

**Electronic Journal of Human Sexuality, Volume 17, March 26,
2014**

www.ejhs.org

**Assessment of University Condom Distribution Programs:
Results of a National Study**

Scott M. Butler, PhD, MPH

School of Health and Human Performance, Georgia College

Mikella Procopio, BA, BSN, RN

School of Health and Human Performance, Georgia College

Kathleen Ragan, BS, CHES

School of Public Health, Emory University

Barbara Funke, PhD, MCHES

School of Health and Human Performance, Georgia College

**David R. Black, PhD, MPH, HSPP, CHES, CPPE, FASHA, FSBM, FAAHB,
FAAHE**

Department of Health and Kinesiology, Purdue University

Contact and Additional Information to be addressed to: Scott M. Butler, PhD, MPH
College of Health and Human Performance
Georgia College, Campus Box 112 Milledgeville, GA 31061
478-445-1218
scott.butler@gsu.edu

Author Note:

This publication was supported in part by a grant provided by the Georgia College Foundation.

Abstract

The purpose of this investigation was to assess the availability of condoms and safer sex products, condom distribution procedures, demographic correlates of condom availability, and condom publicizing methods among colleges and universities nationwide. Using a cross-sectional design, the authors mailed and emailed a questionnaire to a geographically diverse group of 1,101 colleges and universities. Health center directors or other appropriate employees representing 438 (39.8% response rate) schools agreed to participate. Nationally, 86.3% ($n = 378$) of all colleges and universities distribute male latex condoms to their students. The M number of condoms distributed was 9,999/year, which equates to 1.00 condoms/student among institutions that house a condom distribution program and .90 condoms among all institutions. The most common distribution method was through the student health services department (96.0%) and the most common strategy of publicizing programs was through outreach conducted by peer educators (57.9%). School demographic characteristics, including student population and type of institution were significant correlates of condom availability. When compared to private schools, public institutions distributed more condoms, $U = 9017, p < .001$, as did non-faith-based schools when compared to faith-based schools, $U = 3041, p < .001$. Condom availability among colleges and universities nationally may not be adequate to significantly reduce risk of STIs and unintended pregnancy among students. Findings provide useful information regarding

condom availability, distribution strategies, demographic comparisons, and condom publicizing strategies for a large sample of U.S. colleges and universities representing a significant portion of students nationwide. In addition, only 27.2% of schools advertise condom availability through campus fliers and 13.8% through social networking. Results provide useful information for the creation of benchmarks for this population and may assist in the development of comprehensive health care implementation and health policy development within institutions.

Introduction

Male latex condoms have been found to significantly reduce the risk of sexually transmitted infections (STIs; Ahmed et al., 2001; Bleeker et al., 2003; CDC, 2012; Hogewoning et al., 2003; Holmes, Levine, & Weaver, 2004; Sanchez et al., 2003; Winer, 2006) and unintended pregnancy (Trussell, 2007). Results of the spring 2012 American College Health Association (ACHA): National College Health Assessment II survey revealed that 59.6% of sexually active college students used a male condom the last time they had vaginal intercourse, .6% a female condom, and 45.3% report using a male condom in addition to another method (ACHA, 2013). Lack of availability of condoms has been reported as a barrier to condom use among college students (Crosby et al, 2003; Crosby et al., 2002). Condom distribution programs are one form of public health structural interventions designed to reduce STIs and unintended pregnancy. According to the CDC (2010) condom distribution programs are a useful HIV reduction intervention strategy because they address “external factors that impact personal risk for HIV.” Recent epidemiological investigations indicated condom distribution programs are effective in increasing condom use and decreasing STI incidence among preferred populations (Charania et al., 2011).

Despite the role of condoms in reducing STIs and unintended pregnancy, few studies have assessed condom distribution programs and sexual health interventions among colleges and universities. A recent study by Butler and colleagues (2011a) evaluated condom and safer sex product availability among 358 student health service departments nationwide. Results indicated that 84.9% of all schools distribute condoms to their students. The *M* number of condoms distributed/year was 9,414 (*Mdn* = 3,000 and *Mo* = 0). The most common method of distribution was educational outreach on campus (67.0%), followed by events on campus (61.7%), and the least common method was outreach conducted at local bars and restaurants (7.5%). Less than half of participating schools offered products other than male latex condoms such as sexual lubricants, latex dams, female condoms, and condoms above/below typical size. School demographics were found to correlate to condom availability with public schools more likely to sponsor a condom distribution program and significantly distribute more condoms/year than private schools. Similarly, faith-based schools were less likely to offer condoms to students and the overall number of condoms given to students/year was significantly lower.

