Ending the Epidemic of HIV in South Carolina

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Is there a new HIV epidemic in South Carolina? Not exactly.

Declaring an epidemic, an unexpected number of a condition in a population within a certain time frame, is a call to action. South Carolina has ranked among states with the highest rate of new HIV cases for years. South Carolina ranked 11th among states for AIDS case rate in 2016, and had the nation’s 8th highest rate of new HIV diagnoses in 2017.

According to a South Carolina Department of Health and Environmental Control (DHEC) report, “The HIV epidemic in the United States, and in South Carolina, is a composite of multiple and unevenly distributed epidemics in different regions and among different populations.” This is not a new HIV epidemic.

Southern states make up 38% of the US population but account for 52% of new HIV diagnoses. The continued high rates for HIV in some jurisdictions is the reason for the new national initiative, Ending the Epidemic. The Centers for Disease Control and Prevention (CDC) goal for the initiative is to reduce new HIV cases by 75% within five years and 90% within 10 years. “Major developments in HIV science, prevention, and treatment have produced a once-in-a-generation opportunity to eliminate new HIV infections in the United States,” the CDC said.
CDC will fund seven states, including South Carolina, and 48 jurisdictions to develop novel approaches to:

1. increase HIV screening
2. link people living with HIV/AIDS (PLWHA) to care
3. assure that they remain on treatment to maintain HIV suppression.

These measures, along with rapid response to outbreaks, are the four pillars CDC has defined to accomplish the Ending the Epidemic goals.

HIV is transmitted when individuals engage in high-risk behaviors like unprotected sexual contact with someone who has HIV and is not virally suppressed, or by sharing needles or syringes to inject drugs. HIV is also transmitted from mother to baby during pregnancy, birth or breastfeeding. In South Carolina, sexual contact is the most commonly reported risk behavior, particularly among men who have sex with men. Injecting drug use is reported less often as compared to other states, but the increase in heroin use across the U.S. raises concern for an increase in HIV related to this risk here.

The health disparity of HIV is another contributor. African-Americans are disproportionately affected by HIV/AIDS but race is not the issue; it is an indicator for other contributors that must be addressed to end the epidemic. DHEC reports “…race and ethnicity are not risk factors for HIV transmission, they are markers for complex underlying social, economic, and cultural factors that affect personal behavior and health. Low socioeconomic status is associated with increased disease morbidity and premature mortality. Unemployment status is correlated to limited access to health care services, resulting in increased risk for disease and death.”

Highly effective treatments exist to suppress HIV in those infected and prevent HIV in those at risk for exposure, but the social determinants of health must be addressed to make them available to those who need them.

Ending the Epidemic is a daunting challenge that requires effective collaborations of public health, primary care providers, and community-based organizations to facilitate access to and utilization of care and social services. Finding new ways to target limited resources to stop HIV transmission is critical to our success.

A related national initiative to reduce HIV, the 90-90-90 initiative, establishes benchmarks for a continuum of care whereby 90% of individuals with HIV will know their status, 90% of those who are HIV positive will be linked to care, and 90% of those linked to care will remain virally suppressed. Small changes in practices and attitudes make the daunting challenge for this continuum of care feasible. For example:

- **Screening** – Only 84% of South Carolinians with HIV are aware they are infected, meaning over 3,100 people are not in appropriate care. Health care providers should make no assumptions about who may be HIV positive. HIV screening should be included as opt-out testing in primary care visits, at least once, for adults as is done for other chronic conditions. A sexual and social history should be taken during primary care visits and adults and adolescents reporting high-risk behavior should be screened more often.

- **Linkage to Care** – Rapid initiation of therapy increases the effectiveness of viral suppressive therapy. Assuring prompt linkage to HIV specialty care for individuals who test positive for HIV is critical for a person’s long-term health.

- **Retention in Care** – Sustained viral suppression makes HIV essentially untransmittable. While DHEC-funded programs rank highly for linkage to care, retention in care and viral suppression for PLWHA, success with these benchmarks is lower in general practice. If all South Carolina HIV care providers adopt known effective measures for care, we will increase the proportion of PLWHA who remain virally suppressed. Figure 1 shows the status of the care continuum in 2018.

