

## Apaydin, 2018

**Bibliographic Reference** Apaydin, Kaan Z; Fontenot, Holly B; Shtasel, Derri; Dale, Sannisha K; Borba, Christina P C; Lathan, Christopher S; Panther, Lori; Mayer, Kenneth H; Keuroghlian, Alex S; Facilitators of and barriers to HPV vaccination among sexual and gender minority patients at a Boston community health center.; Vaccine; 2018; vol. 36 (no. 26); 3868-3875

### Study details

<b>Study design</b>	Qualitative study
<b>Trial registration number</b>	Not reported
<b>Study start date</b>	Jun-2016
<b>Study end date</b>	Sep-2016
<b>Aim</b>	To identify patient-, provider- and systems-level barriers to and facilitators for HPV vaccination among eligible sexual and gender minority (SGM) patients.
<b>Country/geographical location</b>	Boston, Massachusetts, North America
<b>Setting</b>	Focus groups were conducted at an urban community health centre specialised in care for SGM patients.
<b>Inclusion criteria</b>	Vaccine-eligible SGM youth ages 18-26 years, could read/understand English, recruitment into study had to be authorised by the participant's primary care provider. 4 focus groups, HIV negative and 3 dose HPV vaccine complete; HIV negative and vaccine not complete; HIV positive and vaccine complete; HIV positive and vaccine not complete.
<b>Exclusion criteria</b>	Not reported
<b>Statistical method(s) used to analyse the data</b>	Transcripts were imported into Dedoose Version 7.0.23 (SocioCultural Research Consultants, LLC, Los Angeles, CA) for data management and thematic content analysis.  Thematic content analysis of all transcripts was undertaken. One researcher read all transcripts and created the initial codebook using both deductive and inductive analysis. This researcher and another then independently coded all

	<p>transcripts using the initial codebook. These two researchers then met to discuss and resolve discrepancies in coding before reaching final agreement in codes and higher level themes.</p>
<p><b>Study limitations</b></p>	<p>Authors reported a small and predominantly white sample size that specifically focuses on sexual and gender minority health. This may impact on generalisability.</p> <p>Data on how many participants initiated or completed HPV vaccination prior to initiating care at the SGM specialized health centre was not collected.</p>
<p><b>Study theme 1</b></p>	<p><b>Patient-level barriers and facilitators</b></p> <p><b><u>HPV-related knowledge and beliefs:</u></b></p> <p>Most participants identified a lack of knowledge about how HPV affects both male and females as a vaccination barrier. Regardless of vaccination status, participants had low knowledge of HPV and HPV-related cancers. Many did not know what HPV was, how HPV-related diseases progress, or ways to prevent HPV-related disease.</p> <p>Some gay men reported believing that most men do not know HPV can affect men, and so do not receive the vaccine.</p> <p>One transgender man reported believing that being “born in a female body” made him susceptible to HPV-related disease. Another transgender man reported believing that many SGM people do not understand appropriate timing of HPV vaccination, such as whether to receive the vaccine before or after engaging in sexual activity. One gay man reported:</p> <p><i>“I had no idea that it associated itself with cancer. As far as I did know, it [HPV] just caused warts.”</i></p> <p><i>“If I didn’t have the knowledge [about HPV vaccination]. Because I think that that’s what stops people in general. (cisgender man, HIV-infected, vaccinated).”</i></p> <p><b><u>Behaviours related to engagement in care:</u></b></p> <p>Some participants stated that they had started the vaccine series with a previous provider but had not complete all doses. Participants who reported not completing the vaccine series described barriers with: long time intervals between doses; multiple doses; and the inconvenience of work conflicting with clinic hours. Fully vaccinated participants described</p>

