated reproductive health risks. Complications of pregnancy, childbirth, and unsafe abortion are major causes of death among adolescent women (Senderowitz, 1995), and young people have especially high rates of sexually transmitted infections (Chaya et al., 2002). Thus, it is critical that reproductive health programs ensure adolescent access to high-quality reproductive health products and services.

Several observers have highlighted the potentially important role of the private sector in achieving this goal (James-Traore et al., 2002; Miller, 2003; Senderowitz and Stevens, 2001). Research shows that in many countries, the majority of young people obtain their reproductive health services from commercial outlets, often in greater proportions than adults (Murray et al., 2002). This suggests a commercial-sector preference among youth and an opportunity for program managers to meet reproductive health needs better by strengthening the commercial-sector attributes that attract youth and addressing any commercial-sector service barriers.

Unfortunately, there is currently little empirical information available to inform such an effort. To the extent that data exist, they are largely qualitative. Focus groups in Botswana, for example, indicate that adolescents perceive private-sector condom sources to be more accessible than public-sector outlets. Although the public sector offers free condoms, private-sector providers are less likely to openly question youths' behavior (Meekers, Ahmed, and Molatlhegi, 2001). This same study also finds that some adolescents think that private-sector condoms are of better quality than either public-sector condoms or condoms obtained from friends. On the other hand, the results show that some boys who value privacy prefer to rely on informal sources, such as friends, rather than either private- or public-sector outlets.

Similarly, a qualitative study conducted in Bolivia finds that many adolescents think that neither the public nor the private sector offers adequate privacy or confidentiality in the provision of reproductive health services (Zielinski Gutiérrez et al., 2001).

This study provides a quantitative analysis of the factors that promote and deter adolescent use of commercial-sector reproductive health services to better inform efforts to strengthen commercial-sector services for youth. Considering that access to condoms — the only reproductive health method that provides protection against both HIV/AIDS and pregnancy — is especially important for sexually active youth, the analysis focuses on the determinants of commercial-sector use for this method in particular. Using data from adolescent household surveys, we examined the effects of service access (financial, geographic, and psychological), the demand for service quality, and the demand for condom quality on commercial-sector source choice among adolescents in Jamaica and urban Cameroon. Specifically, we addressed the following questions:

- To what extent do financial and geographic access determine commercial-sector use, and is lack of financial access more of a concern in fully commercial condom markets, such as Jamaica, than in heavily subsidized markets, such as Cameroon?

- Does embarrassment surrounding the purchase of condoms serve as a psychological barrier to commercial-sector use?

- Does the demand for service quality in condom outlets, such as privacy, short waiting times, and convenient hours of operation, increase the likelihood that youth would obtain condoms from the commercial sector rather than from alternative sources (e.g., the public or informal sectors)?

- To what extent does the demand for condom quality — including the strength, reliability, and material from which condoms are made — attract youth to the commercial sector for condoms?

This report discusses specific hypotheses related to these questions; the data, measures, and methods used to test them; the study results; its limitations; and program implications.

2 Hypotheses

HYPOTHESES

In the 1990s, a substantial literature emerged that emphasized the importance of maximizing contraceptive access and quality of care to encourage and sustain contraceptive use (Jain, 1989; Bruce, 1990; Bertrand et al., 1995; AbouZahr et al., 1996). These core concepts underlie recent efforts to develop "youth-friendly" reproductive health services. James-Traore et al. (2002, page 58) stress, for example, that youth-friendly services should be designed to "improve access to and quality of existing reproductive health services, as well as to make their use more acceptable to adolescents."

The commercial sector often has a large network of outlets relative to the public sector and is also thought to offer greater anonymity, privacy, and confidentiality than public-sector sources. Consequently, there is growing interest in leveraging the for-profit sector to support adolescent reproductive health programming (Senderowitz and Stevens, 2001). This study aims to inform these efforts by identifying key aspects of access and quality that either attract youth seeking condoms to the commercial sector or prevent them from using commercial-sector services. We examine three dimensions of access — financial, geographic, and psychological — as well as the role that the demand for service quality and condom quality play in determining commercial-sector condom source choice. The remainder of this section discusses our hypotheses related to each of these factors.

FINANCIAL ACCESS. Commercial-sector reproductive health products and services are relatively expensive, which raises the possibility that more-vulnerable populations, including adolescents, may not have ready access to them (Population Action International, 2001). Therefore, to the extent that working for pay and being from a higher socioeconomic status (SES) household provides youth with greater access to money, we expect these youth to be more likely to purchase condoms from the commercial sector in fully commercial condom markets like Jamaica.[1] On the other hand, in heavily subsidized condom markets, such as in Cameroon, we expect that working for pay and high SES will not significantly distinguish users of commercial-sector condoms from other condom users because prices of social marketing condoms are nominal.[2]

GEOGRAPHIC ACCESS. Geographic access is thought to be an important determinant of reproductive health service use (Bertrand et al., 1995; Entwisle et al., 1997). With respect to condoms in particular, Agha (1998) finds that men in Zambia who are within 10 minutes of a condom source are nearly twice as likely to have used a condom at last intercourse, after controlling for other factors. Thus, we expect that youth are more likely to obtain condoms from a commercial-sector outlet if the outlet is nearby.

PSYCHOLOGICAL ACCESS. For some adolescents, embarrassment surrounding the purchase of condoms can serve as a psychosocial impediment to buying them (Laganá, 1999). Thus, we expect that youth who are embarrassed to buy condoms will be more likely either to forgo using condoms altogether or to obtain them from less-visible sources, such as friends or partners.

DEMAND FOR SERVICE QUALITY. Private-sector providers are thought to provide adolescents with more confidentiality and privacy than public-sector providers (James-Traore et al., 2002). At the same time, qualitative research finds that some youth who prefer confidentiality and privacy are more likely to obtain condoms from friends than from either the public or the private sector (Meekers, Ahmed, and Molatlhegi, 2001). Thus, we expect that youth for whom confidentiality and privacy are important will be more likely to frequent commercial-sector outlets for condoms than public-sector outlets, but less likely to obtain condoms from commercial sources than from informal sources, such as friends. Flexible service hours and short waiting times are also thought to be important service quality factors (Creel et al., 2002). Since these tend to be more characteristic of commercial-sector condom outlets than public-sector outlets, we expect that youth for whom convenient

1 We acknowledge that working youth who live in independent households may actually have less disposable income than non-working youth living in parental households. However, since this is unlikely to be the circumstance for the majority of working youth, we expect the net effect of working for pay on commercial-sector source choice to be positive.

