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INSIDE

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More Teens Using Contraception, Data Show

While more relying on IUDs and other methods, pill use remains common

A review of national 2011-2015 data indicates that more teens are using contraception: 95% of males and 90% of females ages 15-19 reported using a contraceptive method at last sex. While more teen girls are reporting use of the contraceptive injectable, implant, emergency contraception, patch, and the intrauterine device, use of the pill remains common, data indicate.[1]

Use of long-acting reversible contraception (LARC), such as intrauterine devices (IUDs) and the contraceptive implant, among adolescents still is relatively rare, but increasing, notes the report's lead author, **Joyce Abma**, PhD, social scientist at the Centers for Disease Control and Prevention's (CDC's) National Center for Health Statistics. The current report used data through 2015, looking at the percentage of teens who had ever used LARC methods among females who had ever had sex, she notes.

"USE OF THE IUD WAS STABLE BETWEEN 2006-2010 AND 2011-2015 ... WHILE USE OF THE IMPLANT INCREASED OVER THAT TIME PERIOD..." — JOYCE ABMA, PHD, CENTERS FOR DISEASE CONTROL AND PREVENTION NATIONAL CENTER FOR HEALTH STATISTICS

"This percent was too small to report in 2002, but increased to 3% in 2006-2010, and to 6% in 2011-2015," says Abma. "Looking at each LARC method, use of the IUD was stable between 2006-2010 and 2011-2015, at 3%, while use of the implant increased over that time period, from 0.6% to 3%."

Although use of LARC increased among teens, by far the most commonly used methods are the condom, the pill, and withdrawal, Abma

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states. Among sexually experienced teen females in 2011-2015, 97% had ever used condoms, 60% had ever used withdrawal, and 56% had ever used the pill.

Take a Closer Look

The current report is based on data from the National Survey of Family Growth (NSFG), which gathers information on family life, marriage, divorce, pregnancy, infertility, use of birth control, and men's and women's health. For selected indicators, researchers also looked at NSFG surveys from 1988, 1995, 2002, and 2006 through 2010, as well as the 1988 and 1995 National Survey of Adolescent Males, conducted by the Urban Institute.

Data for the NSFG surveys were collected through in-person interviews with men and women ages 15-44 in the household population of the United States; the 2011-2015 interviews were conducted between September 2011 and September 2015, with 20,621 men and women, including 4,134 teenagers (2,047 females and 2,087 males). The response rate was 72.5% for male teens and 73.0% for female teens.

What did the analysis show? In 2011-2015, about 40% of never-married female teens (4.0 million) and never-married male teens (4.4 million) had had sexual intercourse at least once by the time of the interview. These levels of sexual experience among teenagers are similar to those seen in 2002 and 2006-2010 data, researchers note. When looking at longer-term trends, from 1988 to 2011-2015, data indicate declines in the percentage of teenagers who were sexually experienced.[1]

More teen girls are using contraception at first sex: from 74.5% in 2002 to 81.0% in 2011-2015. Male teens' use of a condom at first sex increased from 70.9% in 2002 to 79.6% in 2006-2010, and remained stable at 76.8% in 2011-2015.[1]

Watch the Trends

Abma points to a separate 2015 report that looked at LARC use among women of all ages, including ages 15-24.[2] Using NSFG data from the 1982, 1988, 1995, 2002, 2006-2010, and 2011-2013 cycles, it examines trends in current LARC use among women ages 15-44 and describes patterns of use by age, race and Hispanic origin, and parity.

Data in this analysis indicate that use of IUDs and implants increased nearly fivefold in the last decade among women ages 15-44, from 1.5% in 2002 to 7.2% in 2011-2013. Current LARC use was higher among women ages 25-34 compared with women ages 15-24 at all time points except 1988 and 1995.

After remaining relatively unchanged from 1982 to 2002, LARC use among women ages 15-24 increased nearly fourfold between 2002 (0.6%) and 2006-2010 (2.3%) and doubled again for 2011-2013 (5.0%).

Expanded Use at Title X Clinics

Efforts to improve access to LARC among teens seeking contraception at Title X service sites have increased use of these methods, according to 2015 research.[3] (Contraceptive Technology Update *reported on the data; see the July 2015 article, "Title X Clinics See Upswing in Long-acting Reversible Contraceptives by Teens," at http://bit.ly/2uTBvZg.*)

Analysis of the data indicates that use of LARC methods among

EXECUTIVE SUMMARY

A review of national 2011-2015 data indicates that more teens are using contraception: 95% of males and 90% of females ages 15-19 reported using a contraceptive method at last sex.

- While more teen girls are reporting use of the contraceptive injectable, implant, emergency contraception, patch, and the intrauterine device, use of the pill remains common, data indicate.
- Although use of long-acting reversible contraceptives increased among teens, the most commonly used methods remain the condom, the pill, and withdrawal. Among sexually experienced teen females in 2011-2015, 97% had ever used condoms, 60% had ever used withdrawal, and 56% had ever used the pill.

teens seeking birth control services increased from less than 1% to 7% from 2005 to 2013.

