STD PCHD

Strengthening STD Prevention and Control for Health Departments
STD PCHD 19-1901: Enhanced Surveillance for Gonorrhea Webinar

March 6, 2019

Today’s speakers:
Cassandra Davis – Program Development and Quality Improvement Branch
Emily Weston – Surveillance and Data Management Branch
Ryan Kreisberg – Center for STI Prevention, Maryland Department of Public Health
About this webinar

- Intended to provide additional information and clarification for ALL STD PCHD recipients

- Questions
  - All callers are on MUTE until lines are open at the end of the webinar
  - Please use the chat feature for any questions

- Slides and webinar recordings will be available on the STD PCHD website
  - https://www.cdc.gov/std/funding/pchd/default.htm
Overview of Webinar

- Surveillance overview
- Review of enhanced surveillance strategy
- Project area perspective
- Q & A
Strategy-specific Technical Assistance: Surveillance Strategies

Enhanced Gonorrhea Surveillance
Increasing Rates of Reported Gonorrhea

Gonorrhea - Rates of Reported Cases by Sex, United States, 2008-2017

Total number of cases reported in 2017: 555,608
## Percentage of Cases with Missing Data from Select Characteristics in Nationally Reported Data, 2017

<table>
<thead>
<tr>
<th>Information/Reporting Source</th>
<th>Percent missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race/Ethnicity</td>
<td>19% missing</td>
</tr>
<tr>
<td>Sex of Sex Partners Among Men</td>
<td>89.6% missing</td>
</tr>
<tr>
<td>Sex of Sex Partners Among Women</td>
<td>91.6% missing</td>
</tr>
<tr>
<td>Pregnancy Status</td>
<td>63% missing</td>
</tr>
<tr>
<td>HIV Status</td>
<td>91.4% missing</td>
</tr>
</tbody>
</table>
No Information or Data from Select Characteristics in Nationally Reported Data

- Treatment Information (including name and dose of antibiotics)
- Sequelae (PID, DGI)
- STI co-infection
Understanding the epidemiology of gonorrhea can help improve public health

- Describe the burden and cost
- Inform and target prevention activities
- Anticipate needed resources
- Monitor effectiveness of interventions
- Continuous quality improvement

Understanding the epidemiology of STIs in specific project areas and across the US

To improve population health and lead to greater health equity
PS19-1901 Strengthening STD Prevention and Control for Health Departments (STD PCHD) 2019-2023

SURVEILLANCE
- Conduct gonorrhea (GC) surveillance

DISEASE INVESTIGATION AND INTERVENTION

PROMOTION OF CDC RECOMMENDATIONS

PROMOTION OF PREVENTION AND POLICY

DATA USE FOR PROGRAM IMPROVEMENT

CROSS CUTTING:
- Promote STD-Related HIV Prevention
- Develop, Maintain, and Leverage Partnerships

For more info: e-mail STD_PCHD@cdc.gov
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DISEASE INVESTIGATION AND INTERVENTION

• Respond to STD-related outbreaks

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• Promote CDC-recommended treatment for gonorrhea and syphilis

PROMOTION OF PREVENTION AND POLICY
• Promote STD prevention and reporting to provider community

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<td>• Respond to STD-related outbreaks</td>
<td>• Promote CDC-recommended treatment for gonorrhea and syphilis</td>
<td>• Promote STD prevention and reporting to provider community</td>
<td>• Conduct data-driven planning, analysis, monitoring, and evaluation for program improvement</td>
</tr>
</tbody>
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**CROSS CUTTING:** Promote STD-Related HIV Prevention • Develop, Maintain, and Leverage Partnerships

For more info: e-mail STD_PCHD@cdc.gov
2b. Conduct enhanced GC surveillance

Conduct provider follow-up and, if needed, brief patient interviews of a random sample of GC cases from a well-defined high morbidity area or the project area as a whole. Ensure timely and quality capture of core epidemiological variables:

- Age
- Sex
- County
- Diagnosing facility type
- Specimen collection date
- All anatomic site(s) of infection
- Race/ethnicity
- Gender identity/sexual orientation
- Sex of sex partner(s)
- Clinical Symptoms and signs (incl length of time)
- Pregnancy status
- HIV status
- Previous history of GC
- PID
- Disseminated gonococcal infection
- Treatment provided (incl name and dose)
- Date of treatment
- Co-infection with other STDs
- History of substance abuse
- Partner treatment (e.g., EPT provision)
2b. Conduct enhanced GC surveillance

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How will this be useful in my project area?