2 The price of socially marketed *Prudence* condoms, which are widely available in Cameroon, is 5 cents per condom. Moreover, the cost of 100 *Prudence* condoms (i.e., one couple year of protection) is equivalent to 0.29 percent of the purchasing power parity gross national product in Cameroon (Armand, 2004).

hours and short waiting times are important to be more likely to obtain condoms from the commercial sector. Last, counseling and information are key elements of service quality (Creel et al.,2002). Compared to public-sector outlets, typical commercial condom sources, such as grocery stores, kiosks, and shops, are less likely to provide health information through counseling and brochures. Therefore, we expect that youth for whom the availability of health information in condom outlets is important to be less likely to obtain condoms from commercial-sector sources. Similarly, we expect that youth for whom condom prices are a concern to be less likely to procure condoms from commercial sources than from the public or informal sectors.

DEMAND FOR CONDOM QUALITY. When condoms are available for free in the public sector, as they are in both Jamaica and Cameroon, commercial-sector providers must be perceived as providing additional value in order for people to be willing to pay for the condoms they sell. One way that the commercial sector accomplishes this is by providing a relatively broad of array of condoms with different packaging, textures, and thicknesses. Qualitative research from Botswana also suggests that some adolescents consider condoms from commercial-sector providers to be more reliable than those obtained from friends (Meekers, Ahmed, and Molatlhegi, 2001). Thus, we anticipate that youth who place importance on the quality (e.g., condom texture and strength) and reliability of condoms will be more likely to obtain condoms from the commercial sector than from public-sector outlets or from informal sources, such as friends.

3 Data, Measures, and Methods

DATA, MEASURES, AND METHODS

DATA

To test the above hypotheses, the study uses data from two sources: the Adolescent Survey of Condom Knowledge, Attitudes, and Practices (KAP) in Jamaica (HOPE Enterprises, Ltd., 2001) and the Adolescent Reproductive Health (ARH) survey in Cameroon (Tchupo and Tégang, 2002). We selected these two data sets for analysis because unlike many other reproductive health surveys, they contain relatively large samples of youth, and they provide information about key variables of interest, including condom source, access to condom sources, and the demand for condom quality for both males and females.

The KAP survey in Jamaica is a nationally representative sample of 486 males and 424 females aged 15 to 19. It was commissioned by the Commercial Market Strategies project and implemented by HOPE Enterprises, Ltd. Data were collected during January and February 2001.

The 2002 Cameroon ARH survey is a representative sample of 1,801 males and 1,735 females aged 15 to 24 in Yaoundé and Douala, Cameroon. It was commissioned by the Programme de Marketing Social au Cameroun (PMSC) and was implemented by the Institut de Recherche et des Études de Comportements (IRESCO) in January 2002. For the purposes of this study, the sample is restricted to adolescents aged 15 to 19.

WORKING SAMPLES FOR MULTIVARIATE ANALYSIS

Our interest is in identifying the extent to which access, the demand for service quality, and the demand for condom quality influence commercial-sector condom source choice among adolescents. The working sample for our multivariate analysis includes adolescents aged 15 to 19 who used a condom at last sexual intercourse. Limiting our sample to condom users alone, however, fails to take into account the fact that some adolescents may find access to the commercial sector so difficult or the level of privacy provided in commercial-sector sources so unsatisfactory that they forgo using condoms altogether. Therefore, our working sample also includes adolescents who used no contraceptive method or condom at last sexual intercourse (e.g., no source).[3]

We excluded some respondents from the analysis because of small cell size for a particular condom source or missing information. In the analysis of Jamaica, we excluded respondents who obtained their condoms from a source other than the commercial, public, or informal sector (N=1) and respondents who did not respond to questions related to awareness of condoms or HIV (N=3). In addition, the number of girls who reported obtaining condoms from the public sector was insufficient (N=11) to allow this group to be a comparison group against either commercial- or informal-sector condom users. Similarly, in the analysis of urban Cameroon, the number of adolescents who reported that they obtained their condom from the public sector was insufficient to allow analysis (N=5); consequently, our analysis of Cameroonian youth excludes public-sector users. In addition, 11 boys and 30 girls were excluded from the analysis because either they did not know their condom source, or they obtained the condom from sources other than the public, commercial, or informal sectors.

Last, the 2002 ARH survey in Cameroon asks all questions related to method and source use according to partner type (spouse, regular non-marital partner, occasional partner, and commercial sex worker). To simplify the analysis for Cameroon, we examine data on condom source choice only from the largest partner type category for both adolescent males and females: regular non-marital partners.[4]

3 In the case of Jamaica, the multivariate analysis of source choice includes only adolescents who have ever used condoms (79 percent of all sexually active youth in the sample), which includes those who did not use a condom at last sexual intercourse. The multivariate analysis excludes the 21 percent of sexually active adolescents who have never used condoms because questions related to the demand for service and condom quality were only asked of those who had ever used condoms. To the extent that never users of condoms are affected more by lack of financial access or the demand for privacy than ever users of condoms who did not use a condom during last sex, exclusion of never users may result in an underestimate of the effect of these variables on commercial source choice.

4 Note that each of the other partner type categories had fewer than 50 total female cases and fewer than 25 female condom users, making analysis of condom source choice relatively unreliable.

The final working samples for our multivariate analysis include 319 boys and 166 girls in the analysis of Jamaica and 412 boys and 395 girls in the analysis of urban Cameroon. Unless otherwise noted, our descriptive analysis relies on a broader working sample of adolescents aged 15 to 19 who report having had sexual intercourse within the past year; the sample sizes for these descriptive analyses are 363 boys and 243 girls in the analysis of Jamaica and 462 boys and 466 girls in the analysis of urban Cameroon.

MEASURES

DEPENDENT VARIABLE: SOURCE CHOICE

Our dependent variable is a polytomous variable with four categories: no method used during last sexual intercourse (e.g., no condom source); public-sector condom used during last sexual intercourse; commercial-sector condom used during last sexual intercourse; and informal-sector condom used during last sexual intercourse (e.g., condom obtained from friends, relatives, or partner).[5]

PREDICTOR VARIABLES FOR SOURCE CHOICE

The 2001 adolescent KAP survey in Jamaica asks questions related to condom access, the demand for condom quality, and the demand for condom service quality. While the 2002 ARH survey in Cameroon does not include questions related to the demand for condom service quality, it does include questions about the demand for condom product quality and several dimensions of access. All variables except SES are coded as dummy variables and are based on the following questions:

- FINANCIAL ACCESS. Working for pay and SES serve as indicators of financial access to commercial-sector condoms in our analyses. In the Jamaican survey the question is asked as, "Do you work to earn money for yourself?" while in the Cameroon survey, it is translated as, "What is your principle source of revenue?" with work as an option.

  The second variable is SES and is measured as a cumulative index of six household assets and amenities. Respondents were ranked in order by score and grouped into three categories of roughly equal size (low, medium, and high).

- GEOGRAPHIC ACCESS. In Cameroon, respondents were asked, "How long would it take you to walk to the nearest place to your home where you could buy condoms?" In Jamaica, respondents were sequentially asked, "How easy is it for people your age to get condoms?" and "Why can't people your age get condoms easily?" with "too far" as an option.

