

Missed Opportunities for Chlamydia Testing in Women Aged 15-25

Sayedha Uddin, M.D., M.P.H.

Senior Service Fellow

Division of Health Care Statistics

National Center for Health Statistics

Centers for Disease Control and Prevention

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Disclosures

Sayedha Uddin, M.D., M.P.H.

- No relationships to disclose

Objectives

- Describe estimates of national testing rates for Chlamydia in non-emergent ambulatory settings
- Describe whether Chlamydia testing rates vary by patient-level or provider- or practice-level factors
 - ◆ In women without visits in the past 12 months
 - ◆ In symptomatic women

Chlamydia Infection

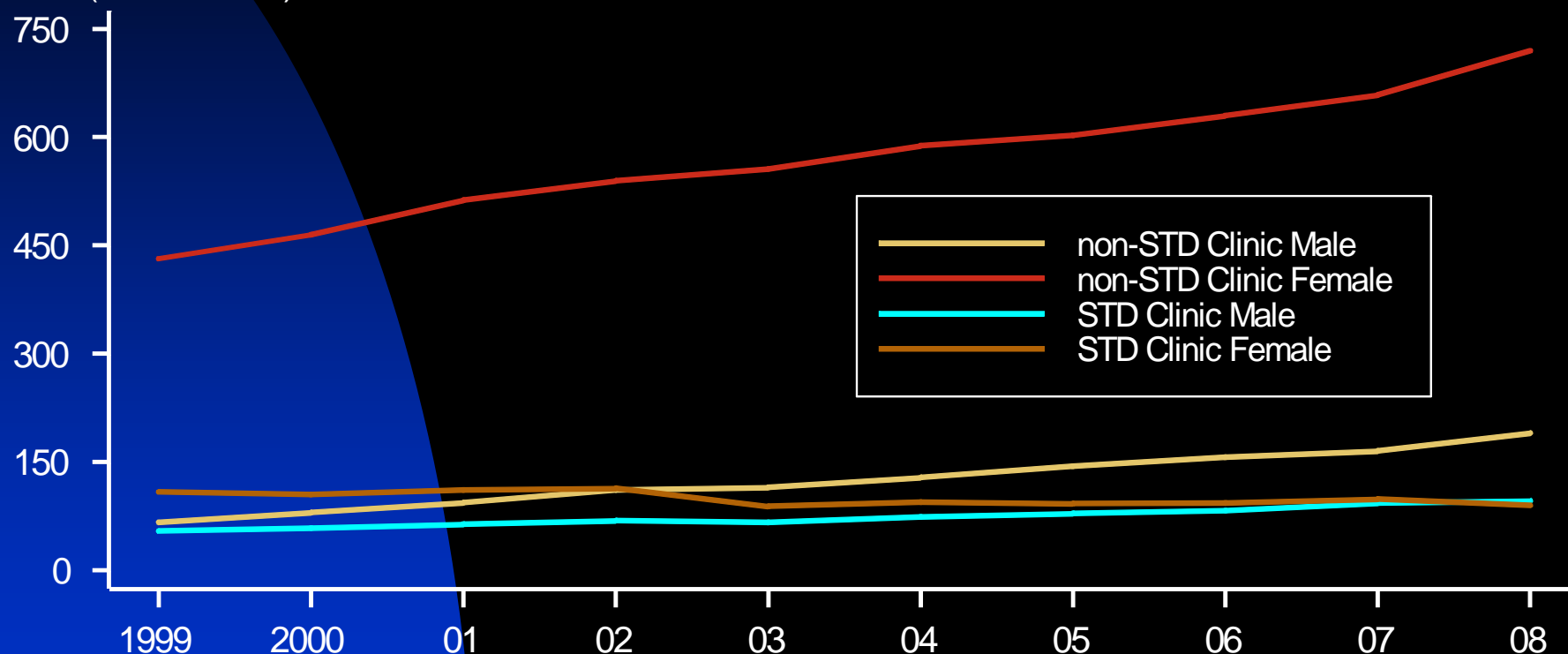
- Most common bacterial sexually transmitted infection
- Most commonly reported notifiable infection

Chlamydia Infection Sequelae

- Up to 40% may develop PID
 - 17% infertility
 - 17% chronic pelvic pain
 - 9% ectopic pregnancy
- Pregnancy
 - Preterm labor
 - Preterm premature rupture of membranes
 - Neonatal infection
 - Postpartum endometritis