The recent investigation by Butler and colleagues (2011a) was the first empirical study to assess the mean number of condoms distributed to students/year nationally. The finding provides unique insight into the prevalence of condom distribution programs within schools as well as their utilization by student populations. Additional large-scale investigations with similar recruitment and sampling methodologies are needed to corroborate this finding and increase the reliability of the results. More extensive evaluations of condom and safer sex product availability are needed including assessments of the relationship between various products and college/university demographics. In addition, while the study by Butler and colleagues (2011a) evaluated distribution methods sponsored by college health centers, future research is needed to assess methods used to distribute condoms campus wide. Finally, in addition to information related to product distribution, more comprehensive assessments are needed to assess institutional policies and procedures related to condom distribution programs including strategies for advertising availability on campus.

The purpose of the present study was to assess the prevalence of condom and safer sex product distribution programs, condom distribution procedures, typical number of condoms given to students/year, demographic correlates of condom availability, and condom publicizing methods among U.S. colleges and universities.

Method

Participants

Four hundred thirty-eight participants (39.8% response rate) who served as their campus ACHA representative or the director of student health services department completed questionnaires regarding their institution's condom and safer sex product-related services. Institutionally, the participants resided in 47 U.S. states and Washington D.C. The sum student population of participating institutions was 4.8 million. The *M* student population was 11,126 (*SD* = 12,680, *Mdn* = 6,000, and *Mo* = 12,000). Additional regional, institutional, and student population demographics are contained in Table 1.

Table 1

Regional, Institutional, and Setting Demographics of Participant Institutions (n = 438)

<u>Respondents</u>		
Demographic	n	%
<hr/>		
Region		
South	123	28.1
Northeast	111	25.3
Midwest	104	23.7
West	88	20.1
Unreported	12	2.7
Type of Institution		
Public	235	53.7
Private	190	43.4
Unreported	13	3.0
Student Population Size		
<5,000	187	42.7
5,000 - 9,999	66	15.1
10,000 - 24,999	119	27.2
≥25,000	55	16.6

<u>Unreported</u>	11	2.5
-------------------	----	-----

Residential Characteristic

Primarily Residential	187	42.7
Primarily Commuter	148	33.8
Equal Residential/Commuter	90	20.5
Unreported	13	3.0

Religious Affiliation

Non-Faith-Based	353	81.1
Faith-Based	83	18.9

Procedures

Data were collected as part of a large national assessment of condom and safer sex product availability among U.S. colleges and universities [see Butler, Procopio, Ragan, Funke, and Black (2011) for an additional report on schools in rural areas]. All recruitment procedures were approved by the campus Institutional Review Board at Georgia College. A previous statistical power assessment by Butler and colleagues (2011a) conducted on colleges and universities nationally indicated a sample size of ≥ 358 would be necessary for the present investigation. To meet this minimum requirement a sampling frame of 1,101 colleges and universities was identified. To be consistent with the previous investigation conducted by Butler and colleagues (2011a), a list of 759 institutional members of the American College Health Association (ACHA) was procured. This list was supplemented with 342 schools that were randomly stratified from the *Peterson's Guide to Four-Year Colleges* (2006). Initially, consent forms and a copy of the ICAQ were mailed to each of the 1,101 selected institutions. An additional reminder card was mailed and email was sent to those who had not responded to previous recruitment efforts.

Measures

The participants completed the Institutional Condom Assessment Questionnaire (ICAQ) developed by Butler and colleagues (2011b). The ICAQ is a valid and reliable instrument designed to evaluate condom and safer sex product availability (15 items), condom distribution methods (20 items), use of peer helpers to distribute condoms and conduct condom outreach (7 items), and condom publicizing methods (26 items) on college and university campuses. In addition, the ICAQ contains 21 items assessing college/university demographics. Previous psychometric analyses of the ICAQ by Butler and colleagues (2011b) indicated the overall internal consistency of the instrument was .93 with individual section reliabilities from .60 - .93. Split-half reliability analyses were conducted on the ICAQ by dividing the instrument into two parts (Cronbach alphas of .78 and .92, respectively). The correlation between the two parts was .66, the Spearman-Brown Coefficient value was .79 for both equal and unequal lengths, and the Guttman Split-Half Coefficient value was .72. A test-retest consistency assessment was conducted on the ICAQ by having a subsample of 32 university student health service department employees complete the questionnaire on two occasions. Results indicated the test-retest consistency across all service-related items was 89.6%. For additional information regarding the validity and reliability of the ICAQ see Butler and colleagues (2011b).

