

# Reducing Barriers to Improve Access to STI Testing Among Students at a Major Public University

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## Introduction

- The Centers for Disease Control and Prevention (CDC) report that between 2017 and 2018, the number of gonorrhea cases increased 5% to more than 580,000, the highest number reported since 1991, while the number of chlamydia cases increased 3% to more than 1.7 million cases, the most ever reported to CDC at the time of the published report in October 2019.
- The CDC estimates that youth ages 15-24 make up just over one quarter of the sexually active population, but account for half of the 20 million new sexually transmitted infections that occur in the United States each year. The CDC recommends routine screening for all sexually active women under 25 years of age. Similar recommendations have been offered by the United States Preventive Services Task Force (USPSTF), the American College of Obstetricians and Gynecologists (ACOG), and the American Academy of Family Physicians (AAFP).
- Despite the increased incidence, the screening rates for both trail well behind national targets. Most cases go undiagnosed and untreated. Most cases of pelvic inflammatory disease (PID) in women are caused by chlamydia and gonorrhea, which in turn can lead to complications such as infertility or ectopic pregnancies.
- Barriers to screening are numerous but include: inadequate knowledge about STIs or the need for screening, concerns about patient confidentiality, logistical barriers such as time and ease of access to testing, systemic factors related to the clinic visit and testing procedure, and cost/insurance issues.
- Both the medical consequences and cost burdens could be reduced by improved screening efforts.
- The University of Virginia's Department of Student Health and Wellness (SHW) determined that some of these barriers might exist in our clinic and instituted a confidential, low cost, self-pay system for chlamydia and gonorrhea testing. An expedited nurse-supervised clinic was also established with flexible, online scheduling for short appointments to self-collect test samples. The CDC considers vaginal swabs to be the optimal method of collection. Patients were taught how to self-collect samples by our nurses. This eliminated the need for a pelvic examination.

## Methodology

- The electronic health record was queried for female students (undergraduate, graduate, and professional) who presented to the UVA SHW Center over a four year period (July 2015 through August 2019) with a request for chlamydia and gonorrhea testing.
- During this time period, two major interventions occurred:
  - The cost of testing was reduced and standardized to \$30.00 for both tests and was billed as a SH generic cost to the student bursar account. Billing to insurance was eliminated. (January 2017)
  - A nurse-supervised STI clinic was initiated and offered several times per week with 15 minute appointments. Specimens were primarily self-collected vaginal swabs. (August 2018)
- Data was queried by test type (chlamydia and gonorrhea PCR and urine) and type of visit (Clinician vs STI Nurse Clinic).
- Data was stratified to explore the number of tests at certain time periods: by month-year, by semester and by fiscal year.
- Data was analyzed to look at trends in the number of tests performed with special attention to the points of intervention (implementation of high value single cost structure and implementation of the STI Clinic).

## Key Findings

- Overall testing rates increased over the four year period.
- The largest increase occurred in the fiscal year in which the cost was re-structured.
- That same fiscal year was likely impacted by alleviation of privacy concerns as insurance billing was suspended and charges appeared on the bursar bill as a generic student health charge. These two outcomes might have caused an overlapping effect which amplified the rate of change.
- As expected, testing rates were low in the summer when most students were not on campus.
- Summer testing rates have remained relatively stable over the last four summer sessions.
- Spring semester testing rates were higher than fall semester rates in each of the four years and the difference in semester rates was not significantly impacted by cost, privacy or access.

