
DR. TERESA FOO, DR. DIVYA AHUJA & MELANIE NICHOLS, FNP
Protecting Women with Vaccination

Tracy Foo MD, MPH, MBA
Disclosures

• None
Overview

• Review of immunization recommendations for women
• SC immunization data
• How can we improve rates?
• Access to vaccines in SC
• Resources
Why give vaccines during pregnancy?

Passive Immunity

- Mothers pass antibodies to the fetus across the placenta
  - Temporary protection (lasts up to 6 months)
  - Allows the baby to develop his or her own antibodies
- Breast milk does contain antibodies
  - Protects against gastrointestinal illness only
Vaccines often offered, but many pregnant women and babies left unprotected

- Women who report provider offer or referral for flu and Tdap vaccine:
  - YES: 75%
  - NO: 25%

- Flu and Tdap vaccination coverage for pregnant women:
  - Tdap vaccine during pregnancy: 55%
  - Flu vaccine before/during pregnancy: 54%
  - Both vaccines: 35%

SOURCE: CDC Internet Panel Survey 2019
Why is getting a flu shot so important for pregnant women?

- Flu is more likely to cause severe illness in pregnant women (and up to 2 weeks postpartum)
- Increased risk of premature labor and delivery
- Shown to protect both the mother and baby from influenza-related illness and hospitalizations.
The flu shot is safe for pregnant women.

- The nasal spray (live attenuated influenza virus, or LAIV) flu vaccine is not recommended for pregnant women.
- The flu shot can be given during any trimester.
- Many studies support the safety of flu vaccine in pregnant women.
# SC WIC: Flu vaccine during pregnancy period, by region, 2017

**Pregnant women with certifications ending in CY 2017**

<table>
<thead>
<tr>
<th></th>
<th>Upstate</th>
<th>Midlands</th>
<th>Pee Dee</th>
<th>Lowcountry</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnant women, total</td>
<td>3,526</td>
<td>3,043</td>
<td>3,012</td>
<td>2,762</td>
<td>12,343</td>
</tr>
<tr>
<td>Received Flu vaccine</td>
<td>674</td>
<td>478</td>
<td>290</td>
<td>334</td>
<td>1,776</td>
</tr>
<tr>
<td>Percent</td>
<td>19.1%</td>
<td>15.7%</td>
<td>9.6%</td>
<td>12.1%</td>
<td>14.4%</td>
</tr>
</tbody>
</table>
### SC WIC: Flu vaccine during pregnancy period, by region, 2018

Pregnant women with certifications ending in CY 2018

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<tbody>
<tr>
<td>Pregnant women, total</td>
<td>3,037</td>
<td>2,927</td>
<td>2,866</td>
<td>2,367</td>
<td>11,197</td>
</tr>
<tr>
<td>Received Flu vaccine</td>
<td>671</td>
<td>544</td>
<td>260</td>
<td>339</td>
<td>1,814</td>
</tr>
<tr>
<td>Percent</td>
<td>22.1%</td>
<td>18.6%</td>
<td>9.1%</td>
<td>14.3%</td>
<td>16.2%</td>
</tr>
</tbody>
</table>
One dose of Tdap vaccine is recommended during each pregnancy.
Tdap protects moms and babies from pertussis (whooping cough)

- The US has an increase of pertussis.
- Babies don’t get DTaP until age 2 months. Maternal antibodies provide short term protection.
- Pertussis can cause serious complications in infants.
  - About half of those younger than 1 who get pertussis are hospitalized.
Tdap recommendations:

Best given between **27 and 36 weeks**
- This maximizes the maternal antibody response and passive antibody transfer to the infant.

Given during **every** pregnancy
- The level of pertussis antibodies decreases over time
People of all ages need WHOOPING COUGH VACCINES

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Age Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTaP</td>
<td>- 2, 4, and 6 months</td>
</tr>
<tr>
<td></td>
<td>- 15 through 18 months</td>
</tr>
<tr>
<td></td>
<td>- 4 through 6 years</td>
</tr>
<tr>
<td>Tdap for preteens</td>
<td>11 through 12 years</td>
</tr>
<tr>
<td>Tdap for pregnant women</td>
<td>During the 27-36th week of each pregnancy</td>
</tr>
<tr>
<td>Tdap for adults</td>
<td>Anytime for those who have never received it</td>
</tr>
</tbody>
</table>

www.cdc.gov/whoopingcough
Tdap cocooning – create a circle of protection

Anyone who will have close contact with a baby <12 months old should receive a single dose of Tdap (if they have not received one previously).
## SC WIC: Tdap during pregnancy period, by region, 2017