When looking at the type of LARC, use of IUDs for teens ages 15-19 increased from 3,685 (0.4%) to 17,349 (2.8%), and use of implants increased from 427 (0.04%) to 26,347 (4.3%). Use of IUDs was more prevalent than use of implants during 2005-2011 but was surpassed by implants in 2012 and 2013.[1]

Use of LARC methods increased from 0.6% to 7.6% among teens ages 18-19, and from 0.3% to 6.5% among teens ages 15-17. For both age groups, the increase in use of implants exceeded the increase in use of IUDs (teens ages 15-17: 0.05% to 4.5% for implants, and 0.2% to 2.0% for IUDs; teens ages 18-19: 0.04% to 4.1% for implants, and 0.5% to 3.4% for IUDs).[1]

Advocate for LARC Methods

Intrauterine contraceptives and the contraceptive implant offer top-tier pregnancy prevention, and their use is supported by the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics. Both national organizations have issued statements that LARC methods are safe, effective, and appropriate options for teens.[4,5] (Contraceptive Technology Update *reported on the subject; see the January 2014 article, "LARC Methods: 7 Things You Need to Know," available at http://bit.ly/1T73i2V.*)

The U.S. Selected Practice Recommendations for Contraceptive Use states that LARC methods, such as intrauterine contraception and the contraceptive implant, are safe, effective, and appropriate options for adolescents.[6] The CDC advises that providers recognize that healthy adolescents may use LARC methods safely. Clinicians who work with teens should make sure that their patients who are sexually active or considering sex know about all methods of contraception, it states.

Robert Hatcher, MD, MPH, professor emeritus of gynecology and obstetrics at Emory University School of Medicine in Atlanta, suggests that the increased use of LARC methods in teenagers (as noted above) and the increased use of LARC methods in all women using contraception (from 2.4% in 2002 to 11.6% in 2013) is important.[7,8] However, in 9,256 women provided contraceptives in the St. Louis CHOICE Project, 76% of all women chose to use a LARC method, Hatcher observes. If everyone followed the techniques used in the St. Louis clinics, LARC use would improve still further in the years ahead, he states.

"To review: The effectiveness of LARC methods is the first thing anyone making contact with the CHOICE program learns, and two, at all sites, a woman can immediately receive an IUD or an implant *that day*," notes Hatcher. "Three, the cost for each woman served is $0.00."[9,10] ■

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Data Indicate Efficacy of Liletta IUD for Four Years' Use

Four-year data from the ongoing multicenter, U.S.-based pivotal trial of the 52 mg Liletta levonorgestrel-releasing intrauterine device (IUD) indicate its safety and efficacy for four years of use in nulliparous and parous women, as well as in non-obese and obese women.[1] The data were presented at the American College of Obstetricians and Gynecologists annual clinical and scientific meeting.

Liletta, marketed by Medicines360 of San Francisco and Actavis in Dublin, Ireland, currently is approved for effective contraception for up to three years, based on an ongoing multicenter trial evaluating the product for up to seven years of use. The current evaluation looked at four-year efficacy and safety data for the device.

In the current analysis, scientists enrolled and followed women ages 16-45, with women ages 36-45 receiving the device for safety evaluation only. Four-year pregnancy rates were assessed by Pearl Index and life-table analysis.

What Are the Findings?

Scientists report that successful IUD placement occurred in 1,568 (98%) women ages 16-35 and 146 (97%) women ages 36-45, including 1,011 (57.7%) nulliparous and 438 (25.1%) obese women. Among women ages 16-35 at enrollment, eight pregnancies occurred, including one following perforation and one following expulsion. Six (75%) pregnancies were ectopic. The eight pregnancies included three nulliparous women and one obese woman.

The Pearl Index in the first year was 0.15 (95% confidence interval [CI], 0.02-0.55). Cumulative life-table pregnancy rates through years two, three, and four were 0.49 (95% CI, 0.22-1.09), 0.60 (95% CI, 0.28-1.26), and 0.78 (95% CI, 0.37-1.60). Perforation following device placement occurred in two (0.1%) women; both were diagnosed within the first year. Expulsion was reported in 63 (3.7%) participants, most (50 [80.6%]) during the first year of use. Pelvic infection was diagnosed in 12 (0.7%) women. A total of 38 (2.2%) women discontinued use due to bleeding complaints.[1]

The data have been submitted to the Food and Drug Administration (FDA) for approval of Liletta for up to four years of use, said Jessica Grossman, MD, chief executive officer of Medicines360, in a statement accompanying the data release.

Looking Past Three Years of Use

The FDA evaluation of Liletta's four-year data is ongoing, notes **Anita Nelson**, MD, professor and chair of

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Four-year data from the ongoing multicenter, U.S.-based pivotal trial of the 52 mg Liletta levonorgestrel-releasing intrauterine device (IUD) indicate its safety and efficacy for four years of use in nulliparous and parous women, as well as in non-obese and obese women.

• Liletta currently is approved for effective contraception for up to three years, based on an ongoing multicenter trial evaluating the product for up to seven years of use.

• The use of long-acting reversible contraception (LARC) has increased in recent years, from 2.4% of all women using contraception in 2002 to 11.6% in 2013. There are now five LARC devices available in the United States: one single-rod etonogestrel implant and five brands of IUDs.

the obstetrics and gynecology department at Western University of Health Sciences in Pomona, CA. Plans are to continue the device's trial for seven years if the results remain promising, she says.