Data Analyses

Descriptive statistics and measures of central tendency were used to assess demographic variables, rate of condom and safer sex product-related services, and the *M*, *Mdn*, and *Mo* of the condoms distributed to students/year. Simple Pearson Chi Squared tests were used to assess statistical differences among product availability across the six demographic variables contained in Table 1. The Mann-Whitney *U* test and Kruskal-Wallis *H* tests assessed condom rank differences across the six demographic variables. Bonferoni corrections were used to avoid Type 1 errors for the Simple Pearson Chi Squared tests as well as the Mann-Whitney *U* and Kruskal-Wallis *H* tests. For these computations, alpha levels for tests of significance were adjusted by dividing .05 by 5 (the number of comparisons for each variable) and alpha was set at .01. A Spearman Rank Correlation Coefficient was used to assess the relationship between the condoms distributed to students /year variable and the college/university population variable.

Results

Condom and Safer Sex Product Availability

Nationally, 86.3% ($n = 378$) of all colleges and universities distribute male latex condoms to their students. Results regarding the rate of condom and safer sex product availability, as well as their distribution procedures are contained in Tables 2-3. Among the 378 institutions that sponsor a condom distribution program, 95 (25.1%) were unable to report data regarding the number of condoms typically given to students/year. Among those reporting data, the *M* was 9,999 (95% *CI* = 7,702 – 12,298, *Mdn* = 3,000, and *Mo* = 0). Significant differences were observed in the number of male latex condoms given to students/year in the student population variable, $H(3) = 75.10$, $p < .001$. Post hoc comparisons indicated that schools with populations < 5,000 distributed less condoms than schools with populations of 5,000 – 9,999, $U = 2994$, $p = .035$, as well as schools with 10,000 – 24,999, $U = 3526$, $p < .001$, and schools with populations of $\geq 25,000$, $U = 1064$, $p < .001$. When compared to private schools, public institutions distributed more condoms, $U = 9017$, $p < .001$, as did non-faith-based schools when compared to faith-based schools, $U = 3041$, $p < .001$. There were no statistically significant differences among geographic region, $H(3) = 7.570$, $p = .056$, or residential characteristic, $H(2) = 1.505$, $p = .471$. Additional data assessing the number of condoms distributed to students and condom/safer sex product program comparisons across demographic characteristic are contained in Tables 4-6.

Table 2

Prevalence of Condom Safer and Sex Product Availability among Colleges and Universities (n = 438)

Variable	n	%
Male latex condoms (of any kind)	378	86.3
Male latex condoms (without spermicide)	324	74.0
Sexual lubricants	221	50.5
Latex dams (i.e., dental dams)	172	39.3
Male flavored condoms	168	38.4
Female condoms	164	37.4

Condoms above average size	152	34.7
Male latex condoms (with spermicide)	150	34.2
Male non-latex condoms	133	30.4
Flavored latex dams	103	23.5
Condom carriers (i.e., pouches or cases)	81	18.5
Latex gloves	65	14.8
Non-latex gloves	55	12.6
Condoms below average size	43	9.8
Other	23	5.3

Table 3

Prevalence of Condom Distribution Methods among Colleges and Universities (n =378)

Variable	n	%
At the student health services	363	96.0
Through educational outreach	222	58.7
In residential halls	203	53.7
Through appointment with health care provider	199	52.6
At campus events	152	40.2
At student organization office (e.g. Gay-Straight Alliance)	133	35.1
At the student health center/health services after hours	99	26.2
At counseling services	91	24.1
At the pharmacy	98	23.3
In campus vending machines	49	13.0

In campus restrooms	33	8.7
At campus bookstore	31	8.2
At campus grocery store	21	5.6
In academic department offices/lounges	16	4.2
At bars near or on campus	12	3.2
At campus athletic events	8	2.1
At campus library	8	2.1
Through campus mailings	6	1.6
At restaurants near or on campus	3	.8
Other	38	10.1

