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INSIDE

- Commentary: Perspective on Zika virus40
- Breast cancer screening: Task force issues guidance . . .41
- Women and epilepsy: What clinicians need to know42
- Vaccine for HPV: Emphasize the importance for cancer prevention44
- Emergency contraception: Get up to speed on EC . . .46
- Survey: Answer two questions to guide CTU coverage47

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Sexual transmission of Zika virus possible: Will it impact virus spread?

Officials investigating 14 new reports of possible sexual transmission

News of the rapid spread of the Zika virus through 18 Latin American countries and the Caribbean has captured headlines. The World Health Organization predicts that the virus could affect more than 4 million people in the Americas in 2016 alone. Public health officials at the Centers for Disease Control and Prevention (CDC) report that sexual transmission of Zika virus is possible and is of particular concern during pregnancy.¹

Information about possible sexual transmission of Zika first was raised based on reports of three cases, notes the CDC. The first case was probable sexual transmission of the Zika virus from a man to a woman, in which sexual contact occurred a few days before the man's symptom onset.² The second

case of sexual transmission, reported Feb. 2, 2016, by the Dallas County (TX) Health and Human Services, is under investigation.³ The third

was a single report of replication-competent Zika virus isolated from semen at least two weeks and possibly up to 10 weeks after illness onset. Reverse transcriptase-polymerase chain reaction testing of blood plasma specimens collected at the same time as the semen specimens did not detect Zika virus.⁴ The man had no sexual contacts. Because no further testing was conducted, the duration of persistence

of Zika virus in semen remains unknown.

"In all three cases, the men developed symptomatic illness," the CDC reports. "Whether infected men



"WE ARE WORKING WITH ... PUBLIC HEALTH PARTNERS TO INVESTIGATE AN UNEXPECTED INCREASE IN THE NUMBER OF BABIES BEING BORN WITH MICROCEPHALY ..."
— LYLE R. PETERSEN, MD, MPH, CDC

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who never develop symptoms can
transmit Zika virus to their sex
partners is unknown.”

At press time, the CDC and
state public health departments
were investigating 14 new reports
of possible sexual transmission of
Zika virus. At the present time,
sexual transmission of Zika virus
from infected women to their sex
partners has not been confirmed.
The CDC recommends that men
who have lived in or traveled to
an area with Zika virus should
abstain from sex or use condoms
consistently and correctly for vaginal,
anal, and oral (fellatio or mouth-to-
penis) sex for the duration of their
partner's pregnancy. Also, the CDC
recommends that pregnant women
talk with their providers about their
male partner's potential exposures to
Zika virus and symptoms of Zika-like
illness.

For non-pregnant women, and
men with non-pregnant sex partners
who live in or have traveled to Zika-
affected areas, the CDC advises that
for those who are concerned about
sexual transmission of Zika virus,
they may consider using condoms
the right way every time during sex

or abstaining from sexual activity.

The Zika virus is primarily spread
to people through mosquito bites. Its
most common symptoms are fever,
rash, joint pain, and conjunctivitis.
The illness is usually mild, with
symptoms lasting several days to
a week. Severe disease requiring
hospitalization is uncommon.

A major concern associated
with this infection is the apparent
increased incidence of microcephaly,
a serious birth defect, in babies born
to mothers infected with the virus.
“We are working with the Ministry
of Health in Brazil and other
international public health partners
to investigate an unexpected increase
in the number of babies being born
with microcephaly to mothers who
were infected with Zika virus during
their pregnancy,” said **Lyle Petersen**,
MD, MPH, director of the CDC's
Division of Vector-Borne Diseases.

*The New England Journal of
Medicine* has published the report
of an expectant mother who had a
febrile illness with rash at the end
of the first trimester of pregnancy
while she was living in Brazil.
Ultrasonography performed at
29 weeks of gestation revealed

EXECUTIVE SUMMARY

The Centers for Disease Control and Prevention reports that sexual
transmission of the Zika virus is possible and is of particular concern during
pregnancy. There is an apparent increased incidence of microcephaly in
babies born to mothers infected with the virus.