- DIS conduct follow-up on priority gonorrhea cases including HIV infected cases and all pregnant females to ensure treatment and linkage to care and to offer partner services

- 30% of all of gonorrhea cases receive DII/DIS follow-up

- We are not sure why we need to do this strategy
Disease Investigation and Intervention (DII)

Diagnosing lab or clinician reports the infection

DIS contact and interview patient

Identify and locate sex partner(s)

Refer sex partner(s) to a clinic for testing and treatment
Disease Investigation and Intervention (DII)

**Diagnosing lab or clinician reports the infection**

**DIS contact and interview patient**

**Identify and locate sex partner(s)**

**GOAL**
Treat patients and partners to prevent sequelae and stop chain of transmission

*Some epi data are collected, but this is not the goal*

Refer sex partner(s) to a clinic for testing and treatment
Surveillance

Systematic collection of data and interpretation of trends/data

Implementation of planning, recommendations, and programs

Allows for best allocation of resources

Diagnosing lab or clinician reports the infection
**Surveillance**

Diagnosing lab or clinician reports the infection.

- Systematic collection of data and interpretation of trends/data
- Implementation of planning, recommendations, and programs

**GOAL**

Understand patterns in disease to direct prevention, control, and improve population health.

*Some intervention may occur, but this is not the goal*

Allows for best allocation of resources.
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<th><strong>Surveillance</strong></th>
<th><strong>Disease Intervention &amp; Investigation</strong></th>
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<td><strong>Objective</strong></td>
<td>Systematically collect reported cases of disease</td>
</tr>
<tr>
<td></td>
<td>Identify cases &amp; sexual partners</td>
</tr>
<tr>
<td><strong>Strategy</strong></td>
<td>Analyze trends by important epidemiological characteristics</td>
</tr>
<tr>
<td></td>
<td>Interview infected persons &amp; identify persons still at risk</td>
</tr>
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<td><strong>Goal</strong></td>
<td>Prevent, control, and allocate resources</td>
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<tr>
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<td>Prevent sequelae and interrupt chain of transmission</td>
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<td><strong>Example activities</strong></td>
<td>Gather clinical and demographic information from provider and if needed, from patient</td>
</tr>
<tr>
<td></td>
<td>Elicit partner information from index patient, track down partners either in person or online, link to treatment</td>
</tr>
<tr>
<td><strong>Staff</strong></td>
<td>Epidemiologists, surveillance staff, DIS, interns, etc.</td>
</tr>
<tr>
<td></td>
<td>Public health investigators</td>
</tr>
<tr>
<td><strong>Target population</strong></td>
<td>All persons who are infected</td>
</tr>
<tr>
<td></td>
<td>Priority populations (if resources are limited)</td>
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- **30% of all of gonorrhea cases** receive DII/DIS follow-up

- **We are not sure why we need to do this strategy**
All Reported Gonorrhea Cases
(n=1,000)
All Reported Gonorrhea Cases
(n=1,000)

15% known to be HIV-infected based on eHARS

11% known to be pregnant from provider reports
All Reported Gonorrhea Cases
(n=1,000)

15% known to be HIV-infected based on eHARS

Interviewed Gonorrhea Cases
(n=280, 28% of all cases)

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All Reported Gonorrhea Cases
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Interviewed Gonorrhea Cases
(n=280, 28% of all cases)

57%
MSM

43%
heterosexual
All Reported Gonorrhea Cases
(n=1,000)

30% MSM
70% heterosexual

Interviewed Gonorrhea Cases
(n=280, 28% of all cases)

57% MSM
43% heterosexual
All Reported Gonorrhea Cases
(n=1,000)
- 30% MSM
- 70% heterosexual

Random Sample of Gonorrhea Cases
(n=100, 10% of all cases)
- 30% (95% CI: 22%, 39%) MSM
- 70% (95% CI: 60%, 78%) heterosexual
That doesn’t mean the epi data you collected during disease intervention isn’t useful!

- Some portion of the cases targeted for priority investigations will also fall in your random sample
- When analyzing enhanced gonorrhea data, only include data from cases in the random sample
Key points

- Understanding the epidemiology of gonorrhea can strengthen your STD prevention and control program
- Surveillance ≠ Disease Intervention & Investigation (DII)
- You can continue to conduct diseases intervention on priority populations if resources allow
- Unless epi data are collected on all reported cases, the interviewed sample must be randomly selected or else estimates will be biased
Questions you might be asking about this surveillance strategy
Question: What is a random sample and what do we mean by it?