Table 4

Comparisons of Condoms Distributed across Campus Demographic Characteristics (n = 336)

Variable	M	95% CI	Mdn
Population			
<5,000	3,561	2,221 – 4,900	1,500
5,000-9,999	5,232	2,794 – 7,668	2,500
10,000-24,999	12,679	8,336 – 17,023	6,000
>25,000	32,594	19,510 – 45,679	15,000
Region			
West	9,776	5,805 – 13,746	5,000
Midwest	10,461	4,000 – 16,923	2,000

Northeast	7,815	4,109 – 11,521	3,000
South	11,850	7,846 – 15,853	3,000
Type of Institution			
Public	14,763	10,638 – 18,888	5,000
Private	4,785	3,316 – 6,255	2,000
Residential Characteristic			
Primarily residential	9,371	5,960 – 12,783	3,000
Commuter	11,569	6,864 – 16,274	3,000
Equal	7,988	4,610 – 11,368	2,750
Faith Affiliation			
Faith-Based	1,446	630 – 2,262	0
Non-Faith-Based	12,353	9,491 – 15,215	4,025

Table 5

Prevalence of Condom Availability Programs across Campus Demographic Characteristics (n = 438)

Variable	a	b	c	d	e	f	g	h
Population								
< 5,000	75.9	59.9	23.0	24.6	19.3	36.4	17.1	2.7

5,000 – 9,999	89.4	77.3	36.4	37.9	34.8	28.8	24.2	6.1
10,000 – 24,999	95.0	86.6	53.8	50.4	49.6	36.1	44.5	17.6
>25,000	96.4**	87.3**	61.8**	52.7**	52.7**	29.1	50.9**	21.8**

Region

West	92.0	79.5	37.5	27.3	39.8	36.4	29.5	17.0
Midwest	79.8	65.4	38.5	34.6	28.8	29.8	26.9	7.7
Northeast	83.8	73.0	32.4	45.0	32.5	39.6	27.0	9.0
South	89.4	78.0	46.3	40.0	37.4	30.9	37.4	7.3

Type of Institution

Public	95.7	83.8	46.4	43.0	44.7	35.7	35.7	12.3
Private	74.7**	61.6**	29.5**	30.5*	22.1**	32.6	23.2	5.8

Residential Characteristic

Commuter	89.2	78.4	43.9	35.8	45.9	32.4	31.8	14.9
Equal	87.8	74.4	38.9	37.8	32.2	38.9	30.0	6.7
Primarily Residential	82.4	73.4	34.2	35.8	26.7*	34.2	29.4	7.5
Non-Faith-Based	96.3	82.8	44.5	44.2	39.7	38.6	34.6	11.5
Faith-Based	43.4**	36.1**	12.0**	8.4**	13.3**	15.7**	12.0**	2.4

Note. Assessments were conducted using the Pearson Chi Squared test. Level of significance set at .01.

* $p < .01$. ** $p < .001$.

a = Male latex condoms (of any kind), b = Male latex condoms (without spermicide), c = Male

flavored condoms, d = Female condoms, e = Condoms above average size, f = Condoms (with spermicide), g = Male non-latex condoms, h = Condoms below average size.

Table 6

Prevalence of Safer Sex Product Availability across Campus Demographic Characteristics (n = 438)

Variable	a	b	c	d	e	f
Population						
< 5,000	32.1	27.8	11.8	9.6	11.2	10.7
5,000 – 9,999	48.5	37.9	25.8	24.2	15.2	13.6
10,000 – 24,999	69.7	51.3	33.6	26.9	19.3	16.8
>25,000	74.5**	60.0	41.8**	25.5**	20.0	10.9
Region						
West	61.4	37.5	26.1	23.9	18.2	10.1
Midwest	48.1	39.4	25.0	18.3	13.5	15.4
Northeast	45.0	44.1	24.3	13.5	15.3	12.6
South	50.4	39.0	21.1	20.3	13.8	11.4
Type of Institution						
Public	62.6	43.4	29.8	24.7	17.0	14.0
Private	36.8**	35.8	16.3*	11.6*	13.2	11.6

Residential Characteristic

Commuter	57.4	41.9	27.0	25.0	15.5	13.5
Equal	53.3	38.9	21.1	18.9	18.9	11.1
Primarily Residential	43.9	38.0	22.5	13.9	13.4	13.4

Faith Affiliation

Non-Faith-Based	58.0	45.6	27.6	21.4	16.9	13.5
Faith-Based	18.1**	12.0**	6.0**	6.0**	6.0	8.4

Note. Assessments were conducted using the Pearson Chi Squared test. Level of significance set at .01.