	<p>monitoring their own timeline for dose completion and following up with their PCP to confirm appointments as behaviours that facilitated 3-dose completion.</p> <p><i>“... you know, going back and coming back, and going back [for 3 doses], it’s too much work. (transman, HIV-uninfected, vaccinated)”</i></p> <p><i>“I kind of had the whole timeline laid out before I started even with the first dose, and then just before I would leave the office that same day schedule a follow-up appointment. So it was already in my calendar”</i></p> <p><b><u>Fear of HPV-related disease:</u></b></p> <p>Fear of HPV-related disease was a vaccine facilitator among HIV-infected gay men. Three HIV-infected gay men reported that HIV seroconversion made them more cautious about their health.</p> <p><i>“... fear and wanting that assurance of I will not get these things [warts and cancer] if I do this [getting the vaccine] kind of outweighed that ethical value set that I had”</i></p> <p><i>“there’s definitely this like fear for me I feel like, and probably a lot of people, of getting genital warts or anal warts or more so than even cancer. I feel like people are just like – the physical disgust around that kind of thing and that stigma in our culture I think really propels – propelled me and a lot of people to get the vaccine to prevent that kind of thing from happening”</i></p>
<p><b>Study theme 2</b></p>	<p><b>Provider-level barriers and facilitators</b></p> <p><b><u>The primary care provider’s (PCP’s) knowledge/expertise related to HPV:</u></b></p> <p>Some also stated that their PCP’s expert care was the only facilitator for vaccination. Fully vaccinated gay men described how their PCPs took the time to explain the benefits of HPV vaccination for males, and how the vaccine prevents genital warts and anal cancers. As a result of this education, fully vaccinated HIV-infected gay men reported awareness of being at lower risk for HPV-related diseases. Fully vaccinated transgender men stated that their SGM affirming PCPs’ HPV recommendation sparked their series completion, which had been previously initiated but never completed.</p>

	<p><i>“it helped ... when my doctor asked about that, and I said, “Oh yeah, I think I’ve heard about that. If the vaccination is something I should look into.” And then she recommended it”</i></p> <p><b>Identity-affirming care;</b></p> <p>Participants described uncomfortable interactions relating to discussing their sexual activity and this as a possible barrier to vaccination. Several participants reported affirming care by their PCP as a facilitator.</p> <p><i>“I think it’s about being comfortable with your doctor, and having those [sexual health and HPV-related] conversations with them.”</i></p>
<p><b>Study theme 3</b></p>	<p><b>System level barriers and facilitators</b></p> <p><b>Identity-affirming healthcare system;</b></p> <p>Participants described experiences that did not affirm their identifies. A gay man stated that he had previously encountered accessing health services relevant to him as MSM.</p> <p><b><u>Public awareness of HPV-related disease:</u></b></p> <p>Participants identified the overall lack of public awareness about HPV-related disease as a barrier to vaccination. One transgender woman stated that she had heard of HIV and AIDS as something to worry about, but not HPV. Others described lower levels of public awareness about HPV as compared to other sexually transmitted infections:</p> <p><i>“I still don’t think that it’s necessarily included in the top STDs people think of. When I think of it, it’s like HIV is this big scary thing and then like syphilis, gonorrhoea, chlamydia is like this conglomerated thing.”</i></p>

**Characteristics**

**Study-level characteristics**

	<b>Study (N = 15)</b>
<b>Age</b> Mean (SD)	25 (0.7)
<b>Cisgender man</b>	n = 9 ; % = 60

	<b>Study (N = 15)</b>
<b>Cisgender woman</b>	n = 1 ; % = 7
<b>Transman</b>	n = 3 ; % = 20
<b>Transwoman</b>	n = 2 ; % = 13
<b>Ethnicity</b>	
White	n = 10 ; % = 66.7
Hispanic / Latino	n = 1 ; % = 7
Black / African American	n = 2 ; % = 13
Asian	n = 1 ; % = 7
More than one race	n = 1 ; % = 7
<b>Sexual orientation</b>	
Gay/lesbian	n = 9 ; % = 60
Straight/heterosexual	n = 1 ; % = 7
Bisexual	n = 2 ; % = 13
Queer	n = 1 ; % = 7
Asexual	n = 1 ; % = 7
Pansexual	n = 1 ; % = 7
<b>Education level</b>	
Less than high school	n = 1 ; % = 7
High school graduate	n = 5 ; % = 33
College graduate	n = 6 ; % = 40
Post graduate	n = 3 ; % = 20
<b>History of sexually transmitted infections (STIs)</b>	
HIV infected	n = 4 ; % = 27
HIV uninfected	n = 11 ; % = 73
Ever diagnosed with HPV (yes)	n = 2 ; % = 13

	<b>Study (N = 15)</b>
Ever diagnosed with HPV (no)	n = 13 ; % = 86
<b>HPV vaccination status, yes</b>	N=12, 80%
HPV vaccination status, no	N=2, 20%

### Critical appraisal - CASP Qualitative checklist

<b>Aims of the research</b>
<i>Was there a clear statement of the aims of the research?</i>
Yes
<b>Appropriateness of methodology</b>
<i>Is a qualitative methodology appropriate?</i>
Yes
<b>Research Design</b>
<i>Was the research design appropriate to address the aims of the research?</i>
Yes
<b>Recruitment Strategy</b>
<i>Was the recruitment strategy appropriate to the aims of the research?</i>
Can't tell
<b>Data collection</b>
<i>Was the data collected in a way that addressed the research issue?</i>

