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Primary Care Provider Practices and Perceptions Regarding HPV Vaccination and Anal Cancer Screening at a Boston Community Health Center

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Abstract

Human papillomavirus (HPV) vaccination and anal cancer screening are valuable, yet underutilized, tools in prevention of HPV-related cancers among sexual and gender minority (SGM) populations. The aim of this study was to characterize primary care providers' (PCPs) practices and perceptions pertaining to HPV vaccination and anal cancer screening. A survey assessing self-reported practice characteristics related to HPV vaccination and anal cancer screening, as well as perceived barriers to vaccination and anal cancer screening at the patient-, provider-, and system-level was distributed to PCPs at a Federally-Qualified Health Center that specializes in care for SGM populations in the greater Boston area. A total of 33 PCPs completed the survey. All PCPs strongly recommended HPV vaccination to their patients by emphasizing that the vaccine is extremely important or very important. Most PCPs told their patients that the HPV vaccine prevents cervical cancer (96.9%), anal cancer (96.9%), oropharyngeal cancer (72.7%), penile cancer (57.5%), and genital warts (63.6%). There is substantial variability among providers regarding recommendations for anal cancer screening and follow-up. Most PCPs perceived that patient-level factors such as poverty, mental illness, and substance use disorders were barriers to HPV vaccination and anal cancer screening. Systems-level barriers such as lack of clinical time with each patient and lack of staffing were also described as barriers to vaccination and screening. Patient-, provider- and systems-level improvements are important to increase HPV vaccination and anal cancer screening rates.

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Keywords

Human papillomavirus; vaccination; sexual and gender minority; cancer prevention

INTRODUCTION

Despite growing recognition and social acceptance, sexual and gender minority (SGM) people experience significant health disparities and face barriers to health care uptake in the United States (U.S.).¹ This underserved minority population is estimated to constitute 3–12% of adults in the U.S.² SGM people have increased risks for some cancers, including human papillomavirus (HPV)-related cancers.³ Persistent infection with high-risk HPV types may cause anal, cervical, vaginal, vulvar, penile and oropharyngeal cancers. In particular, anal cancer disproportionately affects people living with HIV, men who have sex with men (MSM), and transgender women.^{4,5} Compared to men who have sex with women (MSW), the anal cancer incidence among HIV-uninfected and HIV-infected MSM is 20-fold and 80-fold higher, respectively.⁵

Vaccination is the primary preventative method to reduce and eliminate HPV-related cancers and genital warts.⁶ Routine HPV vaccination is recommended by the Centers for Disease Control and Prevention for all youth at age 11 years. Youth ages 11–14 years may obtain the 2-dose vaccine schedule, whereas youth 15 years need 3 doses to achieve comparable immunity.^{7,8} Catch-up vaccination is recommended for females through age 26 years and for males through age 21 years. MSM and persons who are immunocompromised should receive catch-up vaccination through age 26 years.⁹ However, despite elevated risk^{14,15} only 4.9–13% of MSM and 14% of young MSM and transgender women ages 18–26 had received at least one dose of HPV vaccination.^{16–19}

Additionally, providers have many HPV and cancer screening methods available for secondary prevention. In particular, anal Pap tests and high-resolution anoscopy (HRA) are important for early detection of different grades of anal dysplasia, including high-grade squamous intraepithelial lesions (HSIL).¹⁰ Although there are no uniform national guidelines for anal cancer screening, individual organizations have independently established comprehensive anal cancer screening guides for high-risk populations, including people living with HIV.¹¹ Some recommend anal Pap tests for both HIV-infected MSM (every 12 months) and HIV-uninfected MSM (every 2–3 years).¹² Additionally, many health care providers screen HIV-uninfected MSM and transgender women similarly to HIV-infected patients. One study found screening for anal dysplasia/cancer with anal Pap tests increased quality-adjusted life expectancy benefits compared to other accepted clinical preventive interventions among HIV-infected MSM.¹³ However, research has highlighted a low likelihood of MSM having an anal Pap test.^{20,21}

Understanding primary care providers' (PCPs') practices regarding HPV vaccination and anal cancer screening is important for improving the overall reduction of HPV-associated anal disease. To improve comprehensive disease prevention among SGM patients, in particular MSM and transgender women, we need to understand both PCPs' perceived barriers to HPV vaccination as well as anal cancer screening. Therefore, we conducted a

survey among PCPs at a community health center to assess: (1) the variability in PCPs' individual HPV vaccine recommendation practices, as well as their perspectives on patient-, provider-, and systems-level barriers to HPV vaccine uptake; (2) individual practice variability regarding anal cancer screening practices and perspectives about patient-, provider- and systems level barriers to anal cancer screening and follow-up.