Data published late in 2016 indicate Liletta's calculated levonorgestrel content and release rate curves support the continued evaluation of its contraceptive use for five or more years.[2]

Liletta has been updated with a single-handed inserter. The inserter features a locking mechanism within the cleft to keep the threads in place, a bendable tube to accommodate the anatomy of the patient during insertion, color-coded sliders to assist in loading the IUD and opening the arms during insertion, and the ability to reset the device for repeated attempts if the device is not loaded properly prior to insertion.

What Are the Options?

The use of long-acting reversible contraception (LARC) has increased in recent years, from 2.4% of all women using contraception in 2002 to 11.6% in 2013.[3,4] There now are five LARC devices available in the United States: one single-rod etonogestrel implant (Nexplanon, Merck, Whitehouse Station, NJ) and five brands of IUDs. These include four levonorgestrel IUDs:

- the 52 mg Mirena (Bayer HealthCare Pharmaceuticals, Whippany, NJ), approved for the treatment of heavy menstrual bleeding in IUD users and for five years of contraceptive use;
- the 52 mg Liletta (Medicines360 and Actavis), approved for three years of contraceptive use;
- the 13.5 mg Skyla (Bayer), approved for three years of contraceptive use; and
- the 19.5 mg Kyleena (Bayer), approved for five years of contraceptive use.

The ParaGard copper-T IUD (Teva Women's Health, Sellersville, PA) is approved for 10 years of contraceptive use.

Intrauterine contraceptives and the contraceptive implant offer top-tier pregnancy prevention, and their use is supported by the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics. Both organizations have issued policy statements affirming that LARC methods are safe, effective, and appropriate options for teens.[5,6] ■

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While Many Pharmacies Have EC, Can Teens Access It?

In 2013, the Food and Drug Administration removed age restrictions on emergency contraception (EC), allowing it to be sold over the counter to all consumers. However, results of a new study indicate that barriers to and disparities in access for adolescents still exist.[1]

Same-day access to emergency contraception is an important piece of effective pregnancy prevention for adolescents. Despite policy changes that started in 2013 that were intended to improve access to EC, there still are persistent barriers to access that are more prominent in low-income neighborhoods.

Reproductive health access advocates were heartened in 2014 when restrictions on generic forms of EC were removed. However, packaging still had to include a "use recommendation" that mentioned the intended users were limited to women 17 years of age or older. The use recommendation, while not enforceable,

EXECUTIVE SUMMARY

In 2013, the Food and Drug Administration removed age restrictions on emergency contraception (EC), allowing it to be sold over the counter to all consumers. However, results of a new study indicate that barriers to and disparities in access for adolescents still exist.

- Despite policy changes that were intended to improve access to EC, there still are persistent barriers to access that are more prominent in low-income neighborhoods, research indicates.
- While over-the-counter access to levonorgestrel-only pills does provide women a chance to prevent unintended pregnancy, family planning clinicians now advocate for the use of the copper intrauterine device and ulipristal acetate pills as more effective methods of emergency contraception.

was related to Frazer, PA-based Teva Women's Health's patent on Plan B One-Step, the initial levonorgestrel EC pill. This recommendation was removed in 2016 when the market exclusivity for Plan B One-Step expired.

Tracey Wilkinson, MD, MPH, assistant professor of pediatrics at Indiana University in Indianapolis, conducted an initial investigation into pharmacy access, which was published in 2012.[2] Wilkinson, whose research focuses on access to reproductive health services for adolescents, says she is not surprised by the current results. "Given the history of EC in the U.S. and all the changing regulations, the fact that misinformation exists isn't shocking; however, it is disappointing because the point of removing all the restrictions (which occurred in 2013) was to help decrease this misinformation and improve access," Wilkinson says.

"Our study shows that there are still persistent barriers for adolescents, and so there is still work to be done to assure that everyone (especially adolescents) can have guaranteed access to EC when it is needed," she says.

Review the Research

To perform the study, female mystery callers posing as 17-year-old teens in need of EC used standardized scripts to call 979 pharmacies in Nashville, Philadelphia, Cleveland, Austin, and Portland. Researchers used 2015 estimated census data and the federal poverty level to characterize pharmacy neighborhood income levels.

Of the 979 pharmacies contacted, 827 (83%) indicated that EC was available. The proportion did not vary by pharmacy neighborhood income level, nor was it significantly different from the 2012 study (P = 0.78). When examining access, 8.3% of the pharmacies reported it was impossible to obtain EC under any circumstances, which occurred more often in low-income neighborhoods (10.3% vs. 6.3%, adjusted odds ratio [OR] 1.5; 95% confidence interval [CI], 1.20-1.94). This number was not significantly different from 2012 (P = 0.66).

Correct information regarding over-the-counter access was conveyed only 51.6% of the time; accuracy did not differ by the pharmacy's neighborhood income (47.9% vs. 55.3%, adjusted OR 0.89; 95% CI, 0.71-1.11) and was not significantly different from 2012 (P = 0.37).

