

***Chlamydia trachomatis* infection in women who have sex with women attending family planning, STD and other clinics in the Pacific Northwest**

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# Background

- Chlamydia trachomatis (CT) remains the most commonly reported notifiable disease (DF prefers “infection” rather than disease) in the U.S.
- In 2006, there were 1,030,911 reported cases of CT reported by the CDC
- Since 1993, the CDC has recommended screening all sexually active females 15-19 years of age

# Background

- Starting 1988, widespread screening and treatment for CT began in Alaska, Idaho, Oregon and Washington (U.S. Public Health Service Region X)
- All sexually active women age <25 y screened at 150 family planning clinics (~50,000 per year)
- Implemented the first CT prevalence monitoring surveillance system using standardized testing and data collection
- This became the basis for the Infertility Prevention Program (IPP)

# Background

- According to the 2002 National Survey of Family Growth, 11 percent of women between the ages of 15 and 44 reported a history of same sex sexual behavior in their lifetime.

Mosher, W et al. Sexual behavior and selected health measures: men and women 15-44 years of age, U.S. 2002. Centers for Disease Control and Prevention. National Survey of Family Growth 2002. Division of Vital Statistics. (362); 1-56. 2005

# Background

- 4% of females 15-44 y reported sexual experience with another female *in past 12 months*
- 3% of females 15-44 y reported both female and male sexual partners *in past 12 months*
- Despite the fact that same-sex behavior among women is relatively common, few broad-based data (clinic, community, population level) are available that describe STD prevalence, including CT, among WSW in the US.

# Objective

- To describe the prevalence of and risks associated with chlamydial infection among women who report sex with women (WSW) and women who report sex with both men and women (WSMW) attending family planning clinics from 1997 and 2005

# Methods

## Inclusion criteria:

- Female sex age 15-24 reporting same sex behavior on a routine data collection form

## Measures

The same data form was used by all clinics to collect individual-level measures

- Demographics—age, race, ethnicity
- Self-reported sexual risk behavior history, past 60 days—new sex partner (SP), multiple SP, symptomatic SP
- CT exposure or infection in past year
- Signs of cervicitis and PID
- CT test result and type

# Methods

- Assessed trends over time in population characteristics and factors associated with CT
- Calculated CT positivity by demographics, behavioral risk history, clinical findings, and area-based socioeconomic measures (ABSM)
- ABSM captures more than individual level data, including income, rural versus urban status, and educational level
  - attempts to account for larger social context (see Fine D, abstract no. --)