**Figure 1. Number and percentage of persons engaged in each step of the HIV continuum of care, 2018**

An additional tool available to reach the Ending the Epidemic goals is pre-exposure prophylaxis (PrEP). People who do not have HIV but who are at very high risk of exposure can take medication daily to prevent HIV
infection. PrEP reduces the risk of getting HIV from sex by about 99% and reduces the risk among people who inject drugs by at least 74% when taken daily. PrEP is much less effective if it is not taken consistently. Less than a quarter of Americans who could benefit from PrEP use it – and Southerners accounted for only 27% of PrEP users in 2016, even though the region has more than half of new annual HIV cases.¹ Health care providers must screen for risk behaviors for HIV and prescribe PrEP for those at ongoing risk for HIV exposure.

For more information on HIV prevention, please visit:

- www.cdc.gov/HIV
- www.scdhec.gov/health-professionals/diseases-conditions-clinical-guidance-resources/hiv-aids-std-resources

Sources:

1. An Epidemiologic Profile of HIV and AIDS in South Carolina 2018
2. CDC Issue Brief. HIV in the Southern United States. September 2019

The availability of highly effective therapies to treat people living with HIV and to prevent infection in those at risk of exposure makes ending ongoing transmission of HIV feasible. To eliminate HIV, however, we must focus on associated behavioral risks, stigmatization, and social determinants of health to assure the effective tools are available to those at risk for HIV infection or disease progression. The successful implementation of known effective interventions can significantly decrease HIV within 10 years and, ultimately, achieve the goal of Ending the Epidemic.

Updated Zika Virus Testing Guidelines

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The Fall 2019 edition of Epi Notes included an article outlining the updated guidelines released in June 2019 by the Centers for Disease Control and Prevention (CDC) on testing patients for Zika and dengue viruses. In November 2019, CDC published additional guidance specifically for Zika virus testing. These new guidelines further restrict the recommendations for Zika testing based on the changing epidemiology of the virus’ transmission. No locally-acquired Zika infections have been reported in the continental United States since September 2017.¹ CDC notes that reports of dengue cases in the U.S. now outnumber Zika by a ratio of about 200:1. From January 1z through December 5, 2019, there have been 17 reported Zika cases in the U.S. states (16 in returning travelers and one laboratory acquired).² The U.S. territories have reported 57 Zika cases in 2019 of which 55 are presumed to be locally-acquired based on serologic testing. Since antibodies against Zika virus can remain persistently elevated, some of these cases may have actually occurred in returning travelers. The last locally acquired Zika case in the U.S. territories confirmed by nucleic acid amplification testing (NAAT) occurred in May 2018.¹ There has been a persistent annual reduction in the numbers of Zika cases reported annually since 2016.²
Summary of changes

The new CDC guidelines are described in greater detail below and can be reviewed on the CDC website. The major changes include no more recommendations for Zika testing in individuals who are not pregnant regardless of symptoms and travel history. Dengue testing should be considered instead for symptomatic individuals if appropriate. These new guidelines also eliminate the use of Zika IgM testing and confirmatory plaque reduction neutralization tests (PRNT) except in cases involving fetal ultrasound findings consistent with congenital Zika virus infection. Serologic testing with Zika IgM is no longer recommended in any other case as these antibodies have been found to be persistent for months to years and are not reliable indicators of acute infections. Additionally, a high level of cross-reactivity with other arboviruses has been described in Zika IgM testing, and a positive Zika IgM may result from infection with one of these other viruses. PRNT testing can only confirm past exposure to Zika or another arbovirus and does not provide information on the timing of that exposure.

Non-pregnant patients

- Zika testing for any non-pregnant individual is not routinely recommended regardless of symptoms reported or travel history.1

- Those reporting appropriate symptoms and travel history could be considered for dengue testing based on those testing guidelines (cdc.gov/dengue/healthcare-providers/testing/testing-guidance.html).