New Recommendations Issued

While over-the-counter access to levonorgestrel-only pills does provide women a chance to prevent unintended pregnancy, family planning clinicians now advocate for the use of the copper intrauterine device (IUD) and ulipristal acetate pills as more effective methods of emergency contraception. The IUD represents the most effective method of emergency contraception, with a failure rate of less than one per thousand.[3] Ulipristal acetate pills have an approximate 1.4% failure rate.[3]

The American College of Obstetricians and Gynecologists has just issued a new Committee Opinion on the subject, with the following recommendations:

- Clinicians should counsel patients that a copper IUD is the most effective form of emergency contraception. Providers should consider integrating copper IUD emergency contraception provision into their practices and allowing same-day provision of IUDs, the opinion states.
- Providers should prescribe ulipristal acetate when possible because it is more effective than levonorgestrel at all times up to five days after unprotected intercourse, and in women of all weights.
- Clinicians should write advance prescriptions for emergency contraception, particularly for ulipristal acetate, to increase awareness and reduce barriers to immediate access.[4]

Compared to EC users who choose oral levonorgestrel, those who select the copper IUD have lower rates of pregnancy in the

next year, results of a 2014 study indicate.[5] ■

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New Test May Aid in Clinical Management of Vaginitis

Vaginal complaints represent one of the most common reasons women seek the advice of a healthcare provider.[1] Consider these numbers:

• Nearly 33% of women of childbearing age have bacterial vaginosis.

• About 75% of all adult women have had at least one yeast infection in their lifetime.

• Approximately 3% of women of childbearing age have trichomoniasis.[2,3]

A molecular diagnostic test that accurately distinguishes among the three most common causes of vaginitis — bacterial vaginosis (BV), trichomoniasis (TV), and vulvovaginal candidiasis (VVC) — earned Food and Drug Administration market authorization in October 2016 for use by diagnostic laboratories. The assay is licensed to BD Diagnostics of Franklin Lakes, NJ, which markets it under the BD MAX Vaginal Panel.

Traditional methods used to detect vaginitis can be challenging due to the presence of many interfering substances in specimens, the large number of mixed infections, and the subjectivity of such methods, says **Mark Martens**, MD, FACOG, chair of the obstetrics and gynecology department at the Jersey Shore University Medical Center in Neptune, NJ.

"A multiplex microbiome-based real-time PCR (polymerase chain reaction) assay has the potential to help clinicians improve patient management and help laboratories increase workflow efficiency," said Martens in an announcement of the test authorization.

Check Published Data

The new test first uses a real-time PCR to amplify large amounts of specific DNA sequences from the three most common causes of vaginitis from patient samples. It then reads either a positive or a negative result based on whether enough DNA is present to indicate infection.

Just-published data on the new assay indicate it is as accurate as and more objective than traditional laboratory tests, say researchers.[4]

To conduct the study, researchers used PCR to amplify and test for the DNA of *Trichomonas vaginalis*, six bacteria species, and six species of yeast. They collected vaginal swabs from 1,740 symptomatic women with typical symptoms of vaginitis, including itching and burning. Patients in the study ranged in age from 18-81 years, and were of varied educational status and ethnic backgrounds. Four

EXECUTIVE SUMMARY

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• Vaginal complaints represent one of the most common reasons women seek the advice of a healthcare provider. About 33% of women of childbearing age have bacterial vaginosis, and some 75% of all adult women have had at least one yeast infection in their lifetime. Approximately 3% of women of childbearing age have trichomoniasis.

vaginal swabs were collected from each patient: two for use in traditional lab testing, one for use with the new molecular test, and one for use with a separate comparative genetic method used to validate the results for discrepancy analysis purposes.

To perform the molecular test, scientists prepared the samples and added them to a cartridge equipped with all the reagents needed for PCR. They then inserted the cartridge into the BD MAX System, a real-time PCR platform that looks at the genetic sequences and issues a report for each of the three microbes. These results then were compared with results from the traditional diagnostic tools and the alternate genetic test.

Data indicate that the prevalence of bacterial vaginosis was positive in 37.3% of patients according to the traditional methods, and 36.1% in the molecular method; 14.7% of cases were found positive for yeast infection by traditional methods, and 16.2% by the molecular method; and 1.5% of patients tested positive for trichomonas using the traditional method, while 1.6% were found positive using the molecular assay.[2]

"Overall, the disease prevalence identified by the traditional and the new molecular methods were similar," says **Charlotte Gaydos**, DrPH, MPH, professor of medicine and director of the Johns Hopkins Center for the Development of Point of Care Tests for Sexually Transmitted Diseases at the Johns Hopkins University School of Medicine in Baltimore.

Tests traditionally used to distinguish among the causes of vaginitis are "archaic, quite subjective, and time-intensive," plus call for extensive training for those interpreting the results, said Gaydos in a statement. Traditional tests called for lab personnel to grow cultures, conduct microscopic studies of cells for infection, and even perform the "whiff test" to help tease out possible causes and choose the proper treatment. The new test is objective — either the DNA of the causative agent is there or not, says Gaydos.

The new test is more expensive than traditional methods, costing around $75-$125, depending on a clinic's existing equipment. Samples must be processed in a PCR-capable lab, which may add time if such facilities are offsite. The economic advantages of using the new test may compensate for the upfront costs, since its results can provide more accurate and detailed diagnoses, reducing repeat patient visits.