_Pregnant women with certifications ending in CY 2017_

<table>
<thead>
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<td>3,043</td>
<td>3,012</td>
<td>2,762</td>
<td>12,343</td>
</tr>
<tr>
<td>Received Tdap vaccine</td>
<td>1,271</td>
<td>1,113</td>
<td>774</td>
<td>906</td>
<td>4,064</td>
</tr>
<tr>
<td>Percent</td>
<td>36%</td>
<td>36.6%</td>
<td>25.7%</td>
<td>32.8%</td>
<td>32.9%</td>
</tr>
</tbody>
</table>
### SC WIC: Tdap during pregnancy period, by region, 2018

Pregnant women with certifications ending in CY 2018

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<td>2,927</td>
<td>2,866</td>
<td>2,367</td>
<td>11,197</td>
</tr>
<tr>
<td>Received Tdap vaccine</td>
<td>1,204</td>
<td>1,182</td>
<td>832</td>
<td>933</td>
<td>4,151</td>
</tr>
<tr>
<td>Percent</td>
<td>39.6%</td>
<td>40.4%</td>
<td>29.0%</td>
<td>39.4%</td>
<td>37.1%</td>
</tr>
</tbody>
</table>
Talk to Pregnant Women about Vaccines:

- Present vaccination as a standard part of care
  - Provide information initial prenatal visit
  - Ensure all staff deliver consistent messages about the importance of vaccination
  - Normalize vaccination as a part of pregnancy care
- Make a strong recommendation for vaccinations to patients
Strong Vaccine Recommendations

“I recommend Tdap and flu vaccines for you and all of my pregnant patients, because I believe vaccines are the best way to help protect you and your baby against whooping cough and the flu.”

“Today you are due for Tdap and flu vaccines. These will protect your baby from whooping cough and flu infections right after they are born.”
Immunizations after pregnancy

• It is safe for a woman to receive routine vaccines after delivery, even while she is breastfeeding.

• If she didn’t receive a Tdap or flu vaccine during pregnancy, she should get them after delivery.
#How I Recommend

- Short YouTube videos for providers showing effective recommendations and answering patient questions
  - [https://www.cdc.gov/vaccines/howirecommend/maternal-vacc-videos.html](https://www.cdc.gov/vaccines/howirecommend/maternal-vacc-videos.html)
  - [https://www.cdc.gov/vaccines/howirecommend/flu-vacc-videos.html](https://www.cdc.gov/vaccines/howirecommend/flu-vacc-videos.html)
Vaccines Cause Adults
“We have all the tools we need to consign cervical cancer to the history books. Vaccination. Screening. Treatment. Palliative care. The challenge is to scale-up the use of those tools everywhere around the world. It is simply no longer acceptable that any woman should die from a disease that is completely preventable and treatable.”

To the UN General Assembly, NY, Sept 24, 2018, 
Cervical cancer: Australia 'to be first to eliminate disease'

© 3 October 2018

Australia will become the first country to effectively eliminate cervical cancer if vaccination and screening rates are maintained, researchers say.

The disease could be eradicated as a public health issue nationally within 20 years, according to new modelling.

It is predicted to be classified as a "rare cancer" in Australia by 2022, when it should drop to less than six cases per 100,000 people.
Screening Won’t Protect Your Patients from Most HPV Cancers

https://www.cdc.gov/hpv/hcp/protecting_patients.html
<table>
<thead>
<tr>
<th>Cancer site</th>
<th>Sex</th>
<th>Incidence rate</th>
<th>Estimated Average Annual Number* for HPV-associated Cancers</th>
<th>Percentage HPV-associated Cancers Estimated to be Attributed to Any HPV Type</th>
<th>Estimated Average Annual Number* Cancers Attributed to Any HPV Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervix</td>
<td>Female</td>
<td>7.4</td>
<td>187</td>
<td>91%</td>
<td>171</td>
</tr>
<tr>
<td>Vagina</td>
<td>Female</td>
<td>0.3</td>
<td>9</td>
<td>75%</td>
<td>7</td>
</tr>
<tr>
<td>Vulva</td>
<td>Female</td>
<td>2.6</td>
<td>76</td>
<td>69%</td>
<td>53</td>
</tr>
<tr>
<td>Penis</td>
<td>Male</td>
<td>0.8</td>
<td>20</td>
<td>63%</td>
<td>13</td>
</tr>
<tr>
<td>Anus</td>
<td>All</td>
<td>1.6</td>
<td>90</td>
<td>91%</td>
<td>82</td>
</tr>
<tr>
<td>Rectum</td>
<td>All</td>
<td>0.2</td>
<td>11</td>
<td>91%</td>
<td>10</td>
</tr>
<tr>
<td>Oropharynx</td>
<td>All</td>
<td>5.8</td>
<td>345</td>
<td>70%</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>2.1</td>
<td>65</td>
<td>63%</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>10.0</td>
<td>281</td>
<td>72%</td>
<td>203</td>
</tr>
<tr>
<td>TOTAL</td>
<td>All</td>
<td>13.3</td>
<td>736</td>
<td>79%</td>
<td>582</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>14.5</td>
<td>402</td>
<td>83%</td>
<td>334</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>12.1</td>
<td>335</td>
<td>73%</td>
<td>245</td>
</tr>
</tbody>
</table>