METHODS

Study Setting, Participants and Data Collection

Fenway Health (FH) is a Federally-Qualified Health Center with a special focus on the healthcare needs of SGM people through culturally-competent clinical care, research, and inclusive policy development.²² Located in Boston, Massachusetts, FH providers served 28,300 patients who made 153,300 patient visits during the 2016 fiscal year.²³ The growing patient population at FH includes over 14,800 SGM patients (self-identified as lesbian, gay, bisexual or something else: 11,931; self-identified as transgender or genderqueer: 2,939), and over 2,100 patients living with HIV/AIDS. FH offers all primary and secondary prevention methods to reduce HPV-associated anal diseases, including HPV vaccination, anal Pap tests and HRA. In the absence of uniform anal cancer screening guidelines, FH PCPs have adopted variable practices in initial and follow-up screening for anal cancers. PCPs differ from one another in how often they conduct anal Pap tests and referral to HRA, and have varying clinical practice based on HIV-status, the grade of anal intraepithelial neoplasia, and other considerations.

All PCPs at FH, including physicians, nurse practitioners, and physician's assistants, were eligible to participate in the provider survey. PCPs completed the survey at a provider staff meeting. Prior to the meeting, an email was sent informing PCPs of the study. For PCPs who were not in attendance, an email asking for their participation in the survey was sent following the meeting. PCPs were informed that the survey was voluntary, and an informed consent was obtained. PCPs could choose to complete the survey electronically or by paper.

Research Electronic Data Capture (REDCap), a secure, web-based survey tool, was used to collect and manage survey data.²⁴ Paper surveys were inputted by research staff into REDCap. Survey responses were collected anonymously, and no identifying information was collected (including type of practitioner). All study material and procedures received FH Institutional Review Board approval.

Survey Design

We designed the survey to evaluate: (1) PCPs' HPV vaccination and anal cancer screening practices; (2) PCPs' perceptions regarding patient-, provider- and systems-level barriers to HPV vaccination and anal cancer screening.

PCPs' Practices: HPV Vaccination & Anal Cancer Screening—PCPs were asked about the quality and strength of their HPV vaccine recommendations, including when they recommend it, how they recommend it, and what education they provide regarding HPV-associated cancers.²⁵ Questions assessed the level of PCPs' anal HPV-focused patient education as well as factors associated with anal Pap tests. PCPs were given a list of

potential risk factors for anal HPV infection and asked to indicate which factors prompted a recommendation for initial anal Pap test. PCPs were also asked to select the timeframe they recommend for performing a follow-up anal Pap test based on a patient's HRA biopsy result for HSIL.

PCPs' Perceptions: Barriers to HPV Vaccination & Anal Cancer Screening—To assess perceptions regarding patient-, provider- and systems-level barriers to HPV vaccination and anal Pap screening, we used a 5-point Likert scale (strongly disagree to strongly agree) to assess PCPs' beliefs regarding the level of importance of these known barriers.

Data Analysis

Survey data were exported in spreadsheets, and analyzed by descriptive statistics in Excel (Version 15, Microsoft, Redmond, WA).

RESULTS

Sample Characteristics

A total of 33 PCPs completed the survey (Table 1). The average age of the PCPs was 40. Most PCPs were white (85%), and half identified as female (55%). Most of the PCPs were married (48%) and 58% identified as gay or lesbian.

PCPs spent an average of 9 years in primary care practice, and one completed an additional fellowship in infectious disease (Table 1). PCPs reported having an average of 991 patients under their direct care, of which an average of 69 were HIV-infected. PCPs' averaged 7 years of experience caring for HIV-infected patients. In a typical week, most PCPs cared for 2 to 5 (42%) or more than 5 (39%) HPV vaccine-eligible patients. One PCP saw more than 5 patients with anal HSIL each week (she oversaw an HRA clinic), whereas most PCPs (76%) saw less than 2 patients with anal HSIL each week.