* $p < .01$, ** $p < .001$

a = Sexual lubricants, b = Latex dams, c = Flavored latex dams, d = Condom carriers, e = Latex gloves, f = Non-latex gloves

Policies and Procedures for Condom Distribution

Additional data regarding condom publicity methods are contained in Table 7. More than three-quarters (77.5%) of institutions with a condom program host a condom-related campus event such as World AIDS Day or Safe Spring Break Week in which condoms are given to students. Similarly, 61.6% host a student group or organization that distributes condoms to their peers. Among the institutions that sponsor a condom program, 52.4% offer condoms to students without charge, 3.7% require students to purchase condoms, 42.3% offer them for free and charge their students, and 1.6% did not report whether or not they required their institution to charge for condoms. Only 2.6% required students to undergo a counseling session with a healthcare provider or prevention specialist when acquiring condoms on campus. Approximately one third (32.8%), received their condoms from an outside source for free such as a state/local public health institution, condom company, or other organization. Similarly, nearly 20% of schools included an outside agency such as Planned Parenthood as part of their program. More than half (55%) refer students to these organizations and/or agencies for condom acquisition and/or condom-related concerns.

Table 7

Publicizing Methods among Institutions with Condom Distribution Programs (n = 378)

Variable	n	%
Peer educator/helper outreach	219	57.9
Advisers in residential halls	209	55.3
Staff outreach	183	48.3

Brochures	123	32.5
Campus website	123	32.5
Fliers	103	27.2
Posters	70	18.5
Campus newspaper	63	16.7
Faculty lectures	58	15.3
Social networking	52	13.8
Emails	31	8.2
Campus television	11	2.9
Text messaging	2	.5
Phone book	2	.5
Other	44	11.6

Discussion

The results of this national investigation indicate that the vast majority of U.S. colleges and universities (86.3%) distribute condoms to their students. Assessment of the number of condoms distributed to students/year variable revealed that the *M* value was 9,999, the *Mdn* 3,000, and the *Mo* 0. When factoring in student population, the adjusted number of condoms given to students per year is 1.00 condoms/student among institutions that provide a condom distribution program and .90 condoms/student among all institutions. Overall, when taking these assessments into consideration, results of the present study suggest that condom availability among colleges and universities nationally may not be adequate to significantly reduce risk of STIs and unintended pregnancy among students.

Results are consistent with previous assessments of sexual health-care availability among U.S. colleges and universities, which indicated that demographic variables significantly predict service availability (Butler et al, 2011a; Butler, Black, & Avery, 2012; Koumans et al., 2005; McCarthy, 2002; Miller, 2011). Demographic assessments conducted by the Pearson Chi Squared tests indicate that student population is the most common statistically significant correlate. On 11 of the 14 comparisons (78.6%) colleges and universities with larger student populations were significantly more likely to distribute condom and safer sex products to their students. On each of these occasions a linear relationship was observed between the reported number of students within the college or university and proportion of institutions which offer products to their students. In addition, according to post hoc comparisons the number of condoms distributed to students significantly increased as student population increased. Overall, these results are consistent with previous assessments of sexual health care on college campuses (Butler et al, 2011a; Butler et al, 2012; Koumans et al., 2005) and indicate schools with larger student populations may have more resources and/or greater infrastructure for sexual health care

delivery. Future research is needed to assess the relationship between student population and allocated funds for prevention programs on college and university campuses.

Private institutions were less likely to offer condoms and safer sex products on the majority of occasions when compared to public as were faith-based when compared to non-faith-based. Overall, on 11 of the 14 comparisons (78.6%) faith-based colleges and universities were significantly less likely to offer condom and safer sex products to their students. In addition, faith-based institutions distributed 1,446 condoms to students on a typical year ($Mdn = 0$) whereas non-faith-based schools distributed 12,353 ($Mdn = 4,025$). Findings suggest faith-based institutions may have unique barriers to condom and safer sex product distribution such as institutional ideology and/or restrictions based upon religiosity. Future research is needed to assess the sexual behaviors and condom use among students attending faith-based schools and whether this population faces significant sexual health care-related disparities.