- The virus has spread through 18 Latin American countries and the
Caribbean. It is predicted that the virus could affect more than 4 million
people in the Americas in 2016.
- Men who have lived in or traveled to an area with Zika virus should
abstain from sex or use condoms consistently and correctly for vaginal,
anal, and oral (fellatio or mouth-to-penis) sex for the duration of their
partner's pregnancy. Pregnant women should talk with their healthcare
providers about their male partner's potential exposures to Zika virus and
symptoms of Zika-like illness.

microcephaly with calcifications in the fetal brain and placenta. After the mother requested termination of the pregnancy, a fetal autopsy was performed. Microcephaly was observed, and the virus was found in the fetal brain tissue on reverse transcriptase–polymerase-chain-reaction assay, with consistent findings on electron microscopy. The complete genome of the virus was recovered from the fetal brain.⁵ (*Read the article at <http://bit.ly/1Q9u2hE>.*)

The CDC reports similar results in four cases in Brazil, where two infants born with microcephaly at 36 and 38 weeks' gestation died within a day of birth and two fetuses were lost at 11 and 13 weeks' gestation. All four mothers had signs of Zika infection but were not tested for antibodies. All cases tested positive for Zika and negative for dengue virus.⁶

Some countries that are experiencing Zika virus outbreaks are recommending that women postpone pregnancy. Women in affected countries face pregnancies that may be impacted by the Zika virus. Three countries (the Dominican Republic, El Salvador, and Nicaragua) provide no legal access to abortion under any circumstances. Six countries (Guatemala, Haiti, Honduras, Paraguay, Suriname, and Venezuela) provide access to abortion only to save a woman's life.⁷

The CDC has developed interim guidelines for U.S. providers who are caring for women during the Zika outbreak. The information includes recommendations for pregnant women considering travel to an area with Zika transmission and recommendations for screening, testing, and management of returning pregnant travelers. (*Access guidance for providers at <http://1.usa.gov/1VuapPd>.*)

Pregnant women in any trimester should consider postponing travel to

an area where Zika virus transmission is ongoing, advises the CDC. If they travel, they should strictly follow steps to avoid mosquito bites. These steps include wearing long-sleeved shirts and long pants, staying in places with air conditioning or that use window and door screens to keep mosquitoes outside, and sleeping under a mosquito bed net if outside and not able to protect from mosquito bites. Insect repellents registered with the Environmental Protection Agency (EPA), when used as directed, are proven safe and effective, even for pregnant and breastfeeding women. (*Check repellents at the EPA site: <http://1.usa.gov/1PD0qaf>.*)

SOME
COUNTRIES
... ARE
RECOMMENDING
THAT WOMEN
POSTPONE
PREGNANCY ...

Researchers with the National Institute of Allergy and Infectious Diseases (NIAID) are working on vaccine candidates to prevent Zika virus infection, said **Anthony Fauci**, MD, NIAID director, at a January telebriefing. Scientists have the advantage of existing vaccine platforms to use in finding a suitable approach, said Fauci.

The first potential candidate is a DNA-based vaccine using a strategy similar to what has been employed for the West Nile virus, said Fauci. This vaccine was found to be safe and immunogenic in a Phase I trial. The second candidate is a live

vaccine that builds on similar and highly immunogenic approaches used for the closely related dengue virus, he reported. The University of Georgia in Athens has entered into a collaborative research agreement with GeoVax Labs in Smyrna, GA, to develop and test a Zika virus vaccine. (*Robert Hatcher, MD, MPH, editorial board chairman of Contraceptive Technology Update, weighs in on the Zika virus in this issue.*)

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Zika infections: Obtain perspective on impact of virus and how to offer effective contraception to women

By Robert Hatcher, MD, MPH
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Zika infections are viral infections spread from an infected person by a mosquito called the *Aedes aegypti* mosquito. For the Zika infection to gain a foothold in an area of the world, it must be an area that sustains *Aedes aegypti* mosquitoes, which is the case for all countries in our hemisphere, except for Canada, which is too cold, and Chile, which is too cold and too dry.

Zika is a disease receiving a great deal of attention. News in the first week of February 2016 alone included the following:

- The World Health Organization (WHO) has warned that the Zika virus is spreading explosively. Public health experts from around the world assembled in Geneva on Feb. 1, 2016, to discuss approaches to the Zika virus. A Public Health Emergency of International Concern was issued by the WHO following the meeting.¹

- Spread of Zika virus from Africa to Brazil may have occurred at the time of the 2014 World Cup in Brazil.²

- In 2016, there may be 4 million people infected with this virus.

- There have been several cases of sexual transmission of the Zika virus, and spread of this virus by transfusion and transplantation cannot be ruled out.

