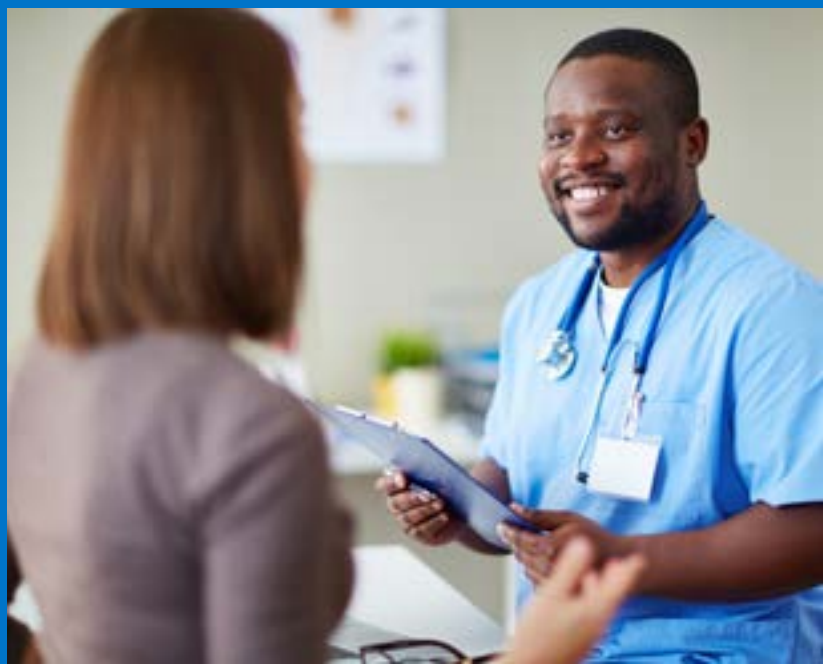
Extragenital Screening:
Rationale and Evidence by Population Groups



NEW YORK CITY
STI HIV PREVENTION TRAINING CENTER

Extragenital Screening: Rationale and Evidence by Population Groups

Background: STI rates have continued to rise across the United States. Chlamydia (CT) and gonorrhea (GC) infections commonly occur asymptomatically at extragenital sites; therefore, those seeking sexual health services should be offered three-site (oropharyngeal, rectal, and urogenital) STI screening. When testing at extragenital sites, as opposed to solely urogenital, positivity rates are higher across many populations groups, including men who have sex with men, young people, those living with HIV, and others. Please refer to the CDC STI Treatment Guidelines for more information.

This document includes a selection of peer-reviewed articles describing the benefits of extragenital screening among different populations. While we split out the evidence below by population group, the overall takeaways for each group are the same—extragenital screening is important, and failure to test at extragenital sites leads to missed infections and increases community burden of disease. Additionally, studies have shown patient comfort with extragenital testing. A recent study looked specifically at adolescent and young adult cisgender women; among this population the researchers found that both self- and clinician-collected rectal samples were acceptable.[1]

[1] Preferences for Rectal STI Sample Collection and Sexual Behaviors among Adolescent and Young Adult Women Accessing Primary Care Services

Taking a Sexual History: Resources

A well-implemented extragenital testing program includes comprehensive sexual history taking to enhance the identification of individuals who may benefit from extragenital screening. While a comprehensive sexual history is important, it should be noted that among certain populations, such as cisgender women, positive findings of STIs have been identified in individuals who deny extragenital sexual contact.

1. Online course by New York City STI/HIV Prevention Training Center, "Everyone Should Be Doing It: Taking a Sexual History"
    a. Free online course, accredited for CME/CNE/CEU
2. National Coalition for Sexual Health
    a. Tools for healthcare providers
    b. Sexual Health Questions to Ask All Patients
    c. Sexual Health and Your Patients: A Provider's Guide
3. NYSDOH AIDS Institute: GOALS Framework
4. CDC: A Guide to Taking a Sexual History
5. Fenway: Taking Routine Histories of Sexual Health: A System-Wide Approach for Health Centers

Men Who Have Sex with Men (MSM)