Chlamydia — Cases by reporting source and sex: United States, 1999–2008

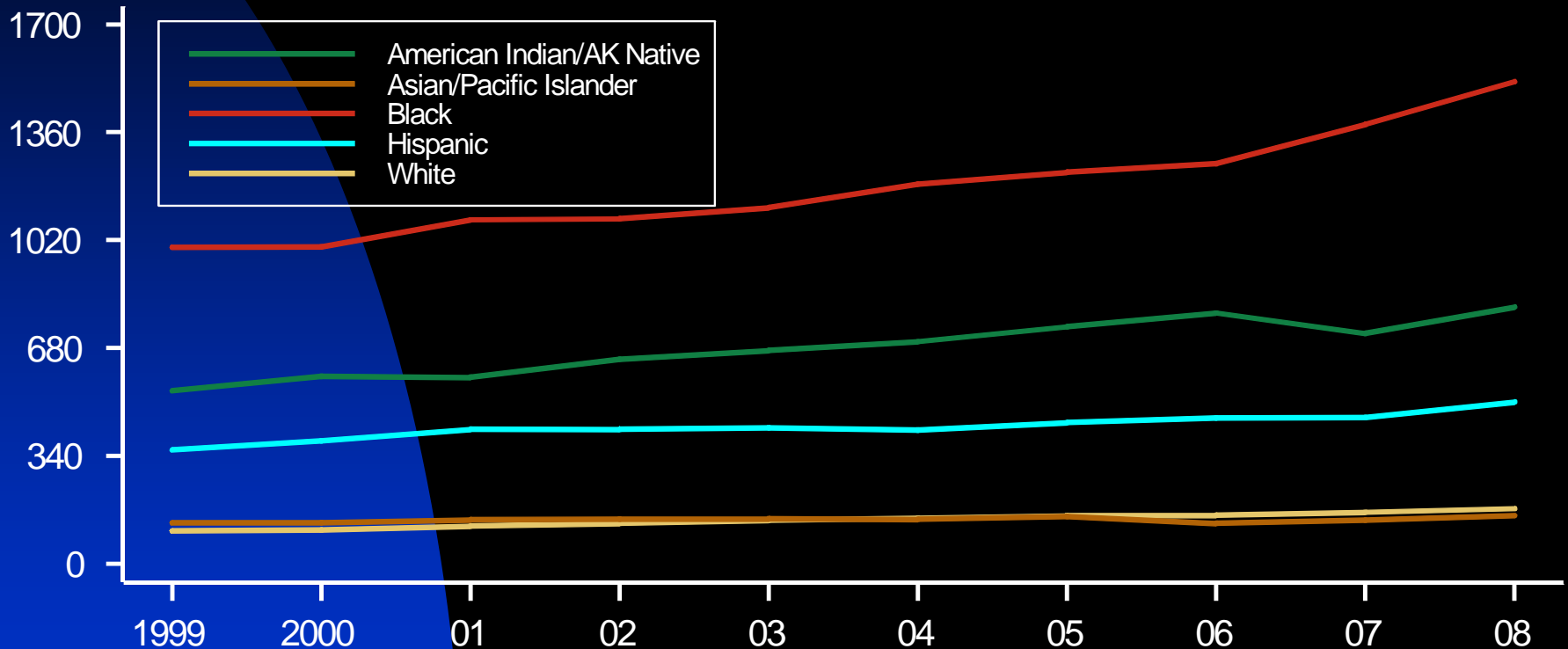
Cases (in thousands)



SOURCE: Centers for Disease Control and Prevention, Sexually transmitted disease surveillance, 2008