- PSYCHOLOGICAL ACCESS. One indicator for psychological access is based on responses to questions about whether the respondent finds it embarrassing to purchase condoms (Jamaica) or embarrassing to purchase condoms close to home (Cameroon). A second indicator (Jamaica only) pertains to whether youth report that the reason people their age cannot easily obtain condoms is that they are too young.

- DEMAND FOR CONDOM PRODUCT QUALITY. In Jamaica, respondents were asked two questions related to the demand for condom product quality. First, they were asked, "Are any of the following important to you when choosing a condom to use?" Fourteen responses were possible, ranging from condom reliability to condom amenities, such as color and texture. Multiple responses were allowed. Second, respondents were asked, "Of all of the things that you said were important to you, which three are the most important?"

  Based on responses to the second question, we developed three indicators of the demand for condom product quality in Jamaica: (a) importance of condom material, (b) importance of condom strength, and (c) importance of condom reliability.

  In Cameroon, youth were asked whether they had ever purchased a condom and, if so, what the reason was for choosing the brand that they bought, with "quality" as an option.

5 Since fewer than 10 respondents from either Jamaica or Cameroon reported that they obtained their condoms from a non-governmental organization (NGO), we did not analyze this source choice. Also, because of small sample sizes, the public sector could only be analyzed among Jamaican boys.

- DEMAND FOR CONDOM SERVICE QUALITY. In Jamaica, respondents were asked, "If you wanted to buy condoms, which of the following would be important to you in choosing a place to buy them?" Response categories included "convenient hours of operation," "privacy/confidentiality," "low prices," and "access to health information." Multiple responses were possible. Each response was coded as a separate dummy variable.

  The 2002 ARH survey in Cameroon does not ask questions pertaining to the demand for condom service quality; we are, therefore, unable to examine this factor in our analysis of Cameroon.

CONTROL VARIABLES

Control variables include place of residence (capital city versus other) and age (15 to 17 versus 18 to 19).

PREDICTOR VARIABLES FOR CONDOM USE

As mentioned in the discussion of the working sample, our analysis includes non-use of any method as an alternative to commercial-sector source choice. Thus to properly specify our statistical model, not only do we need to include the above variables that predict condom source choice, but also variables that predict condom use and non-use more generally. A substantial literature has identified several behavior change components, such as perceived risk of contracting HIV/AIDS, self-efficacy, and social support, as key determinants of condom use (see Lutalo et al., 2000; Meekers and Klein, 2002; Markham et al., 2003; Meekers, Silva, and Klein, 2003). We include many of these variables in our analysis. However, since the focus of this study is on the determinants of condom source choice and not on the determinants of condom use per se, we present both the description of these variables and associated descriptive and multivariate results in the Appendix, rather than in the body of this report.

METHODS

Because the dependent variable in our analyses involves more than two distinct choices, we use multinomial logistic regression as the estimation technique. We constrain behavior change variables to predict condom use only and report those results in the Appendix.

We express the regression results as relative risk ratios (rrr). With respect to interpretation, statistically significant relative risk ratios greater than 1 indicate that the predictor variable increases the likelihood of the specified outcome (e.g., commercial-sector use), while a ratio less than 1 decreases the likelihood. For example, a statistically significant rrr for "works for pay" of 2.0, predicting commercial-sector use relative to informal-sector use, suggests that youth who work for pay are twice as likely to obtain condoms from the commercial sector as from the informal sector. By contrast, a statistically significant rrr of 0.5 would indicate that youth who work for pay are half as likely to obtain condoms from the commercial sector.

We present separate models for male and female respondents.

4 Descriptive Results

DESCRIPTIVE RESULTS

The adolescent surveys reveal that a substantial proportion of adolescents in both Jamaica and urban Cameroon have had sexual intercourse in the year prior to the survey. According to the survey in Jamaica, 75 percent of boys and 57 percent of girls aged 15 to 19 have had sexual intercourse within the previous year.[6] Similarly, the survey in Cameroon indicates that in Yaoundé and Douala, 51 percent of adolescent boys have been sexually active within the last year, compared to 53 percent of girls.

METHOD USE AND SOURCE CHOICE

The results in Table 1 show that the majority of sexually active boys (70 percent) and approximately half of sexually active girls (51 percent) in Jamaica report having used a contraceptive method or condom the last time they had sexual relations. Similarly, 66 percent of boys with regular sexual partners in urban Cameroon say they used a contraceptive method, compared with 56 percent of girls.

6 Though the percentage of sexually active youth in Jamaica may seem high, these estimates are consistent with previous survey findings. For example, Friedman et al. (1999) found that among adolescents aged 15 to 19 in 1997, 51 percent of girls and 74 percent of boys had had sexual intercourse.

Among adolescents who used a contraceptive method during last sexual intercourse, both boys and girls in both countries are far more likely to have used condoms than any other method.

Table 2 presents the distribution of sexually active youth who used a condom during last intercourse according to the source of condom procurement. In both countries, commercial-sector outlets are the most common condom source among boys, with more than half reporting that they acquired condoms from a small grocery store, kiosk, or shop. Another 18 percent of Jamaican boys and 22 percent of Cameroonian boys report that they purchased condoms from other commercial-sector sources, such as pharmacies, supermarkets, bars, clubs, or street vendors. Informal sources, such as friends, partners, and relatives, are also important condom sources for adolescent boys in both Jamaica and Cameroon, with 19 percent of Jamaican boys and 15 percent of Cameroonian boys reporting that they obtained their condoms from one of these informal sources. Fewer than 10 percent of boys in either country say they obtained their condoms from public-sector outlets.

Female adolescents display higher percentages of condom procurement from informal sources than males, a result that can be attributed to girls' relatively heavy reliance on partners for condoms.

Table 1. Adolescent boys and girls aged 15–19 who had sexual intercourse in the past year by whether they used a contraceptive and the method of contraception used during last sexual intercourse: Jamaica, 2001 and Yaoundé and Douala, Cameroon, 2002 (percent)

	Jamaica		Cameroon	
Variable	**Male**	**Female**	**Male (with regular partner)**	**Female (with regular partner)**
Used condom or another contraception method during last sexual intercourse				
Yes	70	51	66	56
No	30	49	34	44
Method used [a]				
Male condom	97	77	88	83
Oral contraceptive	2	10	1	1
Injection	0	10	0	0
Other	1	3	11	16
(N)	**(363)**	**(243)**	**(462)**	**(466)**

a The distribution for Jamaican youth and Cameroonian girls reflects weighting from multiple responses regarding methods used for pregnancy and HIV/AIDS prevention. The total percentage of youth reporting condom use (with or without another method) is 98 percent for Jamaican males, 85 percent for Jamaican females, and 85 percent for Cameroonian females aged 15–19.