MSM are a population often thought of when considering extragenital testing. Multiple studies have supported that implementing extragenital testing in this population leads to finding more infections than would otherwise be identified. Data from 42 STI clinics from a one-year period (7/2011–6/2012) looked at MSM patients who were tested and positive for extragenital GC/CT. The researchers found that more than 70% of extragenital GC infections and 85% of extragenital CT infections were associated with negative urethral tests at the same visit. That means the vast majority of infections would not have been detected with urethral screening alone.[2] Another study found that implementing extragenital testing among MSM overall led to:

1. GC positivity increasing from 3.2% to 8.5%, and
2. CT positivity increasing from 3.9% to 8.3%.

Approximately 50% of the GC/CT infections diagnosed were detected by oral and rectal tests.[3] These results have been replicated in a number of studies,[4] and modeling studies have shown that if 100% of MSM who received urogenital screening also received extragenital screening, then site-specific (urogenital, pharyngeal, and rectal) STI prevalence would be reduced by an average of 42% for Black MSM and 50% for White MSM.[5]

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[2] Extragenital Gonorrhea and Chlamydia Testing and Infection among Men Who Have Sex with Men—STD Surveillance Network, United States, 2010–2012

[3] Extragenital Testing for Neisseria gonorrhoeae and Chlamydia trachomatis in a Large HIV Clinic in the US South: Implementation and Epidemiology

[4] Extragenital Screening in Men Who Have Sex with Men Diagnoses More Chlamydia and Gonorrhea Cases Than Urine Testing Alone

[5] Population-Level Benefits of Extragenital Gonorrhea Screening among Men Who Have Sex with Men: An Exploratory Modeling Analysis

Transgender Populations

Among transgender populations, the research also shows that a lack of extragenital screening leads to many missed infections. Data from 26 publicly funded STI clinics in six US cities was analyzed over a 3.5-year period, looking at transgender men and women. They found that most transgender women (86% and 80.9%, respectively) and more than a quarter of transgender men (28.6% and 28.6%, respectively) with an extragenital CT or GC infection had a negative urogenital test at the same visit.[6] Other studies have supported that there is a high prevalence of extragenital STIs in these populations, demonstrating the importance of extragenital screening.[7,8]

People Living with HIV

For people living with HIV who are in care, STI screening should be a routine part of their healthcare. Studies have shown that among people living with HIV, extragenital screening is important to identify infections that would otherwise be missed. This is true for MSM living with HIV, as well as others. In one study focused on MSM living with HIV, expanding screening methods to include extragenital sites improved GC detection rates from 6% to 24%, and CT detection rates from 5% to 17%.[9] Another study, looking predominantly at a heterosexual population living with HIV, found higher positivity rates among pharyngeal and rectal specimens

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[6] Chlamydia, Gonorrhea, and Human Immunodeficiency Virus Infection among Transgender Women and Transgender Men Attending Clinics That Provide Sexually Transmitted Disease Services in Six US Cities: Results from the Sexually Transmitted Disease Surveillance

[7] Prevalence of and Factors Associated with Genital and Extragenital Chlamydia and Gonorrhea among Transgender Women in HIV Care in the United States, 2005 to 2016

[8] Trans-inclusive Sexual Health Questionnaire to Improve Human Immunodeficiency Virus/Sexually Transmitted Infection (STI) Care for Transgender Patients: Anatomic Site-Specific STI Prevalence and Screening

[9] Evaluation of Self-Collection as a Method of Extragenital STI Screening

compared to urogenital specimens alone.[10] A third study looked at an intervention to increase extragenital screening at a clinic, something that was not previously routine there. It found that one-third of all bacterial STIs and half of the total GC/CT positive tests were from extragenital sites.[11]

Adolescents and Young Adults

Adolescents and young adults are a population that traditionally has high rates of STIs, though often not screened at extragenital sites; however, numerous studies support that extragenital testing should be routine for this population. One clinic that implemented extragenital testing among young people found that five out of nine extragenital GC and CT infections would have been missed with urogenital screening alone.[12] Another study looked at retrospective data from over 600 young people (2–17 years old). They concluded that extragenital screening was important to detect infections, particularly among the adolescents (14–17 years old). The highest positivity was found for rectal infections for both GC and CT.[13] Another study looking specifically at youth involved in the carceral legal system found that a quarter of the youth who were positive for an extragenital infection had a negative urine test, again emphasizing the importance of three-site testing.[14]