Provider Practices: HPV Vaccination & Anal Cancer Screening

Overwhelmingly, PCPs (94%) reported that they usually recommend the HPV vaccine to eligible patients at their current visit (Table 2). All PCPs reported telling their patients that HPV vaccine is either extremely important (67%) or very important (33%). PCPs reported beginning HPV vaccine discussions by: saying HPV vaccination is due (61%), giving HPV information (67%), suggesting HPV vaccination (67%), and eliciting HPV-related questions (40%). Nearly all PCPs reported telling patients that the HPV vaccine prevents cervical cancer (97%) and anal cancer (97%). PCPs were somewhat less likely to discuss the vaccine's prevention of oropharyngeal cancer (73%), penile cancer (58%) and genital warts (64%).

Most PCPs reported that they do not recommend anal Pap tests for all patients who engage in receptive anal intercourse (88%) or for patients with a new rectal complaint (82%). Fifty-five percent of PCPs reported recommending anal Pap tests under certain circumstances for HIV-uninfected patients, in addition to HIV-infected patients. Almost all (91%) reported

providing every patient who receives an anal Pap test with verbal education about anal HPV, whereas only a few (9%) reported providing every patient with a pre-procedure educational handout.

Lastly, there was variability in whether PCPs performed a follow-up anal Pap depending on patients' HRA results, and variability in whether they recommended follow-up HRA based on patients' anal Pap results (see Table 2).

Provider Perceptions: Barriers to HPV Vaccination and Anal Cancer Screening

Perceived barriers were evident. Most PCPs reported agreeing or strongly agreeing that patients' low level of HPV knowledge was a barrier to HPV vaccine uptake (65%) as well as to anal cancer screening (73%) (Table 3).

More than a third of the PCPs reported agreeing or strongly agreeing that mental illness (41%), substance use disorders (41%), and poverty (41%) were also barriers to HPV vaccination. More than half reported strongly disagreeing or disagreeing that their lack of clinical time with each patient (65%), or a lack of staffing dedicated to recalling patients to the health center for subsequent HPV vaccine doses (53%) was a barrier to vaccine uptake.

Similar to vaccination, more than half of the PCPs reported agreeing or strongly agreeing that mental illness (67%), substance use disorders (67%), and poverty (55%) were also barriers to anal cancer screening. However, more than one third of the PCPs agreed or strongly agreed that their lack of clinical time with each patient was a barrier to anal cancer screening (39%), and that lack of staffing dedicated to recalling patients to the health center was a barrier for anal cancer screening follow-up (36%).

Discussion

HPV Vaccination

Lack of knowledge about HPV and HPV-related diseases among patients has been previously documented as a significant barrier to vaccination,²⁶ and more than half of PCPs in our study agreed. These findings suggest that additional training for providers on best practices in patient HPV education might be a useful intervention. Educational materials, to help PCPs provide consistent and comprehensive HPV patient education, has previously received positive endorsement from both providers and patients.²⁷ These materials should include information inclusive to all persons and strive to improve the public's knowledge about common HPV- associated cancers among men.

In this study, we found that all surveyed PCPs recommended the HPV vaccine in a strong and timely manner that emphasized the vaccine's clinical importance. Provider recommendation is the strongest predictor of HPV vaccination in the general population,^{28–31} and among sexual minority men²⁶ and women.³² MSM with a provider recommendation were 40 times more likely to have received vaccination.²⁶ Providers' strength of endorsement, prevention message, and urgency have also been associated with HPV vaccination uptake,³⁰ and interventions aimed at increasing frequency and quality of

provider recommendation have been associated with increased vaccination among adolescents.³¹

Consistency and strength of PCP recommendations at the health center should also be considered in the context of its SGM-affirming healthcare practices.³³ Health centers and primary care practices can provide a safe space for patients to disclose their sexual orientation and sexual identity,^{22,34} which is important, since non-disclosure has been shown to prevent patients from receiving HPV vaccination.^{17,18,26} The results from this study provide evidence that SGM-affirming care environments plus strong, consistent HPV vaccine recommendation provided by all providers may facilitate achieving vaccine completion rates nearly on target to meet national Healthy People 2020 goals.³⁵