Table 2. Adolescent boys and girls aged 15–19 who were sexually active in the past year and who used a condom during last intercourse by condom source: Jamaica, 2001 and Yaoundé and Douala, Cameroon, 2002 (percent)

	Jamaica		Cameroon	
Condom source	**Male**	**Female**	**Male (with regular partner)**	**Female (with regular partner)**
Public sector	**9**	**10**	**1**	**1**
Clinic/health center/hospital	9	10	1	1
Commercial sector	**72**	**30**	**79**	**50**
Pharmacy	7	10	21	28
Supermarket/market/large grocery	8	6	1	1
Small grocery/kiosk/shop	54	13	57	21
Other (bars, clubs, street vendors, etc.)	3	1	0	0
Informal sector	**19**	**55**	**15**	**33**
Friends/relatives	17	2	9	1
Partner	2	53	6	32
Other	**0**	**0**	**4**	**3**
Don't know/No response	**0**	**5**	**1**	**13**
Total	**100**	**100**	**100**	**100**
(N)	**(249)**	**(105)**	**(268)**	**(222)**

Note: The sub-sample sizes for Jamaican youth and Cameroonian females in this table are slightly higher than one would expect, given the percentages of youth using condoms reported in Table 1. This is due to the fact that the percentages reported in Table 1 reflect weighting from multiple responses regarding method use. The sub-sample sizes reported in Table 2 above reflect the total percentage of youth reporting condom use (with or without another method). See footnote to Table 1 for relevant percentages.

A little more than half of girls in Jamaica (53 percent) and nearly a third in Cameroon (32 percent) say they obtained condoms from their partner. With respect to condom procurement from the commercial sector, half of Cameroonian girls and 30 percent of Jamaican girls acquired condoms from commercial establishments. Like boys, few girls say they obtained condoms from the public sector (10 percent of Jamaican girls and 1 percent of Cameroonian girls).

Taken together, the results indicate that condoms are widely used among adolescents who use some form of contraception or sexually transmitted disease (STD) prevention method in Jamaica and urban Cameroon. Furthermore, commercial-sector outlets, particularly small outlets, and informal sources (such as friends, relatives, and partners) are common condom sources.

ACCESS AND QUALITY

Table 3 shows descriptive results for the control variables and the main variables of interest in the study: access to commercial-sector condoms, the demand for service quality, and the demand for condom quality. Looking at financial access, 44 percent of sexually active Jamaican adolescent boys in the sample work for pay compared to only 17 percent of adolescent girls, suggesting that boys have greater financial access to commercial-sector condoms than girls. SES was coded such that the numbers of respondents in each is roughly equal, so levels of SES categories are similar in percentage. Although a similar percentage of Jamaican girls and Cameroonian girls report feeling embarrassed to buy condoms (41 percent and 45 percent, respectively), a higher percentage of Cameroonian girls purchase condoms from the commercial sector, as shown in Table 2. No Jamaican youth report that condoms are difficult to obtain because they are too far away, and only a few say that being young makes condoms difficult to obtain (4 percent of boys and 5 percent of girls). Finally, regarding geographic access, in urban Cameroon, 83 percent of boys and 64 percent of girls report living 10 minutes or less away from a commercial condom outlet.

With respect to the demand for condom quality in Jamaica, 70 percent of sexually active males who have ever used condoms and 62 percent of sexually active females who have ever used condoms report that the material from which condoms are made is an important consideration when choosing a condom.[7] More than half of Jamaican youth also say that condom strength is another important consideration, and more than 40 percent report that reliability is important.

In addition to the quality of the condom product itself, various aspects related to the quality of condom outlets are important to young people in Jamaica. Specifically, approximately one-third of Jamaican boys who have ever used condoms indicate that privacy and short waiting time are among the most important considerations in choosing a condom outlet. Approximately one-quarter of these boys also report that convenient hours of operation and the availability of health information influence their condom outlet choice. Among Jamaican girls who have ever used condoms, privacy is the most important consideration (42 percent). About one-third of these girls also say that the availability of health information is important. Affordable prices is cited least often by both boys (18 percent) and girls (13 percent).

Regarding basic demographic characteristics of those surveyed, roughly 40 percent of sexually active Cameroonian adolescents and Jamaican girls are aged 15 to 17, while 59 percent of Jamaican boys fall in this age range. Twenty-nine percent of Jamaican male adolescents in the sample live in the capital city of Kingston, compared to 36 percent of female adolescents. In Cameroon, roughly half of both boys and girls live in the capital city of Yaoundé.

7 Questions related to the demand for condom quality and service quality were asked only of adolescents who have ever used condoms.

Table 3. Adolescent boys and girls aged 15–19 who had sexual intercourse in the past year by condom access, demand for quality, and socio-demographic characteristics: Jamaica, 2001 and Yaoundé and Douala, Cameroon, 2002 (percent)

	Jamaica		Cameroon	
Characteristic/positive response	**Male**	**Female**	**Male (with regular partner)**	**Female (with regular partner)**
Condom access				
Works for pay	44	17	39	25
High SES	38	28	35	29
Embarrassed to buy condoms	6	41	26	45
Condoms hard to obtain because outlet too far away	0	0	—	—
Condoms hard to obtain because adolescents are too young/providers won't sell to youth	4	5	—	—
Travel time is 10 minutes or less	—	—	83	64
Demand for condom quality [a]				
Condom material important	70	62	—	—
Condom strength important	58	56	—	—
Condom reliability important	42	44	—	—
Preference for quality drove condom brand choice	—	—	13	8
Demand for condom service quality [a]				
Prefers convenient hours	24	18	—	—
Prefers privacy	34	42	—	—
Prefers affordable prices	18	13	—	—
Prefers short waiting time	34	18	—	—
Prefers outlets with health information	26	32	—	—
Socio-demographic characteristics				
Aged 15–17	59	44	40	40
Living in capital city	29	36	47	52
(N)	**(363)**	**(243)**	**(462)**	**(466)**

a *The 2001 KAP in Jamaica asks questions related to the demand for condom quality and the demand for condom service quality only to respondents who have ever used condoms. Therefore, the results in this table pertaining to these two categories of variables refer to sexually active adolescents who have ever used condoms (i.e., 79 percent of all sexually active adolescents in the sample). The associated samples sizes are 342 boys and 172 girls.*

Note: Dash signifies that the data set does not contain this variable.

5 Multivariate Results: Impact of Access and Demand for Quality on Condom Source Choice

MULTIVARIATE RESULTS:

IMPACT OF ACCESS AND DEMAND FOR QUALITY ON CONDOM SOURCE CHOICE

Three key findings are consistent across Jamaica and Cameroon with respect to the influence of commercial-sector access on condom source choice:

- FINANCIAL ACCESS was, as anticipated, an important determinant of commercial-sector use among youth in Jamaica, a fully commercial condom market. However, unexpectedly, financial access also significantly influenced commercial-sector source choice in urban Cameroon, where heavily subsidized social marketing condoms are widely available in the commercial sector.

