

STUDENT VERSION

*Cases in Population-Oriented
Prevention
(C-POP)*

*Sexually Transmitted Disease
(STD) in Adolescents*

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Abstract:

Sexually transmitted diseases (STD) are common among adolescents. This case focuses on the population-based prevention of sexually transmitted diseases. The case begins with clinical, diagnostic, and laboratory management of an adolescent female diagnosed with gonorrhea. Students then examine how the diagnosis of an STD can be used as an opportunity to provide preventive care and counseling on safer sexual behaviors. Questions addressing HIV testing and counseling are included in this section. Students proceed to explore how the diagnosis and reporting of an STD calls for interaction, such as partner notification, between clinical providers and public health departments. Finally, students are provided with actual information from local focus groups on attitudes and behaviors of high-risk adolescents. At the conclusion of the case, they are asked to interpret the data and formulate strategies to decrease gonorrhea rates in the community.

References:

- Centers for Disease Control and Prevention. 2002 Guidelines for Treatment of Sexually Transmitted Diseases. MMWR 2002; 51 (No. RR-6).
<http://www.cdc.gov/std/treatment/default.htm>
Following sections:
 - “STD/HIV Prevention Counseling”, page 4;
 - “Partner Notification”, page 4;
 - “Reporting and Confidentiality”, page 4-5;
 - “Special Populations – Pregnant Women”, pages 5-6;
 - “Special Populations – Adolescents”, pages 6-7;
 - “Gonococcal Infections” through “Disseminated Gonococcal Infections and Gonococcal Scalp Abscesses in Newborns”, pages 36 – 40.
- Fishbein M, Wolitski RJ, Doll LS. Behavioral interventions for sexually transmitted disease prevention at the individual level. In Holmes KK, Sparling PF, March P, et al. (Eds); Sexually Transmitted Diseases (3rd Edition). New York: McGraw Hill, 1999.

Objectives: At the end of this case, the student will be able to:

- Evaluate adolescents with sexually transmitted diseases
- Select laboratory tests important to STD diagnosis
- Counsel adolescents for HIV testing
- Report diseases to public health authorities
- Provide partner notification
- Identify risk factors (including social and demographic markers) associated with STD
- Employ preventive strategies for adolescent risky behavior
- Develop screening strategies to identify at-risk individuals and populations.
- Apply behavioral methods in clinical situations
- Assess population data and identify reporting biases

Section A: Evaluation, Treatment, Counseling, and Reporting of Communicable Diseases

Case scenario: SR is a 16-year-old female who presents to her private gynecologist's office. She complains of abdominal pain, perineal itching, and vaginal discharge for 7 days.

Question:

1. **What are the steps to evaluate this patient?**

History (including sexual history):

Physical Exam:

Laboratory:

Laboratory results show the following: DNA probe results positive for *Neisseria gonorrhoea* and *Chlamydia trachomatis*.

Questions:

2. **What are the next steps in the management of this patient? Consider evaluation, treatment, further testing, and related recommended preventive measures.**
3. **What sequelae of gonococcal and chlamydial infections do you discuss with this patient?**
4. **How effective is medical treatment of an individual with gonococcal and chlamydial infection in the clinical setting? What may lead individuals with these infections to test positive for either infection again?**

Section B: Human Immunodeficiency Virus and Behavioral Counseling

Human immunodeficiency virus (HIV) has become a major public health concern over the last twenty years. Counseling and testing for HIV are important components for the control of this infection. HIV infection is now a reportable disease in New York State as well as in many other states.

Questions:

5. **Do you advise HIV counseling for SR? If so, what aspects do you cover with patients during the counseling sessions? (See “Informed Consent to Perform an HIV Test”. New York State Department of Health, 2002 - <http://www.health.state.ny.us/nysdoh/hivaid/hivpartner/infoprov.htm>).**
[Attachment A].

6. **What other diseases are physicians required to report in New York State? (Refer to New York State Department of Communicable Disease Reporting Requirements - <http://www.health.state.ny.us/nysdoh/provider/disease.htm>.)**
[Attachment B].