## Test Numbers by Month and Year

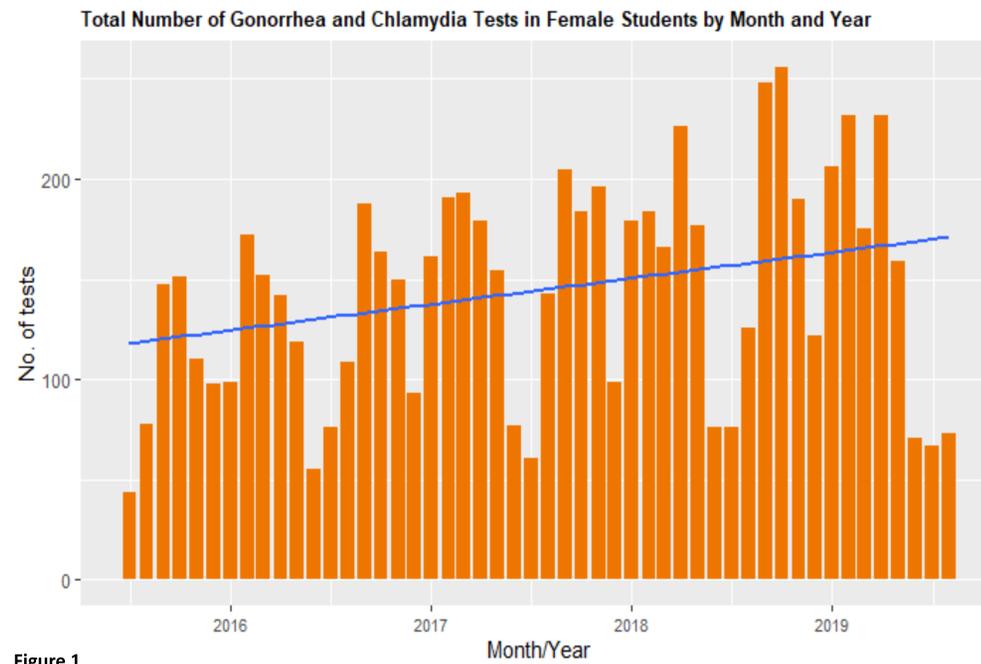


Figure 1

## Test Numbers by Semester

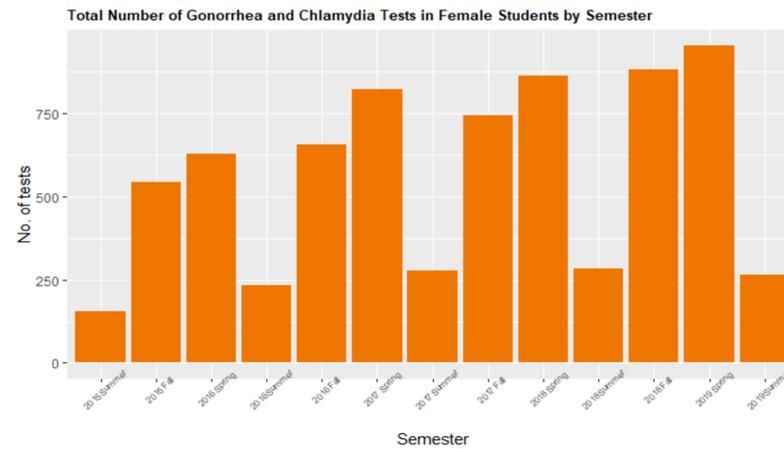


Figure 2

## Test Numbers by Fiscal Year

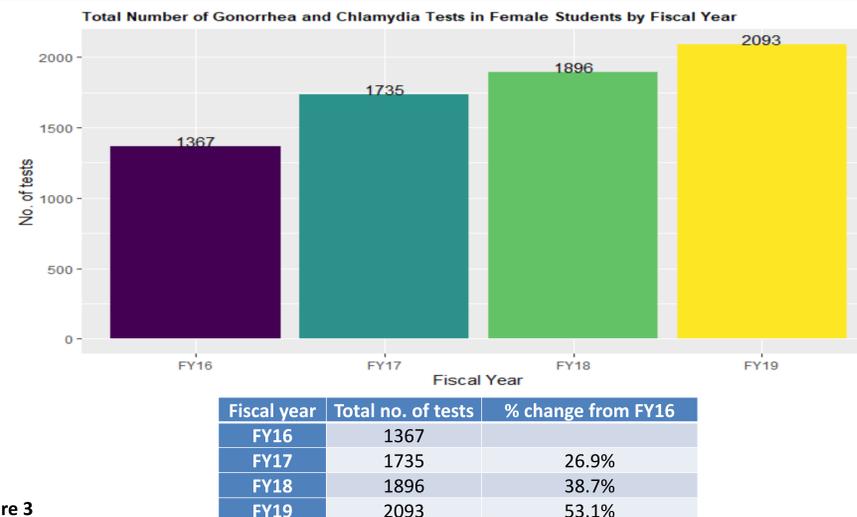


Figure 3

## Test Numbers Pre and Post STI Clinic

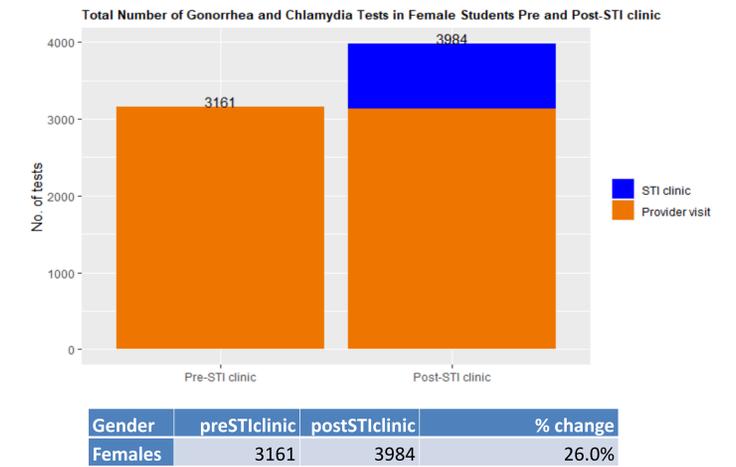


Figure 4

## Discussion and conclusion

- The cost/privacy component which was directly linked to insurance seemed to be the greatest barrier for students in the decision to seek testing. As a public university with an affiliated major medical center, lab work is funneled to those labs. We have a significant (~ 35%) out of state population and another population segment in-state for whom the UVA Health Center is out-of-network. The cost of testing for these out-of-network students could amount to \$500+. For those in-network, language on EOBs varies and may appear as a generic "lab testing" to listing the specific STI test names causing pause for those students covered under their parents' plans (the majority of privately insured undergraduates). Once the insurance influence was eliminated, testing rates increased. (See Figure 3)
- The addition of the STI clinic directly absorbed the increase in demand for routine testing. (See Figure 4). Clinician FTEs remained constant over the four-year period as did testing during a clinician visit. Once the STI clinic was implemented, however, this clinician testing often occurred within the context of a more comprehensive visit such as well woman visits or problem visits. The addition of the STI clinic removed the burden of demand for routine screening from the clinician visit allocation allowing for greater utilization of clinician visits for higher value care.