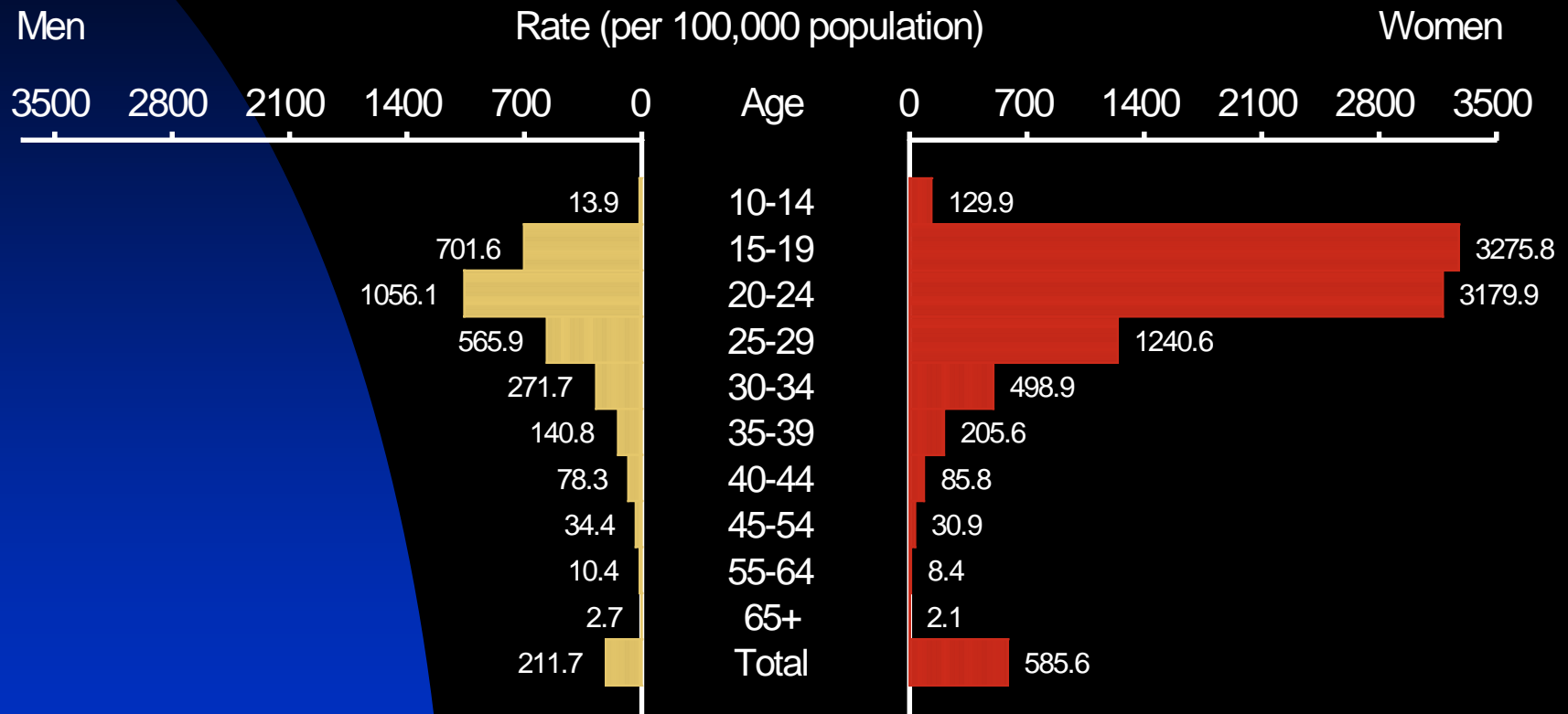
Chlamydia — Rates by race/ethnicity: United States, 1999–2008

Rate (per 100,000 population)



SOURCE: Centers for Disease Control and Prevention, Sexually transmitted disease surveillance, 2008

Age- and sex-specific Chlamydia rates: United States, 2008



SOURCE: Centers for Disease Control and Prevention, Sexually transmitted disease surveillance, 2008

**75% infections in
women asymptomatic**

Background

- USPSTF—Chlamydia screening recommended in sexually active women aged 24 and under
- CDC & ACOG— Chlamydia screening recommended in sexually active women aged 25 and under
- HEDIS measure—proportion of sexually active females between the ages of 15 and 25 who were screened for Chlamydial infection annually.

