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USAF Update: *Chlamydia trachomatis* screening

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Objectives



- Provide a general overview of *Chlamydia trachomatis* (CT) screening within the Air Force (AF) population
- Examine the effects of the Air Combat Command (ACC) policy on male screening practices and CT prevalence
- Identify issues affecting measurement of routine male screening impact



ACC Screening Policy



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- In 2001, the ACC SG sent an official memo to its bases recommending Chlamydia screening of *all* active duty <26 years of age during annual Preventive Health Assessment (PHA)
- Effective date: 1 October 2001
- Policy affects screening for *Neisseria gonorrhoeae* as well, since specimens are tested for CT and GC simultaneously



AF Screening Practices



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- **Females and males at ACC bases screened during annual Preventive Health Assessment (PHA)**
- **Symptomatic/high-risk males tested at non-ACC bases**
- **Specimens processed at AFIOH or locally**
- **Positive and negative specimens processed by AFIOH entered into laboratory database**
- **Positive specimens from all AF bases reported into AFRESS-II**



Population Characteristics



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➤ Results:

- **★ Specimens processed by AFIOH, October 1998 - May 2005**
- **★ ADAF >26 y.o. only**
- **183,854 specimens processed from 97,526 patients**
- **58% (n=106,658) female**
- **42% (n=76,631) male**
- **Percent positive**
 - **★ 11.7% male and 7.6% female positive**



Characteristics by Base Type



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- **8 ACC bases submitted more than 2x pre-policy specimen levels for males -- assumed to be screening males (policy-compliant)**
 - ✦ **ACC bases not performing male screening were added to the 'Non-ACC Males' category**
- **Percent Positive**
 - ✦ **ACC* males (before Oct 2001) = 24.4% positive**
 - ✦ **ACC males (after Oct 2001) = 5.1% positive**
 - ✦ **Non-ACC males = 17.7% positive**
 - ✦ **ACC females = 7.4% positive**
 - ✦ **Non-ACC females = 8.2% positive**