- Leaders with the Pan American Health Organization believe that Zika eventually will infect people in our

entire hemisphere except Canada and Chile. This predicted spread includes southern U.S states, including all the Gulf Coast states and Georgia; Central and South America; the Caribbean; and the West Indies.³

Most people infected with the Zika virus have minimal symptoms, and 80% have no symptoms. The symptoms people may develop include:

- mild fever;
- sore, red eyes (conjunctivitis);
- headache;
- joint pain;
- infrequently, temporary paralysis and peripheral neuropathy (Guillain-Barré syndrome).

Pregnancy and Zika

The major problem is when the Zika virus infects pregnant women. Then the problem is not so much for the woman herself, but for her baby. In the Perambucca area of Brazil, Zika infections in pregnant women led to fetal abnormalities in 300/100,000 infected pregnant women. This rate is three times the rate of fetal abnormalities caused by rubella (German measles) infections several decades ago. Since 2015, a possible association has been observed in Brazil between the unusual rise of Zika cases and cases of microcephaly (head size of newborn of less than 31.5 to 32 cm at birth).

German measles also caused birth defects, including microcephaly, several decades ago. Then, a vaccine against German measles was developed by Stanley Plotkin, MD, emeritus professor at the

University of Pennsylvania Medical School. Plotkin recently observed that he sees no obvious problem in developing a vaccine; however, cost for licensing such a vaccine would run \$500 million.⁴ Yet it is difficult to calculate the cost and sadness caused by a serious neurological problem in babies born to woman infected by the Zika virus.

Advise on contraception

If traveling to an area where there are Zika infections, women should postpone becoming pregnant by using very effective contraception.

Laura Riley, MD, an expert in the field of high-risk pregnancies at Massachusetts General Hospital in Boston, has said that if women do become pregnant and have been in an area where there are Zika infections, they will face blood tests, monthly ultrasounds to determine if their babies have microcephaly, much anxiety, and, in some cases, consideration of having an abortion.

“Why would you ever sign yourself up for that?” said Riley. “There’s enough in life to worry about. I wouldn’t add that to my list.”⁵

What are some tips to approach 100% contraceptive effectiveness and zero unintended pregnancies? Patients and their providers can consider the following options:

- Use abstinence — no sexual intercourse.
- Use outercourse — also 100% effective.
- Use the contraceptive implant Nexplanon, which is the most

effective of all contraceptives. It is more effective than male or female sterilization, or either of the two available intrauterine devices.

- If combined oral contraceptives are chosen, they should be taken continuously (no hormone-free days).
- If the contraceptive injection is chosen, it should be administered every 13 to 15 weeks.
- Whatever contraceptive is selected — the implant, pills, or shot — use a condom for every instance of coitus.

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U.S. Preventive Services Task Force issues new breast cancer screening guidance

The U.S. Preventive Services Task Force has issued new guidance on breast cancer screening and called for mammography every two years for women ages 50-74. For women ages 40-49, the Task Force recommends informed, individualized decision-making based on a woman's values, preferences, and health history.¹

The guidance falls in line with the Task Force's 2009 recommendation that biennial mammography screening in average-risk women begin at age 50.²

The new recommendations allow women in their 40s to make an informed decision on mammogram screening. How should providers approach discussing mammograms with women this age, given the new guidance?

Breast cancer is uncommon among women in their 40s, notes **Kirsten Bibbins-Domingo**, PhD, MD, MAS, Task Force vice chair and professor of medicine, epidemiology, and biostatistics at the University of California, San Francisco. Mammography screening has the potential to reduce a woman's chance

of dying of breast cancer and also has potential harms such as false-positive test results and overdiagnosis that may lead to overtreatment, she notes. Providers should discuss the potential benefits, as well as the potential harms, says Bibbins-Domingo.

"A woman who values reducing her risk of dying from breast cancer, no matter how small the risk, and understands the potential harms may choose to begin screening at age 40,"

states Bibbins-Domingo. "Other women may choose to begin later in the decade, or at age 50, when the likelihood of benefit is greater."

Understand the guidance

The Task Force's recommendations **do not** apply to all women. They apply only to women age 40 and older who do not show any signs or symptoms of breast cancer, have not been previously diagnosed with breast

EXECUTIVE SUMMARY

The U.S. Preventive Services Task Force has issued new guidance on breast cancer screening and called for mammography every two years for women ages 50-74. For women ages 40-49, the guidance calls for informed, individualized decision-making based on a woman's values, preferences, and health history.