SC Central Cancer Registry (SCCCR), Bureau of Health Improvement & Equity, SC DHEC, April 16, 2018
HPV Vaccine

• Recombinant L1 capsid proteins that form “virus-like” particles (VLP)
• Non-infectious and non-oncogenic
• Produce higher levels of neutralizing antibody than natural infection
Best given at age 11 or 12

- Better immune response to the vaccine at a younger age, can give as early as age 9
- Given with the other adolescent vaccines as a bundle
New ACIP recommendations:

- If not vaccinated at age 11-12, older adolescents and young adults should be vaccinated up to age 26.
  - If patient starts the vaccine series at age 15 or older → 3 doses of the vaccine for full protection
- Vaccination of persons 27 through 45 years of age based on "shared clinical decision-making" between the patient and the clinician.
HPV vaccine FAQs

• Vaccinated women still need routine cervical cancer screening.
  • The vaccine does not provide protection against all types of HPV that cause cervical cancer

• Vaccinate even if the patient is sexually active or has a history of genital warts.
  • HPV vaccination prevents new HPV infections but does not treat existing infections or diseases
Other FAQs

- HPV vaccine is not recommended for use in pregnant women.
- The vaccine series does not need to be restarted because of an interval that is longer than recommended.
Estimated vaccination coverage, age 13 – 17 – NIS Teen, SC, 2016 -2018

<table>
<thead>
<tr>
<th>Vaccination</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥1 HPV</td>
<td>44.2%</td>
<td>59.6%</td>
<td>63.7%</td>
</tr>
<tr>
<td>Females</td>
<td>50.5%</td>
<td>59.8%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Males</td>
<td>38.2%</td>
<td>59.3%</td>
<td>60.7%</td>
</tr>
<tr>
<td>HPV UTD</td>
<td>29.1%</td>
<td>42.7%</td>
<td>41.2%</td>
</tr>
<tr>
<td>Females</td>
<td>30.8%**</td>
<td>47.4%</td>
<td>44.8%</td>
</tr>
<tr>
<td>Males</td>
<td>27.4%</td>
<td>38.0%</td>
<td>37.7%</td>
</tr>
<tr>
<td>≥1 Tdap</td>
<td>77.5%**</td>
<td>89.4%</td>
<td>88.9%</td>
</tr>
<tr>
<td>≥1 MenACWY</td>
<td>68.9%</td>
<td>78.6%</td>
<td>79.7%</td>
</tr>
</tbody>
</table>

Refs: [https://www.cdc.gov/mmwr/volumes/66/wr/pdfs/mm6633a2.pdf](https://www.cdc.gov/mmwr/volumes/66/wr/pdfs/mm6633a2.pdf)  
[https://www.cdc.gov/mmwr/volumes/67/wr/mm6733a1.htm](https://www.cdc.gov/mmwr/volumes/67/wr/mm6733a1.htm)  

** lowest coverage estimate in the US
You are the Key to Cancer Prevention!

• Unfortunately, not all teens are being offered the vaccine at the recommended age.
• We need your help!
Strong Vaccine Recommendations

- A healthcare provider recommendation is the single best predictor of vaccination.
- Studies show that a patient who receives a provider recommendation is 4–5 times more likely to receive the HPV vaccine.

“I recommend the HPV vaccine for you and all of my patients, because it prevents cancers caused by HPV.”

[ROUTINELY RECOMMEND CANCER PREVENTION]
Where can patients get vaccines?
Vaccine Programs for age 0 - 18

- Vaccines for Children (VFC) Program
  - Uninsured
  - Medicaid
  - American Indian/Alaska Native

- SC State Vaccine Program
  - Underinsured (insurance doesn’t cover vaccines)

- Both programs available at DHEC health departments and enrolled private health care providers
Where can my adult patient (≥19 years) get vaccines?

