

Best Public Health Practice: Sexually Transmitted Diseases

Diane Matthewson, RN, MPH

SLIDE 1

Hello, my name is Diane Matthewson. I am a regional communicable disease nurse consultant with the North Carolina Division of Public Health. It is my pleasure to welcome each of you to the lecture on STDs – also known as STIs (sexually transmitted infections). Both acronyms are used interchangeably in this talk. This unit of the Communicable Disease course will cover the reportable bacterial sexually transmitted infections. Many of you also function as the STD Enhanced Role RN for your agency. The clinical assessment and management training for that role is covered in the STD Enhanced Role training and only partially addressed in this course. Today I will talk mostly about basic STD reporting information.

SLIDE 2

At the end of this talk you will be able to list the NC reportable sexually transmitted diseases (STDs); locate the case definitions for the reportable STDs; identify North Carolina and CDC- approved treatment regimens for STDs; and locate the guidance for reporting STDs in NC EDSS. Man is the reservoir for all sexually transmitted conditions, and when I say “man”, I mean male and female humans. These conditions occur through genital, oral, and/or rectal sex with an infected person. STDs can be avoided only through abstinence or a mutually monogamous sexual relationship. That means one must have sex with an uninfected person who is only having sex with them. There are many sexually transmitted conditions, approximately 19 million new cases in the US each year. Only a few of these sexually transmitted conditions are reportable. Approximately 1.6 million new cases are reported to CDC each year. North Carolina reports more than 60,000 STD cases to the Centers for Disease Control each year. So, at this point, let’s take a look at what is reportable in North Carolina.

SLIDE 3

As you can see, there are nine reportable sexually transmitted conditions here in North Carolina. All are curable conditions except HIV/AIDS, which is caused by a virus and is the only reportable condition on this list caused by a virus. This list does not include trichomoniasis, nor does it include the other incurable viral STDs, such as herpes and human papilloma virus (HPV), which are, by the way, far more numerous but more difficult to diagnose occasionally, and costly to diagnose. **Chlamydia** tops the list. North Carolina reported over 43, 000 cases of chlamydia to CDC in 2009. Chlamydia, by far, is the most prevalent infectious disease reported in the US and in North Carolina. It is more prevalent than most of the reportable diseases combined. Chlamydia can be an asymptomatic condition and, if untreated, can lead to PID and infertility. It is this fact which justifies the public health strategy to universally screen women for chlamydia under certain criteria. Untreated pregnant women can transmit chlamydia to their babies during delivery, resulting in chlamydial conjunctivitis, also known as Ophthalmia Neonatorum, or it can result in chlamydial pneumonia. Thus, screening of pregnant women at intervals during pregnancy is required by North Carolina law. **Gonorrhea** is the second most prevalent condition behind Chlamydia. It is more prevalent in North

Carolina and in the US. It is notable that there are ten counties here in NC that contribute more than 55% of the total gonorrhea cases reported in North Carolina. As is the case with chlamydia, untreated pregnant women can transmit this infection to their babies during delivery leading to gonococcal conjunctivitis, also known as Ophthalmia Neonatorum. Screening of pregnant women for gonorrhea at intervals during pregnancy is also required by North Carolina law, as is the case with chlamydia. Also by law in North Carolina, newborns receive an antibiotic prophylactic eye ointment as a preventive measure against gonorrheal conjunctivitis. Next on the list, **(PID) - Pelvic Inflammatory Disease**. This condition causes approximately 15% of infertility in the US and is most often a complication of untreated gonorrhea or chlamydia. However, there are other organisms which may be the culprit, so PID must be reported even if the gonorrhea and chlamydia tests are negative. PID is the only condition which is reportable based on clinical criteria alone. These criteria include lower abdominal pain, adnexal tenderness, and cervical motion tenderness. PID is reportable here in NC, but is not reportable to CDC. Next on the list, **(NGU) – Non-Gonococcal Urethritis**. This condition is diagnosed primarily in males with penile discharge. There are a number of causative organisms for this condition. These organisms would include chlamydia, mycoplasma genitalium, ureaplasma urealyticum, trichomoniasis, or herpes simplex virus. Most of the conditions cannot be tested for in men. Chlamydia is the only reportable causative organism among the list of possible causes. Presently, there is no public health funding in North Carolina to test males routinely for chlamydia. Hence, the diagnosis of NGU is the best indicator of the possibility of chlamydia in males. NGU is reportable in NC, but is not reportable to CDC. Next on the list is **Syphilis**. Syphilis is a reportable condition which presents initially as a genital ulcer. Syphilis presents in stages and requires clinical and laboratory criteria for diagnosis. North Carolina law requires that this condition be prioritized for follow-up by Disease Intervention Specialists (DIS) who must conduct partner notification activities as a part of case investigation. Reports for syphilis are processed primarily in the HIV/STD Regional offices for this purpose. It is notable that North Carolina is presently in the midst of a syphilis outbreak and surveillance for this infection is stringent. More specifics regarding the epidemiological and clinical aspects of this genital ulcer disease will be covered in another section of this course. Another genital ulcer condition on the list is **Chancroid**. It is a reportable genital ulcer condition that is rarely seen in NC. Laboratory testing for this infection is not readily available, so diagnosis is often based on clinical signs and symptoms and the rule out of other causes of genital ulcers, primarily herpes and syphilis. Approximately 10% of persons in the US who have chancroid are co-infected with syphilis. There were 4 cases of chancroid reported in NC in 2008. The next genital ulcer disease on the list is **Lymphogranuloma Venereum (LGV)**. This is a reportable condition which is also rarely seen in NC and is rarely seen in the US and other industrialized countries. The causative organism is a strain of chlamydia trachomatis, which is different from the strain of chlamydia that causes urethritis and cervicitis. LGV is most prevalent in the population of men who have sex with men. There were 5 LGV cases reported in NC in 2008. Last on the list in terms of genital ulcer conditions is **Granuloma Inguinale**, which is also very rare in the US and in NC; however, there were 12 cases of this condition reported in NC in 2008. As is the case with syphilis, these genital ulcer diseases require clinical and laboratory criteria for