# Sample Size

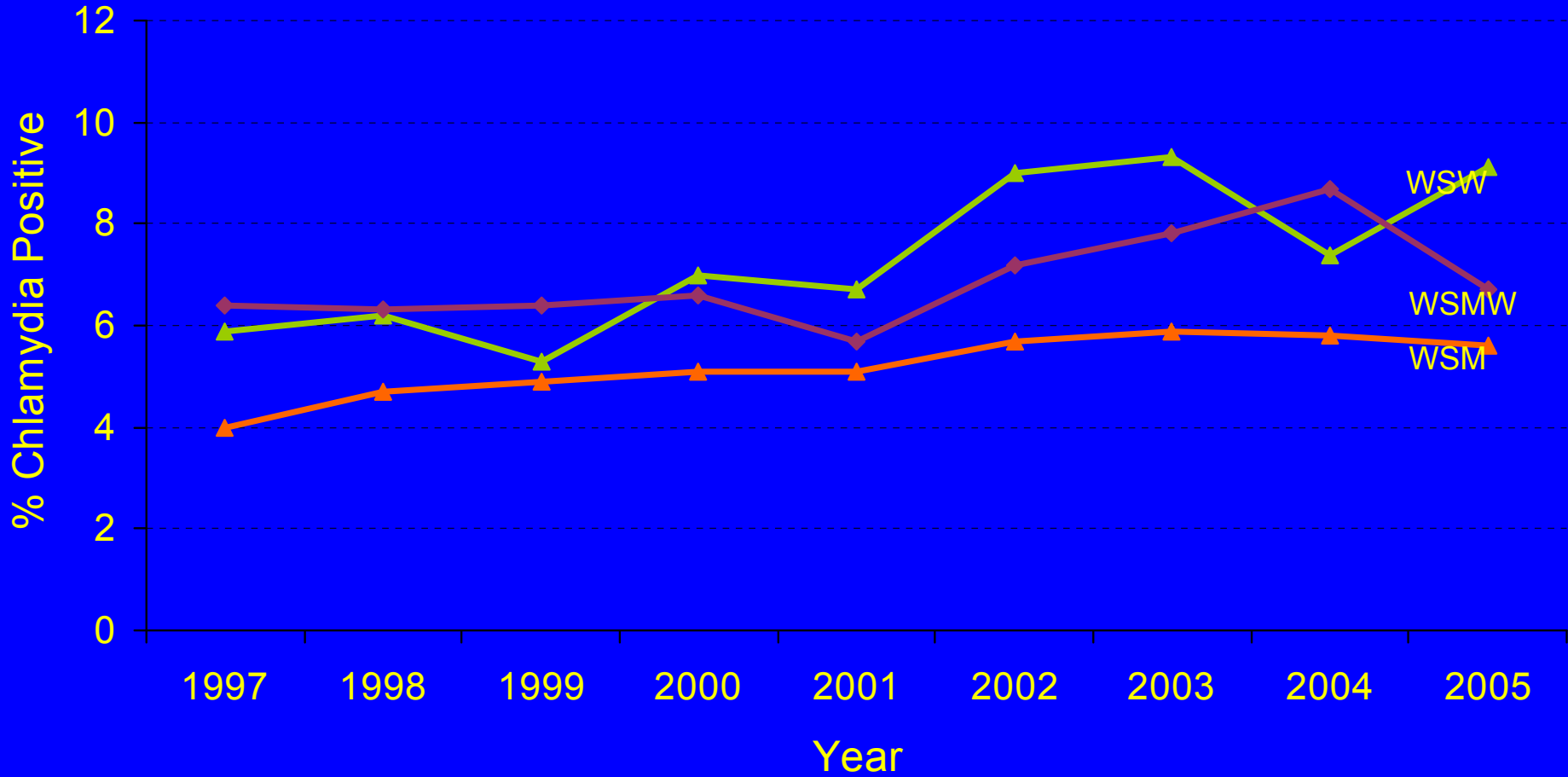
- Total of -- test records were considered
- Women who report sex with men (WSM) represented almost 600,000 individuals
- 9,510 tests were associated with report of sex with a woman
  - WSW represented 5,801 (61%)
  - WSMW represented 3,709 (39%)

# Results

## Chlamydia Positivity

WSW	N=407	7.1%
WSMW	N=257	7.1%
WSM	N=31,341	5.3%

# CT trends\* in 15-24 year old women in FP clinics: Region X, 1997-2005 among WSM, WSW and WSMW



\*Positivity unadjusted for test type

# Individual level risk factors and CT

WSM  
N=599,942

WSW  
N=5,801

WSMW  
N=3,709

Characteristic	Percent	% CT +	Percent	% CT +	Percent	% CT +
<b>AGE</b>						
15-17	21	6.0	19	7.9	22	8.7
18-19	26	6.0	26	7.7	22	8.7
20-24	52	4.6	55	6.6	56	5.8
<b>RACE</b>						
NH White	76	4.6	73	6.4	82	6.4
NH Black	4	<b>10.1</b>	8	<b>9.5</b>	6	<b>10.1</b>
AI/AN	1	9.5	1	14.3	2	11.3
API	4	7.1	4	7.3	3	5.4
Hispanic	12	<b>6.1</b>	12	<b>9.1</b>	6	<b>12.7</b>

# Individual level risk factors and chlamydia

WSM  
N=599,942

WSW  
N=5,801

WSMW  
N=3,709

Characteristic	Percent	% CT +	Percent	% CT +	Percent	% CT +
Behavioral Risk, 1+	25	8.5	34	11.0	57	9.0
CT exposure	1	<b>26.2</b>	5	<b>34.5</b>	3	<b>27.4</b>
Clinical signs	7	<b>13.9</b>	7	<b>14.3</b>	9	<b>16.5</b>
CT in past yr	4	<b>12.2</b>	6	<b>10.7</b>	6	<b>12.0</b>
Test type, NAAT	50	6.4	48	9.2	57	7.7

