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CONTRACEPTIVE TECHNOLOGY UPDATE®

A Monthly Newsletter for Health Professionals

AHC Media LLC

IN THIS ISSUE

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MARCH 2010
VOL. 31, NO. 3 • (pages 25-36)

Brave new world: Family planners use technology to enhance counseling

Internet, e-mail, and text messaging can aid contraceptive use

Your clinic has distributed brochures on contraceptive methods, put up posters in the waiting room and exam rooms, and passed out printed information along with pill packs. Still, patients aren't getting the message about how to choose and use the method that is best for them. How can you disseminate an effective message?

Clinicians are looking to electronic technology to circulate all forms of reproductive health information, including contraceptive counseling. The web is proving to be an important resource for health information; a 2009 Pew Internet & American Life Project reports that 28% of adolescents look online for health and fitness information.[1] **(*Contraceptive Technology Update* reported on the impact of technology on adolescents; see "Talking new technology: Reach teens via new media," August 2009, p. 92.)**

"Choosing the best method of birth control is not easy," says **Melissa Kottke**, MD, MPH, assistant professor in the Department of Gynecology/Obstetrics at Emory University and director of the Jane Fonda Center, both in Atlanta. "There are so many methods and so much information."

Emory University researchers have developed "Best Method for Me,"

EXECUTIVE SUMMARY

Clinicians are looking to electronic technology to circulate all forms of reproductive health information, including contraceptive counseling.

- A 2009 Pew Internet & American Life Project reports that 28% of adolescents look online for health and fitness information.
- Provider contraceptive counseling remains the gold standard for helping women choose a contraceptive; however, using technology to provide dependable, personalized information might prime the patient for the clinical visit and allow for more pertinent exploration of methods during the visit.

a computer-based questionnaire providing personalized output to a woman in search of a contraceptive method that suits her best. Now available on the Internet at www.bestmethodforme.com, the site offers a comprehensive set of 54 questions, which lead to a detailed output on the method best tailored for an individual woman. Since the questionnaire is web-based, women may access it at home, then bring in the results to discuss at a provider visit.

Provider contraceptive counseling remains the "gold standard," says Kottke, who spoke on the "Best Method" technology at the 2009 *Contraceptive Technology* "Quest for Excellence" conference.[2] However, using technology in a manner that provides dependable, personalized information might improve upon this standard by priming patients for the clinical visit and allowing for more pertinent exploration of methods during the clinical visit, she notes.

Upon entering information in the web-based questionnaire, a woman receives a ranking of methods, based on her input. "Green" methods are those that are safe for her, highly effective, and those that might be a good fit with her life and health. "Yellow" methods are those that are safe for the woman, but they might not fit her situation well or might not be as effective. "Red" methods are contraindicated. The chief priority is given to safety; the algorithms are based on medical eligibility criteria from the World Health Organization (WHO), WHO's Selective Practice Guidelines, and *Contraceptive Technology* (Ardent Media Inc.; 2007), says Kottke.

The interactive tool has been tested in a clinical setting, says Kottke. Researchers compared use of the web site and personalized results to a generic computer survey and generic contraceptive information, with a four-month follow-up. Results are pending, she reports.

Connect with teens

Public health has been taking advantage of mobile communication devices to improve surveillance and the delivery of health interventions for some time. The National Center for Health Marketing at the Centers for Disease Control and Prevention co-sponsored the first Texting4Health conference at Stanford University in 2008. Mobile communication platforms, such as text messaging, are the next wave of public health communication and surveillance, public health officials say.[3]

Researchers at the Johns Hopkins University Center for Adolescent Health and the Baltimore City Health Department are looking to text messaging as part of a demonstration project designed to enhance the health department's family planning clinic's role and encourage parent involvement in adolescent contraceptive method choice and continuation.

Contraceptive Technology Update® (ISSN 0274-726X), including **STD Quarterly**™, is published monthly by AHC Media LLC, 3525 Piedmont Road, Building Six, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodicals Postage Paid at Atlanta, GA 30304 and at additional mailing offices.

POSTMASTER: Send address changes to ***Contraceptive Technology Update***®, P.O. Box 740059, Atlanta, GA 30374.