Cisgender Women

Cisgender women are often overlooked when considering extragenital testing; however, a number of studies indicate the importance of ordering extragenital testing with this population. One study looking at cisgender men and women found that the observed prevalence of pharyngeal and rectal GC (3.8% and 4.8%, respectively) among women who have sex with men was larger than other observed prevalences. They found that a third of extragenital infections among women would have been missed if extragenital testing was not performed.[15] A second study found similar results. In that study, 18.2% of CT and 16.7% of GC infections among female patients were detected only in the pharynx or rectum. They found that relying only on urogenital screening misses more than 15% of infections among cisgender women who reported receptive anal intercourse.[16]

Another study looking at cisgender women found that over half (53.9%) of GC cases and over a quarter (25.5%) of CT cases were identified exclusively through extragenital screening. Importantly, this study found that reported anal sex with last partner with a penis was not predictive of a rectal infection. This may be due to autoinoculation, where you can transfer bacteria from one body site to another, and may explain why some women develop rectal infections even if they are not engaging in anal sex.[17]

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[10] Comprehensive Sexually Transmitted Infection Screening and Testing Interventions in a Predominantly Heterosexual Population with HIV at a Health Center

[11] Automated Sexual History and Self-Collection of Extragenital Chlamydia and Gonorrhea Improve Detection of Bacterial Sexually Transmitted Infections in People with HIV

[12] Extragenital Screening for Chlamydia and Gonorrhea among Adolescents and Young Adults at a Sexual Health Clinic

[13] Extragenital Screening Is Essential for Comprehensive Detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* in the Pediatric Population

[14] Prevalence of Extragenital Gonorrhea and Chlamydia among Youth Involved in the Juvenile Justice System

[15] Extragenital Gonorrhea and Chlamydia among Men and Women According to Type of Sexual Exposure

[16] Patterns of Extragenital Chlamydia and Gonorrhea in Women and Men Who Have Sex with Men Reporting a History of Receptive Anal Intercourse

[17] What Explains Anorectal Chlamydia Infection in Women? Implications of a Mathematical Model for Test and Treatment Strategies

- Of those with rectal CT, 91.3% did not report any anal sex with their last sexual partner with a penis, and 87% did not report condomless anal sex.
- Of those with rectal GC, 76.3% did not report any anal sex with their last sexual partner with a penis, and 78.9% did not report condomless anal sex.[18]

Patients may be uncomfortable disclosing certain behaviors, or there could be other avenues for contracting an STI that may not be asked about (e.g., sex without penetration, coerced sex), demonstrating the possible utility of routinizing extragenital testing rather than basing its offer on reported behaviors.

Cisgender Men Who Have Sex with Women

Cisgender men who have sex with women (MSW) are a population not often considered for extragenital testing, and extragenital infections among MSW have in the past been reported as rare.[19] Studies in the last 10 years, however, have demonstrated a higher than expected rate of extragenital GC and CT infection among this population. One study performed three-site testing on over 4,000 MSW and found 356 GC infections. Of the 356 patients with GC infections, 35% had pharyngeal infections, and 36% of those patients would have been missed if pharyngeal screening had not been performed.[20] Another study looked at four clinics that implemented extragenital screening, screening over 56,000 patients over a three-year period.[21] For MSW, pharyngeal positivity was 1.1% for CT and 4.6% for GC, representing a total of 276 infections. Urogenital only-screening would have missed 175 infections among MSW.

[18] Evidence Supporting the Standardisation of Extragenital Gonorrhoea and Chlamydia Screenings for Women
[19] Extragenital Gonorrhea and Chlamydia among Men and Women According to Type of Sexual Exposure
[20] Ibid.
[21] Extragenital Sexually Transmitted Infection Testing among Louisiana Parish Health Units, 2016–2019


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EXTRAGENITAL TESTING

Population-Based Key Evidence

Chlamydia (CT) and gonorrhea (GC) infections commonly occur asymptomatically at extragenital (EG)—oropharyngeal and rectal—sites. Patients seeking STI testing should be offered EG screening along with urogenital screening, for complete three-site STI screening. There is evidence to support offering three-site STI screening among most populations, and the takeaway for all is the same:

FAILURE TO TEST AT EXTRAGENITAL SITES LEADS TO MISSED INFECTIONS

TRANS INDIVIDUALS

Infections at extragenital sites

One study found that **most transgender women** (86% and 80.9%, respectively) and more than **a quarter of transgender men** (28.6% and 28.6%, respectively) with an extragenital CT or GC infection had a negative urogenital test at the same visit