- UNEMPLOYMENT among adolescent boys increased the likelihood that they obtained condoms from the informal sector (especially friends and relatives), rather than from the commercial sector.

- EMBARRASSMENT surrounding the purchase of condoms, as expected, decreased the likelihood that girls in either country obtained condoms from the commercial sector and increased the likelihood that they obtained them from informal sources, such as partners. Among boys, however, embarrassment had no statistically significant effect on condom source choice.

In addition, the survey in Jamaica allows a comparatively extensive examination of the effect of the demand for quality among youth. Two central findings emerged from this analysis:

- PREFERENCES RELATED TO CONDOM MATERIAL AND RELIABILITY increased the likelihood that boys relied on commercial condom sources, rather than informal condom sources, as expected, but had no statistically significant effect on source choice among girls.

- PREFERENCES FOR PRIVACY AND LOW PRICES decreasd the likelihood that boys obtained condoms from the commercial sector, rather than from informal condom sources as anticipated. Unexpectedly, however, they did not distinguish commercial-sector condom users from their public-sector counterparts.[8]

Table 4 presents the determinants of access and the demand for quality on condom source choice for Jamaica; Table 5 presents the determinants for urban Cameroon.

Table 4 shows that in Jamaica, the predictors of commercial-sector use, rather than informal sources, differ between boys and girls. Among boys, financial access and the demand for condom quality increased the likelihood of commercial-sector use. Specifically, boys who work for pay are 2.71 times as likely as boys who do not work to have obtained the condom used during last sexual intercourse from the commercial sector, rather than the informal sector. Those who report that condom material or condom reliability are important are more than twice as likely as other boys to have procured their condoms from commercial sources, rather than from informal sources. A preference for privacy or low prices and living in the capital city lowers the likelihood of commercial-sector use and increases the likelihood that boys obtained their condoms from the informal sector.

For girls, age is a key determinant of having obtained condoms from the commercial sector, rather than from informal sources, most of which are sexual partners (rrr = 3.00). Another positive predictor of commercial source choice is a preference for low prices. Although this result is counterintuitive, one likely explanation is that girls who buy their own condoms are much more likely to say that low prices are important to them than girls who obtain them from informal sources precisely because, as the descriptive statistics indicate, girls have relatively few economic resources with which to buy condoms. With respect to potential barriers to commercial-sector access, girls who report being embarrassed to buy condoms are signifigantly less likely to have purchased their condoms in the commercial sector and more likely to have relied on informal sources, such as partners.

8 Additional analyses not shown here compare public-sector condom users with informal-sector condom users and reveal that a preference for privacy also decreases the likelihood of public-sector use, relative to informal-sector use.

Table 4. Relative risk ratios from constrained multinomial logistic regression analyses examining the effect of condom access and the demand for quality on commercial-sector condom source choice among adolescent boys and girls aged 15–19 who had sexual intercourse in the past year: Jamaica, 2001

	Male			Female	
Characteristic/positive response	**Commercial vs. informal**	**Commercial vs. public**	**Commercial vs. no method**	**Commercial vs. informal**	**Commercial vs. no method**
Condom access					
Works for pay	2.71*	0.92	1.35	0.82	0.65
High SES	1.24	1.07	1.07	1.50	0.81
Embarrassed to buy condoms	0.41	1.41	0.96	0.24*	0.39
Condoms hard to get because outlet too far away	a	a	a	a	a
Condoms hard to get because adolescents are too young	0.49	0.32	0.35	b	b
Demand for condom quality					
Condom material important	2.61*	0.99	1.01	0.83	1.15
Condom strength important	1.02	1.14	1.37	0.99	1.02
Condom reliability important	2.02^	0.87	1.22	0.93	0.53
Demand for condom service quality					
Prefers convenient hours	1.46	1.19	0.92	1.11	3.10
Prefers privacy	0.50^	1.55	0.79	0.91	2.32
Prefers low prices	0.49^	0.67	1.14	6.60*	4.32
Prefers short waiting time	1.36	1.05	1.18	0.23	0.05**
Prefers outlets with health information	0.78	0.36*	1.34	1.07	3.16^
Control variables					
Aged 18–19	1.24	2.24	0.66	3.00*	3.45*
Living in capital city	0.75^	0.36^	0.32**	2.31	0.69
Living in other metropolitan area	1.34	2.22	0.72	1.14	0.65
(N)	**(319)**			**(166)**	
Log-likelihood	-316.54			-132.32	

^ *Significant at p<.10; *p<.05; **p<.01.*

a No respondents reported that condoms were difficult to attain because outlets were too far away. Consequently, this measure of geographic access was dropped from the analysis.

b There were too few cases to allow analysis.

Turning to the determinants of commercial-sector use rather than public sector-use in Jamaica (examined only for boys, due to the small sample size for girls), access does not appear to be a factor. A possible explanation for the lack of an effect of financial access — as measured by working for pay — is that the public sector sometimes charges for condoms in Jamaica (Lane, 2004). To the extent that youth have to pay for condoms in both the public and private sectors, it is not surprising that working for pay does not differentiate commercial- from public-sector condom users. In terms of the demand for service quality, boys who prefer condom outlets with health information are estimated to be about a third as likely to have obtained their condoms from the commercial sector (conversely, they are about three times as likely to have obtained condoms from the public sector). Living in the capital city also decreases the likelihood of commercial-sector use relative to the public sector.

Last, we include an estimate of commercial-sector condom use relative to non-use of condoms. None of the access or quality predictors of condom use is statistically significant for boys. For girls, however, a preference for outlets with a "short waiting time" significantly decreases the likelihood that girls obtained condoms from the commercial sector versus not using a method at all; this suggests that some girls forgo using condoms altogether, rather than invest the time to obtain them from formal outlets in the commercial sector. Recent qualitative research in Ghana suggests that girls may be especially sensitive to the time they have to spend in a shop obtaining family planning out of fear that they might encounter someone they know (Okello and Odamtten, 2004). The results show again that age is an important determinant of commercial-sector condom source choice for girls. Specifically, the analysis finds that older female adolescents in urban Cameroon are more than three times as likely as younger female adolescents to obtain condoms from the commercial sector, rather than forgo condom use altogether.

Table 5 shows that among Cameroonian boys, working for pay and being of high SES both significantly raise the likelihood of obtaining condoms from the commercial sector, rather than from informal sources (rrr = 2.05 and 2.57, respectively).

Cameroonian girls who work for pay are also more likely to rely on the commercial sector for condoms than on the informal sector. Living in the capital city is also a strong predictor of commercial-sector use (rrr = 4.70). Unlike boys, being embarrassed to buy condoms affects the likelihood that girls procured condoms from the commercial sector. Specifically, girls who are embarrassed to buy condoms are about half as likely to have obtained the condom they used at last sexual intercourse from a commercial outlet, rather than from informal sources, such as their partner (rrr = 0.53).