Subscriber Information

Customer Service: (800) 688-2421 or fax (800) 284-3291. E-mail: (customerservice@ahcmedia.com). Hours of operation: 8:30 a.m.-6 p.m. Monday-Thursday; 8:30 a.m.-4:30 p.m. Friday, EST.

Subscription rates: U.S.A., one year (12 issues), $449. Add $17.95 for shipping & handling. Outside U.S., add $30 per year, total prepaid in U.S. funds. Discounts are available for group subscriptions, multiple copies, site-licenses or electronic distribution. For pricing information, call Tria Kreutzer at 404-262-5482. **Back issues**, when available, are $75 each.(GST registration number R128870672.)

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The project, CONnecting with Teens about Contraceptive Use (CONTAC-U), is enrolling all female clients ages 20 and younger who visit the Healthy Teens & Young Adults Center in Baltimore during the 18-month project period. Project staff members provide individualized methods counseling. Automated contacts are made to each client at regular intervals beginning two weeks post-enrollment then at least monthly. The contacts highlight issues such as side effects, method use, and appointment reminders.

The heart of the intervention lies in the use of innovative technological methods, observes **Kathleen Cardona**, DrPH, MPH, assistant scientist in the Johns Hopkins Bloomberg School of Public Health's Population, Family, and Reproductive Health Department and the Center for Adolescent Health. Clients choose from text messaging, e-mail, and telephone as means of clinic contact. The contacts are scheduled, initiated, and recorded using a new web-based database designed for the project. This design enables the clinic to provide regular, longitudinal follow-up.

The project's web site, www.contac-u.org, employs a database with a web interface, Cardona explains. Clinic staff register clients into the system. When clients are enrolled, they inform clinicians of their preferred method of contact. Most clients have been opting for text messaging, she says.

For example, if a woman chooses to use the Pill, the first contact message would be to the effect of "have you begun taking your pills, have you had any side effects, and do you have any questions? If so, you can contact us," explains Cardona. "We actually have had people texting back, saying they had gotten the message or 'I'm OK,' which was really interesting to hear from the clinic staff," says Cardona.

Clients also can opt for reminders by text or e-mail to take their daily pill, change their patch or ring, or come in for a quarterly contraceptive injection, Cardona reports. Project designers are working on a similar interface for extended regimens, she notes.

Interest in the program from older clients has led the project to open it to women ages 20 to 24 as well, says Cardona. Targeted outcomes from the project include increasing the initiation and continued use of appropriate contraception and reducing the rate of unintended pregnancy occurring within one year of enrollment.

The Association for Reproductive Health Professionals (ARHP) has revamped its earlier "Choices" program on its web site, www.arhp.org, for a new feature, "Method Match." The interactive tool is designed to recognize women's unique birth control needs and allow them to compare contraceptive methods using criteria that are the most important to them. The tool helps women to find the method that best matches their lifestyles by sorting, filtering, and comparing up to four methods side by side.

At press time, videos featuring each birth control method were being placed on the web site, says **Beth Jordan**, MD, ARHP medical director. The videos will describe each method in English and Spanish. News of the web site is being disseminated through e-mails, the ARHP Facebook page, conference fliers, and advertisements in *Contraception,* ARHP's professional journal.

By sharing information on the Method Match tool, clinicians can help their patients stay current on contraceptive options, Jordan notes. "I'm an active clinician, and I always ask my patients, 'How is your method working for you?'" says Jordan. "This tool is a great, concise way for women to compare methods really quickly."

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Check opportunities for long-acting methods

How often do you include counseling on long-acting reversible contraceptives in your discussions of birth controls? Look for new opportunities, according to a recent presentation by **Michael Policar**, MD, MPH, medical director of the University of California San Francisco/Family PACT Program Support and Evaluation in Sacramento.

The methods considered top tier due to their effectiveness are intrauterine devices (IUDs) [ParaGard Copper T 380A IUD, Duramed Pharmaceuticals, Pomona, NY, and the Mirena levonorgestrel (LNG) intrauterine system, Bayer

EXECUTIVE SUMMARY

The ParaGard Copper T 380A and the Mirena levonorgestrel intrauterine devices, as well as the contraceptive implant, are considered top-tier reversible methods due to their effectiveness.