Data sources

National Center for Health Statistics' Hospital Care Surveys

- National Ambulatory Medical Care Survey (NAMCS)
 - 2005-2008
- National Hospital Ambulatory Care Survey (NHAMCS)
 - 2005-2008

National Ambulatory Medical Care Survey (NAMCS)

- National probability sample survey
- Patient visits to non-federal office-based physicians and community health centers (CHCs)
- In-scope visits:
 - Must occur in physician's office
 - Must be for medical purposes
- Out of scope visits:
 - Administrative visits
 - House calls, emails, phone calls

National Hospital Ambulatory Medical Care Survey (NHAMCS)

- National probability sample survey
- Patient visits to emergency departments (EDs), outpatient departments (OPDs), and ambulatory surgery centers (ASCs)
- In-scope hospitals
 - Non-institutional general and short-stay
 - Not Federal, military, or Veterans Administration facilities
- OPD component of NHAMCS used

Survey Data Items

NAMCS & OPD

Patient record items

- Patient demographic information
- Triage/Vital signs
- Continuity of care
- Reason for visit
- Injury/Poisoning/ Adverse effects
- Provider's diagnosis
- Diagnostic and screening services
- Treatment/procedures
- Medications
- Visit disposition

Facility/provider items

- Practice/hospital locality
- Practice/hospital characteristics
- Provider/clinic specialty

Definitions

- Visit to primary care office or clinic
 - NAMCS
 - Primary care specialties identified
 - NHAMCS OPD
 - Visits from clinics with specialties of general internal medicine OR family medicine OR general pediatrics OR general obstetrics & gynecology

Definitions

- Chlamydia checkbox
- Sexually active women identified by reason for visit, ICD-9-CM diagnoses codes, contraceptive meds and survey variables
 - Pregnancy
 - Contraception
 - Sexually transmitted infections
 - Infertility
 - Pregnancy testing
 - Pap testing

Definitions

- Women without previous visit in past 12 months
 - Data item—number of visits in past 12 months
 - ★ Those with “0” visits included
 - Checkbox—has the patient been seen before in this office/clinic?
 - ★ Those with “no” included.

Definitions

- Chlamydia symptoms
 - Reason for visit
 - ★ Pelvic pain
 - ★ Symptoms of pelvic infection or inflammation
 - ★ Postcoital bleeding
 - ★ Vaginal discharge, pain, infection or itching/burning
 - ★ Painful urination

Definitions

- Chlamydia symptoms
 - ICD-9-CM Diagnoses codes
 - ★ Inflammatory diseases of female pelvic organs
 - ★ Leukorrhea/vaginal discharge
 - ★ Postcoital bleeding
 - ★ Lower abdominal pain
 - ★ Lower abdominal tenderness
 - ★ Dysuria, urethral discharge, urethral urgency

Other factors examined

Patient level

- Age (15-19 vs. 20-25)
- Race (white vs. black)
- Ethnicity
- Payment source (private, Medicaid/CHIP, self pay)

Provider/facility level

- Setting (physician office vs. OPD)
- Region (Northeast, Midwest, South, West)
- Physician specialty (Ob/Gyn vs. other specialties)

Analysis

- Two samples
 - ◆ Women aged 15-25 without a visit in past 12 months
 - ◆ Women aged 15-25 with symptoms
- Percentage of eligible visits with Chlamydia testing ordered or provided.
- Statistical significance determined using Pearson's Chi square test with a $p < 0.05$ level of significance