- The recommendations apply to women age 40 and older who do not show any signs or symptoms of breast cancer, have not been previously diagnosed with breast cancer or a high-risk breast lesion, and who are not at high risk for breast cancer.
- There is insufficient evidence to assess the benefit/risk balance for women identified to have dense breasts on an otherwise negative screening mammogram in using such adjunctive screening methods as breast ultrasonography, magnetic resonance imaging, or digital breast tomosynthesis.

cancer or a high-risk breast lesion such as ductal carcinoma in situ (the most common type of noninvasive breast cancer), and who are not at high risk for breast cancer (have no known genetic mutation or a history of chest radiation at a young age). Women who are at high risk of breast cancer should consult their doctors for individualized recommendations regarding screening, the Task Force advises.

How about women with dense breasts? The Task Force concludes that there is insufficient evidence to assess the benefit/risk balance for women identified to have dense breasts on an otherwise negative screening mammogram in using such adjunctive screening methods as breast ultrasonography, magnetic resonance imaging, or digital breast tomosynthesis.¹

As for women age 75 or older, the new guidance again finds insufficient evidence to assess the benefit/risk balance of continued screening mammography. The Task Force also concluded that current information is insufficient to assess the benefits and harms of adding tomosynthesis to conventional screening mammography.

The American College of Obstetricians and Gynecologists (ACOG) continues to stand by its breast cancer screening

recommendations, which provide for annual mammograms beginning at age 40. It reiterated its stance in 2015 when the American Cancer Society revised its recommendations that indicate that women should begin having yearly mammograms at age 45 and should change to having mammograms every other year beginning at age 55.³ (Contraceptive Technology Update *reported on the Cancer Society's guidance. See "American Cancer Society's shift adds to confusion on breast cancer screening," January 2016, which can be accessed at <http://bit.ly/21eF4UL>.*)

Mark DeFrancesco, MD, MBA, ACOG president, in a statement in response to the Task Force's guidance, states, "ACOG strongly supports shared decision-making between doctor and patient, and in the case of screening for breast cancer, it is essential. Given the differences among current organizational recommendations on breast cancer screening, we recognize that there may be confusion among women about when they should begin screening for breast cancer."

ACOG is encouraging women to discuss screening with their providers, including concerns such as family history of cancer, risk factors, and their own personal experiences with breast cancer. The group also is advising clinicians to counsel women

about the potential consequences of mammography, including false positive readings.

Andrew Kaunitz, MD, University of Florida Research Foundation professor and associate chairman of the Department of Obstetrics and Gynecology at the University of Florida College of Medicine – Jacksonville, says that while he plans to continue recommending screening based on the Task Force's guidance, he also will continue to support the preferences of his patients who prefer to initiate screening before age 50, to undergo annual screening, and to continue screening after age 74.

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Contraceptive selection for women with epilepsy

Epilepsy is common, affecting 2.2 million Americans, of which approximately half are women of reproductive age.¹ The Association of Reproductive Health Professionals (ARHP) has just released a webinar, "Women with Nerve: Providing Reproductive Health Care for Women with Epilepsy," to help

providers review evidence-based information on the subject.

The webinar offers information on the interaction between epilepsy and women's reproductive health, including tips on evaluating and recommending contraceptive options for women with epilepsy, the importance of planning pregnancy for

these patients, and available resources to assist in their reproductive health care. (*Go to <http://bit.ly/1YuPX3f> to view the webinar.*) The webinar was co-presented by **Caryn Dutton**, MD, an instructor in obstetrics and gynecology at Harvard Medical School and the medical director of the gynecology clinic at Brigham and

Women's Hospital, both in Boston, and Amanda Dennis, DrPH, MBE, an associate in the Cambridge, MA, office of Ibis Reproductive Health, an international nonprofit organization with a mission to improve women's reproductive autonomy, choices, and health worldwide.

Identify interactions between anti-epilepsy drugs (AEDs) and hormonal contraception, says Dutton. Variable interactions exist between hormonal contraceptives and anti-epileptic drugs. An AED may impact efficacy of hormonal contraception, and/or hormones can impact AED levels. There is very little high-quality research published on the interaction between AEDs and hormonal contraception, particularly for more modern AEDs and modern methods of birth control, states Dutton.