- Health care provider offices, FQHCs, etc.
- SC Pharmacies
  - All ACIP recommended vaccines can be administered to adults 18 years and older by a pharmacist.
  - No prescription needed.
- DHEC health departments
Adults $\geq$ 19 years who are uninsured or don’t have coverage for vaccines

DHEC Adult Vaccine Program

- No cost vaccines, administration fee of $25
- Patients should not let cost be a barrier to getting the vaccines they need
- HPV, Tdap/Td, Hep A, Hep B, PPSV23, PCV13, Zoster (Shingrix) and flu

- Available at all DHEC health departments

For appointments: 1-855-4SC-DHEC (472-3432)
Summary

- Tdap and Flu immunization rates for pregnant women in SC are lower than national average.
- While rates of adolescent vaccination are increasing, many teens and young adults have not been vaccinated for HPV.
- Studies have shown that a strong provider recommendation along with an offer of vaccine is the best predictor of patients getting vaccinated.
Resources

- cdc.gov/hpv
- cdc.gov/hpv/hcp/how_to_recommend.html
- www.aap.org/immunization
- scdhec.gov/vaccines
- cancer.org/hpv
- www.immunizationforwomen.org
Pregnant? Top 3 Reasons Why You Need the Flu Vaccine

1. The flu is a serious illness that can be much more severe during pregnancy. It can be life-threatening for newborns and pregnant women.

2. Getting the flu vaccine during pregnancy helps protect your newborn from the flu until the baby is old enough for his or her own vaccine.

3. The flu vaccine is safe for both you and your fetus. You cannot get the flu from the flu vaccine.

Get the flu vaccine during every pregnancy, as soon as the vaccine is available. You can get the flu vaccine during any trimester.

Learn more at ImmunizationforWomen.org

Pregnant? Top 3 Reasons Why You Need the Tdap Vaccine

1. The Tdap vaccine prevents whooping cough. This is a very serious, often life-threatening disease for babies.

2. Getting the Tdap vaccine during pregnancy helps protect your newborn from whooping cough until the baby is old enough for his or her own vaccine.

3. The Tdap vaccine is safe for both you and your fetus.

For the health of your baby: Get the Tdap vaccine during every pregnancy between 27 and 36 weeks, as early in that window as possible.

Learn more at ImmunizationforWomen.org
FLU VACCINE FOR YOU
Protection for Two

The flu shot is the best protection for you—and your baby.

Getting the flu during pregnancy can cause serious problems for you and your baby.

The flu shot is safe for you and your child anytime during pregnancy.

Talk to your prenatal health care provider about getting your flu shot at your next appointment. You can also get vaccines at your local DHEC health department.

For an appointment, call 1-855-472-3432

Pregnant women are recommended to get the Tdap vaccine to protect their baby from whooping cough (pertussis).

Whooping cough is a serious disease that can cause babies to stop breathing.

Tdap vaccine given during your 3rd trimester (between 27 and 36 weeks) will give your baby the best protection.

The Tdap vaccine is safe for you and your baby.

Talk to your prenatal health care provider about getting the Tdap shot at your next appointment. You can also get vaccines at your local DHEC health department.

For an appointment, call 1-855-472-3432

www.cdc.gov/vaccines/pregnancy

www.cdc.gov/vaccines/pregnancy
To order free copies:

- [www.scdhec.gov/agency/EML](http://www.scdhec.gov/agency/EML)
- Create a free account
- Browse Library
  - Choose Program “Immunizations”
  - Select
    - ML-025678 “Tdap vaccine for you, Protection for Two”
    - ML-025692 “Recommended Vaccines during pregnancy/Spanish”
Contact Us
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Office 803-898-1956
foota@dhec.sc.gov
Divya Ahuja, MD, MRCP (London)
Associate Professor of Medicine
Prisma-USC
SYPHILIS IN NEWBORNS IS ON THE RISE IN U.S.

Congenital syphilis is a tragic disease that can cause miscarriages, premature births, stillbirths, or even death of newborn babies.

In the past five years, cases of congenital syphilis have NEARLY TRIPLED:

- 462 (2014)
- 492 (2015)
- 639 (2016)
- 935 (2017)
- 1,306 (2018)

A mother is likely to pass syphilis onto her baby if she is not treated.

Source: U.S. Centers for Disease Control and Prevention

SYPHILIS TESTING IS ESSENTIAL FOR ALL PREGNANT WOMEN

ONE TEST MAY NOT BE ENOUGH

START TESTING EARLY

AND

AGAIN IF NEEDED

A mother is likely to pass syphilis onto her baby if she is not treated.

Source: U.S. Centers for Disease Control and Prevention
Today, CDC released the Sexually Transmitted Disease (STD) Surveillance Report, 2018. STDs reached an all-time high in 2018, marking the fifth consecutive year of increases for chlamydia, gonorrhea, and syphilis. The most alarming threat: newborn deaths from syphilis.