- Recent research indicates that intrauterine devices (IUDs) may be safely inserted following an abortion. Immediate postabortal IUD insertion is a safe, practical, and underutilized intervention than can reduce repeat unintended pregnancy and repeat abortion by two-thirds, as evidenced in a 2008 study.
- Disadvantages of placing an IUD post-abortion include the higher risk for device expulsion. In general, the overall expulsion rate in the first year is 1%-3% for all insertions; for post-procedure, it rises to about 5%-6%.

HealthCare Pharmaceuticals, Wayne, NJ] and the contraceptive implant (Implanon, Schering-Plough Corp.; Kenilworth, NJ), Policar says. According to Policar, such methods are:

- "forgettable," offering continuous 24/7/365 contraceptive protection, and do not require patient initiative for use on an episodic, daily, weekly, monthly, or every 12 weeks basis;
- the most effective reversible methods available;
- leaders when it comes to continuation rates;
- alternatives to surgical sterilization;
- the most cost-effective and cost-saving contraceptives.[1]

Jeffrey Peipert, MD, MPH, MHA, professor of obstetrics and gynecology at the Washington University School of Medicine in St. Louis, is leading a cohort study of 10,000 women in the St. Louis region. The Contraceptive Choice Project is designed to promote reversible long-term methods of contraception such as subdermal implants and intrauterine devices and to assess satisfaction and discontinuation rates with various contraceptive methods. ***(Contraceptive Technology Update* reported on the project. See "Emphasize long-acting reversible methods," April 2009, p. 41.)**

About 50 patients are enrolled per week. Some 5,000 women had been recruited for the study by January 2010. At the present time, 65% of women are choosing long-acting reversible contraceptives; 54% are choosing IUDs, Peipert reports.

Long-acting reversible contraceptive methods are particularly desirable for women who have experienced previous failures with other forms of birth control, such as oral contraceptives, says **Robert Hatcher**, MD, MPH, professor of gynecology and obstetrics at Emory University School of Medicine in Atlanta. While many women have good success with pills, 1 in 12 women (8%) will become pregnant in the first year of typical use, he notes. Missed pills are often the culprit. One study showed more than 50% of women missed three or more pills in the third cycle of use.[2]

When can intrauterine devices be inserted? As most clinicians know, such devices can be inserted at any time during the menstrual cycle, as long as the provider is reasonably certain the woman is not pregnant, says Policar.

Intrauterine contraception may be safely inserted following an abortion, says Policar. Evidence indicates there is no difference in complications for immediate vs. delayed insertion after a therapeutic abortion.[3,4] Evidence indicates the risk for expulsion is greater when an IUD is inserted following a second trimester vs. a first trimester abortion. Data suggests there are no differences in safety or expulsions with insertion of an LNG IUD compared to a Copper T 380A IUD.[3,4]

Inserting an intrauterine device post-abortion offers several advantages, Policar says. Post-abortion insertion is convenient. Once the procedure is completed, the steps involved with inserting the ParaGard or the Mirena are easy to do, says Policar. Insertion is convenient for the patient, because it avoids the need for a second visit for contraceptive placement. Studies that have looked at safety and infection rates of post-abortal intrauterine device insertions indicate that such rates tend to be the same after a procedure as it would with an interval insertion.[4] "From the point of view of the patient experiencing cramps and discomfort, it really only happens once, at the time of the procedure, and then it is really nothing extra, because she's already had a local anesthetic," notes Policar. "By avoiding that second visit, which can be uncomfortable, I think that is kind of the main convenience factor."

Women who choose to have an IUD inserted following an abortion procedure are selecting a method when their motivation to avoid unwanted pregnancy is at its highest, observes Policar. With an intrauterine device inserted post-procedure, they benefit from immediate, long-acting protection, he notes.

Of the 1.3 million abortions performed in the Unites States each year, about half are repeat procedures; 40% percent of women who are scheduled for a delayed intrauterine device insertion following an abortion do not return for the procedure.[4] Immediate post-abortal IUD insertion is a

safe, practical, and underutilized intervention than can reduce repeat unintended pregnancy and repeat abortion by two-thirds, as evidenced in a 2008 study,[5] says Policar.

Disadvantages of placing an IUD post-abortion include the higher risk for device expulsion, notes Policar. In general, the overall expulsion rate in the first year is 1%-3% for all insertions; for post-procedure, it rises to about 5%-6%.