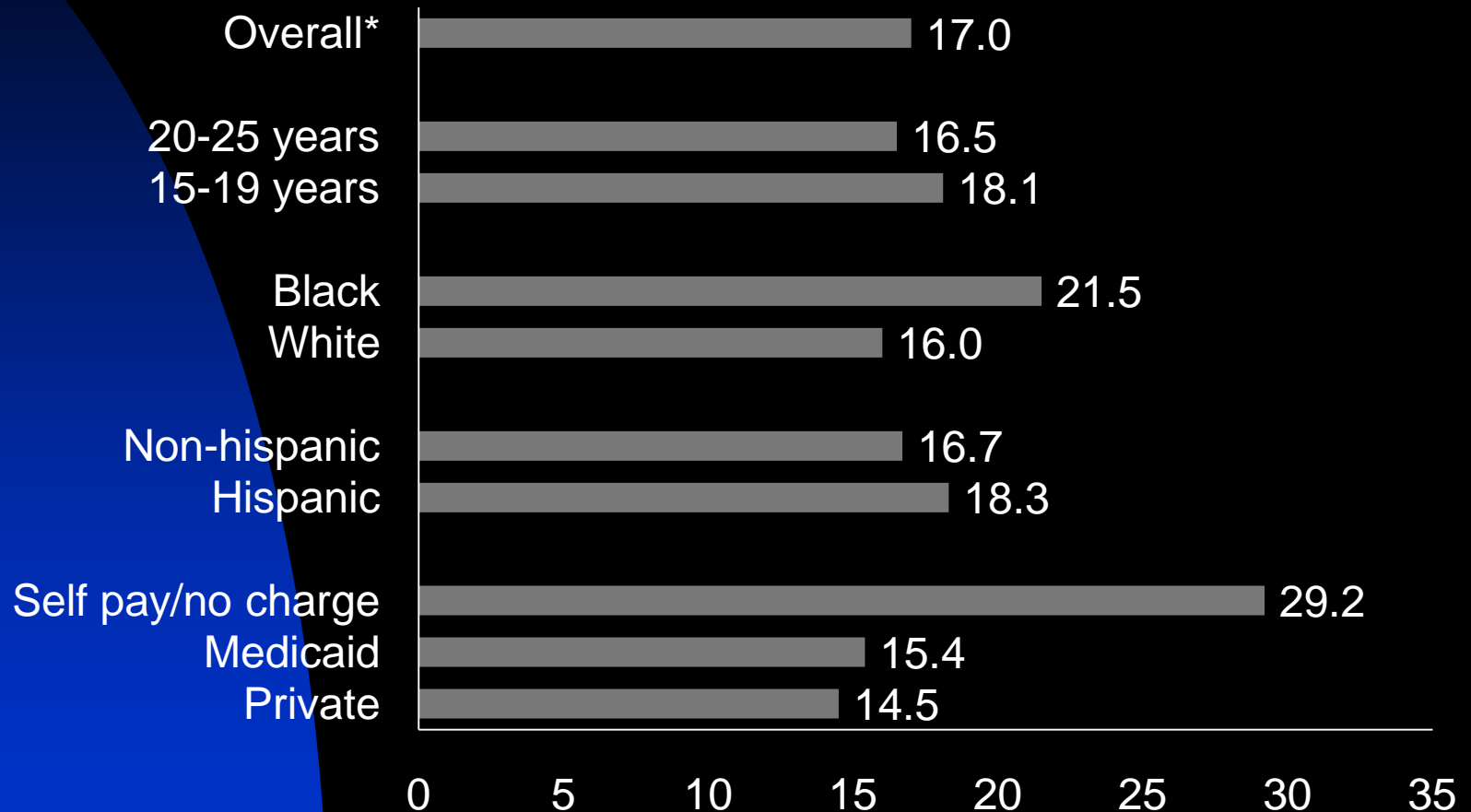
Visits to primary care offices/clinics by women aged 15-25, 2005-2008

- 50,168,000 visits annually
- 49% (24,676,000 visits annually) of visits by sexually active females