It is noteworthy that of the 14 condom and safer sex products assessed only male latex condoms, male latex condoms without spermicide, and sexual lubricants were reported by at least 50% of all institutions. Less than 40% of all colleges and universities offer key safer sex products, which may be useful in the prevention of STIs such as latex dams, specialty condoms, and latex gloves. Of the 18 distribution methods assessed, half were found in 10% or less of all colleges and universities nationwide. With regard to publicizing condom availability on campuses, only two strategies (advertising through peer educator/helper outreach and advisers in residential halls) were reported by 50% or more of all institutions. Similarly, only 27.2% of schools advertise condom availability through campus fliers and 13.8% through social networking. These findings suggest more comprehensive and innovative strategies are needed to ensure that the environments where students live are adequately reached in structural condom distribution programs. In addition to traditional dissemination efforts, more comprehensive publicizing strategies are needed that are wide-ranging and focus upon technological innovations such as incorporating social media.

The present study provides unique insight into condom and safer sex product distribution methods and as well as policies and procedures within colleges and universities. Findings provide the largest national assessment of the number of condoms given to students/year and corroborate the previous finding by Butler and colleagues (2011a). While the previous investigation by Butler and colleagues (2011a) was limited to distribution methods sponsored by student health service departments, the present study included campus-wide initiatives. In addition, the present study included unique insight into the prevalence of condom advertising on college and universities and the collaboration of schools with outside agencies such as public health departments and Planned Parenthood. Finally, while the previous study by Butler and colleagues (2011a) assessed male condom availability across demographic characteristics, the present investigation conducted demographic assessments of 14 condom and safer sex products.

The present study has limitations to consider. Data produced for the investigation was self-reported by the director of the student health services department or the ACHA designated representative. It is possible that this individual could under or over represent the number of condoms given to students/year. However, it is believed that this individual was most likely to be informed of condom distribution efforts campus wide and most willing to provide valid and reliable results. While the present investigation assessed condom distribution procedures campus wide, it is noteworthy that all of the participating institutions house a student health services department. Based upon this, findings may not generalize to colleges and universities who do not sponsor a student health services program. Of the 378 institutions that report distributing condoms to their students, 95 (25.1%) were unable to report the M number of condoms typically given to students/year. This finding is consistent with Butler and colleagues (2011a) who found that 22.6% of participating institutions did not report the activity of their campus program. Butler and colleagues (2011a) hypothesize that reporting this statistic in particular may require time and/or effort that may be deemed excessive. Finally, the present investigation assessed the availability of condom distribution programs nationally as well as the number of condoms given to students/year. However, the effect of these condoms in reducing STIs, unintended pregnancy, or other health-enhancing outcomes is unknown.

Findings from the present study have implications for condom distribution programs and the development of benchmarks for condom-related programs on college campuses nationally. Results provide useful information regarding condom availability, distribution strategies, demographic comparisons, and condom publicizing strategies for a large sample of U.S. colleges and universities representing a significant portion of students nationwide. In addition, the results may assist in the development of comprehensive health-care implementation and health policy development within institutions. Future research is needed to assess the overall prevalence of condom distribution programs within collegiate settings as well as their impact upon the health of students.

References

American College Health Association. (2013). *American College Health Association - National college health assessment II: Reference group executive summary spring 2012*. Linthicum, MD: American College Health Association.

Ahmed, S., Lutalo, T., Wawer, M., Serwadda, D., Sewankambo, N.K., Nalugoda, F., . . . Gray, R. (2001). HIV incidence and sexually transmitted disease prevalence association with condom use: a population study in Rakai, Uganda. *AIDS, 15*, 2171-2179.

Bleeker, M., Hogewoning, C., Voorhorst, F., Van Den Brule, A., Snijders, P., & Starink, T. (2003). Condom use promotes regression of human papillomavirus-associated lesions in male sexual partners of women with cervical intraepithelial neoplasia. *International Journal of Cancer, 107*, 804-810.