diagnosis. Reports of these infections must also be routed through the DIS for follow-up and partner notification as required by law here in NC. **HIV/AIDS** is also prioritized for follow-up by Disease Intervention Specialists (DIS). For this condition, there must also be partner notification activities. More specifics regarding this STD will be provided in another section of this course. Most of the STDs listed are reportable based on a lab test, however, as noted, some require clinical and laboratory evidence for reporting. Once you receive a lab or a report from a provider for a reportable STD, there are important steps you must take in the follow-up process before reporting in NC EDSS.

SLIDE 4

The resource available to you to guide the process of reporting a lab or a paper report of an STD can be found in the table of contents of the Communicable Disease Manual. By clicking on the link for Local Health Department Investigation Steps, you will get to a page listing the reportable communicable diseases. By clicking on the disease reported, you will get to a page which will guide you through the steps in the investigation and follow-up process for reporting. Most reportable conditions require a lab test to meet case definition. The first priority is to assure you have all information available that meets case definition for reporting the disease.

SLIDE 5

Case definitions can be found in the Communicable Disease Manual, as well. Click on the Case Definition link in the table of contents and locate the disease being reported. With NC EDSS reporting, lab data is invaluable in validating what is being reported. If the requirements needed to meet case definition are not in the report, follow-up is then needed. Prior to implementation of NC EDSS, report cards were acceptable, and these were accepted without lab information. So, it appears now that most often, the missing information in a report is going to be the confirmatory lab report which most providers will still need prompting to provide. You may need to contact the provider by telephone, or you could do so through an agency-generated letter to get this information. A feature in the NC EDSS system allows you to develop a database of providers who may need updates and information to assure complete and timely reporting.

SLIDE 6

The most important intervention for a sexually transmitted disease is treatment. Treatment prevents the spread of the disease. Your public health role is to assure that every client infected with a sexually transmitted infection is appropriately treated. As a public health professional, your role is to assure that public and private providers treat according to the NC and CDC STD Treatment Guidelines. Treatment guidelines can be found on the CDC website and in the NC Communicable Disease Manual. At the time of recording this lecture, the new CDC guidelines for 2010 are pending for release. The most current document will be posted once it is available. So, when you receive a disease report and no treatment is listed or the wrong treatment was given, you are required by law to assure appropriate treatment is provided. Your documentation in NC EDSS must include a summary of all your efforts to assure appropriate treatment. These notes can be included in the investigation trail or in the notes section of the NC EDSS dashboard. An important program quality improvement effort might include

tracking reports and treatments to determine where there may be a need for targeted provider updates and information. The NC EDSS system allows monitoring of treatment practices so that the information can be used to inform strategies and planning for educating providers and identifying gaps in the disease intervention process.