Robert Hatcher, MD, MPH, professor emeritus of gynecology and obstetrics at Emory University School of Medicine in Atlanta, suggests that whenever reproductive-age women are being screened for bacterial vaginosis, trichomoniasis, or vulvovaginal candidiasis, they also should be screened for chlamydia, the leading preventable cause of infertility in women. ■

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Science Considers Women's Attitudes and Beliefs on Pelvic Screening

Researchers at the University of California, San Francisco, (UCSF) have looked at the effect of providing healthy women with information about pelvic examinations, including a professional society's strong recommendation against them. In a just-released study, they report that a brief counseling session that includes the recommendation against such examinations led to a decrease in the patients' desire for them.[1]

The American College of Physicians and the American Academy of Family Physicians recommend against performing screening pelvic examinations in asymptomatic women.[2,3] While the American College of Obstetricians and Gynecologists (ACOG) does call for annual pelvic exams for women 21 years of age and older, it also states that the decision to perform such exams should be individualized, sharing input from the woman and the clinician.[4]

To perform the current study, 190 women visiting health clinics at UCSF and Zuckerberg San Francisco General Hospital and Trauma Center were shown illustrations of the pelvic examination. The women then were assigned randomly to review a summary of one of the two recommendations, then answer a series of questions assessing their attitudes and

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Researchers at the University of California, San Francisco, have looked at the effect of providing healthy women with information about pelvic examinations, including a professional society's strong recommendation against them. In a just-released study, they report that a brief counseling session that includes the recommendation against such examinations led to a decrease in the patients' desire for them.

- The American College of Physicians and the American Academy of Family Physicians recommend against performing screening pelvic examinations in asymptomatic women.
- While the American College of Obstetricians and Gynecologists does call for annual pelvic exams for women 21 years of age and older, it also states that the decision to perform such exams should be individualized, sharing input from the woman and the clinician.

beliefs about the examination. One summary included information from the American College of Physicians about the potential for false-positive testing and unnecessary surgery. The other summary included information from the ACOG. It disclosed the lack of evidence of benefit, but did not mention the possibility of harm.

The analysis indicates that desire for the examination dropped from 82% for women who reviewed the favorable recommendation to 39% for those reviewing the discouraging recommendation. More than 90% of women in the study said that potential benefits and harm should be discussed prior to the examination.

"For every two or three women shown the recommendation, one of them would opt out of the examination," says **George Sawaya**, MD, a UCSF professor of obstetrics, gynecology and reproductive sciences, and a leader at the UCSF Center for Healthcare Value. "This is an enormous effect for a five-minute education intervention."

Given the potential public health impact of the team's findings, researchers believe there is a "pressing need" for improving patient counseling concerning pelvic exams.

"These findings point to the need for educational materials to ensure women's informed preferences and values are reflected in decisions about pelvic examinations," said senior author **Miriam Kuppermann**, PhD, MPH, a UCSF professor in the departments of obstetrics, gynecology and reproductive sciences, and epidemiology and biostatistics.

What's Your Practice?

Current evidence is insufficient to determine the balance of benefits and harms of performing screening pelvic examinations in asymptomatic, adult, non-pregnant women for the early detection and treatment of many gynecologic conditions, according to March 2017 guidance from the U.S. Preventive Services Task Force. The new publication applies to women age 18 years and older who do not have any signs or symptoms of gynecologic conditions and who are not at increased risk for such conditions. The task force already recommends using screening tests for early detection of cervical cancer, chlamydia, and gonorrhea.[5] (Contraceptive Technology Update *reported on the subject; see the May 2017 article, "More Research Needed on Benefits, Harms of Screening Pelvic Exams," at:* http://bit.ly/2sRHXmP.)

When it comes to birth control, the U.S. Selected Practice Recommendations for Contraceptive Use states that pelvic examinations are not necessary before initiation of combined hormonal contraceptives because they "do not facilitate detection of conditions for which hormonal contraceptives would be unsafe."[6]

Many providers may continue to perform pelvic exams to detect ovarian cancer in asymptomatic women; however, it may not be effective. Results from a 2011 randomized trial of 78,216 women ages 55 to 74 demonstrated that screening with CA-125 and pelvic sonograms (a practice more accurate than bimanual examinations) is ineffective in preventing ovarian cancer mortality.[7]

The trend toward not performing pelvic exams at the time of annual exams or provision of contraception is well underway, observes **Robert Hatcher**, MD, MPH, professor emeritus of gynecology and obstetrics at Emory University School of Medicine in Atlanta.

"At the 2017 Contraceptive Technology conference in San Francisco, I met a clinician who said 90% of the LARC methods she was inserting for university students were implants," says Hatcher. "When asked why, she said so many of these young women now get to the senior year of college without having a single pelvic exam, and they would rather have their contraceptive in their arm rather than in their uterus." ■

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TEEN TOPICS

Can College Health Centers Improve Access to Abortion Care?

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During the past year, students at the University of California, Berkeley, organized and advocated for adding medication abortion services to their student health center and for extending this service to health centers across the University of California and California State University systems. The actions of students quickly developed into a larger collaboration with reproductive health advocates, which led to drafting a bill introduced to the California Senate. While the bill currently is on hold for future reintroduction, it raises the issue of access to abortion care for college students.

According to the Guttmacher Institute, in 2014 women ages 18-19 received 8.2% of all abortion services, and women ages 20-24 received 33.6% of all abortion services provided in that year.[1] Many women in this age range are pursuing undergraduate and graduate school education, and for those women, student health centers are essential for providing access to medical care for a wide range of health needs.