7. **What are the benefits of reporting diseases?**

8. **While counseling your patient, do you inform her about your state reporting requirements and the implications of them? Do you take a neutral stance toward testing, or do you recommend testing? (Refer to “Informed Consent to Perform an HIV Test”. New York State Department of Health, 2002 – <http://www.health.state.ny.us/nysdoh/hivaid/hivpartner/infoprov.htm>).**
[Attachment A]

Behavioral Counseling

Behavioral interventions can be implemented in clinical practice or in public health settings to attempt to change certain behaviors such as smoking, unhealthy diets, or, in this case, risky sexual behaviors. The Stages of Change behavior theory postulates that the process of behavioral change occurs along a continuum of five fundamental stages. Individuals may move through the stages with multiple relapse events, rather than in a progressive pattern. The model is reviewed in the following table with the example of a person who has multiple sexual partners and who does not use condoms consistently. In the situation presented in this case, a health care provider can use this approach to identify SR's stage of readiness and to identify which behavior can be modified to decrease the risk of STDs, such as using condoms consistently. Various behavioral counseling techniques could then be employed to try to move the patient to the next step.

Once the maintenance stage has been achieved for the first targeted behavior, the same technique can then be used to target a second behavior, such as decreasing the number of sexual partners.

Table 1: Stages of Change Model*

Stage	Example with Risky Sexual Behavior (Someone Who Currently Has Multiple Sexual Partners)
Precontemplative:	Multiple partners in past 3 months, sees no need to use condoms consistently
Contemplative:	Multiple partners in past 3 months; sees need to use condoms consistently but does not do so
Ready for Action:	Multiple partners in past 3 months, ready to start using condoms consistently or at least trying it for < 3 months
Action:	Multiple partners in past 3 months; using condoms consistently for 3-6 months
Maintenance:	Multiple partners in past 3 months; using condoms consistently for > 6 months

*Adapted from Cury-Doniger et al., "Use of Stage of Change (SOC) to Develop an STD/HIV Behavioral Intervention: Phase 1. *AIDS Patient Care and STDs*. 1999; 13; 493-502.

Section C: Partner Notification/Domestic Violence

You have now successfully diagnosed and treated a sexually transmitted disease in your adolescent patient. You have addressed the concern for HIV infection through counseling and possibly testing. In addition, you may have addressed the need for behavioral counseling. Before your patient leaves the office, you will also need to initiate the partner notification process. Partner notification begins with eliciting information from the index case about all sexual contacts. Individuals who are identified as being contacts can then be reached, interviewed, and offered testing. The name of the index case is not revealed to the contacts. Refer to Figure 1 for an example of partner notification in Onondaga County.

Questions:

- 1. Why is partner notification important?**
- 2. If you worked for the partner notification division of your local health department, how would you identify and locate sexual partners of this patient in the community?**
- 3. When a partner is located, how would you inform the partner that he/she might have been exposed to an STD? What would you recommend to the partner?**
- 4. What are pitfalls related to the partner notification process?**

One of the greatest concerns with partner notification is the potential for domestic violence. The following is a summary of points taken from the New York State Department of Health Protocol for domestic violence screening of HIV infected individuals in regard to partner notification. (You can view the protocol at <http://www.health.state.ny.us/nysdoh/rfa/hiv/protocol.htm>.)

- Step 1:** Discuss domestic violence before partner names are elicited
- Step 2:** Screen for risk separately for each partner (i.e., on a partner-by-partner basis)
- Step 3:** Provide referral(s) for domestic violence services and discuss release form
- Step 4:** Make determination(s) regarding HIV partner notification
- Step 5:** Discuss and implement partner notification option(s)
- Step 6:** Collaborate with public health partner notification staff (if elicitation is being done by private physician, and not local health department staff)
- Step 7:** Revisit partner notification and domestic violence risk throughout the continuum of care

Partner notification often reveals complex sexual networks in which many people need to be identified, notified, and possibly brought into a clinic for testing and treatment. SR reveals that she has had two sexual partners recently. The following information was obtained after interviewing SR and both of her sexual partners, LS and CR.

- LS: 30-year-old male in jail for last 2 months. States he has one partner, SR. Previous history of gonococcal infection in 1989. DNA probe assay results are negative for *N. gonorrhoea*.
- CR: 23-year-old male referred to OCHD STD clinic. He has a urethral discharge. DNA probe assay results are positive for *N. gonorrhoea*. He names two contacts, SR & JD.
- JD: 18-year-old female referred to STD clinic. Previous history of chlamydial infection. G1P1. Clinical exam revealed thin gray-white cervical discharge. DNA probe assay results are positive for *N. gonorrhoea*. She names CR as her only partner.

Question:

- 5. What are some of the difficulties inherent in partner notification?**

Section D: The Community

You become very interested in the problem of sexually transmitted diseases in your community. The Onondaga County Health Department is able to provide you with more information, including Table 2 below.