SLIDE 7

Once you have completed all steps needed for follow-up of reported STDs, you are ready to launch the NC EDSS reporting process. Paper lab reports which are received must be manually entered in NC EDSS. It is very important to enter complete data from the lab report. That would include testing methodology, the organism found, lab facility information, and provider information. All of this information is valuable to have for any follow-up and tracking in NC EDSS, whether it be done at the state level or by you locally. Guidance regarding data entry into NC EDSS can also be found in a section of the CD Manual. Click on the NC EDSS link in the table of contents in the CD Manual. This section of the CD Manual contains guidance not only for paper lab entries, but also other guidance to assure appropriate reporting practices which can also be incorporated into your local policies and procedures.

SLIDE 8

At this point, I would like to highlight some important tips to address some trends that we've noted as we've been monitoring the data entry into NC EDSS. It appears that clarification is needed regarding NGU (Non-gonococcal Urethritis). This clarification has to be made in context with gonorrhea. The term NON-GONOCOCCAL URETHRITIS implies that gonorrhea is *not* present. Ideally, males with a urethral discharge must have a Gram stain of the discharge to identify whether there are gram negative intracellular diplococci present. This is what diagnoses gonorrhea. If no gram negative intracellular diplococci are found, the male is treated for NGU – non-gonococcal urethritis. A test for gonorrhea must then be done to further rule out gonorrhea infection. In the majority of local health departments, this will be done by culture for gonorrhea, though there are agencies that may use a PCR test, such as GenProbe, to rule out gonorrhea. NGU should not be entered in NC EDSS until the confirmatory gonorrhea test is received and reports "no gonorrhea found". Once there is a test confirming *no gonorrhea*, the Gram stain results should be entered into NC EDSS, along with the negative gonorrhea test result. In many health departments, the Gram stain is not available to evaluate a urethral discharge. So, in these health departments, a gonorrhea test is the only way to evaluate for gonorrhea in a urethral discharge. This is a waiver through the agreement addenda for all counties who have a very low gonorrhea morbidity rate. So, in these counties, the gonorrhea test is the only testing done to evaluate the discharge. In these counties, NGU must be reported if no Gram stain is done and a negative gonorrhea test is reported on a male with urethral discharge. So, NGU must *not* be reported if the gonorrhea test on the specimen reports *gonorrhea found*.

SLIDE 9

Among some frequently asked questions is whether a gonorrhea or chlamydia tests need to be positive in order to report PID. PID should be reported as NC disease code 490, even if gonorrhea and chlamydia tests are negative. If there is a positive chlamydia and/or gonorrhea test, then PID is reported as a separate event code in addition to the positive tests. So, an individual with PID could potentially have all three of these events entered. Often, the PID report you receive may not include clinical information which is used to make the diagnosis of PID and for the case definition of PID. For reporting purposes, a physician's report of PID may be counted as a case with or without clinical criteria included in the report.

SLIDE 10

In accordance with 10A NCAC 41A .0204, which is the NC Administrative Code for STDs, genital ulcer diseases must be followed up by Disease Intervention Specialists (DIS) for partner notification. This requires a telephone call to your Regional HIV/STD office to notify the DIS of either of the rare genital ulcer diseases including, of course, the more prevalent case of syphilis. NC EDSS management of these conditions will be handled in accordance with the process that is used for handling syphilis and HIV by the DIS.

SLIDE 11

Unfortunately, we receive reports on children with STDs. One report is too many. As you know, this is a situation needing involvement of child protective services. Your follow-up process must include verification that DSS is notified regarding an STD in a child under the age of twelve. Verification of your involvement with DSS should be documented in the Notes section of the dashboard in NC EDSS.

SLIDE 12

As mentioned earlier, pregnant women can pass gonorrhea or chlamydia to the baby during delivery if they are untreated. Reports for infants with chlamydia or gonorrhea of the eyes, which is Ophthalmia Neonatorum, or pneumonia caused by these organisms, must include documentation of follow-up to assure the mother and her sex partner have received appropriate treatment. Now this may be a little different for you, but this is a very important process to take note of. Once the woman has delivered her baby, it is likely that the pediatrician will identify an infection in the eyes or pneumonia, but there may not be the next step of letting the mother know that she needs to be tested and treated. So, you must then get in touch with the mother's obstetrician to find out if indeed, this mother has been notified and has been tested and treated, along with her sex partner. The follow-up information should be documented in the Notes section of the dashboard in NC EDSS, and in the investigation trail as well.

SLIDE 13

This concludes the bacterial STD section of the communicable disease course. Remember that you always have the online Communicable Disease Manual as a reference tool, as well as the regional communicable disease nurse consultant, who is available to assist you with best practices for public health management of sexually transmitted diseases. Again, welcome to public health in North Carolina. Thank you.