

# Automated Sexual History and Self-Collection of Chlamydia and Gonorrhea Specimens Improves Diagnoses

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## Background

With rates of Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (GC) increasing consistently since 2014, the need for increased screening, testing, and treatment of bacterial sexually transmitted infections (STIs) in at-risk people is clear. In this study, clients with HIV were asked to complete a comprehensive audio computer-assisted self-interview (ACASI) software-based sexual history at routine clinic-based lab visits every 3-6 months. The sexual health screening resulted in an automated summary of recommended bacterial STI tests. Self-collection of recommended CT/GC nucleic acid amplification test (NAAT) specimens was implemented to decrease the need for a provider to collect the specimen(s) and to give more control to the patient, however, all samples were collected in a clinical setting.

## Methods

Participants took the sexual history in a private room with a health educator present to explain procedures and answer questions. Bacterial STI testing recommendations were made based on answers to the sexual history questionnaire and included pharyngeal, rectal, and urogenital CT/GC NAAT specimens. Eligibility was restricted to clients with HIV who were 18 years and older, seen between August 2020–August 2021. All participants were screened at least once, with repeat screening every three months for those with reported STI risk.

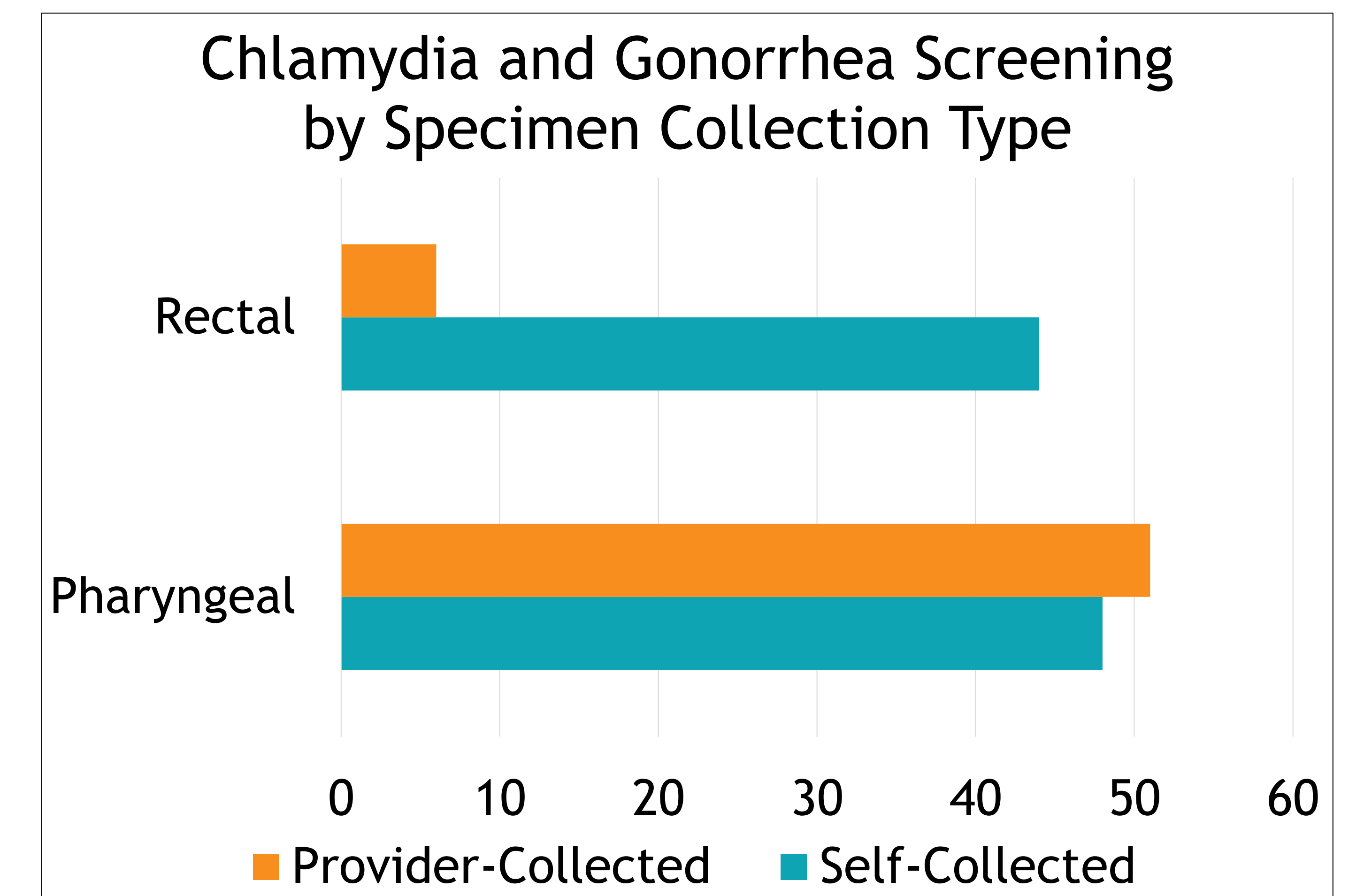
## Results

Results of Site-Specific Chlamydia (CT) and Gonorrhea (GC) Screening			
	Positive Lab Results	Total Samples Collected	Incidence Rate among Sampled Sites
Rectal CT	4	49	8.2%
Rectal GC	3	50	6%
<b>Combined CT/GC Rectal</b>	<b>7</b>	<b>50</b>	<b>14%</b>
Pharyngeal CT	2	101	2%
Pharyngeal GC	2	101	2%
<b>Combined CT/GC Pharyngeal</b>	<b>4</b>	<b>101</b>	<b>4%</b>
Urogenital CT	6	227	2.6%
Urogenital GC	5	227	2.2%
<b>Combined CT/GC Urogenital</b>	<b>11</b>	<b>227</b>	<b>4.8%</b>

223 eligible participants consented to have their data used in this evaluative study. Within the 13-month intervention period, 18 individuals tested positive for CT or GC, two participants had multi-site GC infection and two participants experienced reinfection of CT, for a total of 22 cases. Extragenital testing for CT/GC returned a 7.3% (n=11) incidence rate, with the highest case rate of 14% (n=7) among rectal swabs. Urogenital testing for combined CT/GC returned an incidence rate of 4.8% (n=11). All participants with extragenital CT/GC returned discordant lab results, with urine collected at the same clinic visit resulting as negative, and 7:11 extragenital GC/CT cases were asymptomatic.

## Conclusions

The intervention increased the frequency of CT/GC extragenital testing by offering exposure-based screening opportunities approximately every 3-6 months (2-4 times per year) as compared to prior to the intervention when patients underwent urogenital only screening once a year in their annual physical unless symptomatic. Extragenital site-specific testing was essential in increasing the diagnoses of CT/GC since patients that tested positive for pharyngeal or rectal CT/GC commonly did not test positive in urine. When extragenital STI testing was recommended, the majority of participants elected CT/GC NAAT specimen self-collection after a brief demonstration. Clients rarely reported issues with self-collection, and testing error rates did not differ between patient- and provider-collected samples.



## Acknowledgements

This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$11,251,973 with 0% financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit HRSA.gov.