MEN WHO HAVE SEX WITH MEN

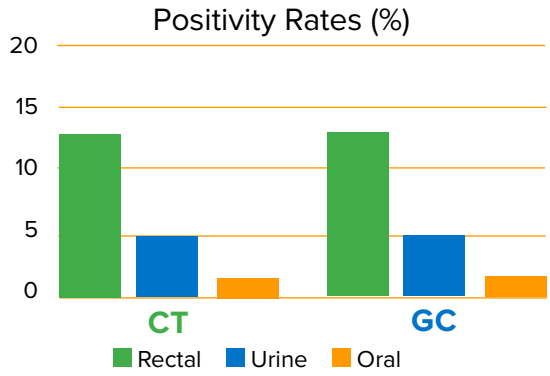
70% of extragenital GC infections were associated with negative urethral tests

85% of extragenital CT infections were associated with negative urethral tests

ADOLESCENTS & YOUNG ADULTS

57%

of EG CT and GC would be missed with urogenital screening alone



1/4

of youth with EG infection had negative urine tests

For citations, refer to our *Extragenital Screening: Rationale and Evidence by Population Groups* document in our Toolkit

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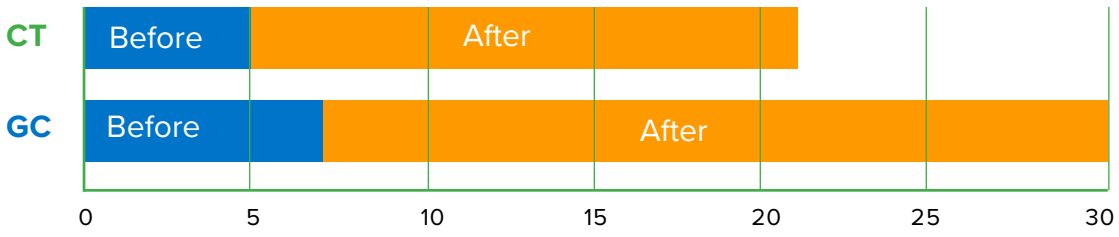
EXTRAGENITAL TESTING

Population-Based Key Evidence

PEOPLE LIVING WITH HIV

Detection rates before and after implementing EG testing (%)



Before: urogenital testing only

After: urogenital, pharyngeal, and rectal testing

CISGENDER WOMEN

1/3 of women with EG infection had negative urine tests

Identified exclusively with EG testing

54% CT

26% GC

Self-reported behaviors of women testing positive for a rectal STI

Self-report may not be the best way to identify infections

RECTAL GC+ 91% said no anal sex with last partner

RECTAL CT+ 76% said no anal sex with last partner

CISGENDER MEN WHO HAVE SEX WITH WOMEN

35% of GC infections among men who have sex with women were pharyngeal

36% of patients would have been missed if extragenital screening was not performed

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EXTRAGENITAL TESTING

Before You Get Started

There are important steps to take before you can start offering extragenital (EG) testing. Below are a few tips to get you started.

LAB

- Check with your lab about its capacity and capabilities for three-site testing: can it receive oral and rectal swabs?
- Check how your lab runs tests (e.g., does urine go in cups or tubes?) and ensure you have the necessary supplies.
- Only urine and vaginal samples are FDA cleared for self-collection in a clinic setting. If self-collection of oral and rectal samples is of interest, check with your clinic's lab about validation requirements.

CLINIC

- Consider making patient education posters available in relevant languages
  - ☐ option one
  - ☐ option two
- Make sure that all needed supplies are in the exam room and not expired!
- Make sure staff are trained in taking a comprehensive sexual history and are comfortable asking patients about their sexual practices.
- Establish a workflow for clarity and efficiency.
  - Who will be labeling swabs and when?
  - Will patients be asked screening questions or given self-administered screeners?
  - Where will collections be completed?
  - How will patients be informed of their results?