Providers also must present information about IUDs, as well as other contraceptive options, prior to the abortion procedure in providing the groundwork for informed consent for use of the method, says Policar. The decision to choose any contraceptive is voluntary. Make sure women are well motivated and that they have thought about and are committed to using their chosen method, he notes.

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Options now eyed in emergency contraception

Clinicians are familiar with use of dedicated emergency contraceptive (EC) products such as Plan B One-Step (Teva Pharmaceuticals USA) and Next Choice (Watson Pharmaceuticals), as well as the EC use of the copper T380A intrauterine device (ParaGard IUD, Duramed Pharmaceuticals). Now new options are now being eyed for potential use in EC.

Scientists are looking at meloxicam, a cyclooxygenase-2 (COX-2) inhibitor, as a possible emergency contraceptive. In a recent study, a five-day course of oral meloxicam administered around the time of ovulation in adult cynomolgus monkeys reduced the rate of oocyte release without alteration of reproductive hormones or menstrual cycle length.[1]

What characteristics of meloxicam make it a potential candidate for use in emergency contraceptive? Meloxicam was shown to specifically block ovulation, so this is a new site of action for emergency contraceptives, says **Diane Duffy**, PhD, associate professor at Eastern Virginia Medical School, Norfolk, and lead author of the current study. Meloxicam is not a hormone, so it will not have the hormonal side effects of current emergency contraceptive pills, Duffy notes.

The research group CONRAD, in partnership with the Hewlett Foundation, is looking into potential use of meloxicam. Results from two studies suggest it might improve the efficacy of levonorgestrel (LNG) when used for emergency contraception, and it even might be effective for EC when used alone.[2,3] LNG is the primary product used for emergency contraception; meloxicam might expand LNG's window of effectiveness and have fewer side effects.

What is the next step in research for meloxicam? Duffy's research group would like to determine if other essential reproductive events, in addition to ovulation, are prevented by meloxicam. If so, this would make meloxicam even more effective as a contraceptive, she notes. The team also would like to conduct a contraceptive trial to determine if meloxicam can effectively operate as a traditional contraceptive, says Duffy.

Women in European countries now have another option in emergency contraception with the European Commission's 2009 marketing authorization of ellaOne (ulipristal acetate, HRA Pharma, Paris). In a Phase II randomized double-blinded

EXECUTIVE SUMMARY

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- Women in European countries now have another option in emergency contraception with the European Commission's 2009 marketing authorization of ellaOne (ulipristal acetate).
- Data suggest ulipristal is well tolerated and effective when administered to women 48-120 hours following unprotected sex.

trial of women seeking EC within 72 hours of unprotected sex, pregnancies occurred in seven of 775 ulipristal users [0.9%, 95% confidence interval (CI) 0.2-1.6] and 13 of 774 levonorgestrel users (1.7%, 95% CI 0.8-2.6).[4] **(*Contraceptive Technology Update* reported on the results in the article "Progesterone receptor modulator eyed for EC," February 2007, p. 16.)**

Data suggest ulipristal is well tolerated and effective when administered to women 48-120 hours following unprotected sex.[5] Results of a randomized trial indicate efficacy up to 120 hours with a trend toward greater efficacy in the ulipristal group vs. levonorgestrel.[6] The drug, a selective progesterone receptor modulator, is licensed as ellaOne for emergency contraception up to 120 hours after unprotected sexual intercourse or contraceptive failure. Its primary mechanism of action is inhibition or delay of ovulation; alterations to the endometrium also might contribute to its efficacy.[7] It is packaged as a single 30 mg tablet.

Research regarding ulipristal is under way in the United States; a second U.S. Phase III trial for ulipristal has been completed, says **Christina Aplington**, an HRA Pharma spokeswoman.

Will the company seek U.S. approval of ellaOne? "HRA Pharma would like to obtain approval in the United States for ellaOne; however the company does not communicate any information about the timing of this process," she states.

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New option available for heavy menstrual bleeding

Flip through your patient files from the last week. If you see heavy menstrual bleeding checked several times in your charts, there's a good reason: One-third of all women report such bleeding at some point during their lives.[1]

Clinicians now have a new treatment option. The Food and Drug Administration (FDA) has approved Lysteda (Xanodyne Pharmaceuticals; Newport, KY), an antifibrinolytic agent, for treatment of heavy menstrual bleeding. The drug, tranexamic acid, is manufactured in 650 mg tablets.