College health centers may be a student's only access to healthcare, especially on campuses in rural areas. In fact, the American College Health Association (ACHA) reports that rural students are about 50% more likely than urban students to utilize college health services. Beyond serving students, college health centers often serve faculty as well as partners and dependents of students and faculty members.[2]

Access Is Limited

A 2010 ACHA survey found that 88% of college centers reported gynecology services as the most frequently offered service, second only to primary care and health promotion services.[2] While college health centers offer gynecologic exams, provide contraceptives, and offer pregnancy testing and options counseling, abortion services are not provided onsite, with students referred to off-campus sources. In areas like Berkeley, where this movement began, abortion care may be nearby and easily accessible, but this is not the case for many universities.

In general, abortion access is extremely limited and on the decline in most of the United States. In 2014, 90% of U.S. counties lacked an abortion provider, and 39% of women of reproductive age lived in those counties.[3] For this reason, students may have to travel long distances from their town or city, or even out of state, to access abortion care.

Aside from the challenges of finding a provider, students may face

burdensome out-of-pocket costs when seeking off-campus care if they rely on student health insurance programs or college health fees to cover medical expenses. The need to find or save money to cover the cost of care and potential travel costs can cause delays in care, which increases costs and medical risks related to later abortion procedures.

What Would It Take?

Opponents to on-campus abortion services have raised concerns over the safety of abortion care. However, medication abortion is extremely safe; a recent review found complications occur in less than 1% of medication abortion cases. The most common complication reported was ongoing pregnancy, which occurred in 0.5% of cases. More serious adverse events requiring emergency department treatment or hospital admission occurred in less than 0.1% of cases.[4]

Adding any new service to a health center comes with implementation challenges, and one issue to consider is clinical capacity of on-campus medical providers. Proponents of improving abortion access point out that California is unique, since state law explicitly allows advanced practice clinicians, such as nurse practitioners, physician assistants, and nurse midwives, to provide both medication and early surgical abortion services. Along with the many physicians who staff college health centers, there are a variety of highly skilled healthcare providers with the potential to offer medication abortion to the students, faculty members, and their dependents who are in need of the service.

Beyond staffing, provider training would remain a challenge. Furthermore, malpractice insurance for medication abortion providers can be prohibitively expensive depending on the state, and increased insurance costs would be a strain for student health centers to absorb.[5]

Administrative challenges also would exist, such as the unique process of acquiring mifepristone. Medical providers must sign agreements directly with the manufacturer and purchase the medication to have on hand, rather than the common process of writing prescriptions used with other drugs. Some providers of medication abortion choose to utilize ultrasound technology for pregnancy dating, and this may be a financial barrier for college health centers that do not already have the necessary machines.

> "COLLEGE HEALTH CENTERS MAY BE A STUDENT'S ONLY ACCESS TO HEALTHCARE, ESPECIALLY ON CAMPUSES IN RURAL AREAS."

On-campus abortion care may be much more difficult to offer in states that are hostile to abortion, where highly restrictive laws are in place that affect the types of clinicians who can provide abortion and limit the settings where abortion care can take place.

Students United for Reproductive Justice continues to work on raising awareness about the challenges students face when seeking abortion care, and a wide range of organizations, including California ACLU Affiliates, the American Association of University Women, National Women's Health Network, and Black Women's Health Imperative, among others, continue to collaborate in hopes of reintroducing the bill. ■

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COMING IN FUTURE MONTHS

- Weigh benefits, disadvantages of IUD use in obese women
- Science weighs in on potential hot flash treatment
- Data collected on clinical practice of annual screening mammographies
- Do women keep their IUDs after insertion for EC?

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CME/CE QUESTIONS

1. **What are the most commonly used contraceptives among teens, as evidenced in "Sexual Activity and Contraceptive Use Among Teenagers in the United States, 2011–2015"?**

   a. Condom, contraceptive pill, withdrawal
   b. Condom, contraceptive injection, withdrawal
   c. Contraceptive pill, intrauterine device, condom
   d. Contraceptive pill, contraceptive patch, withdrawal

2. **What is the amount of levonorgestrel in the Liletta IUD?**

   a. 13.5 mg
   b. 19.5 mg
   c. 52 mg
   d. 60 mg

3. **What is the failure rate of the copper IUD when used for emergency contraception?**

   a. Less than 50 per thousand
   b. Less than 35 per thousand
   c. Less than 25 per thousand
   d. Less than one per thousand

4. **The American College of Obstetricians and Gynecologists calls for annual pelvic exams in what age group?**

   a. For women 12 years of age and older
   b. For women 16 years of age and older
   c. For women 18 years of age and older
   d. For women 21 years of age and older

CE/CME OBJECTIVES

After reading *Contraceptive Technology Update*, the participant will be able to:

1. identify clinical, legal, or scientific issues related to development and provisions of contraceptive technology or other reproductive services;
2. describe how those issues affect services and patient care;
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STI QUARTERLY™

A SUPPLEMENT TO CONTRACEPTIVE TECHNOLOGY UPDATE

Concerns About Privacy May Prevent Some Youth From Getting STI Tests

Many on parents' health plans would not get care due to privacy issues

Research published by the Centers for Disease Control and Prevention (CDC) indicates that one of every eight teenagers and young adults who are sexually experienced and on their parents' health insurance plan said they would not go for sexual or reproductive healthcare advice because their parents might find out.[1]

Changes in the U.S. healthcare system now allow a dependent child to stay on a parent's health insurance plan until the child's 26th birthday. These same changes call for coverage of certain preventive services, including some sexually transmitted disease (STD) services, without cost sharing for most plans.[2] While these changes may have expanded access to services, some teens and young adults may delay or refrain from seeking services due to concerns about confidentiality, including the fear that their parents might learn about their care.[3]

PREVIOUS RESEARCH HAS SUGGESTED CONFIDENTIALITY MAY SERVE AS A BARRIER TO ACCESSING STD TESTING AND TREATMENT SERVICES.