- Consistent with the previous guidelines, no Zika testing is recommended for non-pregnant individuals who have no symptoms.

- Preconception screening is not an indication for Zika testing.

Asymptomatic, pregnant patients

For patients who are pregnant and have traveled to an area previously reporting Zika transmission but are not reporting symptoms:

- Zika testing is no longer recommended. This represents a change from the language in the previous guidance that testing could be considered.

- In cases where testing is still desired, it should be restricted to NAAT testing done within 12 weeks of exposure (since returning from the travel); and testing for Zika IgM should not be done for the reasons stated above.

Symptomatic, pregnant patients

For individuals who are pregnant, have travelled to areas with a risk of dengue and Zika transmission, and are reporting symptoms:

- Serum and urine samples should be collected a soon as possible and within 12 weeks since exposure.

- NAAT for dengue and Zika should be performed on the serum sample along with IgM testing for dengue. NAAT for Zika only should be performed on the urine sample. **No IgM testing for Zika is recommended.**

- If the suspected exposure came from sexual contact, then dengue testing is not necessary and the same procedure for Zika NAAT should be followed.

- If NAAT is positive for Zika on only one specimen drawn, an additional NAAT test should be performed on newly extracted RNA from the same specimen to rule out a false positive result. A second positive is evidence of acute Zika infection. A positive NAAT or IgM for dengue is evidence of dengue infection and no further testing is required.

Fetuses with ultrasound findings consistent with congenital Zika virus infection

- Pregnant individuals who may have been exposed to Zika virus and have had an ultrasound suggestive of congenital infection with Zika virus **should have Zika testing.** This includes NAAT of serum and urine specimens and serum IgM. A negative NAAT and positive IgM should be followed by a confirmatory PRNT for Zika and dengue.

- Testing of amniocentesis fluid or placental and fetal tissues may be considered after consultation with DHEC’s Public Health Lab and the CDC.

Sources:


A case control study of 60 cases and 138 controls showed that cases were more likely than controls to have visited or worked in the Davis Event Center, spent more than one hour in the Davis Event Center, walked by or spent time by the hot tubs on display, and attended the second half of the fair from September 11-15. Despite negative environmental samples from the hot tubs, given the case control study results and multiple historical examples of legionellosis outbreaks associated with hot tubs, the hot tubs on display are still considered a potential source of the bacteria for this outbreak. There have been no further outbreaks associated with events at the Davis Event Center since the fair. To prevent future outbreaks, environmental and public health practitioners are advised to contact organizers of events where hot tubs might be on display to provide information on appropriate hot tub cleaning and maintenance.

Overall, the outbreak included 134 cases of Legionnaires’ Disease and five cases of Pontiac Fever. All seven cases in South Carolina residents were confirmed as Legionnaires’ Disease. The median age for all outbreak cases was 61 years old, while the median age for cases in South Carolina was 73. Six individuals out of the seven South Carolina cases attended the fair between September 13 and 15, while one was a vendor present all days of the fair.

Sources:

Legionella Outbreak at 2019 North Carolina Mountain Fair

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An outbreak of legionellosis occurred among attendees of the North Carolina Mountain State Fair in Fletcher, NC in September 2019. The outbreak had a total of 139 confirmed cases, with seven of those cases in South Carolina residents. One of the four outbreak-associated deaths was a South Carolina resident.

Legionellosis, named for an outbreak of cases at an American Legion convention in 1976, is caused by the Legionella pneumophila bacteria, and includes two lung illnesses: Legionnaires’ Disease and Pontiac Fever. Both are characterized by fever, cough, and shortness of breath. Legionnaires’ Disease also requires radiographically confirmed pneumonia. Smokers, those with chronic respiratory conditions, immunosuppressed individuals, and those older than 50 are all at higher risk for becoming ill with legionellosis.