Tranexamic acid likely will be of particular utility for women who desire treatment for heavy menstrual bleeding, but who should or would prefer to avoid hormonal agents, says **Andrew Kaunitz**, MD, professor and associate chair in the Obstetrics and Gynecology Department at the University of Florida College of Medicine — Jacksonville. *Contraceptive Technology* defines heavy menstrual bleeding (menorrhagia) as menstrual periods that occur at regular intervals but are marked by prolonged bleeding (more than seven days) or excessive blood loss (more than 80 cc).[2]

Medical management options for heavy menstrual bleeding in the United States have included hormonal options and nonsteroidal anti-inflammatory drugs (NSAIDs), says Kaunitz. Hormonal

EXECUTIVE SUMMARY

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- Tranexamic acid likely will be of particular utility for women who desire treatment for heavy menstrual bleeding, but who should or would prefer to avoid hormonal agents.
- The Mirena intrauterine system received an FDA-approved indication in 2009 for treatment of heavy menstrual bleeding in women who use intrauterine contraception.

treatments include off-label use of oral contraceptives or injectable depot medroxyprogesterone acetate injections, as well as high doses of oral progestin, such as norethindrone acetate, Kaunitz observes. **(Review treatment options; see *Contraceptive Technology Update*'s "New analysis eyes LNG IUS for menorrhagia," September 2009, p. 99.)**

The levonorgestrel intrauterine system (LNG IUS, Bayer HealthCare Pharmaceuticals; Wayne, NJ), approved by the FDA for contraception in 2000, has been widely used to treat heavy menstrual bleeding in U.S. women. The Mirena IUS received an FDA-approved indication for such treatment in women who use intrauterine contraception in 2009. Approval of this second indication was based on a pivotal randomized trial demonstrating high efficacy in treatment of the condition,[3] says Kaunitz. **(For more about the study, see "Options for treatment of heavy bleeding in focus," December 2009, p. 137.)**

Focus on option

Women diagnosed with heavy menstrual bleeding have been found to have higher levels of enzymes that facilitate dissolution of clots (plasminogen activators) in the endometrium in comparison with women with normal menstrual blood loss. Drugs classified as plasminogen activator inhibitors are termed antifibrinolytic agents.

The evidence indicates that tranexamic acid is superior to combined oral contraceptives in reducing heavy menstrual bleeding,[4] notes **David Grimes**, MD, clinical professor in the Department of Obstetrics and Gynecology at the University of North Carolina School of Medicine at Chapel Hill and distinguished scientist at Family Health International in Research Triangle Park, NC. "Tranexamic acid is not as effective in this regard as is placement of a levonorgestrel-releasing intrauterine system,"[5] he says. "However, for women who want oral therapy for heavy menstrual bleeding, tranexamic acid is better than what has been used in recent decades."

In unpublished clinical trials, scientists reported statistically significant reduction in menstrual blood loss in women who received Lysteda, compared with those taking an inactive pill.[6] The most common adverse reactions reported include headache, sinus and nasal symptoms, back pain, abdominal pain, muscle and joint pain, muscle cramps, anemia, and fatigue.[6]

In women with normal renal function, the recommended dose is 1,300 mg (two 650 mg tablets) three times daily for a maximum of five days during menstruation. In women with impaired renal function, the dose should be adjusted as detailed in the package insert.[7]

Use of Lysteda while taking hormonal contraceptives might increase the risk of blood clots, stroke, or heart attack, said **Scott Monroe**, MD, director of the Division of Reproductive and Urologic Products in the FDA's Center for Drug Evaluation and Research, in a statement issued at time of the drug's approval.[6] Women using hormonal contraception should take Lysteda only if there is a strong medical need, and if the benefit of treatment will outweigh the potential increased risk, according to the package insert.[7] Suspected adverse reactions may be reported by telephoning Xanodyne Pharmaceuticals at (877) 773-7793 or the FDA at (800) 332-1088, or logging in at the FDA's web site, www.fda.gov/medwatch.