Use of combined oral contraceptives does not appear to change the incidence of epilepsy; however, endogenous hormones may increase or decrease seizure threshold, Dutton says. "Menstrual suppression is a reasonable approach for any woman with epilepsy, even if her seizure pattern is not clearly linked to the same time point in her cycle," she states.

AEDs and steroid hormones are substrates of the Cytochrome P450 system in the liver; certain AEDs will induce metabolism and increase clearance of hormones, Dutton notes. Enzyme-inducing AEDs, therefore, can reduce levels of hormonal contraception and place women at higher risk of method failure. In addition, a unique interaction between lamotrigine and hormonal contraceptives containing estrogen will increase lamotrigine metabolism.²

The following AEDs are enzyme inducers:

- carbamazepine;
- felbamate;

EXECUTIVE SUMMARY

Epilepsy affects 2.2 million Americans, of which approximately half are women of reproductive age. The Association of Reproductive Health Professionals has just released a webinar to help providers review evidence-based information on the subject.

- Hormonal contraception is safe and effective for many women with epilepsy. However, it is important to identify interactions between anti-epilepsy drugs (AEDs) and hormonal contraception. Variable interactions exist between hormonal contraceptives and anti-epileptic drugs. An AED may impact efficacy of hormonal contraception, and/or hormones can impact AED levels.
- Discuss that intrauterine contraception can be used safely by women who are nulliparous.

- oxcarbazepine;
- phenobarbital;
- phenytoin;
- primidone;
- rufinamide.

The following AEDs are enzyme non-inducers:

- clobazam;
- clonazepam;
- ethosuximide;
- ezogabine;
- gabapentin;
- lacosamide;
- levetiracetam;
- pregabalin;
- tiagabine;
- vigabatrin;
- zonisamide.

Lamotrigine lowers the Cmax, area under the curve (AUC), and trough levels of the progestin levonorgestrel; however, lamotrigine does not impact levels of ethinyl estradiol.¹ Another AED, topiramate, given at a dose of 200 mg a day, does not impact levels of norethindrone. Topiramate decreases AUC and Cmax, but not trough levels, of ethinyl estradiol when given at a dose of 200 mg a day.¹

A good resource for contraceptive selection for women with epilepsy is the *U.S. Medical Eligibility Criteria*

for Contraceptive Use (US MEC), says Dutton.³ The *US MEC* lists the criteria for use of contraceptive methods in specific medical conditions, based on best available evidence.

Regardless of any interactions, use of hormonal contraception is safe and effective for many women with epilepsy. Patients can use hormonal contraception with barrier methods to reduce risk of method failure, and even if there are anti-epilepsy drug interactions, any hormonal contraception is better than no method, says Dutton. In addition, intrauterine contraception can be used safely by women who are nulliparous. Finally, some women with epilepsy will associate seizures with their menstrual bleeding. These women can be reassured that unscheduled bleeding associated with use of some contraceptives — for example, the contraceptive shot — should not be a trigger for seizures.¹

For women with epilepsy who are considering pregnancy, remember that some AEDs are teratogenic. The rate of fetal malformations with anti-epilepsy drug exposure is 2-11%.¹ Women desiring pregnancy need expert advice on the decision

to stay on their current AEDs or switch or change doses, states Dutton. Discourage women from stopping their AEDs without first consulting their neurologists.

Use patient resources

To support women with epilepsy in navigating the challenges of reproductive health, Ibis Reproductive Health has created a contraceptive decisions aid, a tool designed to provide contraceptive information, says Dennis. The tool helps individuals clarify and communicate values related to their decision, and it also offers structured guidance for going through the steps of contraceptive decision-making.

The decision aid is meant to be an adjunct to clinical advice. Clinicians can download it from Ibis's website (<http://bit.ly/1LhmFNA>) to share with patients, she notes.

After conducting research about the specific sexual and reproductive health needs of female teens with epilepsy, Ibis also decided to create a website to meet their needs: <http://girlswithnerve.com>. The site's format and content are driven by teens' preferences, needs, and suggestions, including information about sexual and reproductive health issues and epilepsy, stories from other teens with epilepsy, structured guidance for talking with healthcare providers and parents, and blogs by teens with

epilepsy.

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Emphasize importance of HPV vaccine for prevention of cancer

Sixty-nine of the top cancer centers in the United States have joined to emphasize the importance of human papillomavirus (HPV) vaccination for the prevention of cancer. Despite the availability of three HPV vaccines, vaccination rates lag far behind those of other routine adolescent vaccines.