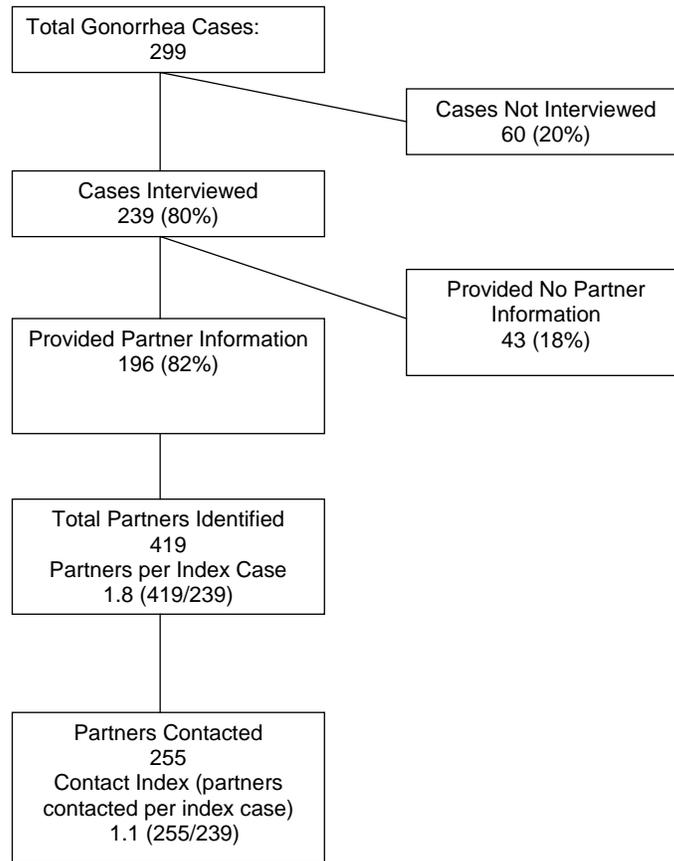
Table 2. Demographic Summary: Selected Areas in Onondaga County (All information from 2000 Census Data except GC rates which are from Onondaga County Health Department)

Characteristic	Syracuse	DeWitt (Suburb of Syracuse)	Skaneateles (Suburb of Syracuse)	Onondaga County
Rates of Gonococcal infection (per 100,000 population)	395.8	16.6	0.0	129.4
% Male	47.1	47.8	48.8	47.8
% Female	52.9	52.2	51.2	52.2
Median age (years)	30.5	41	42.3	36.3
% Family households	51	64.6	72.3	63.7
% Owner-occupied housing units	40.3	71.6	82.0	64.5
% With < 9 th grade education	7.1	2.6	1.7	3.8
Median household income (\$)	25,000	46,759	57,550	40,847
% Below poverty level	21.7	4.7	1.8	8.6

Questions:

- 1. Using the information in Figure 2, describe the distribution of gonococcal infections and identify those areas with the highest rates of this infection.**
- 2. How might reporting bias influence the distribution of these cases?**
- 3. Referring to Figure 3, why are the reported gonococcal infection rates in young females higher than in young males?**
- 4. Using the information available in Table 2, what factors are associated with the high rate of gonococcal infection in this community?**