Answer:

- A random sample is defined as a smaller number of cases picked at random from the universe of **ALL** cases reported.
- What makes these cases useful for analysis is that each reported case has the same ‘probability’ of getting picked for the sample.
  - The distribution of characteristics found from investigating just this sample of cases would closely mirror what we would find if we could get the same information from all reported cases.
  - If not, we introduce a **bias** in our sample.
Question: What is a bias? And why does it matter?

- **Answer:**
  - Systematic error that results in an incorrect estimate of an association between exposure and risk of disease

- **There should be NO restrictions on which reported cases gets sampled**

- **Examples:**
  - Choosing to “sample” cases that are only from STD clinics (e.g., one provider type)
  - Only looking at pregnant women or among persons known to be HIV-infected
Question: What is a “well-defined geographic area”?

Answer:

- A well-defined area is a geographic area that may be a state, a cluster of counties (e.g., “20-county metro area”, “3-county Bay area”), a single county, a large metropolitan area, or a city.
  - May be dependent on where most cases of gonorrhea are from.
  - Could also include areas of jurisdiction interest: border communities, college towns, high proportion of international travelers.
- Population should be quantifiable.
  - To allow for calculation of rate.
Question: What is a “high-morbidity” area?

Answer:

- CDC does not have a “cut point” to define this; however, high morbidity can most often mean where most cases are reported from/physically located in a certain geographic area.

- This could be an entire state but more simply, it could also be one to a few counties in a project area, one metropolitan area/city.
Question: What is a “specified period of time”?  

Answer:
- A specified period of time may be the entire year or partial year (e.g., 6 months)
- Data collection for less than 3-months may not be reliable
Question: If we plan to follow up on all cases, do we have to take a random sample?

- If you are able to conduct enhanced surveillance on all reported cases in the well-defined, high morbidity area, you do not need to take a sample.

- Otherwise, taking a random sample is key to ensuring representativeness.

<table>
<thead>
<tr>
<th>Target geographic area</th>
<th>Able to follow up on all cases in area?</th>
<th>Random sample needed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole project area</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Whole project area</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Part of project area (e.g., 3 county area)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Part of project area (e.g., 3 county area)</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Question: How many cases should I sample?

Answer:

- Dependent on your project area’s morbidity and resources, as well as how you plan to use the data
- Will vary across project areas
- Try to aim for complete investigations for at least 5% of all of the morbidity in the selected area
  - Small sample sizes may lead to unstable estimates or wide confidence intervals
- Sampling fraction should account for non-response
Example

- 3-county metro area selected, 6-month time period
- ~5,000 gonorrhea cases reported in a 6-month period

- Goal: 250 completed investigations (5,000*0.05)
- Assuming 50% response rate
  - 250/0.50 = 500 cases selected in random sample
  - The sample fraction would be 10% (500/5,000)
STD Surveillance – Gonorrhea

Ryan Kreisberg
Center for STI Prevention
Maryland Department of Health
3/6/2019
PCHD requirements - Gonorrhea

a) Collect, manage, analyze, interpret and disseminate data on identified cases of gonorrhea, ensuring timely capture of core epidemiologic variables available on laboratory reports: age, sex, county, diagnosing facility type, specimen collection date, and anatomic site(s) of infection.

b) To better understand GC epidemiology, conduct provider follow-up and, if needed, brief patient interviews of a random sample of GC cases from a well-defined high morbidity area or the project area as a whole. Ensure timely and quality capture of core epidemiologic variables including, but not limited to: age, sex, county, diagnosing facility type, specimen collection date, anatomic site(s) of infection, race/ethnicity, gender identity/sexual orientation, sex of sex partner(s), clinical signs/symptoms, pregnancy status, HIV status, partner treatment (i.e., EPT provision), gonorrhea-related sequelae (i.e., presence of pelvic inflammatory disease (PID), disseminated gonococcal infection (DGI), etc.), substance use, date of diagnosis, treatment received (including names and doses of treatment), date of treatment, co-infection with other STDs, and history of GC infection.
Let’s Boil it Down

1. Capture core epidemiologic variables on GC cases in your jurisdiction
2. Capture that information by utilizing:
   • Provider follow-up
   • Patient interviews
   • Other methods of information elicitation specific to your jurisdiction
3. You are **NOT** expected to follow up on all cases!
   • You may select a random sample of GC cases from a well-defined high morbidity area **OR** the project area as a whole.
4. You are also **NOT** expected to do this all year!
Including, but not limited to...