In 2014, 87.6% of adolescents

ages 13-17 were vaccinated with tetanus, diphtheria, and acellular pertussis, and 79.3% were vaccinated with meningococcal conjugate. In contrast, only 60% of females and 42% of males received one dose of an HPV vaccine series, and just 40% of females and 22% of males received the complete three-dose series.¹ (Contraceptive Technology

Update reported on the vaccination research in the story "HPV vaccination: Many teens still not receiving the shot," October 2015, available at <http://bit.ly/1SFFBgQ>.)

While the cancer centers designated by the National Cancer Institute (NCI) are at the forefront of cancer research, care, and prevention, they rarely have come together in concerted action, said **Ernest Hawk**, MD, vice president and division head of the Houston-based University of Texas MD Anderson Cancer Center's Cancer Prevention and Population Sciences. "These centers care for patients daily with HPV-related cancers, and there is no greater motivation for prevention than that experience," said Hawk in a statement accompanying the joint message. "Therefore, they have bonded together in the hope that their collective action will catch the public's attention to highlight the tremendous opportunity we have to

EXECUTIVE SUMMARY

Top U.S. cancer centers have joined to emphasize the importance of human papillomavirus (HPV) vaccination for the prevention of cancer.

- Despite the availability of three HPV vaccines, vaccination rates lag far behind those of other routine adolescent vaccines. Only 60% of females and 42% of males received one dose of an HPV vaccine series in 2014, and 40% of females and 22% of males received the complete three-dose series.
- HPV vaccines should be given routinely for females and males at ages 11 or 12, though it can be given as early as age 9. Vaccination for females ages 13-26 and males ages 13-21 also are recommended if they have not completed the three-dose series. Vaccination is recommended up to age 26 for men who have sex with men, as well as for immunocompromised males.

prevent these cancers.”

MD Anderson Cancer Center hosted a November 2015 national summit that included experts from the NCI, the Centers for Disease Control and Prevention, the American Cancer Society, and more than half of the NCI-designated cancer centers to share findings from 18 NCI-funded detailed regional assessments, which sought to identify barriers to increasing immunization rates in pediatric settings across the country.

For its part, MD Anderson Cancer Center has launched its HPV Moon Shot. The program is taking three approaches to defeat HPV-related cancers:

- prevention and screening, including projects to dramatically increase HPV vaccination rates through education and policy and to increase access to early diagnosis through screening outreach and new screening clinical trials;
- discovery, which will identify new targets for therapy through an integrated genomics effort across disease sites, drug screening, and preclinical models;
- immunotherapy and novel trials, which will advance ways to influence the immune system to fight cancer and include preclinical studies and future clinical trials.

Lois Ramondetta, MD, professor of gynecologic oncology and reproductive medicine and co-leader of the project, said, “MD Anderson has made a commitment to ending HPV-related cancers with the recently unveiled HPV-related Cancers Moon Shot. One of our goals is to inspire policy and education to increase HPV adolescent vaccination rates to 80% to prevent several cancers.”

This effort falls in line with the February 2016 White House announcement of a \$1 billion

National Cancer Moonshot initiative to eliminate cancer as we know it.

Current recommendations

The current recommendation from the Advisory Committee on Immunization Practices is that HPV vaccines should be given routinely for females and males at ages 11 or 12, though it can be given as early as age 9.

Vaccination for females ages 13-26 and males ages 13-21 also is recommended if they have not completed the three-dose series. Also, vaccination is recommended up to age 26 for men who have sex with men, as well as for immunocompromised males.²

Despite this guidance, results of a 2014 survey show that many providers fail to give a strong recommendation for vaccination.³ A sizeable minority of physicians reported that they do not strongly endorse HPV vaccine (27%) or deliver timely recommendations for girls (26%) or boys (39%). Many physicians (59%) used a risk-based approach to recommending HPV vaccine, and only half (51%) usually recommended same-day vaccination.³

The power of a provider

A provider’s recommendation is the main factor that motivates parents to get HPV vaccination for their children, notes **Noel Brewer**, PhD, a University of North Carolina (UNC) Lineberger Cancer Center member and associate professor in the UNC Gillings School of Global Public Health, both in Chapel Hill.