Legionella occurs naturally in fresh water and spreads to humans by inhalation of aerosolized water (water droplets) from man-made water systems. Diffusers, cooling fans, and hot tubs on display at the fair were all considered as possible sources of the bacteria. Environmental samples from the fairgrounds’ permanent facilities at the Davis Event Center and from hot tubs on display during the fair were tested for Legionella pneumophila. One water sample from the women’s restroom of the Davis Event Center tested positive for Legionella pneumophila; however, the isolate was found to be genetically different than samples collected from confirmed cases.
Mumps Virus Outbreak
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Since September 2019, the mumps virus has caused an outbreak at the College of Charleston. Across the US, there have been outbreaks of mumps recently in close-knit communities such as college campuses. From January 1 to December 6, 2019, 48 states and the District of Columbia in the US reported mumps infections in 3,252 people to the Centers for Disease Control and Prevention (CDC).

Before the US mumps vaccination program started in 1967, about 186,000 cases were reported each year. Since the two-dose MMR (measles-mumps-rubella) vaccination program was introduced in 1989, US mumps cases decreased more than 99%, with only a few hundred cases reported most years. However, since 2006, there have been several increases in cases and outbreaks as shown in the figure below.

Reported mumps cases – United States, 2000-2019

The reasons for the outbreaks, which have occurred among individuals who have received the recommended two-dose vaccination series, include the potential waning of vaccine efficacy and the lack of long-term boosters. Nevertheless, vaccination remains key since there is only supportive therapy for infected patients.

Mumps is a highly contagious viral disease that affects children, adolescents, and adults. The virus can cause inflammation of the parotid gland—which causes swelling in the cheek and jaw area below the ear. Other common symptoms of mumps include fever, headache, muscle aches, tiredness and loss of appetite.

Symptoms usually appear about 16-18 days after infection but can range from 12-25 days after infection. Some people who get mumps have very mild or no symptoms and often do not know they have the disease. Most people with mumps recover completely in a few weeks. Mumps can occasionally cause complications, especially in adults. Complications include deafness and inflammation of the testicles, ovaries, brain, and tissue covering the brain.

Mumps is spread through saliva or mucus from the mouth, nose, or throat. An infected person can spread the virus by: coughing; sneezing; talking; kissing; sharing items such as drinks, cigarettes, vaping devices or eating utensils; or touching objects or surfaces with unwashed hands that are then touched by others. People with mumps can spread it for two days before the salivary glands begin to swell and five days after the swelling begins.

To prevent the spread of the mumps virus, people should practice good hygiene by: washing their hands frequently; not sharing food, beverages, eating utensils, hookah devices, vaping devices or cigarettes; covering their nose and mouth when coughing and sneezing; and avoiding close contact with ill individuals.

Mumps can be prevented with MMR vaccine. A single dose is estimated to be 78% effective at preventing mumps, while two doses are about 88% effective. However, the MMR vaccine is not considered post-exposure prophylaxis. If someone has not previously received two doses of MMR, getting one after exposure may not prevent infection in that instance, but it may provide protection against future exposures.

Once fully vaccinated, the risk of mumps infection is lower, but even fully vaccinated individuals can still contract the disease. However, fully vaccinated people who are infected with mumps usually have a milder form of disease.

Persons with swelling in their cheek and jaw who are suspected to have mumps should avoid close contact with others, call ahead to their medical provider, and wear a mask while in the waiting room, if possible. The diagnostic test of choice is a buccal swab PCR for mumps, particularly during the first week of parotitis. IgM and IgG samples may also aid in diagnosis but can be more difficult to interpret and may yield false positive and false negative results.
Updates to the List of Reportable Conditions for 2020

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South Carolina Law 44-29-10 and Regulation 61-20 require reporting of conditions on the Official List of Reportable Conditions (LORC) in the manner prescribed by DHEC. South Carolina Law 44-53-1380 requires reporting by laboratories of all blood lead values in children under 6 years of age. Changes in the LORC for 2020 are listed below.

Updates to conditions previously on the list of reportable conditions

Two conditions have been updated as follows:

- **Candida auris** or suspected: now Urgently reportable within 24 hours by phone.