Unlike Jamaica, the findings for Cameroon suggest that not only are access considerations important for source choice, but also for whether youth use a condom at all. With respect to geographic access, boys and girls appear to be affected differently. Specifically, being within a 10-minute walk of a condom outlet increases the likelihood that boys used a commercial-sector condom during last sexual intercourse (as opposed to no method), but decreases the likelihood that girls used a commercial-sector condom (compared to using no method). This counterintuitive result for girls may reflect a reluctance to frequent condom outlets that are within walking distance out of concern that either the provider or someone in the outlet might know them.

With respect to financial access, the effect of commercial-sector condom use (versus no method at all) among Cameroonian youth is also significant and works in opposite directions for boys and girls. Among girls, higher SES — which presumably allows greater access to the money necessary to purchase condoms — increases the likelihood of commercial-sector condom use at last sexual intercourse (compared to no method). However, among boys, working for pay is associated with a decrease in the likelihood of using a commercial-sector condom versus no method at all. We have no clear explanation for this latter finding.

Table 5. Relative risk ratios from constrained multinomial logistic regression analyses examining the effect of condom access and the demand for quality on commercial-sector condom source choice among adolescent boys and girls aged 15–19 who had sexual intercourse in the past year: Yaoundé and Douala, Cameroon, 2002

	Male		Female	
Characteristic/positive response	**Commercial vs. informal**	**Commercial vs. no method**	**Commercial vs. informal**	**Commercial vs. no method**
Condom access				
Works for pay	2.05^	0.59*	2.82*	1.09
High SES	2.57*	0.98	1.06	1.80*
Embarrassed to buy	0.96	0.88	0.53^	0.82
Travel time is 10 minutes or less	0.99	1.84*	0.82	0.64^
Demand for condom quality				
Preference for quality drove brand choice	1.22	1.63	1.13	0.92
Control variables				
Aged 18–19	1.17	1.62*	0.94	0.67
Living in capital city	0.63	1.89**	4.70**	1.75*
(N)	**(412)**		**(395)**	
Log-likelihood	-349.97		-358.73	

^ *Significant at p<.10; *p<.05; **p<.01.*

6 Study Limitations

STUDY LIMITATIONS

This study is subject to several limitations. First, due to limited data availability related to source choices for reproductive health products among adolescent males, we are only able to examine the determinants of condom source choice in two countries. Thus, the extent to which our findings can be generalized to other settings is limited. Second, relatively few youth in either country obtained condoms from the public sector. As a result, most of our findings regarding the predictors of commercial-sector use are relative to informal sources, rather than the public sector. A more comprehensive understanding of commercial-sector strengths and weaknesses will require larger samples of youth who rely on the public sector for reproductive health services. Third, only our analysis of Jamaica permits a relatively detailed examination of the role that the demand for quality plays on commercial-sector source choice. Given the importance of product and service quality in reproductive health programs, further exploration of the role of the demand for quality in determining source choice in other countries is warranted. Finally, this study focuses on only one method — the condom. Further research is needed to determine the extent to which the findings of this study extend beyond condoms.

7 Summary and Program Implications

SUMMARY AND PROGRAM IMPLICATIONS

The potential for the commercial sector to help finance and deliver reproductive health services in developing countries around the world has gained increasing attention over recent years, as donors and local governments struggle to meet the growing demand for these services with fewer resources. To date, there has been little empirical exploration of the strengths and weaknesses of the commercial sector in terms of its ability to deliver reproductive health services, especially among vulnerable populations, such as adolescents, who may have a limited ability to pay commercial prices. Given that condoms help prevent both pregnancy and HIV/AIDS, access to this particular method is important for sexually active youth. In order to inform efforts to strengthen the commercial sector's ability to meet the reproductive health needs of young people, this study analyzes household survey data to identify key determinants of commercial-sector condom source choice among adolescents in Jamaica and urban Cameroon.

The results suggest that having one's own money is an important determinant of whether youth procure their condoms from the commercial sector. It is particularly noteworthy that this is the case both when condoms are sold at full commercial prices, as they are in Jamaica, and when they are sold at heavily subsidized prices, as they are in urban Cameroon. It is also important that in both countries, boys with fewer economic resources tend to turn to friends and relatives for condoms, rather than to the public sector.[9] Although the informal sector is clearly an important alternative for condom procurement among youth, the possibility of inconsistent condom availability and/or poor condom quality (e.g., condoms whose expiration date has passed) is likely to be greater in the informal sector than in either commercial- or public-sector outlets. Solutions to this potential problem include formalizing the distribution of condoms through peers, identifying the causes for low use of the public sector and addressing them, and continuing to encourage commercial condom manufacturers to introduce targeted low-priced condoms through commercial channels.

In addition to financial access, psychological access is an important predictor of commercial-sector use among girls. Specifically, girls in both Jamaica and urban Cameroon are significantly less likely to obtain condoms from the commercial sector and more likely to rely on partners and other informal sources if they are embarrassed to buy condoms. By contrast, embarrassment does not serve as a barrier for boys in either country. To the extent that it is important for girls to be able to protect themselves against unwanted pregnancy and STDs, private-sector programs need to continue to seek ways to improve psychological access for girls. Population Services International, for example, has launched mass media communications in Cameroon that specifically model girls overcoming the discomfort of purchasing condoms. An evaluation of this campaign finds that it is associated with a significant decrease in the proportion of Cameroonian girls saying they are embarrassed to buy condoms (Meekers, Agha, and Klein, 2003). Other possibilities include reinforcing such campaigns with interpersonal communications and training through role-playing.

The 2001 KAP survey in Jamaica allows us to include several variables in our analysis related to the demand for quality. The study finds that boys for whom the material and reliability of condoms is important were more likely to procure condoms from the commercial sector than from informal sources, such as friends and relatives. This suggests that as commercial-sector programs expand, highlighting the relative quality of condoms available in commercial-sector outlets may be an important factor in building a market, especially with young males. On the other hand, boys who value privacy were more likely to rely on the informal sector for condoms than either the commercial or public sectors, suggesting that both private- and public-sector reproductive health programs need to continue to improve privacy for youth. Reinforcing the findings related to financial access, boys who value low prices were also more likely to obtain condoms from informal sources. Finally, boys who prefer health information in condom outlets were less likely to obtain condoms from the commercial sector and more likely to obtain them from the public sector.

9 Given this finding and the importance of the informal sector in condom distribution to youth, determining the difference in the prices that youth pay for condoms in the commercial and informal sectors will be an important subject for future research.

Among Jamaican girls, the demand for quality as measured in this study did not influence commercial-sector use with the exception of a preference for low prices. Specifically, girls who prefer low prices were over six times more likely to obtain condoms from commercial-sector sources than from informal sources, such as partners. One possible explanation for this counterintuitive finding is that girls who buy their own condoms are more likely to be price sensitive than those who obtain them for free from partners. Again, this finding highlights the need for low-priced condoms to be available on the commercial market in order to meet the needs of adolescents.