*From this point forward, 'ACC' used for policy-compliant bases

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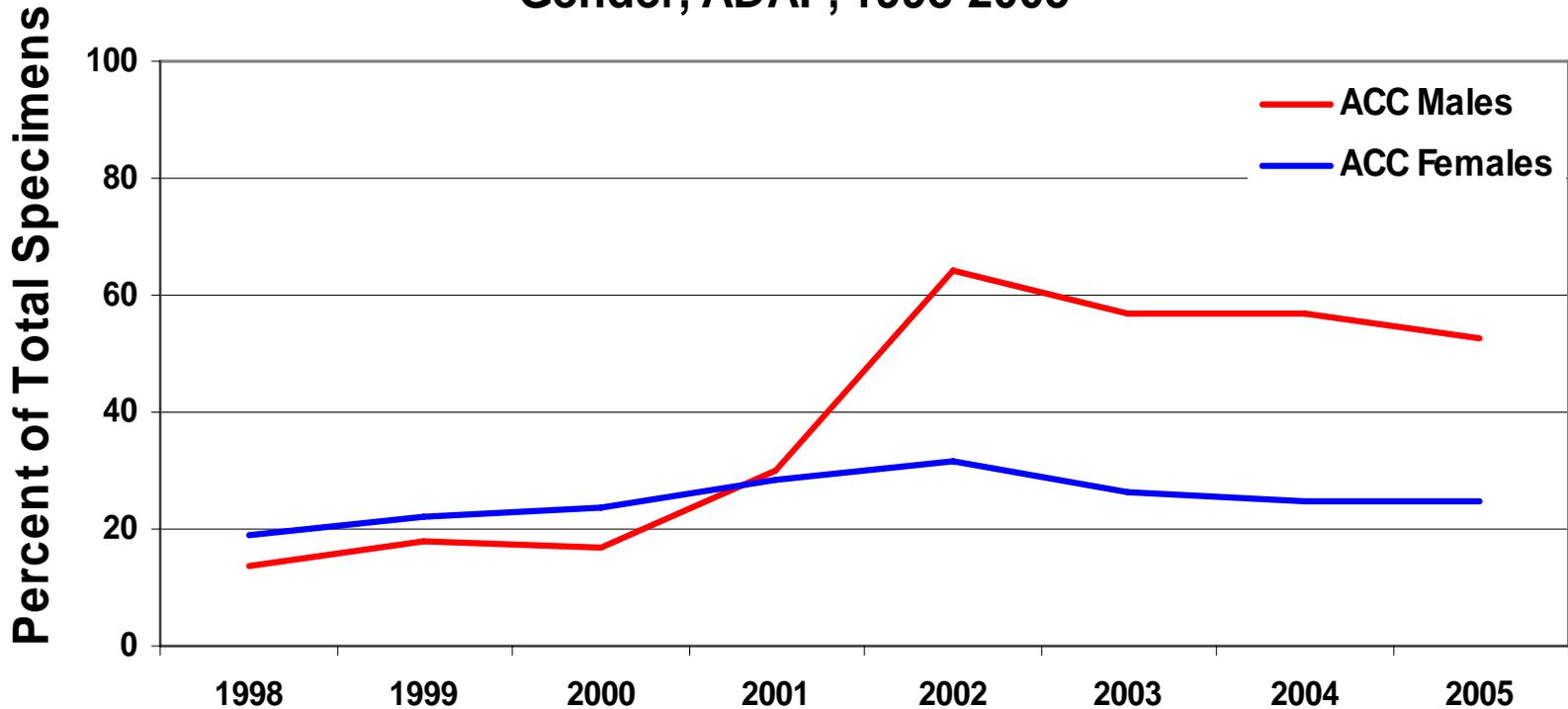
Specimens Submitted by Base Type



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Percent Total Specimens Submitted By ACC Bases, By Gender, ADAF, 1998-2005