Patient and system-level factors continue to present barriers to HPV vaccination. PCPs surveyed agreed that co-occurring mental illness and/or substance use disorders, as well as poverty, may impede HPV vaccine uptake. PCPs at community health centers are uniquely positioned to address health disparities stemming from psychosocial factors. Community health centers may have systems to assist with insurance enrollment or cost supports, and may have access to case management services, which have demonstrated benefits for cervical cancer screening and follow-up.³⁶ Patient visits to health centers for other health concerns are also opportunities for PCPs to recommend vaccination. In fact, a recent study has shown that a diverse group of adolescents ages 12 to 29 years were more likely to receive HPV vaccination if they exhibited health-seeking behaviors.³⁷

Almost a quarter of PCPs surveyed agreed that lack of clinical time with each patient was a barrier to HPV vaccination. Time constraints with the patient may prevent PCPs from providing adequate HPV and HPV vaccine education.³⁸ Healthcare organizations should explore novel non-PCP-directed ways, such as patient portals and other web educational tools, to disseminate HPV and HPV vaccine information prior to the visit.

Many PCPs also agreed that the lack of staffing dedicated to HPV vaccine follow-up is a barrier to vaccine completion. The lack of existing systems to track and distribute reminders has been noted as a significant barrier to ensuring vaccine completion.³⁸ Electronic health record (EHR) based clinical decision support and alerts may help decrease this barrier by prompting PCPs to consistently provide initial recommendations and check for dosing completion.³⁹ Another method may be through the use of mobile technology.⁴⁰ Most vaccine-eligible patients use mobile smartphones, therefore innovative use of health-based applications (apps) may help in achieving higher HPV vaccination rates.

Anal Cancer Screening

Despite high rates of anal cancer among MSM and recommendations for screening by many experts, MSM currently have low awareness of, access to, and receipt of anal cancer screening.^{21,41,42} Yet, MSM show high acceptance rates when offered an anal Pap test.²⁰ More than half of the PCPs surveyed in our study agreed that lack of knowledge about HPV also presents a barrier to anal cancer screening. In previous studies, men indicated that they would go to their PCPs if they had an anal health problem or question,²¹ or if they wanted an anal Pap test.⁴¹ Patient education by distributing informational packets on anal cancer and

Pap screening,⁴³ and providing pre- and post-procedural anal Pap education,⁴⁴ may help increase screening rates among patients at risk for anal cancer.

The primary care setting is a valuable place to address anal health issues via patient education, risk assessment, and recommendation for screening. More than a quarter of PCPs in our survey reported that lack of clinical time and staffing dedicated to follow-up are barriers. Previous research among PCPs caring for HIV-infected patients identified provider discomfort, time constraints, demand of other priorities, lack of resources, and gender discordance between provider and patient as barriers to addressing anal health.⁴⁵ On the other hand, provider knowledge/awareness related to anal health, connectedness between patient and provider, and discussions of sexual health were facilitators of addressing anal health. These findings underscore the importance of training providers in the provision of culturally-competent sexual health communication and care.

Despite the evidence of increased risk for anal dysplasia and cancer in the context of HIV and high-risk sexual behaviors,⁴⁶ the absence of clear, conclusive, national evidence-based guidelines for anal cancer screening presents a major barrier to addressing anal health problems.⁴⁵ Currently, it is unclear how PCPs should optimally address anal cancer risk, and when they should suggest routine anal Pap testing for their high-risk patients.²¹ Despite, anal Pap guidelines existing mostly for HIV-infected people,^{11,12,47} in our study most PCPs reported also recommending anal Pap tests for certain HIV-uninfected patients. A few PCPs at the health center reported recommending anal Pap tests to all patients who engage in receptive anal intercourse and patients with a new rectal complaint. Our results also indicate substantial variability across PCPs in the timeframe for performing anal Pap tests after HSIL diagnosis by HRA, as well as in the timeframe for recommending follow-up HRA if a patient's anal Pap is concerning for HSIL. Previous research has indicated inconsistent provider beliefs related to the type of follow-up evaluation required for patients who have abnormal anal Pap results.⁴⁸ Some of these patients received HRA with biopsy, whereas others received a visual anal examination or a repeat anal Pap test. In the context of increased anal cancer incidence among MSM, future studies ought to focus on development of clear anal cancer screening guidelines and protocols for patients in primary care settings.