CDC researchers looked at data from the 2013-2015 National Survey of Family Growth, which gathers information on family life, marriage, divorce, pregnancy, infertility, use of birth control, and men's and women's health. Their analysis indicates that 12.7% of sexually experienced adolescents ages 15-17 and young adults ages 18-25 who were on a parent's insurance plan would not access sexual and reproductive healthcare because of concerns surrounding confidentiality. Teens ages 15-17 (22.6%) were particularly concerned, data indicate.

Findings suggest that female respondents who had confidentiality concerns were less inclined to be screened for chlamydia (17.1%), compared to those who were not (38.7%).[1]

Previous research has suggested confidentiality may serve as a barrier to accessing STD testing and treatment services, notes **Jami Leichliter**, PhD, a research behavioral scientist in the CDC's Division of STD Prevention. In recent years, budget reductions for state and local STD programs and nationwide increases of chlamydia, gonorrhea, and syphilis underscore the importance of ensuring young people, the age group most affected by STDs, have the tools and resources they need to protect themselves from STDs, says Leichliter, lead author of the research paper.

"Our analysis sought to assess whether concerns around confidentiality are impacting young people's decision to seek STD services, particularly in a time when changes to the healthcare system have increased the insured population," says Leichliter.

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Check the Data

In the current paper, data were collected primarily using audio computer-assisted self-interviewing. Researchers looked at teens and young adults ages 15-25 who were sexually experienced, which was defined as ever having had any type of sexual contact with an opposite-sex or same-sex partner. Respondents under a parent's health plan were questioned about whether they would not seek sexual/reproductive services due to their parents' knowledge of such services. Those ages 15-17 were asked if they had had time alone with a healthcare provider in the past 12 months without a parent, relative, or guardian in the room. Respondents were identified as having a sexual risk assessment if they indicated that a healthcare provider or doctor had asked them about at least one of these items: sexual orientation or sex of their sexual partners; number of sexual partners; use of condoms; and types of sex. The receipt of other STD services was defined for females as receiving a chlamydia test in the past 12 months; for males, receipt of services included receiving an STD test in the past 12 months; and for females and males, this was defined as receiving treatment for an STD in the past 12 months.

The analysis shows that teens ages 15-17 who reported having time alone with a healthcare provider in the past 12 months indicated prevalences of receiving a sexual risk assessment (71.1%) that were significantly higher than those who did not have time alone with a healthcare provider (36.6%). Teens ages 15-17 who had time alone with a healthcare provider were more likely to have received a chlamydia test in the past 12 months (34.0%) than were those who had not had time alone with a healthcare provider (14.9%).

For young men ages 15-25, there was little difference in the reported prevalence of receiving an STD test in the past 12 months in those who would not seek out sexual and reproductive healthcare because their parents might learn about it (13.0%) compared with those who would seek out that healthcare advice (16.7%). Also, the prevalence did not fluctuate among male teens ages 15-17 who had time alone with a healthcare provider in the past 12 months (13.6%) and those who did not (9.5%).[1]

What's Your Role?

According to the Guttmacher Institute, all U.S. states and the District of Columbia allow all minors to consent to STD services. Eighteen of these states allow, but do not require, a physician to notify a minor's parents that he or she is seeking or receiving STD services when the doctor determines that it is in the minor's best interests. These 18 states are Alabama, Arkansas, Delaware, Georgia, Hawaii, Illinois, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, New Jersey, Oklahoma, and Texas. (*Check other minor rights at:* http://bit.ly/2sApTK4.)

The Society for Adolescent Health and Medicine, the American Academy of Pediatrics, and the American College of Obstetricians and Gynecologists are in agreement in their stance that clinicians should be able to provide confidential health services to consenting adolescents and young adults who have insurance through their parents' coverage.[4] These services include care related to STIs, birth control, pregnancy, substance use or abuse, and mental health.[4]

Several states now have provisions to address confidentiality in private healthcare billing and insurance claims. These provisions include identifying situations in which explanation of benefits (EOBs) do not have to be sent (for example, when there is no balance due from the policy holder); sending EOBs regarding sensitive services to the patient directly at an address that is specified by the patient, and using

EXECUTIVE SUMMARY

Research published by the Centers for Disease Control and Prevention indicates that one of every eight sexually experienced teenagers and young adults who are on their parents' health insurance plan said they would not go for healthcare advice related to sexual or reproductive issues because their parents might find out.