There was a startling 22 percent increase in newborn deaths from 77 in 2017 to 94 in 2018. This goes beyond data and surveillance, beyond numbers and calculations – we lost 94 lives before they even began to an entirely preventable infection.

CDC’s “State of the Union” on sexually transmitted diseases (STDs) in the United States stresses that we must stop syphilis – too many babies are needlessly dying.
Chronic Hepatitis C (CHC)

• Nearly 1% of the US population has Chronic Hepatitis C

• Peak prevalence
  • Persons born between 1945-1965
  • 29-39 year old

• Estimated 60,000- 80,000 South Carolinians with CHC
- National rate of HCV infection among women giving birth
  - Increased >400%
  - From 0.8 to 4.1 per 1,000 deliveries
- Rate of vertical transmission about 6%
- Screening for Hepatitis C
  - Not yet routine.
- Risk-based HCV screening endorsed by
  - Centers for Disease Control and Prevention
  - American College of Obstetrics and Gynecology
  - The Society of Maternal-Fetal Medicine
- Endorsement of Universal HCV screening in pregnancy is coming!
  - AASLD-IDSA
  - USPSTF(Draft statement)
HEPATITIS C AND OPIOID INJECTION ROSE DRAMATICALLY AMONG WOMEN FROM 2004-2014

- HCV increased by 250%
- Admissions for opioid injection increased by 99%

Source: Centers for Disease Control and Prevention and Substance Abuse and Mental Health Services Administration
Hepatitis B - Check Hepatitis B’s Antigen

- **First prenatal visit**
  - Screen all pregnant women
- **Third trimester**
  - Test those who were not screened prenatally
  - Those who engage in high risk behaviors
  - Signs or symptoms of hepatitis at the time of delivery
- **Risk Factors:**
  - More than one sex partner in the previous six months
  - Evaluation or treatment for an STD
  - Recent or current injection-drug use
  - An HBsAg-positive sex partner
HIV

What is the prevalence of HIV in the US?
- 1. 1 out of 150
- 2. 1 out of 350
- 3. 1 out of 3500
- 4. 1 out of 35000
HIV

What is the prevalence of HIV in the US?

1. 1 out of 150
2. 1 out of 350
3. 1 out of 3500
4. 1 out of 35000
AIDS Cases in 2016

<table>
<thead>
<tr>
<th>Rank</th>
<th>Area of Residence</th>
<th>AIDS Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. Cases</td>
<td>Rate per 100,000</td>
</tr>
<tr>
<td>1</td>
<td>District of Columbia</td>
<td>185</td>
</tr>
<tr>
<td>2</td>
<td>Louisiana</td>
<td>564</td>
</tr>
<tr>
<td>3</td>
<td>Florida</td>
<td>2,354</td>
</tr>
<tr>
<td>4</td>
<td>Georgia</td>
<td>1,159</td>
</tr>
<tr>
<td>5</td>
<td>Maryland</td>
<td>586</td>
</tr>
<tr>
<td>6</td>
<td>Mississippi</td>
<td>276</td>
</tr>
<tr>
<td>7</td>
<td>Nevada</td>
<td>239</td>
</tr>
<tr>
<td>8</td>
<td>New York</td>
<td>1,578</td>
</tr>
<tr>
<td>9</td>
<td>Texas</td>
<td>2,077</td>
</tr>
<tr>
<td>10</td>
<td>South Carolina</td>
<td>369</td>
</tr>
<tr>
<td>10</td>
<td>Delaware</td>
<td>70</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<th>AIDS Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Rate</td>
</tr>
<tr>
<td>1</td>
<td>Baton Rouge, LA</td>
<td>150</td>
</tr>
<tr>
<td>2</td>
<td>Jackson, MS</td>
<td>99</td>
</tr>
<tr>
<td>3</td>
<td>Miami/WPL/Ft. L, FL</td>
<td>1,029</td>
</tr>
<tr>
<td>4</td>
<td>New Orleans/Met, LA</td>
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</tr>
<tr>
<td>5</td>
<td>Jacksonville, FL</td>
<td>194</td>
</tr>
<tr>
<td>6</td>
<td>Columbia, SC</td>
<td>103</td>
</tr>
<tr>
<td>7</td>
<td>Atlanta/SS/Ros, GA</td>
<td>695</td>
</tr>
<tr>
<td>8</td>
<td>Baltimore/Columbia, MD</td>
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<td>23</td>
<td>Charlotte/Con/Gas, NC</td>
<td>175</td>
</tr>
<tr>
<td>26</td>
<td>Charleston/N.Ch, SC</td>
<td>51</td>
</tr>
<tr>
<td>51</td>
<td>Greenv./And/Maul, SC</td>
<td>43</td>
</tr>
</tbody>
</table>