“However, low-quality communication about HPV vaccination is common,” noted Brewer, the study’s senior author, in a press statement accompanying the research. “Many physicians recommend HPV vaccine hesitantly,

or late, or not at all.”

How can you help increase HPV vaccination rates? Look to resources provided by the Centers for Disease Control and Prevention (CDC) at <http://1.usa.gov/1KDz3wB>. Get information on how to answer questions from parents, speak with colleagues about the importance of vaccination recommendation, and link information from the CDC to your practice’s web site.

Parents who discourage their daughters and sons from getting HPV vaccination due to opposition to vaccinations of any kind or concern that HPV vaccination will make their child more promiscuous sexually are doing a grave disservice to their children by increasing their risk of one of the most common forms of cancer in women and several types of cancer in men, suggests **Robert Hatcher**, MD, MPH, professor emeritus of gynecology and obstetrics at Emory University School of Medicine, Atlanta.

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Update on emergency contraception: What family planning providers need to know

Are you up to speed on emergency contraception (EC)? The Association of Reproductive Health Professionals (ARHP) has just released a two-part webinar to help providers review evidence-based information on all things EC, from its efficacy to the state of access in the United States. (Go to the “On Demand Webinars” of the ARHP website at <http://bit.ly/1QregZM>. Select the two titles on emergency contraception.)

What proportion of sexually active U.S. women have used EC? According to the most recent National Survey of Family Growth, the answer is 18%, says **James Trussell**, PhD, professor of economics and public affairs emeritus and senior research demographer of the Office of Population Research at Princeton (NJ) University.¹ Trussell co-presented at the first webinar, along with David Turok, MD, MPH, associate professor in the Department of Obstetrics and Gynecology at the University of Utah in Salt Lake City.

“That is up from 4% in 2002, but is still quite low when we consider that half of all pregnancies in the U.S. are unintended,” Trussell notes.

The copper intrauterine device

(IUD) is the most effective EC method available in the United States today, states Trussell. While use of the copper IUD as EC has been documented for at least 40 years, it remains underutilized, observes Trussell. In addition to its capabilities as an emergency contraceptive, the device provides at least 12 years of highly effective protection, he states.

According to World Health Organization guidelines, when the time of ovulation can be estimated, the copper IUD can be inserted beyond five days after intercourse, if necessary, as long as the insertion does not occur more than five days after ovulation, says Trussell.²

“This recommendation is not based on a safety concern for the patient, but rather is intended to minimize the possibility that the IUD could interfere with the implantation of a fertilized egg or be inserted into a uterus with an existing pregnancy,” states Trussell.

The most commonly available form of EC is levonorgestrel (LNG) pills. One-dose LNG EC products have almost entirely replaced the two-dose products, notes Trussell. Although the package label directions

state to take the pill within 72 hours after intercourse, studies have shown that progestin-only EC pills may be effective up to 120 hours after intercourse; however, an analysis of four World Health Organization trials showed that it is effective only up to four days, states Trussell.^{2,3} Since LNG EC works by delaying ovulation, women should be advised to take them as soon as possible, because it is difficult for a woman to know when ovulation is about to happen.

All one-dose LNG EC products are available over the counter with no age restrictions or ID requirements. However, labeling for the generic EC products can be confusing, advises Trussell. “Regulations around the sale of EC have changed so frequently over the past few years, and it can be confusing for pharmacy staff and for consumers,” explains Trussell. “Part of the confusion is that the generic packages actually say different things, depending on whether it’s a generic made by the company that makes the brand or whether it’s from another company.”

An example is the packaging for My Way (Gavis Pharmaceuticals, Somerset, NJ), says Trussell. The packaging states, “For women 17 years of age and older.” While this wording may look like a restriction, it is not, Trussell says. It’s a “use recommendation” that is in place for complicated reasons related to the patent by Frazer, PA-based Teva Women’s Health for Plan B One-Step, he states.

“Women and men of any age can buy this product without ID, but even well-meaning pharmacy staff might interpret this as a

EXECUTIVE SUMMARY

The Association of Reproductive Health Professionals has just released a two-part webinar to help providers review evidence-based information on all things emergency contraception (EC), from its efficacy to the state of access in the United States.

- According to the most recent National Survey of Family Growth, 18% of sexually active women in the United States have used EC. Levonorgestrel pills are the most commonly used EC method.
- The copper intrauterine device (IUD) is the most effective EC method available in the United States today. While use of the copper IUD for EC has been documented for at least 40 years, it remains underused.

restriction,” says Trussell. “This use recommendation should be removed in 2016, when the market exclusivity for Plan B One-Step expires.”