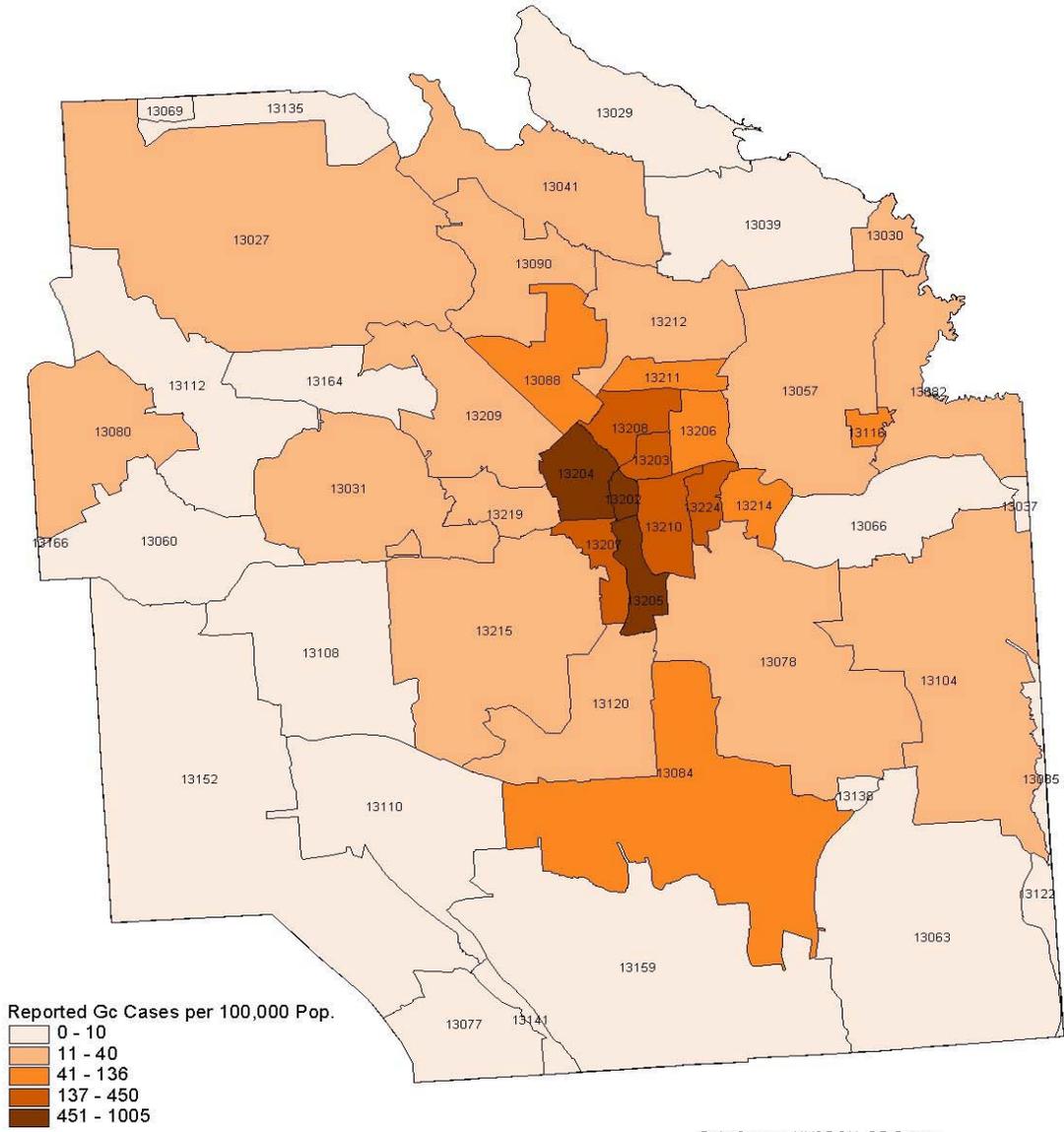
Figure 1: Gonorrhea Treatment and Partner Notification Activity, Onondaga County, New York (Cases Closed from 1/1/02- 3/31/02)



Data source and preparation by: Onondaga County Health Department, Communicable Disease Bureau and Surveillance and Statistics Bureau

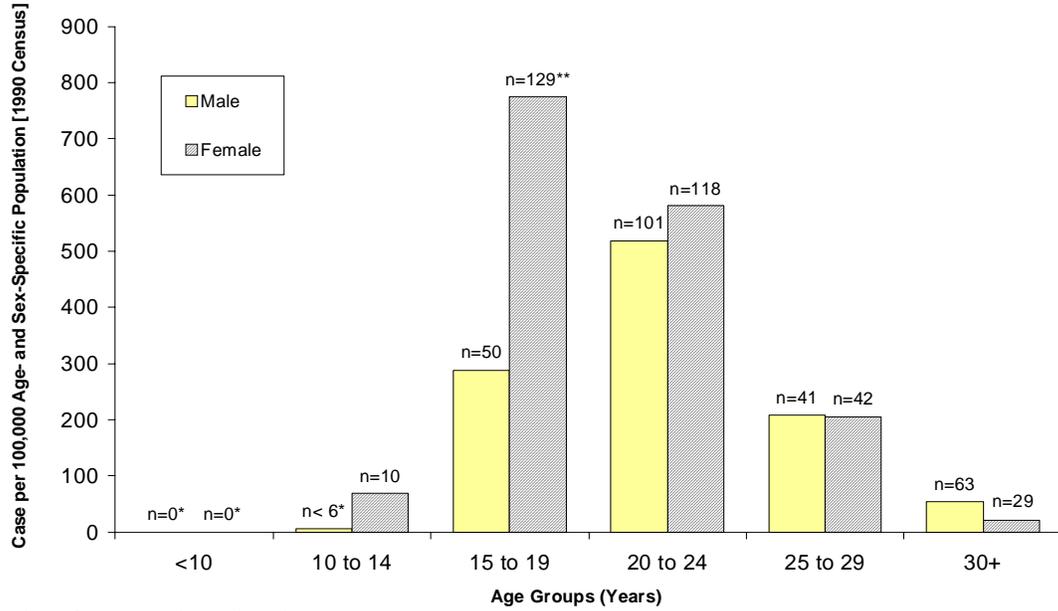
Figure 2:

Gonorrhea Rates by Zip Code Onondaga County, New York, 2000 - 2001



Data Source: NYSDOH, CD Bureau
Prepared by: OCHD, Surveillance and Statistics / DAC
gc 2001 maps.apr, 6/11/02

Figure 3: Gonorrhea Rates by Age and Sex, Residents of Onondaga County, New York, 2000



** Numbers of cases are shown above bars.

* Rates based on small numbers are unstable and should be used with caution

Table 3. Results of a Self-Administered Survey of Focus Group Participants

Question		Number (percent)
Did you use alcohol or drugs the last time you were sexually active? (n=49)	Partner, not I	2 (4)
	I, not partner	7 (14)
	Both	13 (27)
	Neither	27 (55)
Have you ever received drugs for sex? (n=44)	Yes	2 (5)
	No	42 (95)
Have you ever received money for sex? (n=45)	Yes	5 (11)
	No	40 (89)
Age at first intercourse (years)? (n=54)	≤ 11	20 (37)
	12-14	26 (48)
	15-16	6 (11)
	≥17	2 (4)
How many partners have you had in the last six months? (n=44)	1	14 (32)
	2	8 (18)
	3-4	13 (30)
	5-6	4 (9)
	>6	5 (11)
Frequency of condom use (n=53)	Almost never or never	14 (26)
	Sometimes	19 (36)
	Every time	20 (38)

Data Source: Onondaga County Health Department, 1997

Table 4: Number of Focus Groups Discussing Specific Issues*

What are the teen health problems that concern you the most?

- HIV/AIDS 5/5
- Chronic diseases (e.g. diabetes) 3/5
- Violence 1/5
- Pregnancy 3/5
- STDs 2/5

Whom do you turn to for help or advice?

- Health care provider (doctor or nurse) 5/5
- Clinics 4/5
- Parents or family members 5/5
- Teachers 2/5

What comes to your mind when your hear ‘sexually transmitted infections’?

- Teens need to worry about STDs 5/5
- Birth control or contraceptives protect against STD 2/5
- Withdrawal can protect against STD 2/5
- Only worried about STDs that cannot be cured 2/5
- Can tell if someone has an STD by smelling or touching a female’s genitals (male response) 1/5
- A male can tell if a woman has an STD by inserting some of his own earwax into her vagina: if infected, she will feel a burning sensation 1/5
- Can use Vaseline or ointments with condoms 1/5
- “A person with an STD can get a bad reputation, causing them misery” (female response) 1/5
- “I would leave, beat, or kill (a partner) if I discovered that she had an STD and I did not” (males) 1/5

Where does sex occur?

- Neighborhood stores 5/5
- Motels 4/5
- Schools 2/5
- Houses, cars, and parks 5/5
- Malls 2/5
- “Labs”, abandoned houses 1/5

Are there any reasons that a teen would not use a condom when having sex?

- Sex feels better without a condom 5/5
- Being drunk or high at the time 4/5
- Not having a condom with them at the time 3/5

How can teens improve their chances of not getting an STD?

- Abstinence and safer sex 5/5

Participants expressed knowledge of the following:

- What condoms are 5/5
- Why to use condoms 5/5
- Where to obtain free condoms 5/5
- Sex with one person reduces STD risk 2/5
- How to use condoms 5/5
- Where to buy condoms 5/5
- Condoms need to be used every time 5/5
- Abstinence from drugs and alcohol reduces STD risk 1/5

What behaviors put you at risk for getting an STD?

- Having unprotected sex 5/5
- Using alcohol 5/5
- Using marijuana 2/5
- Rape in jail 1/5
- Having sex with multiple partners 5/5
- Sex for drugs, money, clothing, sneakers 5/5
- Using other drugs 2/5

Where is the ideal place for a clinic?

- Downtown 4/5
- Each side of town 4/5
- Do not want to go where everyone knows me 3/5

How can the clinic be made easier for you to use it?

- Make it a general health clinic 3/5
- Ensure confidentiality 3/5

*Five focus groups were held. The numerator indicates the number of groups in which this item was discussed.
Data Source: Onondaga County Health Department, 1997