- The slope of increase was steady across four years (See Figures 1 and 2) even though the monthly/semester data was variable across time. The most significant decrease in testing occurred during the summer months, but that was expected due to lower student census in summer.
- It was interesting to see consistently greater testing rates in the spring semester over the fall semester. Anecdotally, we know that it takes first year students some time to "find" Student Health and utilize its vast array of services. In addition, over the course of the school year, students settle into a social comfort structure which may include a sexual partner leading to the desire for STI testing. Lastly, many students learn of low cost/easy access testing via "word of mouth" leading to increased demand over time as awareness increases.

## Implications for the Future

- We focused on female students because of the CDC recommendations for routine testing in sexually active women. No such recommendations exist for men. It would be interesting to look at testing rates for men at our university to see how they trend.
- When the cost structure for STI testing was reconfigured to a self-pay, low cost structure with the elimination of private insurance billing, both female and male students were impacted. It would be interesting to see if there was a parallel increase in male testing following that change.
- STI clinics are now offered two afternoons per week and are routinely fully booked. Would increasing number of clinics result in a further increase in testing?
- There is no Nurse-supervised STI Clinic for male students. Given the shift in burden away from clinicians for routine testing as seen in females, the launching of such a clinic for males could increase appointment access to clinicians for other high value visits.

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