There are more resources in our Toolkit to help you with this process. You can reach out to the NYC STI/HIV Prevention Training Center for more personalized support at

nycptc@cumc.columbia.edu

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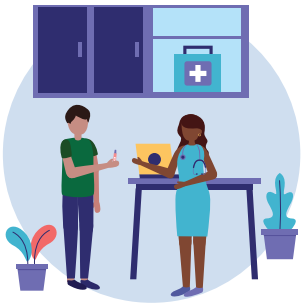
EXTRAGENITAL TESTING

Nurse/MA-Led Model of Care



Patient checks in

Patient completes screener*
(alone or guided)

Nurse/MA reviews screener

Nurse/MA and patient discuss what EGT is and how it's done

Patient Sample Collection

Patient completes swabs; hands to Provider

or

Provider completes swabs

Provider and patient determine next steps

- PrEP referral
- Benefits navigation
- Partner services
- Mental health referral
- Pregnancy prevention (if applicable)
- Follow-up appointment

This figure depicts one model of EGT that relies more on nursing and MA staff; patient may have a choice between self-collection of three-site testing or provider collection

* Refer to our Sample Screeners in our Toolkit

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EXTRAGENITAL TESTING

Provider-Led Model of Care

Patient checks in

Patient completes screener*

Providers reviews screener

Provider and patient discuss testing rationale and privacy

Patient Sample Collection

Provider Sample Collection

Patient completes swabs; hands to Provider

or

Provider completes swabs

Provider and patient determine next steps

- PrEP referral
- Benefits navigation
- Partner services
- Mental health referral
- Pregnancy prevention (if applicable)
- Follow-up appointment

This figure depicts one model where the provider is the one to introduce EGT; patient may have a choice between self-collection of three-site testing or provider collection

* Refer to our Sample Screeners in our Toolkit

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EXTRAGENITAL TESTING

Sample Screeners

This is an example of questions you can ask to determine what sites to test. This screener can be administered verbally by a healthcare provider, or it can be a self-administered patient screener. For both scenarios, it is important to include a preamble (e.g., rationale for asking these questions, assurance of confidentiality and privacy).

If the screener is self-administered, it should be developed with an eye toward health literacy and languages read/spoken by your patient population, and the clinic should consider confidentiality and privacy for patients while they are completing the screener. These questions should be asked at every visit, as patient behavior and/or comfort answering questions may change.

Below you will find two sample screeners. One is basic and focuses specifically on questions to ask when considering extragenital testing. We recommend including these questions in a more comprehensive sexual health screener (as in the second sample).

Clinics may want to consider providing extragenital testing for everyone, regardless of reported behaviors, given patients' possible hesitance to share sensitive health information

BASIC

"These questions concern your sexual health. We talk to all our patients about sexual health because it's such an important part of overall health. This information is confidential and private, meaning it will not be shared with anyone besides your healthcare team.

Some sexually transmitted infections can show up in your throat, butt, and genitals (penis or vagina) depending on the kind of sex you are having. A lot of my patients are having more than one kind of sex, and these questions will help us know which tests are best for you today."

- **Do you have anal sex, meaning penis in butt sex?**
  ☐ Yes ☐ No ☐ Unsure ☐ Decline to Answer
- **Do you have genital sex, meaning penis in vagina sex?**
  ☐ Yes ☐ No ☐ Unsure ☐ Decline to Answer
- **Do you have oral sex, meaning mouth on a penis, anus (butt), or vagina?**
  ☐ Yes ☐ No ☐ Unsure ☐ Decline to Answer

EXTRAGENITAL TESTING

Sample Screeners

COMPREHENSIVE

"These questions concern your sexual health. We talk to all our patients about sexual health because it's such an important part of overall health. This information is confidential and private, meaning it will not be shared with anyone besides your healthcare team. We recognize that not every question is comfortable to answer. If you don't feel comfortable answering it on the form, you can skip it and talk about it during your visit."

1. My current gender identity is:
- ☐ Man
- ☐ Woman
- ☐ Transgender Woman
- ☐ Transgender Man
- ☐ Two-spirit
- ☐ Genderqueer/Gender Fluid
- ☐ Intersex
- ☐ Non-binary/Gender Non-Conforming
- ☐ Other identity:_____
- ☐ Decline to answer

2. My sexual orientation is:
- ☐ Lesbian
- ☐ Gay
- ☐ Bisexual
- ☐ Pansexual
- ☐ Straight
- ☐ Queer
- ☐ Asexual
- ☐ Questioning
- ☐ Another identity:_____
- ☐ Decline to answer