Clinicians might want to consider use of the LNG IUS as a first-line strategy in treatment, if history and other assessments indicate that medical management is appropriate, advise British guidelines.[8] Use of tranexamic acid represents a second-line strategy, the British guidelines note.[8]

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Contraceptive injection: snapshot of providers

Shannon is a 15-year-old patient who is sexually active. She has previously used oral contraceptives, but Shannon experienced an unplanned pregnancy when she missed several days of pills in her pill pack and failed to come in for emergency contraception. What birth control methods can you offer?

The contraceptive injection (depot medroxyprogesterone acetate, DMPA, Depo-Provera, Pfizer, New York City; Medroxyprogesterone Acetate Injectable Suspension, USP, Teva Pharmaceuticals USA, North Wales, PA) continues as a top choice for birth control, particularly for adolescents, say respondents to the 2009 *Contraceptive Technology Update* Contraception Survey. About 99% of survey respondents say they would prescribe the injectable for young teens, up from 2008's 91% statistic.

Quick Start is gaining ground as an initiation option; 72% say they are beginning injections in this manner. **(To read more about Quick Start, see the *Contraceptive Technology Update* article, "Quick Start approach eyed for DMPA and patch," May 2006, p. 53.)** Why use Quick Start? It eliminates the gap between decision and implementation, results in higher initiation rates, yields higher continuation rates (short term), results in lower pregnancy rates, and offers higher method satisfaction, said **Anne Burke**, MD, MPH, assistant professor in the Department of Gynecology and Obstetrics at the Johns Hopkins University School of Medicine at the 2009 *Contraceptive Technology* Quest for Excellence Conference.[1]

When considering use of Quick Start (initiation of method at time of initial visit), three questions must be answered:

- Is the patient pregnant now?
- Has she had unprotected intercourse in the last five days?
- What will she use as a backup method until the hormonal method takes effect?[2]

According to the *2007-2009 Managing Contraception for Your Pocket*, the first DMPA injection may be given at any time in a woman's menstrual cycle if a clinician is reasonably certain a woman is not pregnant.[3] If the day of the first shot is not within five days of the start of a woman's period, clinicians should recommend that patient use a backup contraceptive for seven days, provide emergency contraception (EC), and repeat pregnancy test in two to three weeks if there has been recent unprotected intercourse, it advises.[3]

While the risk of current pregnancy generally can be assessed from taking a patient's history, a urine test should be administered in all cases as indicated by coital history. Emergency contraception is very important, says **Susan Wysocki**, WHNP-BC, FAANP, president and CEO of the Washington, DC-based National Association of Nurse Practitioners in Women's Health. "The best clinical pearl for Quick Start, regardless of method, is to provide EC as appropriate to sexual history, and provide it on site," says Wysocki.

Women who receive Quick Start DMPA injections should be counseled to use a backup method such as abstinence or condoms for seven days following the injection to allow the cervical mucus to sufficiently thicken to block sperm entry into the upper genital tract. Women who begin the method whose last menstrual period started less than five days ago do not require backup contraception.[3]

In November 2004, the Food and Drug Administration (FDA) added a "black box" warning to DMPA labeling to highlight that prolonged use might result in loss in bone mineral density (BMD). The warning advised that bone loss in women who use Depo-Provera is greater with increased duration of use and might not be completely reversible. The injectable contraceptive should be used as a long-term birth control method (longer than two years) only if other birth control methods are inadequate, the updated label advised. ***(CTU* reported on the black box warning in the article "Be prepared to counsel on use of DMPA and bone health issues," February 2005, p. 17.)**

EXECUTIVE SUMMARY

The contraceptive injection depot medroxyprogesterone acetate continues as an important choice for birth control, particularly for adolescents, say respondents to the 2009 *Contraceptive Technology Update* Contraception Survey. About 99% of survey respondents say they would prescribe the injectable for young teens, up 8% from 2008's 91% statistic.

- Quick Start is gaining ground as a way to initiate DMPA; 72% say they are beginning injections in this manner.
- According to a 2009 review of data, theoretic concerns regarding the impact of depot medroxyprogesterone acetate use on adolescent and young women's bone health should not restrict the initiation or continuation of the method.

