Using Surveillance Data to Evaluate Serosorting Behavior in Young Men with Early Syphilis

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Presentation Goals

- Define early syphilis and relationship with HIV
- Define HIV serosorting
- Discuss national, state and local trends regarding early syphilis in young men
- Present results of serosorting behavior within group of young men with syphilis in Maricopa County
- Discuss public health implications and recommendations
Study Objective

- To describe the epidemiology of young men infected with early syphilis
- To investigate whether young men infected with early syphilis were:
  - Infected with HIV and report having sex with HIV- partners
  OR
  - Not infected with HIV and report having sex with HIV+ partners
Early Syphilis & HIV

Primary, secondary and early latent < 1 year
Human immunodeficiency virus (HIV)
Early Syphilis

- Three stages
  - Primary
  - Secondary
  - Early latent (< 1 year)

- Syphilis is a sexually transmitted, genital ulcer disease
Primary Syphilis - Chancre

Penile

Anus
Secondary Syphilis - Rash

- Palmar or plantar
- Condylomata lata – highly infectious
What is serosorting?
Serosorting is:

- Limiting unprotected anal intercourse to partners with the same HIV status as their own
- A strategy some individuals use to prevent HIV transmission or acquisition

Serosorting:

- HIV+ → HIV+
- HIV- → HIV-

Not serosorting:

- HIV+ → HIV-

Unknown serosorting:

- HIV+-? → HIV?
CDC does NOT recommend serosorting as a safer sex practice.

- Outdated HIV test/status
- Assumptions regarding status
- Lack of disclosure
- Misrepresent status
HIV Risk and Seropositioning

- Unprotected anal intercourse = High risk
  - HIV-, receptive (bottom) patient = highest risk of acquisition
  - HIV+, insertive (top) patient = highest risk of transmission
- Vaginal intercourse = High risk for women
- Oral intercourse = Higher risk of non-HIV STD transmission (syphilis); decreased risk of HIV transmission or acquisition
Epidemiology

Primary & Secondary Syphilis
HIV
Young men who have sex with men (MSM) as well as black and Hispanic MSM are increasingly affected by P&S syphilis.
HIV Incidence in Maricopa County, AZ
HIV Incidence in Maricopa County, AZ
MSM represent the majority of HIV/AIDS cases (AZ)
Arizona Emergent HIV & AIDS Cases by Age Group at Diagnosis, 2004-2008
% of HIV infected Persons with a Reported History of Syphilis (AZ)
% of Persons with Early Syphilis Diagnosis with Prior HIV Diagnosis (AZ)
About 50% of all early syphilis cases in MSM are co-infected with HIV (Maricopa County)
Methods

Data Sources
Population Criteria
Evaluating Serosorting
Methods

- Surveillance data sources
  - Syphilis interview records of all patients meeting selection criteria
  - Comprehensive review of patient medical charts
  - County and state HIV databases
  - County field records (paper & electronic)
  - Arizona State STD Database
Syphilis Partner Services

- All reactive RPR tests reported to Maricopa County Public Health
- Infected individuals receive standard treatment (2.4 MU IM of Benzathine penicillin) and an interview
- Interview
  - Symptoms for staging
  - Risk assessment
  - Partner elicitation to avoid re-infection and ongoing community transmission
Population Criteria

- Original patients selected from January 2009 – December 2011
- 24 years of age or younger
- Male or transgender
- Received a diagnosis of early syphilis
- All partners of these patients as elicited during syphilis partner services*

*Based on data available as of 5/2012
Evaluation of Serosorting

- Elicited partners of original patients
- Serosorting = All elicited partners of concordant HIV status as the original patient
- Not serosorting = One or more elicited partners of discordant HIV status as the original patient
- Unknown serosorting = One or more partners of unknown status, either exclusively or in addition to partners with concordant status
- Excluded: Patients who did not provide any partners
Findings

Demographics
Results by HIV Status
Key Serosorting Findings
Demographics

- 172 cases meeting the selection criteria within the study period (09 – 11)
- 164 original patients (8 re-infections)
- 71% men who have sex with men
- 75% identify as a racial/ethnic minority
- 30% HIV+ as of 5/2012
Results: HIV + Patients
Results: HIV + Patients

49 HIV+ MSM with syphilis
Results: HIV + Patients

49 HIV+ MSM with syphilis

- 10 (20%) had only HIV+ partners
- 14 (29%) had ≥1 HIV- partners
- 25 (51%) had ≥1 HIV ? partners
Results: HIV + Patients

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Possibly serosorting
Results: HIV+ Patients

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- Possibly serosorting
- Probably not serosorting
Results: HIV + Patients

49 HIV+ MSM with syphilis

10 (20%) had only HIV+ partners
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14 (29%) had ≥1 HIV- partners
Probably not serosorting

25 (51%) had ≥1 HIV ? partners
Unknown if serosorting
Results: HIV- Patients
Results: HIV- Patients

111 HIV- MSM with syphilis
Results: HIV- Patients

111 HIV- MSM with syphilis

- 42 (38%) had only HIV- partners
- 12 (11%) had ≥1 HIV+ partners
- 57 (51%) had ≥1 HIV? partners
Results: HIV- Patients

111 HIV- MSM with syphilis

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Results: HIV- Patients

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Findings

- HIV+ patients were less likely to report serosorting compared to HIV- patients.
- Demographics such as age and race are not associated with serosorting.
- Behavioral risks not associated with serosorting:
  - Internet use
  - Anonymous sex
  - Incarceration
So What?

Interpretation of Findings
Recommendations
Implications for Public Health
Limitations
Interpretation of Findings

- Unprotected sex among high risk young HIV infected and uninfected MSM
  - Evidence = syphilis, history of other STIs
  - Unprotected anal intercourse (UAI)
- HIV exposure of partners through limited serosorting
- Limited disclosure of HIV status among partnerships
- Opportunities for HIV transmission among this group of young MSM
Recommendations

- Routine testing of HIV, syphilis and other STDs
  - CDC recommends MSM be tested at least once a year
- HIV case management for patients not in care
- Prevention counseling for HIV+ to avoid STD re-infection and transmission of HIV to HIV-uninfected partners
  - Type of intercourse
- STD provider inquiry about whether patients are on HAART
- Collection of HIV status of patients and partners during interview
  - Clearly document date of last HIV test and result
Public Health Implications

- Prevention efforts should be directed towards HIV+ men who show evidence of unprotected intercourse, and young HIV- MSM who acquire syphilis

- Early Antiretroviral Therapy
  - Prevents HIV-1 infection in serodiscordant couples
  - Adherence implications
  - Prolongs life, but widens window of HIV transmission if non-adherent

- Truvada for prevention purposes in high risk populations (PREP)
Limitations

- Source of HIV infection is unknown
- Limited partner information
  - Unable to locate
  - Refused examination
  - Insufficient info given by original patients
- Serosorting intentions
- May not be generalizable
- Partners may have tested negative somewhere else
- Care outcomes not systematically documented
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Questions?