3. My sex assigned at birth is:
- ☐ Male
- ☐ Female
- ☐ Intersex
- ☐ Not designated
- ☐ Decline to answer

4. My pronouns are:
- ☐ She/her/hers
- ☐ He/him/his
- ☐ They/them/theirs
- ☐ Ze/hir
- ☐ Other pronouns: _____

5. My relationship status is:
- ☐ Single, never married
- ☐ Divorced
- ☐ Married
- ☐ Civil union
- ☐ Domestic partnership / living with a partner
- ☐ Partnered, not living together
- ☐ Polyamorous / non-monogamous
- ☐ Widowed / grieving the loss of a partner
- ☐ Decline to answer

6. In the past, my sexual partners have been:
[select all that apply]
- ☐ People with penises
- ☐ People with vaginas
- ☐ Intersex
- ☐ None
- ☐ Decline to answer

7. Currently, my sexual partner(s) are:
[select all that apply]
- ☐ People with penises
- ☐ People with vaginas
- ☐ Intersex
- ☐ None
- ☐ Decline to answer

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Sample Screeners

COMPREHENSIVE (CONTINUED)

8. What kind of sex do you have?

- ☐ None
- ☐ Oral sex on a vagina (mouth on vagina)
- ☐ Oral sex on an anus/butt (mouth on butt)
- ☐ Oral sex on a penis (mouth on penis)
- ☐ Vaginal penetration (penis in vagina)
- ☐ Anal penetration (penis in butt)
- ☐ Sex without penetration
- ☐ Decline to answer

9. When did you last have sex with another person? _____

10. How many sexual partners have you had since you were last tested for STIs?

_____

11. When is the last time you had sex without a condom (internal or external)? _____

12. How often do you use barrier protection like condoms (internal or external)?

- ☐ None of the time
- ☐ Some of the time
- ☐ Most of the time
- ☐ All of the time

13. What does safer sex practices mean to you?

_____

_____

14. Since you were last tested for STIs, has a sexual partner told you they have an STI?

- ☐ Yes
- ☐ No
- ☐ Unsure
- ☐ Decline to answer

15. Have you ever tested positive for a sexually transmitted infection?

- ☐ Yes
- ☐ No
- ☐ Unsure
- ☐ Decline to answer

16. Are you considering having a child now or in the future?

- ☐ Yes
- ☐ No
- ☐ Unsure
- ☐ Decline to answer

17. Please describe any sexual health concerns you might have today.

_____

_____

You might want to also consider asking about sharing sex toys and nonconsensual sexual activity, which some patients may think of differently

EXTRAGENITAL TESTING

Standing Orders for Extragenital STI Testing

What are standing orders?

Non-patient specific standing orders allow non-physicians, like nurses, to sign off on tests—in this case, sexually transmitted infection screening. "Standing orders . . . allow for an expanded scope of practice for nurses, MAs, and health educators." —Source, NACCHO

"Non-Patient Specific Standing Orders are written instructions, orders, rules, regulations, or procedures prepared by a physician and designed for a patient population with specific preventative care or screening needs. Standing Orders are distinct from specific orders written for a particular patient." —Source, CHCANYS

"Standing orders are the signed instructions of a licensed physician which outline the medical assessment, appropriate testing, and treatment that a clinician may perform or deliver on behalf of the physician. In some states, non-physicians are authorized to perform assessments and prescribe medications independently. Standing orders also serve to standardize the clinical care practiced by all clinicians." —Source, CDC

How does my clinic site set up a standing order?

STATE LAWS

State laws differ when it comes to licensing and scopes of work; these need to be reviewed and understood before implementing a standing order.

UNION RULES

Nursing unions and others may have rules around scopes of work that will need to be reviewed before attempting to implement a standing order.

INSTITUTION GUIDELINES

Ensure your institution would allow standing orders before moving forward with developing a standing order for STI screening.

ELECTRONIC MEDICAL RECORDS

Standing orders are often integrated into EMRs. This process will need to be reviewed before moving forward with implementing a standing order for STI screening.

Information about and Examples of Standing Orders

1. Sample standing order for STI screening from Community Health Care Association of New York State (CHCANYS), complying with New York State law
2. Sample standing order for STI screening from North Carolina Department of Health and Human Services, complying with North Carolina state law
3. NACCHO Express Testing Guide—includes information about standing orders

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