Recommendations for Initiating ART for an HIV infected person

- ART (Antiretroviral therapy or HIV medications) is recommended for all HIV-infected individuals to reduce the risk of disease progression.
- Effective ART reduces transmission to almost “0”
- Undetectable= Untransmissible
Rates of Diagnoses of HIV Infection among Female Adults and Adolescents
2017—United States and 6 Dependent Areas

N = 7,401  Total Rate = 5.2

Note. Data for the year 2017 are considered preliminary and based on 6 months reporting delay.
Women and HIV PrEP

- Women comprise 1 in 5 HIV diagnoses in the US
- The rate of new HIV diagnosis
  - Among black women was 16 times as high of white women and 5 times as high as Hispanic women
- PrEP is an individual-controlled prevention method
- PrEP offers an effective, safe, and private option for women to reduce their risk of HIV acquisition
- CDC estimated that 468,000 women in the US may benefit from PrEP
- Data from 82% of US pharmacies between 2013 -2016
  - Women accounted for only 14% of PrEP prescriptions
    - Only 17% were African American

PrEP: What is HIV PrEP

- Pre-exposure prophylaxis (PrEP)
  - A method of preventing an uninfected person from acquiring the disease
  - One tablet once daily
  - Minimal side effects
  - High Efficacy if taken regularly
  - (>90%)
PrEP to reduce HIV acquisition

- Time to protection from Tenofovir
  - Maximum intracellular concentration of tenofovir
    - Cervicovaginal tissue penetration takes -20 days
    - Rectal tissue - 7 days
- PrEP requires adherence:
  - 6 of 7 doses/week (85% adherence) to protect cervicovaginal tissue
  - 2 of 7 doses/week (28% adherence) to protect colorectal tissue.
- The efficacy of PrEP in women varied widely across clinical trials from 26% to 81% and corresponded with adherence
PrEP is recommended as one prevention option for persons at substantial risk of HIV acquisition:

- MSM (men who have sex with men) (IA)
- Adult heterosexual men and women (IA)
- Adult persons who inject drugs (PWID) (IA)
- HIV-discordant couples during conception and pregnancy (IIB)
PrEP: Endorsed by...

US Public Health Service

PREEXPOSURE PROPHYLAXIS FOR THE PREVENTION OF HIV INFECTION IN THE UNITED STATES – 2017 UPDATE

A CLINICAL PRACTICE GUIDELINE

THE AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS

COMMITTEE OPINION

Preexposure Prophylaxis for the Prevention of Human Immunodeficiency Virus

2) http://apps.who.int/iris/bitstream/handle/10665/75188/9789241503884_eng.pdf?jsessionid=F0C57C0B6ADFA651F46AF51949D6848F?sequence= (WHO 2012 guidelines)
3) https://www.uspreventiveservicestaskforce.org/BrowseRec/Search?s=PREP
### Screening Visit

**Laboratory Tests**

- **Confirm HIV negative status**
  If worried that patient has acute infection, repeat HIV test and viral load to confirm HIV status

- **Creatinine clearance**
  Confirm estimated creatinine clearance (CrCl) / eGFR (estimated glomerular filtration rate) \( \geq 60 \text{ ml/min} \)

- **Pregnancy intentions**
  Assess pregnancy intentions, offer contraception or preconception care as appropriate, and document pregnancy status (may take PrEP if attempting conception, pregnant or breastfeeding)

- **Hepatitis B**
  Document Hepatitis B serology (if not immune, offer vaccination). This is not required to start PrEP; importantly TDF/FTC treats chronic hepatitis B infection. This information shapes counseling around risks of stopping Truvada (potential flare of Hep B)

**Options for when to start PrEP**

- **Schedule return visit**
  Schedule a return visit when laboratory results for HIV will be available

- **Notify of results and call in prescription**
  Call with results if reliable phone number is available, and if HIV-negative, call in a prescription to a pharmacy.

**Complete insurance and/or medication assistance paperwork**

- **Uninsured patients**
  If the patient has no insurance, patient can be referred to an insurance counselor if available and apply for public health PrEP access programs or free drug through GileadAdvancingAccess.com

- **Uninsured patients**
  If insured, patient can apply for copay assistance ([http://www.gilead.com/responsibility/us-patient-access/truvada%20for%20pre%20medication%20assistance%20program](http://www.gilead.com/responsibility/us-patient-access/truvada%20for%20pre%20medication%20assistance%20program))
  Counsel patient to call clinic if insurance denied so that appeal can be submitted promptly
Initiation of PrEP

Prescribe 90 day supply of Truvada

- Explain possible side effects
  Provide education about potential short-term side effects (headache, nausea, vomiting, mild diarrhea), how to manage, over the counter remedies, and when to call if help/advice is needed.