Yes

**Researcher and participant relationship**

*Has the relationship between researcher and participants been adequately considered?*

Yes

**Ethical Issues**

*Have ethical issues been taken into consideration?*

Yes

**Data analysis**

*Was the data analysis sufficiently rigorous?*

Can't tell

**Findings**

*Is there a clear statement of findings?*

Yes

**Research value**

*How valuable is the research?*

The research is valuable

**Overall risk of bias and directness**

*Overall risk of bias*

Moderate

## Fontenot, 2016

**Bibliographic Reference** Fontenot, Holly B; Fantasia, Heidi C; Veters, Ralph; Zimet, Gregory D; Increasing HPV vaccination and eliminating barriers: Recommendations from young men who have sex with men.; *Vaccine*; 2016; vol. 34 (no. 50); 6209-6216

### Study details

<b>Study design</b>	Qualitative study
<b>Study start date</b>	May-2014
<b>Study end date</b>	May-2015
<b>Aim</b>	To elicit young men who have sex with men's (YMSM) beliefs about HPV and the HPV vaccine and to describe perceived barriers and facilitators of vaccine initiation and completion.
<b>Country/geographical location</b>	Boston, USA
<b>Setting</b>	Flyers describing the study were posted at an urban lesbian, gay, bisexual, transgender, queer (LGBTQ) youth-led and adult supervised safe space and at an urban community health center focused on the unique health needs of homeless and LGBTQ youth ages 12–29 years.  Focus groups were conducted in private conference rooms at health and community centres in Boston.
<b>Inclusion criteria</b>	YMSM ages 18–26 years who were able to read and understand English, irrespective of HPV vaccination status
<b>Exclusion criteria</b>	None reported
<b>Statistical method(s) used to analyse the data</b>	Descriptive analyses of means, standard deviations and percentages were calculated for questionnaire data.  All focus groups and interviews were audio-tape recorded and transcribed verbatim. Data were analysed using conventional content analysis. The steps of analysis included: preparing and organizing data, re-reading each transcript along with field notes for orientation and data immersion, reducing data into initial codes, combining codes into broader categories based on content and thematic saturation, then final definitions for each category were developed,



	relationships were examined and exemplar quotes were highlighted. The coding process was performed by two investigators with expertise in qualitative data analysis. The overall process was reviewed continuously to verify data and coding, and the final themes were independently verified by 2 investigators and a research fellow.
<b>Study limitations</b>	The authors note that data saturation was reached. The study was conducted in one geographical location and the participants were only interviewed once, therefore the results may not be transferable to other populations.
<b>Study theme 1</b>	<p><u>Low HPV Knowledge and Awareness</u></p> <p>Unrelated to vaccination status, the overwhelming majority of participants demonstrated low levels of HPV knowledge; low knowledge related to male associated cancers; and evidence of a disconnect between MSM and HPV risk, with most believing that HPV infection was more prevalent and serious for females.</p> <p><i>So I know very little about it [HPV]</i></p> <p><i>I've never thought about gay men being especially at risk for HPV</i></p> <p>The men had all heard of the HPV vaccine, understood that the vaccine required multiple shots in a particular time frame, and it was best to get it before you were sexually active. However, the majority believed it was primarily a vaccine for females, though many were aware the vaccine was available for men</p> <p><i>There is a misconception that if you're a gay man, you don't need to get it [HPV vaccine]</i></p> <p>They did not realise the HPV is the most common STI. The participants talked about how the focus of providers and those within the MSM community was on STIs that are less prevalent than HPV among YMSM:</p> <p><i>We hear about AIDS; we hear about HIV but we don't hear about HPV</i></p>
<b>Study theme 2</b>	<p><u>Positive Vaccine Beliefs</u></p> <p>Largely, the YMSM viewed vaccines in general positively and believed they were useful tools to prevent disease and maintain health.</p> <p><i>I'm definitely pro vaccine</i></p>