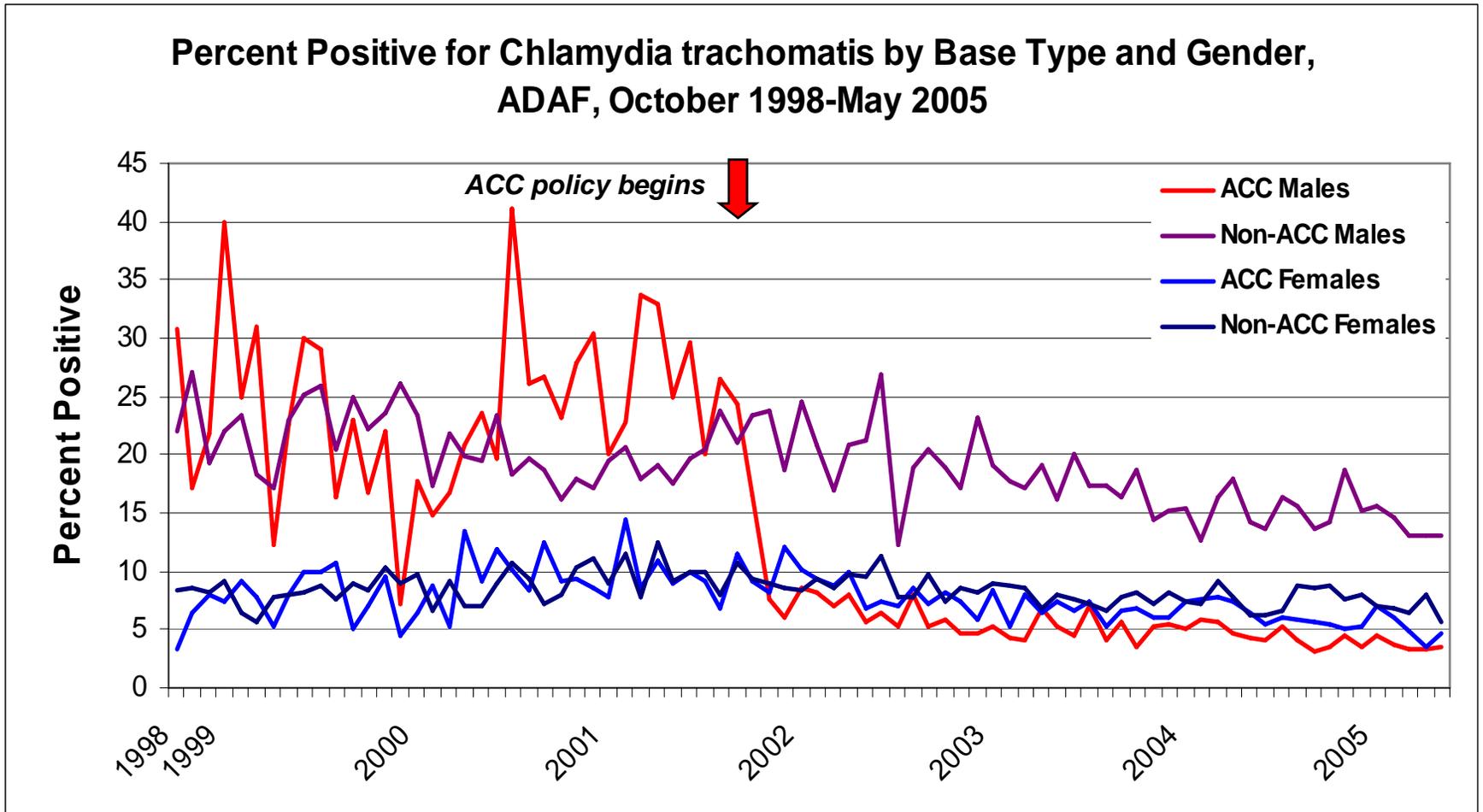
Percent Positive by Base Type



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Percent Positive for Chlamydia trachomatis by Base Type and Gender, ADAF, October 1998-May 2005





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Policy Effects



- **ACC bases seem to be screening males**
 - ✦ **Increased specimen submission**
 - ✦ **Decreased % positive, now similar to female levels**

- **How has the policy affected CT prevalence?**
 - ✦ **Cannot directly compare % positive at ACC/Non-ACC bases since testing populations differ**
 - ✦ **Merged CT data with SADR to determine reason for visit**
 - ✦ **ICD-9 codes used to estimate prevalence among presumed asymptomatic patients**



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Policy Effects: CT Prevalence



- **1999-2005**
 - ✦ **SADR data incomplete before 1999**
- **31,388 ADAF males <26 y.o. received CT test(s)**
 - ✦ **Only those with outpatient ICD-9 codes +/- 3 days from specimen collection date included**
 - ✦ **ACC and non-ACC bases compared**
- **49,195 ADAF females <26 y.o. tested during same time period used for comparison**



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Policy Effects: CT Prevalence