Women with no visits in past 12 months

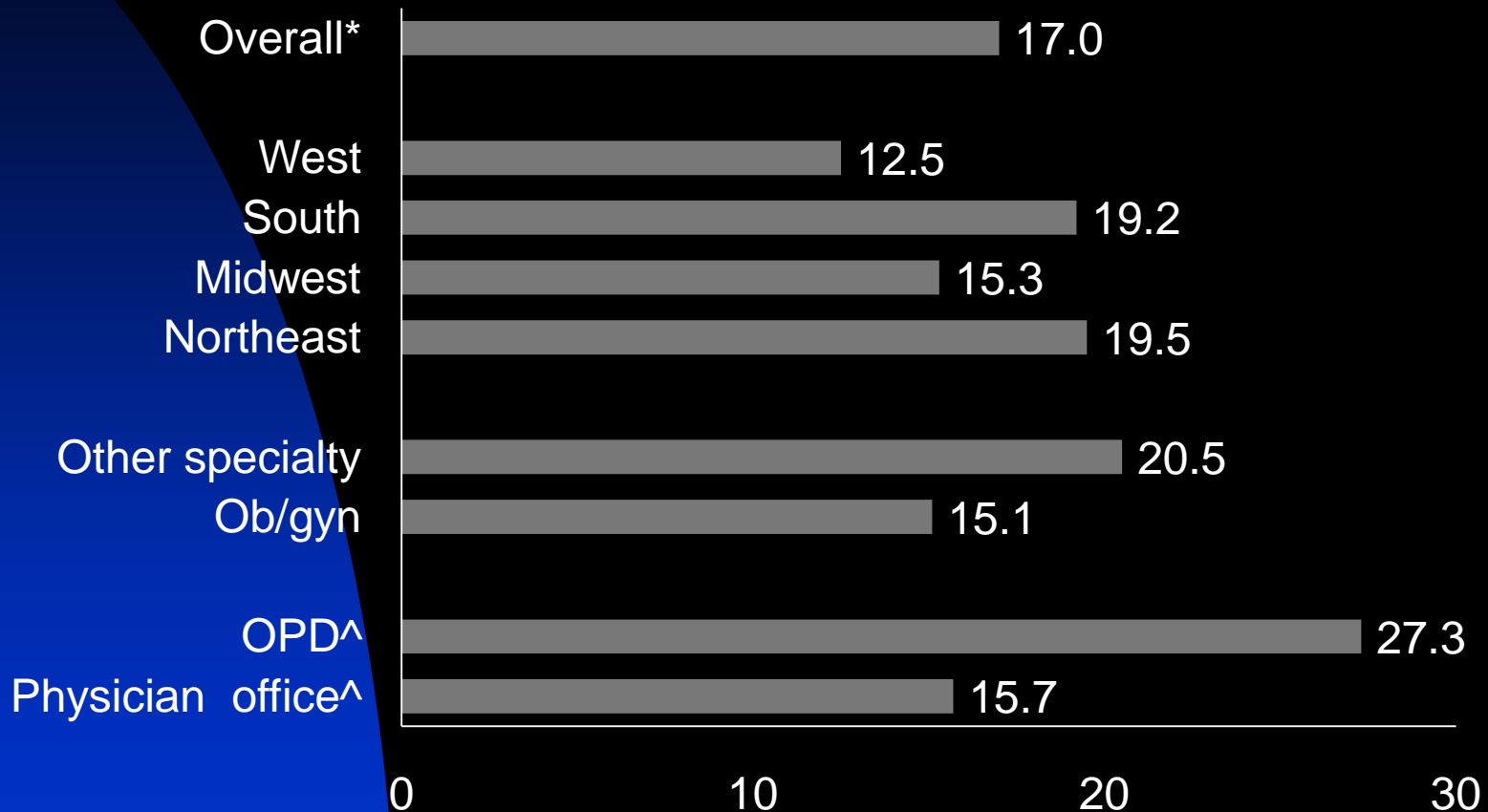
- 10,195,000 average annual visits by women aged 15-25 with no previous visits in past 12 months.
- 41% (4,142,000) of visits by sexually active women
- Chlamydia testing performed 17% of visits by sexually active women

Chlamydia testing rate in women with no visits in past 12 months by patient level factors, 2005-2008



SOURCES: CDC/NCHS, National Ambulatory Medical Care Survey, and National Hospital Ambulatory Medical Care Survey, Annual data files 2005-2008

Chlamydia testing rate in women with no visits in past 12 months by provider or facility level factors, 2005-2008



* Difference in overall testing rates between women not seen in 12 months and symptomatic women is statistically significant.