Last, we estimated the extent to which access and quality-related variables not only affect condom source decisions, but also decisions about whether to use a condom at all. The study finds that among Jamaican girls, a preference for short waiting time lowers the likelihood of commercial-sector condom use versus using no method. To the extent that this finding reflects concerns among girls about encountering someone they know in a condom outlet, it reinforces the importance of addressing the issue of embarrassment at point of purchase among girls. In Cameroon, being within a 10-minute walk from a condom outlet is associated with an increase in the likelihood of commercial-sector condom use versus using no method at all among boys, suggesting the importance of maximizing the reach of commercial-sector condom distribution channels. Among Cameroonian girls, being of high SES predicts commercial-sector condom use compared to non-use of a contraceptive method, suggesting that in Cameroon, not only is financial access an important determinant of where girls go to obtain condoms, but also of whether they use them at all.

Taken together, the findings suggest that key commercial-sector strengths with respect to condom provision, at least in Jamaica, are that youth perceive the commercial sector to offer relatively high-quality products. A central limitation in both Jamaica and urban Cameroon, however, is that some young people cannot afford commercial-sector condoms and, as a result, may choose either not to use condoms at all (e.g., Cameroonian girls) or to rely on informal sources for condoms. The findings also suggest that commercial-sector outlets can be even more successful than they already are at attracting young people by improving privacy, making condom purchase less embarrassing, and providing health information.

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Appendix

APPENDIX

VARIABLES AND RESULTS RELATED TO CONDOM USE ONLY

PREDICTOR VARIABLES FOR CONDOM USE ONLY

To improve the specification of the multivariate model, we included several variables that either previous research (Lutalo et al., 2000; Meekers and Klein, 2002; Markham et al., 2003; Meekers, Silva, and Klein, 2003) or behavior change theory has identified as important to predicting condom use:

- AWARENESS OF CONDOMS AND HIV/AIDS. Measures of condom and HIV/AIDS awareness are based on responses to questions about exposure to mass media messages related to condoms or HIV/AIDS within the past year (Jamaica) or the past month (Cameroon). "Yes" responses were coded one, and "no/don't know" responses were coded zero.

- KNOWLEDGE OF CONDOM BENEFITS. This is measured as a dummy variable that equals one if respondents report that they know that condoms prevent HIV/AIDS, and zero otherwise.

- PERCEIVED RISK OF HIV/AIDS. In Jamaica, we relied on an indirect indicator that was coded one if respondents agreed that they do not need to use a condom with partners they trust, and zero otherwise. We used a more direct measure in Cameroon, where youth were asked, "If you were not to use condoms, would you say your risk of acquiring HIV/AIDS would be high, moderate, low, or none?" We created a dummy variable that equals one if respondents answered "high" or "moderate," and zero otherwise.

- PERCEIVED BARRIERS TO CONDOM USE. We relied on a series of dummy variables coded one if respondents agreed with the following statements, and zero otherwise: condom use reduces sexual enjoyment, condoms often break, condoms are too much trouble (Jamaica only), condom use is embarrassing (Jamaica only), condoms are difficult to use (Jamaica only), and partners cannot be trusted if they suggest condom use (Cameroon only).

- SOCIAL SUPPORT. In Jamaica, respondents were asked from whom, if anyone, they had heard about ways to prevent pregnancy and ways to prevent HIV/AIDS (with multiple responses possible). These two variables were coded one if respondents stated that they had heard from friends or parents, and zero otherwise. In Cameroon, respondents were asked, "How easy would it be for you to discuss sexual matters with your parents?" A corresponding dummy variable was coded one if respondents answered "easy" or "very easy," and zero otherwise.

- RISKY SEXUAL BEHAVIOR. Responses were coded one if respondents reported having had more than one sexual partner in the past year, and zero otherwise.

- SELF-EFFICACY (Cameroon only). Respondents were asked whether they are confident that they can refuse sex with their partner, ask about his/her sexual history, discuss sexually transmitted infections with him/her, discuss condom use with him/her, and convince their partner to use condoms with them. Respondents with three to five "yes" responses were coded as having self-efficacy; all others were coded as not having self-efficacy.[10]

In addition, we included school enrollment as a control variable (Jamaica only), coded one if the respondent is currently enrolled in school, and zero otherwise.

DESCRIPTIVE RESULTS RELATED TO CONDOM USE ONLY

Table A1 displays the descriptive statistics for sexually active youth related to key behavior change components that previous research has highlighted as influencing condom use. The majority of sexually active youth in both Jamaica and urban Cameroon have seen or heard a mass media message related to condoms or HIV/AIDS, and more than 90 percent know that condoms prevent HIV/AIDS.

10 Our approach to measuring self-efficacy follows Meekers and Klein (2001).

Table A1. Adolescent boys and girls aged 15–19 who had sexual intercourse in the past year by behavior change components: Jamaica, 2001 and Yaoundé and Douala, Cameroon, 2002 (percent)

	Jamaica		Cameroon	
Characteristic/positive response	**Male**	**Female**	**Male (with regular partner)**	**Female (with regular partner)**
Awareness and knowledge				
Heard or saw condom mass media message	81	77	71	60
Heard or saw HIV/AIDS mass media message	85	84	74	65
Knows that condoms help prevent HIV/AIDS	92	91	95	95
Perceived risk of HIV/AIDS				
Moderate/high perceived personal risk	—	—	72	68
Doesn't need condom when trusts partner	41	33	—	—
Perceived barriers				
Condoms are too much trouble	18	14	—	—
Condom use is embarrassing	9	13	—	—
Condoms are difficult to use	12	12	—	—
Partners who suggest condom use cannot be trusted	—	—	34	40
Condoms reduce sexual enjoyment	35	28	59	47
Condoms often break	60	68	36	41
Social support				
Heard about pregnancy prevention methods from friends or parents	52	71	—	—
Heard about HIV/AIDS prevention methods from friends or parents	53	51	—	—
Would be easy to discuss sexual matters with parents	—	—	38	34
Friends support condom use	—	—	84	82
Parents support condoms use	—	—	81	75
Risky sexual behavior [a]				
Had two or more partners in past year	73	18	38	13
Self-efficacy				
Has self-efficacy regarding condom use	—	—	95	96
(N)	**(363)**	**(243)**	**(462)**	**(466)**

a Meekers and Klein (2002) report higher percentages of Cameroonian youth with multiple partners in the year 2000 than we report here for 2002. However, their analysis pertains to youth aged 15–24, while our analysis is restricted to adolescents aged 15–19. When we broaden our analysis to include 20- to 24-year olds, we obtain similarly high reports of multiple sexual partners.

Note: Dash signifies that the data set does not contain this variable.