# Specific behavioral risk factors and chlamydia

WSM  
N=599,942

WSW  
N=5,801

WSMW  
N=3,709

Characteristic	Percent	% CT+	Percent	%CT+	Percent	%CT+
New SP, past 60 days	22	7.9	27	9.6	50	9.0
>1 SP, past 60 days	9	9.7	15	10.2	39	9.1
Symp. SP, past 60 days	2	19.6	7	21.2	8	17.1

## Aggregate-level risk factors and chlamydia - WSM

Characteristic	Percent	% CT+
<b>Household median income</b>		
<\$30,000	5%	5.3%
\$30,000 thru \$34,999	19%	5.4%
\$35,000 thru \$39,999	22%	5.2%
\$40,000 thru \$44,999	20%	5.4%
\$45,000 thru \$49,999	9%	5.5%
\$50,000 thru \$59,999	17%	5.3%
\$60,000+	8%	5.1%
<b>% Below 100% federal poverty level</b>		
0% - 19%	91%	5.3%
≥ 20%	9%	5.6%
<b>Household median income, quartiles*</b>		
Highest 3 quartiles	87%	5.3%
Lowest quartile	13%	5.7%

## Aggregate-level risk factors and chlamydia - WSW

Characteristic	Percent	% CT+
<b>Household median income</b>		
<\$30,000	6%	5.6%
\$30,000 thru \$34,999	17%	7.0%
\$35,000 thru \$39,999	21%	6.5%
\$40,000 thru \$44,999	23%	6.0%
\$45,000 thru \$49,999	9%	5.2%
\$50,000 thru \$59,999	17%	8.4%
\$60,000+	7%	<b>9.0%</b>
<b>% Below 100% federal poverty level</b>		
0% - 19%	91%	6.9%
≥ 20%	9%	6.3%
<b>Household median income, quartiles*</b>		
Highest 3 quartiles	87%	6.0%
Lowest quartile	13%	6.5%

## Aggregate-level risk factors and chlamydia – WSMW

Characteristic	Percent	% CT+
<b>Household median income</b>		
<\$30,000	4%	9.4%
\$30,000 thru \$34,999	16%	6.6%
\$35,000 thru \$39,999	19%	6.9%
\$40,000 thru \$44,999	21%	7.6%
\$45,000 thru \$49,999	12%	7.6%
\$50,000 thru \$59,999	17%	6.3%
\$60,000+	8%	<b>7.6%</b>
<b>% Below 100% federal poverty level</b>		
0% - 19%	92%	6.9%
≥ 20%	8%	10%
<b>Household median income, quartiles*</b>		
Highest 3 quartiles	88%	6.1%
Lowest quartile	11%	8.5%

# Summary

- Chlamydia positivity was higher among women who report same sex behavior
- Significant risk factors ( $P < 0.05$ ):
  - Age less than 20 (O.R.=1.44)
  - Non-white race/ethnicity, esp. among Hispanics (O.R.= 1.47)
  - New SP (O.R.=1.50)
  - Symptomatic SP (O.R.=1.89)
  - Clinical findings (O.R.=2.51)
  - Exposure to CT in the past year (O.R.= 5.32)

# Implications

- Risks for CT among WSW and WSWM did not differ from those traditionally identified among WSM
- Reasons for this, and higher CT positivity in these groups, unclear
  - Testing bias: WSW/WSMW more likely to be tested?
  - Associated sexual behaviors not captured in data forms
    - Selection of sex partners at higher risk for CT
    - Engaging in higher risk sexual encounters, possibly involving
      - drug use
      - unprotected sex
      - sex work

# Limitations

- IPP's measures were
  - Not designed to capture additional variables regarding specific sexual behaviors/practices and sexual networks
  - Designed to collect data on a limited number of variables to fit easily within program and service processes

# Implications

Report of same sex behavior in women attending IPP clinics should not deter providers from performing chlamydia screening

Further research is needed to identify what specific risks predispose to acquisition and transmission of chlamydia in this group, and to characterize sexual networks of sexual minority women