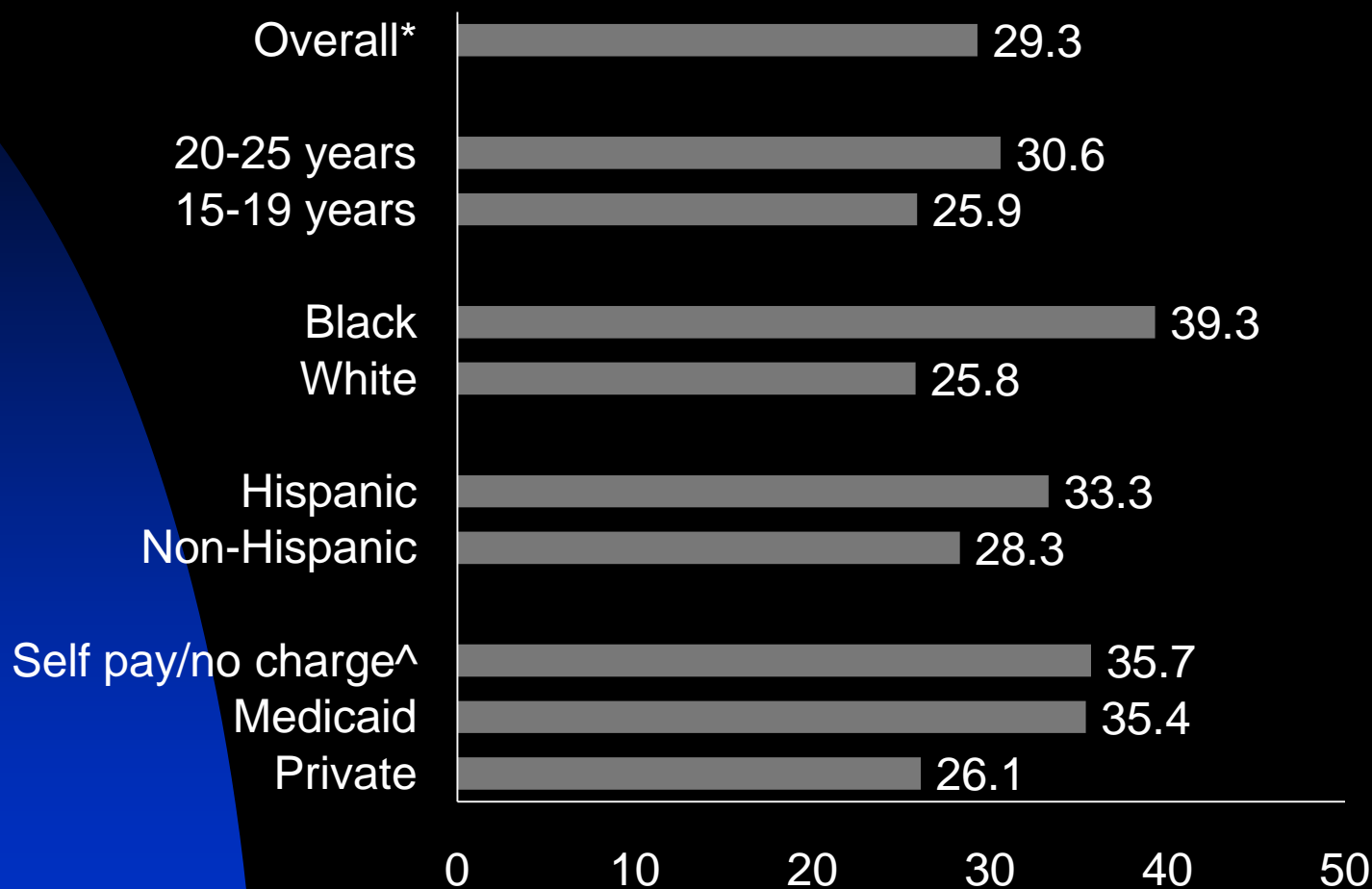
^ Difference between physician office and OPD rates is statistically significant.

SOURCES: CDC/NCHS, National Ambulatory Medical Care Survey, and National Hospital Ambulatory Medical Care Survey, Annual data files 2005-2008

Women with symptoms

- 1,303,000 average annual visits by women aged 15-25 with symptoms of Chlamydia infection
- 82% (1,074,000 visits annually) by sexually active women
- Chlamydia testing performed in 29% of visits by symptomatic women