- **Influenza:**
  - The note in parentheses behind Lab-confirmed cases has been changed to read as e.g., culture, RT-PCR, DFA, Molecular assay.
  - Lab-confirmed hospitalizations has been changed to read Influenza-associated hospitalizations.

South Carolina 2020 List of Reportable Conditions

[Table containing the list of reportable conditions and associated details]

Condition removed from the list of reportable conditions

The following condition has been removed from the LORC:

- **Streptococcus group B, age < 90 days**

Conditions added to the list of reportable conditions

Two conditions have been added to the LORC:

- **Carbapenem-resistant Acinetobacter baumannii (CRAB)**

- **Positive Interferon Gamma Release Assays (IGRAs) for Mycobacterium tuberculosis**
  - IGRAs include QuantiFERON-TB Gold Plus (QFT-Plus) and T-SPOT.TB
  - Only Labs are required to report within three days
Changes in reporting criteria
Changes have been made to the following reporting criteria:

- Footnote 9: Carbapenem-resistant *Enterobacteriaceae* infections from all specimen types has been changed to read Carbapenem-resistant *Enterobacteriaceae* and *Acinetobacter baumannii* from all specimen types.

- Footnote 14: Positive IGRAs alone do not diagnose TB disease versus Latent TB Infection (LTBI).

- Footnote 15: Send all yeast isolates from any source to PHL except, *C. albicans*, *C. krusei*, *C. dubliniensis*, *C. parapsilosis*, *C. tropicalis*.

- Footnote 16: Negative results are reportable for Hepatitis B, C and Influenza only for laboratories that report via Electronic Laboratory Reporting (ELR).

Reporting reminders

1. What to report:
For all suspected and confirmed cases, report the following:

   - Patient’s name
   - Patient’s complete address, phone number, county of residence, date of birth, race, sex, last five digits of Social Security number
   - Physician’s name and phone number
   - Name, institution, and phone number of person reporting
   - Disease or condition
   - Date of diagnosis
   - Symptoms
   - Date of onset of symptoms
   - Lab results, specimen site, collection date
   - If female, pregnancy status
   - Patient status: in childcare, food-handler, healthcare worker, childcare worker, nursing home, prisoner/detainee, travel in last four weeks

As a reminder, cases suspected based on rapid screening tests are reportable.

2. How to report

*Important Notes:*

- Immediately and urgently reportable conditions must be reported by phone call to a live person.

- Conditions that are routinely reportable (i.e., within 3 business days) must be reported via mail, fax, or submitted electronically via DHEC’s web-based reporting system.

The “How to Report” section or the LORC has been updated to reflect changes in the mailing address for reporting HIV, AIDS, and STDs (excluding Hepatitis), and Lead as follows:

**For HIV, AIDS, and STDs (excluding Hepatitis):**

- **Do not fax HIV, AIDS, or STD results to DHEC**
  - Call (800) 277-0873;
  - Submit electronically via DHEC’s web-based reporting system; or
  - Mail to:
    Division of Surveillance & Technical Support
    Mills/Jarrett Complex
    2100 Bull Street, Columbia, SC 29201

**For Lead:**

- Mail to:
  Bureau of Health Improvement & Equity, Lead Surveillance
  c/o Brian Humphries
  Sims-Aycock Building,
  2600 Bull Street, Columbia, SC 29201
- Fax: (803) 898-3236; or
- Submit electronically via DHEC’s web-based reporting system; or
- Call (803) 898-3641 to establish electronic reporting
Tuberculosis (TB) must be reported to the public health office in the region in which the patient resides, as follows:

**How to Report Tuberculosis**
Report to the public health office (listed below) in the region in which the patient resides.