DMPA has been associated with losses of BMD at the hip and spine of 0.5% to 3.5% after one year of use, and 5.7% to 7.5% after two years.[4-7] DMPA's greatest effect on BMD occurs during the first few years of use.[7,8] However, BMD has been demonstrated to return to levels at or near baseline at two years after the discontinuation of DMPA.[8,9] **(See "New research indicates recovery of bone density after teen DMPA use," *CTU*, April 2005, p. 41.)**

Concerns about the effects of DMPA on BMD should not prevent clinicians from prescribing the method, nor should its use be limited to two years, stated a 2008 committee opinion released by the American College of Obstetricians and Gynecologists.[10] A 2009 review of data regarding the impact of hormonal contraception on skeletal health in adolescents observes, "Although more data on skeletal health outcomes following the use of oral and injectable contraceptives would be welcomed, theoretic concerns regarding the impact of depot medroxyprogesterone acetate and combination oral contraceptive use on adolescent and young women should not restrict the initiation or continuation of these important contraceptive methods."[11]

Remember to advise on the importance of daily exercise and age-appropriate calcium and vitamin D intake to DMPA users, especially in teens, who often do not get enough calcium. The Institute of Medicine recommended average daily intake of calcium for teens ages 14-18 is 1,300 mg; for women ages 19-50, it is 1,000 mg.[12]

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New home visiting funds are on the horizon

By **Adam Sonfield**
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With partisan fighting increasingly the norm in Washington, one of the few potential points of agreement might be federal funding for so-called home visiting programs.

By having nurses or other experts visit new and expecting low-income families to provide information, guidance, and support, these programs can lead to numerous long-term health and social benefits for children and families, according to research compiled and analyzed by Heather Boonstra, senior public policy associate for the Guttmacher Institute.[1] Of particular note for family planning providers and advocates, some programs have demonstrated reductions in unplanned pregnancy, improved birth spacing and resulted in fewer preterm births.

Numerous models for home visiting have been tested over several decades across the country. It is difficult to generalize about them, because they vary widely in the breadth of their goals, their program design, staffing, and implementation, and the extent of their demonstrated impact. Despite this

variation, the American Academy of Pediatrics concluded in 2009 that home visiting programs can be important tools for preventing child abuse and neglect and for improving children's health, school readiness, and development.[2]

Perhaps the most famous and best-studied model, first developed in the 1970s by David Olds and known today as the Nurse-Family Partnership, serves nearly 20,000 families in 28 states.[3] The visits provided under that model are designed to emphasize not only healthy behaviors and parenting skills, but also educational and economic achievement and the importance of pregnancy planning. It is by helping young mothers understand the value and importance of delaying future pregnancies and providing contraceptive counseling that programs such as the Nurse-Family Partnership have helped improve young mothers' reproductive health outcomes.

Economic analyses of home visiting programs have shown promise, despite their considerable expense. A 2005 meta-analysis conservatively estimated the net savings at about $6,000 per child, or $2.24 per dollar invested.[4] In fact, contraceptive counseling might contribute greatly to such savings: Recent Guttmacher Institute estimates find that by helping women avoid unplanned pregnancies, every public dollar spent on family planning services saves four dollars in Medicaid-funded maternity and infant care.[5]

Most states today — 40 of them, according to a 2009 study from the National Center for Children in Poverty — provide at least some public funding for home visiting initiatives.[6] In addition to state revenues, most of those programs draw on existing federal funding streams, including Medicaid, the Maternal and Child Health Block Grant, and Temporary Assistance for Needy Families (TANF). In that same survey, 31 of the 40 states were able to report their annual expenditures for home visiting, amounting to $250 million in federal and state dollars.

Nevertheless, this funding is not nearly sufficient to serve the 600,000 low-income women each year who give birth for the first time[7], and program advocates have long pushed for a dedicated federal funding stream to change that equation. They have important new support for that agenda from President Obama, whose FY 2010 budget proposed a new, 10-year, $8.6 billion home visiting program, which would help states fund established and promising initiatives. Although it was not explicitly labeled as such, the president's proposal fits squarely within his broader agenda of finding "common ground" on the issue of abortion. It is attractive both to those who argue for increased support for family planning as a means to prevent unplanned pregnancy and thereby abortion, and to those who argue that additional support for low-income parents will encourage more pregnant women to carry a fetus to term. Those benefits are, of course, in addition to the numerous direct benefits for women and children — health, social, and economic, short- and long-term — that have for many years attracted broad-based support outside of the contentious abortion debate.