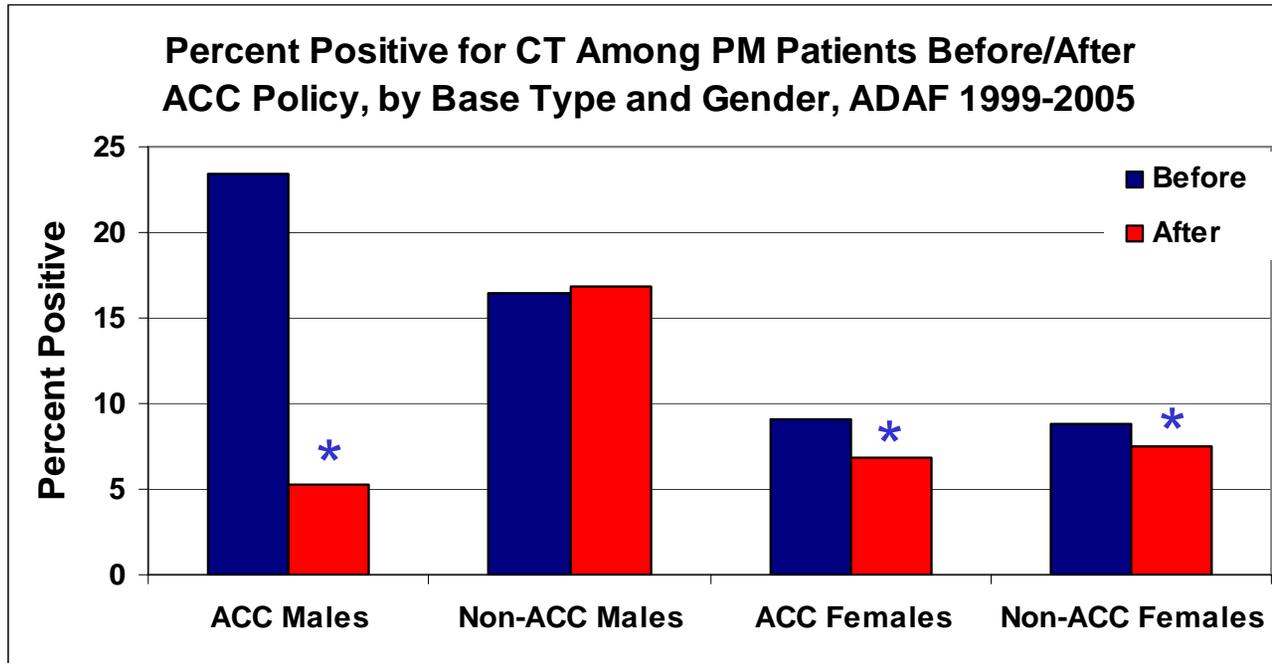


- Patients grouped by reason-for-visit, using ICD-9 outpatient codes:
 - 1) Symptomatic/high risk (HR)
 - 2) Preventive medicine/Other (PM)
- Patients tested during PM visits assumed to represent general base population since no evidence of symptoms/high-risk behavior
- ✦ HR patients removed to allow comparison of CT prevalence among *presumed* asymptomatic patients



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Policy Effects: CT Prevalence



- % Positive decreased markedly among ‘asymptomatic’ ACC males after policy took effect
- % Positive decreased for females – increased focus on screening and/or impact of male screening on females??

* $p < 0.05$



Policy Effects: Issues



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- **Difficult to determine true effect of ACC policy on CT prevalence and health outcomes using available data**
- **Cannot directly compare % positive for ACC/non-ACC or pre/post-policy ACC since testing populations differ (gen-pop vs. symptomatic)**
 - ✦ **Ambulatory ICD-9 codes can possibly be used, however coding variability among providers/MTFs reduces the utility of this data**
 - ◆ **Would need exploratory study to determine which codes providers actually use for different types of visits**



Policy Effects: Issues



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- **Mobility/detachment of ADAF population a potential confounder via cross-contamination**
 - ✦ **Example: males screened at an ACC base may relocate to non-ACC base and bias screening effects towards the null**
 - ✦ **Example: separated personnel may be treated for health outcomes at non-DoD facilities and therefore not captured by SADR**
 - ✦ **Makes tracking future health outcomes more difficult**
- ***** Need more straight-forward way to examine effects of routine male screening**



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Future Directions/ Recommendations



- **Examine impact of ACC screening policy on CT prevalence**
 - ✦ **Measure gen-pop prevalence among ACC/Non-ACC ADAF random samples?**
- **Study impacts of screening on CT-related morbidity in males**
- **Investigate effects of male screening on female CT prevalence and associated health outcomes**
- **A formal community intervention trial could address all of these components**



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Questions?