- Substance use
- HIV status
- Partner treatment
- Date of diagnosis
- History of GC infection
- Specimen collection date
- Pregnancy status
- Gonorrhea-related sequelae
- Gender identity/sexual orientation
- Age
- Co-infection with other STDs
- Anatomic site(s) of infection
- Diagnosing facility type
- Clinical signs/symptoms
- Date of treatment
- Treatment received
- Race/ethnicity
- Sex
- Sex of sex partner(s)
Initial Questions for all Jurisdictions

- Will you conduct GC interviews all year or for a shorter period of time?
- Will you elicit interviews from your entire area or will you limit them to select counties/parishes/regions?
- Will you interview all GC cases in that area during that period?

Will you need additional FTEs?
Low Morbidity Example

- 412 cases (70.4/100,000) in 2017
- 2 Investigators
- Interviewed all GC cases
- Conducted by phone unless also new HIV infection
- QA
  - DIS work under SOP which outline all required variables they need to collect
  - Quarterly audit to remedy missing variables
- Prioritize MSM and co-infections
## Project Area Data for Maryland

<table>
<thead>
<tr>
<th>Project Area Population</th>
<th>6,052,177</th>
</tr>
</thead>
<tbody>
<tr>
<td># FTE STD Surveillance Staff</td>
<td>~12</td>
</tr>
<tr>
<td># Reported Cases/Events in 2017</td>
<td>46,453</td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>10,978</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>33,416</td>
</tr>
<tr>
<td>Primary/Secondary Syphilis</td>
<td>573</td>
</tr>
<tr>
<td>Congenital Syphilis</td>
<td>20</td>
</tr>
<tr>
<td>Adverse Outcomes in Adults from Syphilis*</td>
<td>29</td>
</tr>
</tbody>
</table>

*Neurological, ocular, otic, and late clinical manifestations.*
Mid Morbidity Example

• Used PRISM to set a randomized 30% selection of all generated GC field records
  • Many of these turned out not to be cases

• Selected 8 out of our 23 counties based on morbidity and staffing considerations

• Regional DIS were tasked with following up on as many selected GC cases in their jurisdictions as they could before the project ended
High Morbidity Example

- Some lower morbidity areas randomly interviewed GC cases.
- In high morbidity areas, clinic based programs interview cases that were identified as MSM cases through chart abstraction.
- If rectal or pharyngeal site and the patient sex at birth is male, it will be assigned to the jurisdiction for follow-up.
- Interviews either in clinic or conducted over the phone depending on when the infection is identified.
High Morbidity Example Cont.

• DIS were not required to do field visits, but were expected to attempt contact via phone
• Poor race information from labs and treatment is frequently missing
• High volume makes follow-up difficult
• Sites send out line listings to large reporters to try and elicit missing race or other demographic information
Interview Period

• Longer selection/interview period?
  • Take a hard look at your FTEs and evaluate what kind of load they can handle or whether you need to hire additional FTEs to handle interviews

• “Interview season”?
  • How will you handle staffing and prioritization of normal work and GC interviews?

• Set an overall interview completion goal
Selection

- Randomly selecting cases
  - External vs internal

- Algorithm

- Liberal exclusion criteria!
Key Takeaways

1. Know your area - Don’t overcommit
2. Take a good look at your current FTEs and what they can handle
3. Interview as close to encounter as possible
4. Shoot for the moon, land among the stars
Applying Lessons Learned

STD PCHD 2019 Maryland Plan:

• Conduct enhanced GC surveillance in only one high morbidity jurisdiction

• Sample 30-40% of GC cases for a 2-3 month time period

• Use existing staff, including a newly hired DIS during their initial training
Ryan Kreisberg
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410-767-1054

Maryland Department of Health
Center for STI Prevention
Infectious Disease Prevention and Health Services Bureau
Prevention and Health Promotion Administration

https://phpa.health.maryland.gov
Implementation
Implementation strategy over 5 years

- Take an incremental approach based on level of experience with enhanced surveillance

- Methods to select a valid random sample is key and must be developed PRIOR to implementation
Implementation: Year 1

- Might look like this in a project area with no experience:

Step 1. Assess morbidity & determine geographic area

Step 2. Determine timeframe that might seem appropriate

Step 3. Develop & validate methods for taking a random sample of cases
### Conduct Surveillance

#### Strategy 2: Conduct Gonorrhea (GC) surveillance

**2B:** To better understand GC epidemiology, conduct provider follow-up and, if needed, brief patient interviews of a random sample of GC cases from a well-defined high morbidity area or the project area as a whole. Ensure timely and quality capture of core epidemiological variables including, but not limited to: age, sex, county, diagnosing facility type, specimen collection date, anatomic site(s) of infection, race/ethnicity, gender identity/sexual orientation, sex of sex partner(s), clinical signs/symptoms, pregnancy status, HIV status, partner treatment (i.e., EPT provision), gonorrhea-related sequelae (i.e., presence of pelvic inflammatory disease (PID), disseminated gonococcal infection (DGI), etc.), substance use, date of diagnosis, treatment received (including names and doses of treatment), date of treatment, co-infection with other STDs, and history of GC infection.

#### Objective 2B-1

**Annual Objective:** Describe one objective for this strategy, using the S.M.A.R.T. objectives format.

**By August 2019,** identify key stakeholders and prepare a validated GC sampling protocol.

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>Activity Timeframe</th>
<th>Output Indicator</th>
<th>Assigned To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review 2015–2018 GC morbidity data to identify high-morbidity areas of interest (based on case counts, case rates, and populations of interest).</td>
<td>Jan-Feb 2019</td>
<td>Well-defined geographic areas to be targeted for enhanced GC surveillance</td>
<td></td>
</tr>
<tr>
<td>Establish cross-sector enhanced GC surveillance workgroup that includes local health jurisdiction leadership in prioritized areas, DIS, epidemiologists, and data management/IT staff.</td>
<td>Feb-Mar 2019</td>
<td>Workgroup established and routine meetings scheduled</td>
<td>PH Educator (TBD)</td>
</tr>
<tr>
<td>Develop written protocols for 1) random sampling methodology, 2) data collection, and 3) data management.</td>
<td>Apr-Jun 2019</td>
<td>Draft protocol approved by STD program leadership and workgroup</td>
<td>Prog Director</td>
</tr>
<tr>
<td>Conduct a dry run of sampling protocol, assess if sampled cases are representative of all cases in the prioritized areas by age and gender, and modify protocol if needed.</td>
<td>July-Aug 2019</td>
<td>Finalized sampling protocol with validated sampling methodology for HD approval.</td>
<td>Epi</td>
</tr>
</tbody>
</table>
Implementation: Year 2

Step 1. Gain local support

Step 2. Finalize data collection tools & identify/train staff

Step 3. Modify surveillance info systems to store data

Step 4. Pilot investigations
Implementation: Years 3 - 5

Step 1. Conduct investigations

Step 2. Conduct non-response analyses to monitor implementation

Step 3. Analyze data to generate representative estimates

Step 4. Ongoing implementation & QA
Additional Information
Question: Do we need to interview patients if we already follow-up on each case with the provider?

- **Questions to ask:**
  - Are all core variables included on the provider follow-up?
  - For variables that are included, is the information complete?
  - For providers that respond, are they representative of all providers?

- If the answer to any of the above questions is no, *then patient interviews are likely be needed*
  - Interviews can be brief, over the phone, etc.
Question: Gonorrhea epidemiology varies in my project area. Won’t the estimates from just one high-morbidity be biased?

**Answer:**

- Only if you try to generalize the findings from that one area to your entire project area
- Findings from this activity will inform your understanding of the gonorrhea epidemic in that one area
- Sampling from your entire project may be most useful to your program
  - Starting with a well-defined area may help you refine your methods
  - Expand to other areas in future years
Question: How and when do I pick a random sample of cases?

- **Answer:**
  - Best practice is to choose cases as close as possible to the initial report and to capture the result permanently in the electronic case record
    - Use random number functions built into data management system
    - Create variable/column in data tables
    - Assure random number is ran and captured ONCE
  - Ask for help!
    - SSuN protocol and Best Practice for Random Sampling
    - User groups
    - More guidance in a CSTE tool-kit
Question: How do I ensure my random sample is similar and representative of ALL cases?

- **Answer:**
  - A best practice is to regularly compare the distribution of all cases in your sample by sex, age, geographic area, etc. to monitor the representativeness of the sample.
  