Ulipristal acetate (UPA), sold as ella by Afaxys in Charleston, SC, by prescription only in the United States, has been approved for sale over the counter in Europe. In a growing number of U.S. states, pharmacists can directly write the prescription.

Ulipristal acetate is the only EC product labeled for use up to 120 hours after unprotected intercourse, notes Trussell. However, like levonorgestrel EC, it works by inhibiting ovulation, so it should be taken as soon as possible.⁴

There is some evidence that ECPs may be less effective for women at higher body mass index (BMI) or weight.⁵ In one study, the odds of ECP failure was calculated for obese women compared with women of normal BMI. Levonorgestrel showed a rapid decrease of efficacy with increasing BMI, and it reached the point at which it appeared no different from pregnancy rates expected among women not using ECPs at a BMI of 26, compared with 35 for ulipristal acetate.¹

Discussion of emergency contraceptive pills at *Contraceptive Technology* conferences often raises the question of the use of two levonorgestrel tablets or two ulipristal acetate tablets in overweight or obese women, notes **Robert Hatcher**, MD, MPH, professor emeritus of gynecology and obstetrics at Emory University School of Medicine, Atlanta. To Hatcher’s knowledge, there are no data of the efficacy of this approach.

Pills easy to access

Most women have found over-the-counter LNG pills to be the most convenient way to access

EC, states **Don Downing**, RPh, clinical professor in the University of Washington’s School of Pharmacy in Seattle.

While pharmacists can prescribe prescription-only EC in many states, there are 50 states with 50 different pharmacist-prescribing laws, which makes this mode of access extremely variable and uncertain, states Downing. Downing was a co-presenter of the second webinar, along with Beth Kruse, MS, CNM, ARNP, family planning nurse practitioner at Seattle–King County Public Health Department in Seattle.

In states where pharmacists do prescribe EC (Alaska, California, Hawaii, Massachusetts, New Hampshire, Vermont, and Washington), Downing says it improves access in three ways:

- It provides women with ulipristal acetate, the most effective oral emergency contraceptive.
- If the woman has insurance coverage, then a pharmacist prescription creates a zero copay and zero deductible insurance situation that lowers the threshold for access.
- It provides for a patient-provider interaction to determine

if the woman’s current form of contraception is the most appropriate/effective method for her.

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CTU offers 2-question survey

We would like your input. All *Contraceptive Technology Update* readers are invited to take a two-question survey about coverage in the newsletter.

To take the *Contraceptive*

Technology Update survey, you can go to svy.mk/1R4VQhA.

We appreciate your feedback. Your responses will influence future issues of the newsletter, as well as the format for surveys. ■

COMING IN FUTURE MONTHS

- Consider pop-out technique for contraceptive implant removal
- Check clinical practice guidelines for vulvar cancer
- Teens using teratogenic drugs — What are contraceptive options?
- How to increase HIV screening among adolescents

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CNE/CME QUESTIONS

1. Which of the following symptoms are consistent with Zika virus infection?
 - A. Fever, rash, joint pain, and jaundice
 - B. Malaise, rash, joint pain, and diarrhea
 - C. Fever, rash, joint pain, and conjunctivitis
 - D. Fever, pustules, cramps, and conjunctivitis
2. What is the latest U.S. Preventive Services Task Force guidance on breast cancer screening?
 - A. Mammography every two years for women ages 40-76
 - B. Mammography every two years for women ages 50-74
 - C. Mammography every three years for women ages 50-74
 - D. Mammography every two years for women ages 50-76
3. Which of the following anti-epilepsy drugs is NOT an enzyme inducer?
 - A. Carbamazepine
 - B. Felbamate
 - C. Oxcarbazepine
 - D. Gabapentin
4. What is the only emergency contraceptive product labeled for use up to 120 hours after unprotected intercourse?
 - A. Ulipristal acetate
 - B. Levonorgestrel pills
 - C. Levonorgestrel intrauterine device
 - D. Copper T intrauterine device

CNE/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;
3. integrate practical solutions to problems and information into daily practices, according to advice from nationally recognized family planning experts;
4. provide practical information that is evidence-based to help clinicians deliver contraceptives sensitively and effectively.