Butler, S., Black, D.R., & Avery, G. (2012). Emergency contraceptive pill, contraceptive, and sexually transmitted infection service availability among U.S. college health centers. *Electronic Journal of Human Sexuality, 15*. Retrieved from <http://www.ejhs.org/volume15/Health.html>

Butler, S.M., Black, D.R., & Coster, D. (2011a). Condom and safer sex product availability among U.S. college health centers. *Electronic Journal of Human Sexuality, 14*. Retrieved from <http://www.ejhs.org/volume14/safersex.htm>

Butler, S. M., Procopio, M., Boteler, C., Ragan, K., Funke, B., & Black, D.R. (2011b). Institutional condom assessment questionnaire. In T. D. Fisher, C. M. Davis, W. L. Yarber, & S. L. Davis (Eds.), Online companion to the *Handbook of sexuality-related measures*. New York City: Routledge. Retrieved from <http://cw.routledge.com/textbooks/9780415801751/table-of-contents.asp>

Butler, S.M., Procopio, M., Ragan, K., Funke, B., & Black, D.R. (2011). Condom and safer sex product availability among colleges and universities in rural settings. *Health Education Monograph Series, 28*, 10-15.

CDC. (2010). Condom distribution as a structural level intervention. Retrieved from http://www.cdc.gov/hiv/resources/factsheets/condom_distribution.htm

CDC. (2012). Condoms and stds: Fact sheet for public health personnel. Retrieved from <http://www.cdc.gov/condomeffectiveness/latex.htm>

Charania, M.R., Crepaz, N., Guenther-Gray, C., Henny, K., Liau, A., Willias, L., & Lynes, C. (2011). Efficacy of structural-level condom distribution interventions: A meta-analysis of U.S. and international studies, 1998-2007. *AIDS and Behavior, 15*, 1283-1297.

Crosby, R.A., Sanders, S.A., Yarber, W.L., & Graham, C.A. (2003). Condom use errors and problems: The neglected aspect of studies assessing condom effectiveness. *American Journal of Preventive Medicine, 24*, 367-370.

Crosby, R.A., Sanders, S.A., Yarber, W.L., Graham, C.A., & Dodge, B. (2002). Condom use errors and problems among college men. *Sexually Transmitted Diseases, 29*, 552-557.

Hogewoning, J.A., Bleeker, C.G., van den Brule, A.J.C, Voorhorst, F.J., Snijders, P.J.F., Berkoh,Meijer, C.J.L.M. (2003). Condom use promotes regression of cervical intraepithelial neoplasia and clearance of human papillomavirus: a randomized clinical trial. *International Journal of Cancer*, 107, 811-816.

Holmes, K.K., Levine, R., & Weaver, M. (2004). Effectiveness of condoms in preventing sexually transmitted infections. *Bulletin of the World Health Organization*, 82, 454-461.

Koumans, E.H., Sternberg, M.D., Motamed, C., Kohl, K., Schilinger, J.A., & Markowitz, L.E. (2005). Sexually transmitted disease services at U.S. colleges and universities. *Journal of American College Health*, 53, 211-217.

McCarthy, S. (2002). Availability of emergency contraceptive pills at university and college student health centers. *Journal of American College Health*, 51, 15-22.

Miller, L.M. (2011). Emergency contraceptive pill (ECP) use and experiences at college health centers in the mid-Atlantic U.S.: Changes since ECP went over-the-counter. *Journal of American College Health*, 59, 683-689.

Peterson. (2006). *Peterson's 4 year colleges* (37th ed.). Lawrenceville, NJ: Thompson Peterson.

Sanchez, J., Campos, P.E., Courtois, B., Gutierrez, L., Carrillo, C., Alarcon, J.,.... King, K. (2003). Prevention of sexually transmitted diseases (STDs) in female sex workers: Prospective evaluation of condom promotion and strengthened STD services. *Sexually Transmitted Diseases*, 30, 273-279.

Trussell, T. (2007). Choosing a contraceptive: Efficacy, safety, and personal considerations. In R.A. Hatcher, J. Trussell, A.L Nelson, W. Cates, F.H. Stewart, & D. Kowal (Eds.), *Contraceptive technology* (19th ed., pp. 19-47). New York, NY. Ardent Media Inc.

Winer, R.L., Hughes, J.P., Fend, Q., O'Reily, S., Kiviat, N.B, Holmes, B.K., . . . Koutsky, L.A. (2006). Condom use and the risk of genital human papillomavirus infection in young women. *Obstetrical & Gynecological Survey*, 61, 639-640.

[Return to Front Page](#)