

# Epidemiologic Characterization of Repeat Chlamydia Infections in Mississippi, 2005-2012

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## INTRODUCTION

Chlamydia is the most frequently reported bacterial sexually transmitted infection in the United States.<sup>1</sup> Mississippi has consistently reported among the highest rates of infection for over a decade. If untreated these infections can result in pelvic inflammatory disease (PID), which is a major cause of infertility, ectopic pregnancy, and chronic pelvic pain.<sup>1</sup> Untreated chlamydia may increase a person's chances of acquiring or transmitting HIV.<sup>2</sup> One previous episode of chlamydia increases the risk for a recurrent or new infection, often within a year, and for both genders.<sup>3</sup>

## OBJECTIVES

To describe the recent epidemiology of chlamydia infections and to identify the risk factors associated with repeat and recent repeat (<6 months) infections among Mississippians.

## METHODS

- Data obtained from STD\*MIS for cases reported in 2005-2012.
- Model 1: Compared individuals with 1 infection to individuals with repeat infections.
- Model 2: Compared individuals with 1 infection to individuals with recent repeat infections (repeat infections within 6 months).
- SAS was used to analyze data.
- Infections within one month were excluded

## RESULTS

**Table 1: Characteristics of Cases with Chlamydia Infection, 2005-2012**

	Age (mean, SD)	22 ±6.4
	Number (%)	
<b>Sex</b>		
Male	34,725 (27%)	
Female	91,840 (72%)	
Unknown	13 (<1%)	
<b>Race</b>		
Black	79,094 (63%)	
White	16,743 (13%)	
Other	2,846 (2%)	
Unknown	27,895 (22%)	
<b>Number Times of Reported Infection</b>		
	1	96,567
	2	40,538
	3	18,468
	4	9,056
	>4	7,401
	Total	172,030

**Table 2: Unadjusted and Adjusted Odds Ratios for Predictors of Repeat Chlamydia Infection, Mississippi, 2005-2012**

	Unadjusted OR	CI	P Value	Adjusted OR	CI	P Value
<b>Age Group</b>						
<25	3.113	2.995	3.236	<.0001	2.827	2.709
25+	Reference			Reference		
<b>Gender</b>						
Male	Reference			Reference		
Female	2.183	2.111	2.256	<.0001	2.194	2.115
<b>Race</b>						
Black	2.234	2.14	2.332	<.0001	2.396	2.294
Non-Black	Reference			Reference		
<b>Geo Location</b>						
Urban	0.887	0.864	0.911	<.0001	0.976	0.946
Rural	Reference			Reference		

**Table 3: Unadjusted and Adjusted Odds Ratios for Predictors of Recent Repeat Chlamydia Infection, Mississippi, 2005-2012**

	Unadjusted OR	CI	P Value	Adjusted OR	CI	P Value
<b>Age Group</b>						
<25	3.269	3.053	3.499	<.0001	3.019	2.8
25+	Reference			Reference		
<b>Gender</b>						
Male	Reference			Reference		
Female	2.261	2.468	2.783	<.0001	2.552	2.393
<b>Race</b>						
Black	1.888	1.762	2.023	<.0001	2.042	1.904
Non-Black	Reference			Reference		
<b>Geo Location</b>						
Urban	0.969	0.928	1.013	0.1622	-	-
Rural	Reference			Reference		

- During 2005-2012, Mississippi reported 172,030 chlamydia episodes.
  - 96,567 single cases
  - 75,463 repeat infections
- Repeat infection reports ranged from 2-13 per individual (mean = 2.5 ± 0.9 cases).
  - Among repeat infections, 30% were recent repeaters.
- Overall, the average time between the initial and first repeat infection was 18.97 ± 16.8 months (median=13.7 months)
  - The time between initial and first repeat infection was significantly different when compared among men and women (20.9 vs. 18.7 months, respectively)
- The mean age of those with single infection was 23 ± 6.7 years
- The mean age for those with repeat infection was 20 ± 4.4 years
  - The mean age of males with single infections was 24± 7.3 years, compared to 22± 5.5 years for those with repeat infections (p=<.0001).
  - The mean age of females with single infection was 22± 6.3 years, compared to 20± 4.1 years for those with repeat infections (p=<.0001).

## CONCLUSIONS/IMPLICATIONS

Individuals < 25 years old, female, and African American were significantly more likely to have repeat and recent repeat chlamydia infection. Area of residence was not an independent predictor of repeat nor recent repeat chlamydia infection report. Nearly half of all reports were repeat infections, underscoring the importance in compliance of rescreening 3 months post treatment and annual screening of at risk groups.

Mississippi's chlamydia screening programs and STD/HIV prevention programs should consider risk reduction strategies and disease screening intensification that target populations at high risk for repeated infection.

## REFERENCES

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