These programs also have found support in Congress over the past year, with proposals to dedicate new TANF funding for home visiting or to explicitly authorize Medicaid spending for that purpose. Indeed, home visiting initiatives were included in the House- and Senate-passed health care reform legislation late in 2009. As of this writing, one or more such initiatives are expected to be included in whatever bill the two chambers finally agree upon, if agreement can be reached. None of the congressional proposals meet President Obama's funding target, however, and fiscal pressures and small-government skeptics remain the most significant obstacles to fully meeting the need that home visiting advocates have identified.

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COMING IN FUTURE MONTHS

- Research eyes new human reproductive hormone
- Science measures HPV prevalence in young adults
- Smoking, low calcium intake affect bone mineral density
- Is chlamydia screening, treatment making an impact?
- Screen young women early for sexually transmitted disease

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CTUPDATES

News ■ Resources ■ Events

Use new material to get out HPV message

Educate adolescents and young women about human papillomavirus (HPV) with new materials provided by the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) "Be Confident!" campaign.

(Continued on page 36)

CNE/CME Instructions

Physicians and nurses participate in this continuing nursing medical education/continuing education program by reading the articles, using the provided references for further research, and studying the questions at the end of the issue. Participants should select what they believe to be the correct answers and refer to the list of correct answers to test their knowledge. To clarify confusion surrounding any questions answered incorrectly, please consult the source material. After completing this activity with the **June** issue, you must complete the evaluation form provided and return it in the reply envelope provided in that issue to receive a certificate of completion. When your evaluation is received, a certificate will be mailed to you. ■

CNE/CME Questions

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

- **identify** clinical, legal, or scientific issues related to development and provisions of contraceptive technology or other reproductive services;
- **describe** how those issues affect services and patient care;
- **integrate** practical solutions to problems and information into daily practices, according to advice from nationally recognized family planning experts;
- **provide** practical information that is evidence-based to help clinicians deliver contraceptives sensitively and effectively.

9. What is a disadvantage of placing an intrauterine contraceptive post-abortion?
   A. Higher risk for device expulsion.
   B. Higher risk of pelvic inflammatory disease.
   C. Higher risk for perforation.
   D. Increased cramping and pain at time of insertion.

10. What is meloxicam?
   A. A selective progesterone receptor modulator.
   B. A cyclooxygenase-2 (COX-2) inhibitor.
   C. An antifibrinolytic agent.
   D. A nonsteroidal anti-inflammatory drug.

11. Tranexamic acid is:
   A. a selective progesterone receptor modulator.
   B. a nonsteroidal anti-inflammatory drug.
   C. an antifibrinolytic agent.
   D. a COX-2 inhibitor.

12. What is the Institute of Medicine's recommended average daily intake of calcium for teens ages 14-18?
   A. 900 mg
   B. 1,000 mg
   C. 1,200 mg
   D. 1,300 mg

Answers: 9. A; 10. B; 11. C; 12. D.

The program, supported by the Fund to Prevent Cervical Cancer and Merck & Co., features brochures, posters, articles, and a public service announcement to encourage informed decisions about cervical health issues. The materials build upon AWHONN's 2008 publication, *HPV Counseling: A Clinician Resource*. The new brochure and companion poster, available in English and Spanish, feature realistic situations of young women discussing HPV and HPV vaccination with friends, family, and health care providers. The material is designed to encourage open discussions between young women and their parents and health care providers.

A heavy emphasis of the campaign reaches out to the Hispanic community, as Hispanic females have the highest incidence of cervical cancer among all groups of women and often experience disparities in access to cervical cancer screening and access to information related to cervical cancer screening and prevention.

AWHONN is distributing the brochures and posters to health care providers and community health settings. Single copies of the brochure and poster are available for download at the AWHONN site, www.awhonn.org; click on the "AWHONN Rolls Out Be Confident! HPV Campaign" link on the home page to access the download links. ■

Contraceptive Technology Update *is endorsed by the National Association of Nurse Practitioners in Women's Health and the Association of Reproductive Health Professionals as a vital information source for health care professionals.*

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