  - Small differences (<2%) are expected and may be random variations.
  
  - If there are significant differences between the sample cases and all cases, re-evaluate your jurisdiction’s process to assure all steps are working properly.
Question: I am a current SSuN site. Do I have to do this?

Answer:

- If you are a current SSuN site, you are funded through September 30, 2019 for enhanced surveillance through SSuN.

- Because SSuN cycle IV recipients have not yet been identified, you should have generated a workplan for enhanced surveillance strategy 2b for the 4th quarter of FY2019.

- If you are NOT funded in the SSuN cycle IV, you will need to implement this objective starting October 1, 2019.
Question: I am applying to be a SSuN site. Do I have to do this?

Answer:

- If you are applying to become a SSuN jurisdiction, you will still need a workplan for enhanced surveillance.

- The 4th cycle of SSuN will not be awarded until October 1, 2019 and your project area should be working to implement enhanced surveillance before this time.
Question: How do we or will we report these data to CDC?

Answer:

- Most of the variables are in the NETSS record layout Version 5.0 and the STD Message Mapping Guide (MMG)

- Age
- Sex
- County
- Diagnosing facility type
- Specimen collection date
- All anatomic site(s) of infection
- Race/ethnicity
- Gender identity/sexual orientation
- Sex of sex partner(s)
- Clinical Symptoms and signs (incl length of time)
- Pregnancy status
- HIV status
- Previous history of GC
- PID
- Disseminated gonococcal infection
- Treatment provided (incl name and dose)
- Date of treatment
- Co-infection with other STDs
- History of substance abuse
- Partner treatment (e.g., EPT provision)
Question: How do we or will we report these data to CDC?

Answer:

- There is a new variable in the STD MMG and NETSS record layout Version 5.0 [CASE SAMPLE] that will allow you to note whether the case was randomly selected for enhanced surveillance.

- Standardized reports & evaluation
  - Progress reports (APRs, IPRs)
  - Workplan updates
  - Targeted Evaluation Plans (TEPs)
Question: I can’t modify my surveillance information system to include these other variables. What do I do?

**Answer:**

- This will be a challenge in some project areas
- Most of the enhanced variables are in the current NETSS record layout and STD MMG
- Participate in user group calls
- Alternative → create a separate, locally-maintained database (e.g., Access, Excel)
  - Still need to get information into format for reporting to CDC
I hear you. This sounds important but our project area just can’t do this.

- **Answer:**
  - This is a required activity for all project areas under the new STD PCHD NOFO

  - If you feel that you have questions, we encourage you to reach out to your prevention specialist as soon as possible
Question: I hear you. This sounds important and our project area is excited to do this! Can we get help?

Answer:
- YES!!!
- Talk to your prevention specialist
- Be on the look out for a tool-kit from CSTE
- Participate in your project area’s user group calls
- Participate in CSTE surveillance coordinator calls
Surveillance-related resources

- STD Surveillance Report
  - https://www.cdc.gov/std/stats/default.htm

- STD Surveillance Coordinator’s quarterly calls
  - Contact Ashley Vineyard (avineyard@cste.org) to be added to list

- NCSD User Groups (Maven, PRISM, NBS)
  - Contact Marvin Fleming (mqf6@cdc.gov) to be added
Enhanced Surveillance TA Resources

- PCHD Technical assistance (TA) note on enhanced surveillance

- STD Surveillance Network (SSuN) protocol
  https://www.cdc.gov/std/ssun/default.htm

- CSTE Enhanced Gonorrhea Surveillance Tool Kit (fall 2019)

- Investigating options for peer-to-peer TA
STD Surveillance Network Notice of Funding Opportunity (SSuN NOFO: PS19-1907)

- Two (identical) informational webinars: 3/12 @ 1 pm EST & 3/19 @ 3:30 pm EST

- Applications close on 5/15/2019

- [https://www.cdc.gov/std/funding/ssun/](https://www.cdc.gov/std/funding/ssun/)
Acknowledgements

- Lizzi Torrone
- Mark Stenger (SSuN)
- Hillard Weinstock
- Jennifer Fuld
- PDQIB Prevention Specialists
- Marcia Pearl (MD Department of Health)

- Graphic icons taken from https://thenounproject.com/
1. Questions about enhanced surveillance during this webinar?

*Please use chat box*

2. Questions about enhanced surveillance after this webinar?

*Email your project area’s prevention specialist*

For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.