In terms of the perceived risk of contracting HIV/AIDS, roughly 70 percent of sexually active urban Cameroonian adolescents believe themselves to be at moderate to high risk. In Jamaica, 41 percent of boys and 33 percent of girls believe they do not need to use condoms when they trust their partner.

Among the various potential barriers to condom use, the one most commonly cited by Jamaican youth is that condoms often break (60 percent of boys and 68 percent of girls who are sexually active). Few Jamaican adolescents believe that condoms are too much trouble, that they are embarrassing to use, or that they are difficult to use. Among Cameroonian adolescents, decreased sexual enjoyment is the greatest drawback of condom use, with 59 percent of boys and 47 percent of girls agreeing that sex with a condom reduces sexual enjoyment.

Regarding social support, about half of Jamaican boys have heard about methods of pregnancy and HIV/AIDS prevention from their friends or parents. Jamaican girls are more likely to have heard about pregnancy prevention (71 percent) than HIV/AIDS prevention (51 percent) from these information sources. In Cameroon, perceived social support for condom use is high, with the majority of youth reporting that their friends and parents support condom use. However, only a little more than a third say that it would be easy to discuss sexual matters with their parents.

With respect to risky sexual behavior, 73 percent of sexually active Jamaican boys report having had two or more sexual partners in the past year, compared to only 18 percent of Jamaican girls. A similar, although less extreme, gender disparity in reported multiple partnerships exists in urban Cameroon. Thirty-eight percent of Cameroonian boys and 13 percent of Cameroonian girls with regular partners report having had two or more sexual partners in the past 12 months.

Finally, in terms of self-efficacy, more than 90 percent of Cameroonian young people gave three to five positive ("yes") responses when asked whether they are confident that they can refuse sex with their partner, ask about his/her sexual history, discuss sexually transmitted infections with him/her, discuss condom use with him/her, or convince their partner to use condoms with them.

MULTIVARIATE RESULTS RELATED TO CONDOM USE ONLY

Two findings are consistent across Jamaica and urban Cameroon with respect to the influence of behavior change components on condom use:

- Perceptions that the risk of contracting HIV/AIDS is low decreases the likelihood of condom use among boys (but not girls) and increases the likelihood that boys would use no method at all.

- Beliefs that condoms reduce sexual enjoyment or are difficult to use significantly decrease the likelihood of condom use among youth in both countries.

The findings in Table A2 show that several behavior change components are related to whether youth use condoms. In Jamaica, boys who have seen or heard an HIV/AIDS message are more than three times as likely to have used condoms during their last sex act than boys who have not. By contrast, boys who agree that condoms are not necessary with a trusted partner are significantly less likely to have used a condom during last sex. This suggests that boys who trust their partners are more likely to perceive their risk of contracting STDs to be low and to therefore not use condoms.

It is interesting that Jamaican girls who report that condoms are too much trouble are more likely to have used a condom than no method during last sexual intercourse, possibly because girls who use condoms find them inconvenient. Jamaican girls who are currently attending school are estimated to be more than six times as likely to have used a condom at last sex, rather than no method, which could be attributed to condom education programs and easily accessible school health facilities. Jamaican girls are also less likely to have used condoms and more likely to have used no method at all if they believe that condom use is embarrassing (rrr = 0.24) or think condoms reduce sexual enjoyment (rrr = 0.29).

In urban Cameroon, boys who have been exposed to condom mass media messages, as well as those who know that condoms help prevent HIV/AIDS and those who perceive themselves to be at risk of HIV/AIDS, are significantly more likely to have used

condoms at last sexual intercourse than no method at all. With respect to potential condom barriers, the belief that condoms reduce sexual enjoyment decreases the likelihood of condom use among boys (rrr = 0.64) and increases the likelihood that they use no method at all.

Among Cameroonian girls, knowledge that condoms prevent HIV/AIDS is an important determinant of condom use (rrr = 4.45), as is the perception that parents are supportive of young people using condoms (rrr = 1.57). Factors that reduce the likelihood of condom use relative to no method include the perception that partners who suggest condom use are not to be trusted (rrr = 0.58) and the opinion that condoms are difficult to use (rrr = 0.62).

Table A2. Relative risk ratios from constrained multinomial logistic regression analyses examining the effect of behavior change components on the likelihood of condom use at last sexual intercourse among adolescent boys and girls aged 15–19 who had sexual intercourse in the past year: Jamaica, 2001 and Yaoundé and Douala, Cameroon, 2002[a]

	Jamaica		Cameroon	
	Male	Female	Male (with regular partner)	Female (with regular partner)
Characteristic/positive response	**Condom vs. no method**	**Condom vs. no method**	**Condom vs. no method**	**Condom vs. no method**
Awareness and knowledge				
Exposed to condom mass media message	0.51	0.55	1.65^	0.98
Exposed to HIV/AIDS mass media message	3.58*	0.69	1.05	1.29
Knows that condoms help prevent HIV/AIDS	1.79	b	2.43^	4.45*
Perceived risk of HIV/AIDS				
Moderate/high perceived personal risk	—	—	1.67*	1.45
Doesn't need condom when trusts partner	0.50*	0.73	—	—
Perceived barriers				
Condoms are too much trouble	0.73	8.58**	—	—
Condom use is embarrassing	1.49	0.24^	—	—
Condoms are difficult to use	0.60	0.93	0.70	0.62*
Partners who suggest condom use cannot be trusted	—	—	0.78	0.58*
Condoms reduce sexual enjoyment	0.63	0.29*	0.64^	0.82
Condoms often break	0.93	1.99	1.23	1.36
Social support				
Heard about pregnancy prevention methods from friends or parents	0.66	2.39	—	—
Heard about HIV/AIDS prevention methods from friends or parents	1.44	0.69	—	—
Would be easy to discuss sexual matters with parents	—	—	1.44	1.27
Friends support condom use	—	—	0.93	1.27
Parents support condoms use	—	—	1.10	1.57^
Risky sexual behavior				
Had two or more partners in past year	0.86	0.74	1.21	0.99
Self-efficacy				
Has self-efficacy regarding condom use	—	—	2.34	2.90
Control variable				
Currently attending school	1.11	6.11**	—	—
(N)	**(319)**	**(166)**	**(412)**	**(395)**
Log-likelihood	-316.54	-132.32	-448.92	-481.87

*^Significant at p<.10; *p<.05; **p<.01.*

a Analyses for Cameroon pertain to all sexually active youth. However, because questions pertaining to the demand for quality in Jamaica were asked only of respondents who had ever used condoms, we restrict the entire multivariate analyses for Jamaican youth to those who have ever used condoms.

b All females in the working sample knew that condoms prevent HIV/AIDS. Since there was no variation in this variable, it was deleted from the analysis.

Note: Dash signifies that the data set does not contain this variable.

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Commercial Market Strategies
1001 G Street NW, Suite 400W
Washington DC, 20001-4545
Telephone: (202) 220-2150
Fax: (202) 220-2189
Web: *www.cmsproject.com*

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