- Changes in the U.S. healthcare system now allow a dependent child to stay on a parent's health insurance plan until the child's 26th birthday. These same changes call for coverage of certain preventive services, including some sexually transmitted disease services, without cost sharing for most plans.
- While these changes may have expanded access to services, some teens and young adults may delay or refrain from seeking services due to concerns about confidentiality, including the fear that their parents might learn about their care.

minor consent laws to specify that the care to which a minor can consent must be confidential, including in the process of healthcare billing.[4]

It is essential to protect confidentiality in healthcare billing and insurance claims in providing healthcare for adolescents and young adults, according to the consensus statement. Clinicians must be able to provide confidential healthcare services to adolescents and young adults who are covered as dependents under a family's health insurance plan, the organizations agree. ■

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Research Identifies Potential New Gonorrhea Treatments

About 820,000 new gonococcal infections occur in the United States each year, with some 570,000 appearing in young people ages 15-24.[1] In an effort to stem the tide of infection, science has identified a potential new treatment, which uses a peptide to disrupt an enzyme the microbe needs to respirate.[2]

Researchers at Oregon State University in Corvallis, OR, have identified a new therapy target, an enzyme known as AniA. The *Neisseria gonorrhoeae* bacteria need the surface-exposed enzyme to respirate without oxygen in the biofilms of the genitourinary tract.

Aleksandra Sikora, PhD, MSc, associate professor in the university's College of Pharmacy, and her team have focused on a peptide that inhibits the AniA enzyme's nitrite reductase activity. This disruption in activity damages the bacteria's ability to grow in the oxygen-poor biofilm environment.

Bacteria in biofilms display increased resistance to antimicrobials, explains Sikora. The enzyme is only necessary for cell viability when these bacteria grow under anaerobic conditions, including when they grow in the biofilm, she notes. "Most antibiotics target essential cell functions; this one doesn't," said Sikora in a statement accompanying the study publication. "It's only at a certain stage of growth that the bacteria are affected, which means the development of resistance won't be as fast."

Scientists at the university, in collaboration with researchers at the University of Kentucky, have identified 29 unique peptides that bond with the targeted enzyme. A particular peptide, C7-3, has been earmarked as the most promising for inhibiting the protein's interaction with nitrite, which is required for anaerobic respiration. Sikora has applied for a provisional patent in continuing work with use of the peptide.

Pressing for New Treatments

N. gonorrhoeae has developed resistance to each of the antimicrobials

EXECUTIVE SUMMARY

About 820,000 new gonococcal infections occur in the United States each year, with some 570,000 appearing in young people ages 15-24. In an effort to stem the tide of infection, science has identified a potential new treatment, which uses a peptide to disrupt an enzyme the microbe needs to respirate.

• *N. gonorrhoeae* has developed resistance to each of the antimicrobials used for treatment, which presents a public health challenge. Because of declining susceptibility to cefixime, the Centers for Disease Control and Prevention's latest guidelines now call for dual therapy with ceftriaxone (an injectable cephalosporin) and azithromycin as the sole recommended treatment regimen for gonorrhea.

used to treat gonorrhea, which presents a public health challenge. Because of declining susceptibility to cefixime, the Centers for Disease Control and Prevention's (CDC's) latest guidelines guidelines now call for dual therapy with ceftriaxone (an injectable cephalosporin) and azithromycin as the sole CDC-recommended treatment regimen for gonorrhea.[3]

Health officials now have identified a cluster of gonorrhea infections that demonstrates decreased susceptibility to ceftriaxone and very high-level resistance to azithromycin. Laboratory tests conducted on gonorrhea isolates collected from seven individuals in Honolulu in 2016 indicated resistance to azithromycin at higher levels than typically are seen in the United States; also, isolates from five of the patients showed reduced susceptibility to ceftriaxone. Although all of the patients were treated successfully with the dual treatment regimen, the occurrence of a cluster of cases, which indicates that the strain was able to spread, and the resistance pattern are reasons for concern to public health officials.[4] (Contraceptive Technology Update *reported on the incident; see the January 2017 article, "STDs at Unprecedented High in United States," available at:* http://bit.ly/2hrYtkh.)

An interdisciplinary team from the United Kingdom-based University of York's departments of biology and chemistry are focusing on what they term the "target room" of *Neisseria gonorrhoeae*. Since it is more sensitive to carbon monoxide-based toxicity than other model bacterial pathogens, it may be a possible candidate for therapy using carbon monoxide-releasing molecules. The carbon monoxide molecule works by binding to the bacteria, and preventing them from producing energy.[5]

"The carbon monoxide molecule targets the engine room, stopping the bacteria from respiring," said **Ian Fairlamb**, PhD, a professor in the university's department of chemistry, in a press statement. "Gonorrhoea only has one enzyme that needs inhibiting; [when] it can't respire oxygen, it dies."

HEALTH OFFICIALS NOW HAVE IDENTIFIED A CLUSTER OF GONORRHEA INFECTIONS THAT DEMONSTRATES DECREASED SUSCEPTIBILITY TO CEFTRIAXONE AND VERY HIGH-LEVEL RESISTANCE TO AZITHROMYCIN.

The research team says the next step is to develop a drug so that the research findings can be translated on to clinical trials in the future.

"Antimicrobial resistance is a massive global problem which isn't going away," said **James Moir**, PhD, professor in the university's department of biology, in a statement accompanying the data publication. "We need to use many different approaches, and the development of new drugs using bioinorganic chemistry is one crucial way we can tackle this problem, to control important bacterial pathogens before the current therapies stop working." ■

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