



# Quality Improvement Project to Improve Rates of Gonorrhea and Chlamydia Screenings

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## Introduction

Gonorrhea and chlamydia (GC/CT) are the two most common sexually transmitted infections (STIs) reported in the US, with more than 1.4 million cases of CT and 330,000 cases of GC reported to the CDC in 2012<sup>1</sup>. Age is a strong predictor of GC/CT infections, with the majority of infections occurring in females under 25<sup>1</sup>. The US Preventive Services Task Force recommends screening sexually active females age 24 and younger. Up to 85% of commercially insured patients who meet screening guidelines are not screened. Barriers to screening include but are not limited to social stigma, clinician reluctance to discuss sexual history either due to discomfort or time-constraints, and the unwillingness of certain payers to cover STI screening. Screening is cost-effective due to the significant financial burden from the sequelae of untreated infections<sup>2</sup>.

The goal of this quality improvement project was to increase the screening rates for GC/CT for female patients age 15-24 years old.

## Methods

An EMR query was conducted to collect baseline data on OU Family and Community Medicine clinic female patients ages 15-24 years old seen in the clinic between 10/09/2018-10/09/2019.

PDSA-1 (11/01/2019-12/31/2019) used printed huddle reports to identify potentially eligible female patients at the beginning of each clinic session (in the Green Country clinic module) and targeted communication between the nurse and physician regarding these opportunities for screening prior to the visit.

In an effort to decrease multiple barriers to patient/physician communication, PDSA-2 (01/01/2020-02/29/2020) utilized a patient survey (Sexual Health Questionnaire) to identify patient eligibility and their willingness to screen. To further test our methods, an adjacent clinic module (Redbud) was added to the project at the start of PDSA-2.

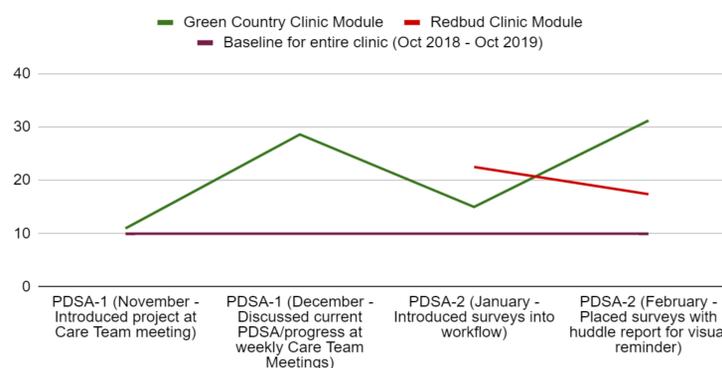
A statistical analysis of the data was performed using a chi-square test, comparing the baseline data to the results from the PDSAs.

## Results

A baseline data EMR query showed that 10% of females age 15-24 years who were seen in the clinic from Fall 2018 - Fall 2019 were screened for GC/CT.

Due to limitations in the EMR this query was not able to determine if all patients met eligibility criteria, which may skew baseline data. Subsequent data during the project were collected manually and took into account that not all females in that age range were eligible for screening, and thus the collected data from November to February is likely more accurate.

Screening Rates for Gonorrhea and Chlamydia in Selected Modules of the OU Family Medicine Clinic



PDSA-1 resulted in an increase in screening rates, for eligible individuals, initially to 11% and then to 28.6%. PDSA-2 screening rates fell initially to 15.0% in the original module (Green Country) in the first month of the PDSA, and was 22.5% in the adjacent clinic module (Redbud). The second month of PDSA-2 saw an increase to 31.2% in Green Country and a decrease to 17.4% in Redbud.

A chi-square test was conducted comparing baseline screening rate (rate 10.2%, n=647) to the Green Country screening rate at the end of PDSA-1 in December (rate 28.6%, n=14) and resulted in 95% CI (1.34%-44.56%) around the difference between the two proportions (which is 18.4%), and was statistically significant,  $\chi^2(1)=4.89$ ,  $p<0.05$ .

A chi-square test was conducted comparing baseline rate to the combined average screening rate of both clinic modules (averaged rate 23%, n=39) for the end of PDSA-2 in February and resulted in 95% CI (2.08%-28.20%) around the difference between the two proportions (which is 12.8%), and was statistically significant,  $\chi^2(1)=6.18$ ,  $p<0.05$ .

## Discussion

The national screening rates for GC/CT range from 15 to 50%<sup>1</sup>. This wide variation in rates may be explained by the multifactorial barriers to screening that were recognized throughout our own data collection. PDSA-1 attempted to overcome the barriers of lack of education and lack of nurse/physician communication prior to an eligible patient visit. PDSA-2 tried to overcome patient and provider discomfort with the topic, unwillingness to bring up the topic, and lack of time during the visit.

Additionally, it was evident that frequent visual and verbal reminders in the clinic space/meetings were necessary to keep data collection and survey distribution going, as daily huddle reports for each provider were used to keep track of patient visits and outcomes. It was also difficult to incorporate PDSAs in multiple modules, despite attempted use of a standardized workflow.

Future directions include continuing to identify barriers/issues with implementation using Ishikawa diagram, educating patients via printed materials, and continued education of providers/nurses on the importance of this screening recommendation.

## Conclusions

After analyzing the data, it was concluded that the overall positive changes in rate of screening were statistically significant ( $p<0.05$ ) when comparing the Green Country rate from the end of PDSA-1 to the baseline and also when comparing the combined average Green Country/Redbud rate from the end of PDSA-2 to the baseline. Whether these changes were clinically significant is unknown at this time. This project did reveal that there is much work to do in the way of educating providers/nurses and patients on the importance of this recommendation and in working to minimize barriers to screening.

## References

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