Mental illness, substance use disorders, and poverty were also perceived as barriers to anal cancer screening by more than half of the PCPs. Among MSM, disparities in anal health are related to social, emotional, and mental health factors, as well as physical health factors such as HPV infection.⁴⁹ PCPs' awareness of disparities, as well as factors that influence such disparities, are important for improving patient outcomes. For example, cost may be an important barrier to screening, since uninsured MSM affected by poverty are less likely to seek anal Pap testing.^{21,41} Moreover, abnormal anal Pap tests may lead to additional follow-up costs that may or may not be covered by insurance.

Our study has several limitations. First, our survey was conducted among PCPs from an SGM-focused health center, which trains its providers to provide culturally-sensitive SGM care in a manner that may limit the generalizability of our findings to other health care settings. Second, there may be a recall bias regarding provider practices. Third, motivation

to misreport in a socially-desirable direction may skew results, especially when reporting barriers to care.

In summary, our study expands current understanding of PCPs' practices regarding HPV vaccination and their perceived barriers to HPV vaccine uptake. Our study yields new knowledge about current PCP's practices associated with anal cancer screening and perceived barriers to screening and follow-up. Variability in provider recommendations for anal cancer screening, in the absence of evidence-based, national guidelines, may hinder efforts to prevent HPV-related diseases among high-risk individuals. PCPs' perceived barriers to HPV vaccine uptake and anal cancer screening included patient-, provider- and systems-level barriers that should be addressed by increasing patients' knowledge about HPV, addressing HPV-related disease more effectively within the time constraints of clinical practice, and dedicating personnel resources for vaccination- and screening-related clinical management and follow-up.

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Table 1

Demographics of survey respondents (N=33)

Provider Characteristics	Mean (SD) or N (%)
Demographics	
Age (years)	39.94 (6.83)
Race/Ethnicity	
White	28 (84.9)
Non-White	5 (15.1)
Assigned Sex at Birth	
Female	18 (54.5)
Male	15 (45.5)
Current Gender Identity	
Female	18 (54.5)
Male	15 (45.5)
Marital/Partner Status	
Single	6 (18.2)
Dating	1 (3.0)
In A Relationship	2 (6.1)
Living with Partner	5 (15.1)
Divorced/Separated	3 (9.1)
Married	16 (48.5)
Sexual Orientation	
Straight/Heterosexual	11 (33.3)
Gay/Lesbian	19 (57.6)
Bisexual	3 (9.1)
Prefer not to say	2 (6.1)
Practice Characteristics	
Years in Practice	8.66 (7.69)
Completed a Fellowship in Infectious Diseases	
Yes	1 (3)
No	32 (97)
Approximate Number of Patients Under Direct Care *	990.62 (351)
Approximate Number of HIV-infected Patients Under Direct Care *	68.78 (53.41)
Number of Years Caring for HIV-infected Patients	7.27 (5.5)
Number of HPV Vaccine-Eligible Patients Seen in A Week	
Less than 2	6 (18.2)
Between 2 and 5	14 (42.4)
More than 5	13 (39.4)
Number of Patients with Anal HSIL Seen in A Week	
Less than 2	25 (75.8)

Provider Characteristics	Mean (SD) or N (%)
Between 2 and 5	7 (21.2)
More than 5	1 (3)

*
n = 32

Table 2

Provider recommendations and behaviors regarding HPV vaccine, anal Pap and high-resolution anoscopy (N=33)

HPV Vaccine	N (%)
I usually recommend HPV-vaccine eligible patients receive the vaccine...	
At Current Visit	31 (93.9)
At Later Visit	0 (0)
Give a Choice (at current visit or at later visit)	3 (9.09)
At Physical Exam	1 (3.03)
I say to HPV vaccine-eligible patients that the vaccine is...	
Extremely Important	22 (66.6)
Very Important	11 (33.3)
Moderately Important/Somewhat Important/Not Important	0 (0.00)
I begin the discussion of HPV vaccination by...	
Saying HPV vaccination is due	20 (60.6)
Giving information	22 (66.6)
Suggesting HPV vaccine	22 (66.6)
Eliciting questions	13 (39.3)
I tell the patients that the HPV vaccine prevents...	
Cervical cancer	32 (96.9)
Anal cancer	32 (96.9)
Oropharyngeal cancer	24 (72.7)
Penile cancer	19 (57.5)
Genital warts	21 (63.6)
Anal Pap & HRA	N (%)
I recommend...	
an anal Pap test for all patients who engage in receptive anal intercourse	4 (12.1)
an anal Pap test for patients with a new rectal complaint	6 (18.1)
an anal Pap test only for HIV-infected patients	15 (45.4)
an anal Pap test only for patients who are unvaccinated for HPV.	0 (0)
I provide...	
every patient who receives an anal Pap test with verbal education about anal HPV.	30 (90.9)
every patient who receives an anal Pap test with a pre-procedure educational handout.	3 (9.09)
If a patient's HRA biopsy is "negative for HSIL," I perform a follow-up anal Pap test within...	
Less than 6 months	2 (6.06)
6 months	4 (12.1)
Between 6 and 12 months	4 (12.1)
12 months	17 (51.5)
More than 12 months	1 (3.03)
No answer or text	5 (15.1)
If a patient's HRA biopsy is "conclusive for HSIL," I perform a follow-up anal Pap test within...	