Chlamydia testing rate in symptomatic women by patient level factors, 2005-2008

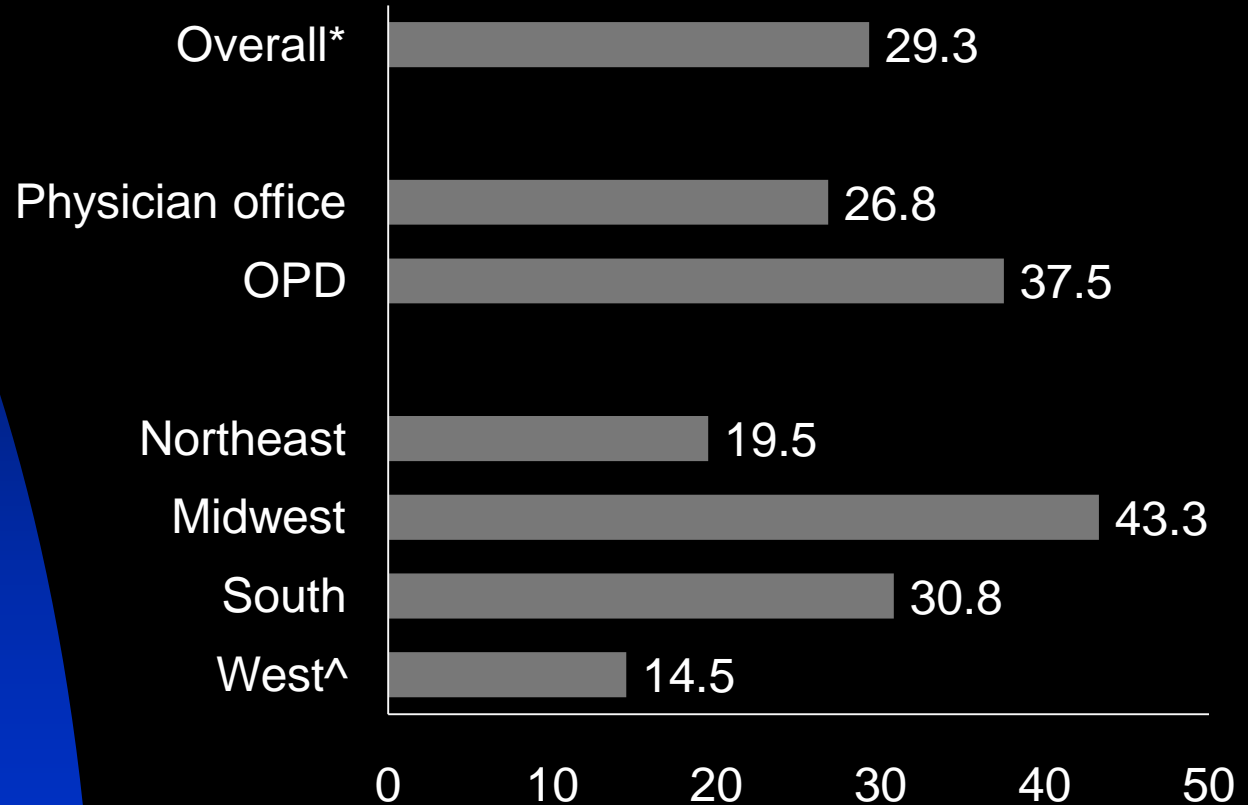


*Difference in overall testing rates between women not seen in 12 months and symptomatic women is statistically significant.

^Estimate does not meet standards of reliability or precision.

SOURCES: CDC/NCHS, National Ambulatory Medical Care Survey, and National Hospital Ambulatory Medical Care Survey, Annual data files 2005-2008

Chlamydia testing rate in symptomatic women by provider or facility level factors, 2005-2008



*Difference in overall testing rates between women not seen in 12 months and symptomatic women is statistically significant.

^Estimate does not meet standards of reliability or precision.

SOURCES: CDC/NCHS, National Ambulatory Medical Care Survey, and National Hospital Ambulatory Medical Care Survey, Annual data files 2005-2008

Limitations

- Visit-based data
 - Attempt to extrapolate patient based data by limiting sample to the first visit in 12 months.
- Cross sectional study design
 - Not able to track patients longitudinally
- Estimate of visits by sexually active women possibly low due to indirect identification by reason for visit, diagnosis, meds and tests ordered cross sectionally
 - HEDIS methodology uses claims data and pharmacy data to track patient over time

Limitations

- Visits to other providers not available
- Sample size limited analysis of:
 - Provider specialty in symptomatic women
 - Factors such as metropolitan statistical area in symptomatic women and women without visits in past 12 months

Conclusions

- There appears to be more frequent testing in hospital-based clinics compared to physician offices in women with no visits in previous 12 months.
 - Testing did not vary by other patient level or provider or facility level factors
- Testing rates higher for symptomatic women
 - Testing did not vary by the patient level and or provider or facility factors studied

Conclusions

- Overall Chlamydia testing rate was low
 - 83% of visits in women not previously seen in the past 12 months had no testing recorded
 - 72% of visits by symptomatic women had no testing recorded
 - Chlamydia testing not performed in a majority of eligible visits regardless of the selected patient or provider or facility level factors examined



Thank you

For additional questions:
suddin@cdc.gov