**Lowcountry**
Berkeley, Charleston, Dorchester
Office: (843) 719-4612
Fax: (843) 719-4778

Allendale, Bamberg, Beaufort, Calhoun, Colleton, Hampton, Jasper, Orangeburg
Office: (843) 549-1516 ext. 222
Fax: (843) 549-6845

**Midlands**
Chester, Kershaw, Lancaster, Newberry, York
Office: (803) 909-7357
Fax: (803) 327-4391

Aiken, Barnwell, Edgefield, Fairfield, Lexington, Richland, Saluda
Office: (803) 576-2870
Fax: (803) 576-2880

**Pee Dee**
Dillon, Georgetown, Horry, Marion
Office: (843) 915-8798
Fax: (843) 915-6504

Chesterfield, Clarendon, Darlington, Florence, Lee, Marlboro, Sumter, Williamsburg
Office: (843) 673-6693
Fax: (843) 673-6670

**Upstate**
Cherokee, Oconee, Pickens, Spartanburg, Union
Office: (864) 596-2227 ext. 108
Fax: (864) 596-3340

Abbeville, Anderson, Greenwood, Greenville, Laurens, McCormick
Office: (864) 372-3198
Fax: (864) 282-4294

Nights/Weekends/Holidays: (803) 898-0558  Fax: (803) 898-0685

All conditions other than HIV, AIDS, STDs, Lead and TB must be reported to the public health office in the region in which the patient resides as presented in the table below. The section layout has also been updated to reflect:

- Changes in the telephone numbers for the Pee Dee region (Clarendon, Chesterfield, Darlington, Florence, Lee, Marlboro, Sumter, Williamsburg); and
- Regional information for the Upstate.

**How to Report Other Conditions**
Report all other conditions to the public health office (listed below) in the region in which the patient resides.

**Immediate and Urgent Reporting (TELEPHONE)**

<table>
<thead>
<tr>
<th>Lowcountry</th>
<th>Midlands</th>
<th>Pee Dee</th>
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<tbody>
<tr>
<td>Allendale, Bamberg, Beaufort, Berkeley, Calhoun, Charleston, Colleton, Dorchester, Hampton, Jasper, Orangeburg</td>
<td>Aiken, Barnwell, Chester, Edgefield, Fairfield, Lancaster, Lexington, Kershaw, Newberry, Richland, Saluda, York</td>
<td>Clarendon, Chesterfield, Darlington, Dillon, Florence, Georgetown, Horry, Lee, Marion, Marlboro, Sumter, Williamsburg</td>
</tr>
<tr>
<td>Office: (843) 441-1091 Fax: (843) 953-0051 Nights/Weekends: (803) 441-1091</td>
<td>Office: (888) 801-1046 Fax: (803) 576-2993 Nights/Weekends: (888) 801-1046</td>
<td>Office: (843) 915-8886 Fax: (843) 915-6502 Fax2: (843) 915-6506 Nights/Weekends: (843) 915-8845</td>
</tr>
<tr>
<td>4050 Bridge View Drive, Suite 600 N. Charleston, SC 29405</td>
<td>2000 Hampton Street Columbia, SC 29204</td>
<td>1931 Industrial Park Road Conway, SC 29526</td>
</tr>
<tr>
<td>Office: (864) 372-3133</td>
<td>Office: (843) 915-8798</td>
<td>Office: (864) 596-2227 ext. 108</td>
</tr>
<tr>
<td>Fax: (843) 915-6504</td>
<td>Fax: (803) 576-2993</td>
<td>Fax: (864) 596-3340</td>
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**Resources for Additional Information**

**Reportable Diseases Page on DHEC website**
www.scdhec.gov/health-professionals/report-diseases-adverse-events/south-carolina-list-reportable-conditions

**PDF 2020 List of Reportable Conditions**

**SC DHEC Disease Reporting Form**

**Questions?**
For questions about Disease Reporting or to discuss electronic disease reporting via DHEC’s electronic disease surveillance reporting system, call the DHEC Bureau of Disease Control in Columbia:

(803) 898-0861 Monday – Friday 8:30 a.m. – 5 p.m.

To learn about DHEC’s web-based reporting system, call:

(800) 917-2093 Monday – Friday 8:30 a.m. – 5 p.m.