HPV Vaccine	N (%)
1 month	4 (12.1)
3 months	6 (18.1)
6 months	7 (21.2)
12 months	3 (9.09)
No answer or text	13 (39.3)
If a patient's anal Pap test is "not concerning for HSIL," I recommend follow-up with HRA within...	
Less than 3 months	4 (12.1)
3 months	4 (12.1)
6 months	5 (15.1)
Between 6 and 12 months	1 (3.03)
12 months	10 (30.3)
More than 12 months	1 (3.03)
No answer or text	8 (24.2)
If a patient's anal Pap test is "concerning for HSIL," I recommend follow-up with HRA within...	
Immediately	3 (9.09)
1 month	14 (42.4)
Between 1 and 3 months	4 (12.1)
3 months	7 (21.2)
6 months	5 (15.1)

Table 3

Provider perceptions regarding barriers to patients' adherence to HPV-related disease prevention methods (N=33)

HPV Vaccine	N (%)
Low knowledge fund about HPV is a barrier to HPV vaccine uptake *	
Strongly Disagree/Disagree	9 (28.1)
Neutral	2 (6.25)
Agree/Strongly Agree	21 (65.6)
Mental illness is a barrier to HPV vaccine uptake *	
Strongly Disagree/Disagree	8 (25.0)
Neutral	11 (34.3)
Agree/Strongly Agree	13 (40.6)
Substance use disorders are a barrier to HPV vaccine uptake *	
Strongly Disagree/Disagree	9 (28.1)
Neutral	10 (31.2)
Agree/Strongly Agree	13 (40.6)
Poverty is a barrier to HPV vaccine uptake *	
Strongly Disagree/Disagree	11 (34.3)
Neutral	8 (25.0)
Agree/Strongly Agree	13 (40.6)
My lack of clinical time with each patient is a barrier to HPV vaccine uptake *	
Strongly Disagree/Disagree	21 (65.6)
Neutral	4 (12.5)
Agree/Strongly Agree	7 (21.8)
The lack of staffing dedicated to HPV vaccination recall is a barrier to HPV vaccine uptake *	
Strongly Disagree/Disagree	17 (53.1)
Neutral	6 (18.7)
Agree/Strongly Agree	9 (28.1)
Anal HPV Screening	N (%)
Low knowledge fund about HPV is a barrier to anal HPV screening adherence	
Disagree	3 (9.09)
Neutral	6 (18.1)
Agree/Strongly Agree	24 (72.7)
Mental illness is a barrier to anal HPV screening adherence	
Disagree	3 (9.09)
Neutral	8 (24.2)
Agree/Strongly Agree	22 (66.6)
Substance use disorders are a barrier to anal HPV screening adherence	
Disagree	3 (9.09)
Neutral	8 (24.2)

HPV Vaccine	N (%)
Agree/Strongly Agree	22 (66.6)
Poverty is a barrier to anal HPV screening adherence	
Disagree	5 (15.1)
Neutral	10 (30.3)
Agree/Strongly Agree	18 (54.5)
My lack of clinical time with each patient is a barrier to anal HPV screening adherence	
Strongly Disagree/Disagree	13 (39.3)
Neutral	7 (21.2)
Agree/Strongly Agree	13 (39.3)
The lack of staffing dedicated to anal HPV screening recall is a barrier to anal HPV screening adherence	
Strongly Disagree/Disagree	15 (45.4)
Neutral	6 (18.1)
Agree/Strongly Agree	12 (36.3)

*
n=32