- Counsel patient on the importance of medication adherence
  Provide tips to support daily adherence (e.g., pill box, phone app reminders, same-time daily reminders, and key-chain holder doses for when away from home).

- Discuss other forms of protection
  Inform patient about the importance of condom use, especially if there are periods of inconsistent medication adherence
  - Adequate doses for vaginal protection can take 20 days.
  - Adequate doses for anal protection can take 7 days.

- Stopping PrEP use
  Counsel patient about how to stop PrEP if they want to (e.g., continue until 4 weeks after last potential exposure, and call clinic first) and how to safely restart (e.g., need an HIV test before restarting).

Schedule follow-up visit for HIV test and refill

- First check-in
  Consider phone check-in at 1 month to assess medication adherence issues and side effects

- Young adult patients
  If person is young (e.g., <25 years of age) or you have concerns about adherence, you may want to recommend a 30 day follow up appointment

Follow-up Visits

- First 3-month visit
  At first 3-month visit, and every 6 months thereafter, check renal function (estimated CrCl)

- Every 3 months
  HIV test; assess pregnancy intentions and offer contraception, preconception counseling, and pregnancy testing as appropriate; offer STI screening (especially gonorrhea and syphilis); and PrEP refill

- Every 6 months
  Conduct STI screening (even if asymptomatic)

- Every 12 months
  Assess the need for continuing PrEP
PrEP: For Pregnancy

For discordant couples:
- HIV partner should be on ART and have sustained suppression of VL (AI)
- PrEP 30 days before and 30 days after conception for HIV-uninfected partners may offer an additional tool to reduce the risk of sexual transmission (BII)

DHHS Perinatal Guidelines, Updated Oct 2016
Provider role in PrEP

- PrEP may not be suitable for all persons at risk of HIV
  - Those unable to adhere to a daily pill regimen
  - Fear of partner violence
- Provider strategies to improve PrEP uptake
  - Facilitate accurate knowledge
  - Understanding of medication benefits
  - Requirements for adherence
  - Reminder calls or text messages
  - Peer support
  - Mental health
  - Substance use
  - Economic and housing constraints
- South East Hepatitis C Telehealth Initiative
- HIV PrEP Telehealth
  - Free HCV/HIV PrEP teleconsultation program
  - CME accredited clinical training and case-based consultations via video conferencing for health care providers at FQHCs, Ryan White Clinics & Deaddiction Centers
STD Screening in Pregnancy

Melanie Nichols, MSN - FNP

South Carolina Department of Health and Environmental Control
Healthy People. Healthy Communities.
**Screening Recommendations:**
Clinician Timeline for Screening Syphilis, HIV, HBV, HCV, Chlamydia, and Gonorrhea

- **First Prenatal Visit**
  - Syphilis: All pregnant women
  - HIV: All pregnant women
  - HBV: All pregnant women
  - Chlamydia: All pregnant women <25 years of age and older pregnant women at increased risk
  - Gonorrhea: All pregnant women <25 years of age and older pregnant women at increased risk
  - **HCV**: Pregnant woman at increased risk

- **Third Trimester**
  - Syphilis: Certain groups of pregnant women at 28-32 weeks
  - HIV: Certain groups of pregnant women before 36 weeks
  - Chlamydia: Pregnant women <25 years of age or continued high risk
  - Gonorrhea: Pregnant women at continued high risk

- **At Delivery**
  - Syphilis: Select groups of pregnant women, pregnant women with no previously established status, or pregnant women who deliver a stillborn infant
  - HIV: Pregnant women not screened during pregnancy
  - HBV: Pregnant women not screened during pregnancy or who are at high risk for hepatitis
## Required and Recommended Prenatal Screening for HIV and STDs

### Screening for STDs during Pregnancy: Recommendations & Guidelines

<table>
<thead>
<tr>
<th></th>
<th>Prenatal Screening</th>
<th>Labor and Delivery Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Prenatal Visit</td>
<td>Third Trimester</td>
</tr>
<tr>
<td><strong>Syphilis</strong></td>
<td>Required by S.C. State Law [S.C. Code of Laws (44-29:120)]</td>
<td>Recommended for ALL pregnant women</td>
</tr>
<tr>
<td><strong>HIV</strong></td>
<td>Unless the woman is known to be positive, HIV screening should be offered as an opt-out test.</td>
<td>Recommended for ALL pregnant women</td>
</tr>
<tr>
<td><strong>Hepatitis B</strong></td>
<td>Test for Hepatitis B surface antigen (HBSAg), even for those with a positive Hepatitis B core antibody.</td>
<td>Yes, if risk factors present</td>
</tr>
<tr>
<td><strong>Hepatitis C</strong></td>
<td>Women at risk for Hepatitis C infection (including current or past injection drug users) should be screened</td>
<td>--</td>
</tr>
<tr>
<td><strong>Chlamydia</strong></td>
<td>Screen all pregnant women under 25 years of age and those over 25 years of age with risk factors</td>
<td>Yes, if risk factors present, if woman is under 25 years of age, and if infected during pregnancy (retest at least 3 weeks after treatment)</td>
</tr>
<tr>
<td><strong>Gonorrhea</strong></td>
<td>Screen all pregnant women under 25 years of age and those over 25 years of age with risk factors (including new or multiple partners at time of screening)</td>
<td>Yes, if risk factors present</td>
</tr>
</tbody>
</table>

### Risk Factors

- Partner(s) living with or at risk for HIV
- Illicit drug use
- History of STDs during this pregnancy or one year prior to pregnancy
- New or multiple sex partners during pregnancy
- Exchanges sex for money or drugs
- Signs or symptoms of acute HIV infection, Syphilis or other STD
Syphilis Serology

Non-Treponemal Test

- *Rapid plasma reagin (RPR)*
- Venereal Disease Research Laboratory (VDRL)

Treponemal Test

- Flourescent Treponemal Antibody (FTA-Abs)
- Microhemagglutination test (MHA-TP)
- *T. pallidum* passive particle agglutination (TP-PA)
- Syphilis IgG (EIA)
South Carolina Department of Health and Environmental Control
Healthy People. Healthy Communities.

Syphilis Prevalence

South Carolina is ranked #22
Congenital Syphilis — Rates of Reported Cases Among Infants by Year of Birth and State, United States and Outlying Areas, 2017

[Map of the United States showing rates of congenital syphilis by state.]

Rate per 100,000 live births:
- 0.0 (n=16)
- 0.1 - 7.0 (n=10)
- 7.1 - 12.5 (n=9)
- 12.6 - 18.0 (n=10)
- 18.1 - 93.4 (n=9)

U.S. Territories:
- GU 0.0
- PR 14.2
- VI 0.0

[Additional data and information not shown in the map.]
## Maternal Testing and Treatment During Pregnancy
—Congenital Syphilis Cases, United States, 2016 (N=628)

<table>
<thead>
<tr>
<th>Testing/Treatment Status</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not tested in time</td>
<td>266</td>
<td>42%</td>
</tr>
<tr>
<td>Infected with syphilis during pregnancy, after initial screening test</td>
<td>101</td>
<td>16%</td>
</tr>
<tr>
<td>Tested in time (and positive), but not treated in time</td>
<td>88</td>
<td>14%</td>
</tr>
<tr>
<td>Received inadequate regimen</td>
<td>23</td>
<td>4%</td>
</tr>
<tr>
<td>Other/Can’t classify based on data provided</td>
<td>150</td>
<td>24%</td>
</tr>
</tbody>
</table>
Primary Syphilis

• Single or multiple usually painless sores (also called chancre)

• Lasts 3-6 weeks and heals with or without treatment
Secondary Syphilis

- Rash (usually does not itch) and/or mucous membrane lesions
- Resolves with or without treatment in 2-6 weeks
Number of HIV diagnoses among infants, United States

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
<td>69</td>
<td>56</td>
<td>71</td>
<td>46</td>
<td>48</td>
<td>53</td>
</tr>
</tbody>
</table>
140,145
Number of women aged 15-44 years living with chronic or acute HBV

952
Number of infants with chronic HBV, 2009, United States

20,678 (Estimated)
Number of pregnant women identified as living with HBV infection, 2015, United States

11,334
(Identified)
Chlamydia Prevalence

South Carolina is ranked #5

We were #7 last year...
South Carolina is ranked #4
We were #9 last year...
Current Screening Statistics

• Approximately 75%–80% of pregnant women are screened for HIV infection\(^3,4\)
• Approximately 84%–88% of pregnant women are screened for HBV infection\(^5\)
• Approximately 85% of commercially insured pregnant women are screened for syphilis\(^4\)
References

• https://www.scdhec.gov/sites/default/files/Library/Prenatal_Screening_HIV_and_STDs.pdf
• https://www.cdc.gov/std/stats17/womenandinf.htm
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nicholma@dhec.sc.gov