	<p>Participants were aware of controversies relating to vaccines.</p> <p>In terms of the HPV vaccine specifically, the men strongly supported access to and education about HPV vaccination for all persons regardless of gender or sexual orientation. Overwhelmingly, the men believed that if they or other YMSM were educated about HPV and the HPV vaccine and if health care providers offered the HPV vaccine, they would get it.</p> <p><i>Now knowing all the cancers it causes, which I wasn't aware of before it seems like more of a reason to get it</i></p> <p>Concerns related to the HPV vaccine did not differ from their concerns related to any other vaccine (e.g. fear of needles, side effects, adverse reactions).</p> <p><i>I think like with all vaccines there are probably side effects</i></p> <p><i>It is hard to remember, keep track of all the shots</i></p>
<p><b>Study theme 3</b></p>	<p><u>Perceived Stigmas</u></p> <p>The men described stigmas related to being gay, gay health, acceptance by HCPs, and STI care. Many described feeling more comfortable seeking care at “gay friendly” health centres. A need for more education of HCP to reduce the perceived stigmas of seeking health care.</p> <p>Stigma relating to the HPV vaccine was noted and if asking for it would single them out as promiscuous or sexually active with other men.</p> <p>Men described being embarrassed asking for the vaccine and wished providers just recommended it first, so they would not have to ask for it.</p> <p><i>[HPV] that's like a girl thing and they don't market it towards men so we are embarrassed sometimes because we're like that a girl's thing, why are we over here getting treated for this</i></p> <p>The men suggested that HPV education should be widespread and more inclusive of all sexes:</p> <p><i>If there was more education about it [HPV vaccine], if the vaccine gets known, then it won't be as taboo</i></p>
<p><b>Study theme 4</b></p>	<p><u>Facilitators of HPV Vaccination</u></p>

	<p>The men described barriers to vaccination such as: lack of knowledge, misconception that the vaccine was not for men or gay men in particular, inconvenience of scheduling 3 shots, pain or fear of shots, cost/ insurance coverage, stigmas, parents/family because the vaccine is related to sex, and their own internal motivations or "laziness"</p> <p>The men described 3 main facilitators:</p> <p><u>Use of technology:</u> such as a mobile app that could provide health and HPV information. An app for booking appointments, creating a reminder system, keep track of health history. The men also believed that flexibility in scheduling and app-based reminder systems would facilitate 3-dose completion</p> <p><i>People are uncomfortable having to make phone calls. . . it's a lot easier to just do something on your phone, like an appointment confirmation, so that you can go in without having to talk [to someone] or feel uncomfortable disclosing things [on the phone]</i></p> <p><u>Making vaccines part of a package deal:</u> Participants also described wanting to combine HPV vaccination with other types of visits like annual exams and other STI tests. They described routinely being tested for HIV and how they could also have been vaccinated against HPV at those visits</p> <p><u>Increasing HPV and HPV vaccine awareness:</u> Participants described a need for overall increased awareness regarding HPV and HPV vaccination. Overwhelmingly they described that having factual information about HPV and the vaccine would increase vaccination. They wished HPV was discussed in schools, thought commercials were good ideas and they felt HCPs should recommend this vaccine to everyone.</p> <p><i>If it were advertised like the flu vaccine. Everybody come get the HPV vaccine. All of the students would just do it.</i></p>
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## Characteristics

### Study-level characteristics

	Study (N = 34)
Age Mean (SD)	20.8 (2)
Gender	Male
<b>Ethnicity</b>	
Black	n = 12 ; % = 35

	<b>Study (N = 34)</b>
White	n = 8 ; % = 24
Multiracial	n = 8 ; % = 24
Asian	n = 3 ; % = 9
Other	n = 2 ; % = 6
<b>Education</b>	
< High school	n = 6 ; % = 18
High school graduate	n = 3 ; % = 9
Some college	n = 22 ; % = 65
College graduate	n = 3 ; % = 9
<b>HPV Vaccination</b>	
Yes	n = 20 ; % = 59
No	n = 10 ; % = 30
I don't know	n = 4 ; % = 12

### Critical appraisal - CASP Qualitative checklist

<b>Aims of the research</b>
<i>Was there a clear statement of the aims of the research?</i>
Yes
<b>Appropriateness of methodology</b>
<i>Is a qualitative methodology appropriate?</i>
Yes

**Research Design**

*Was the research design appropriate to address the aims of the research?*

Yes

**Recruitment Strategy**

*Was the recruitment strategy appropriate to the aims of the research?*

Can't tell

**Data collection**

*Was the data collected in a way that addressed the research issue?*

Yes

**Researcher and participant relationship**

*Has the relationship between researcher and participants been adequately considered?*

Can't tell

**Ethical Issues**

*Have ethical issues been taken into consideration?*

Yes

**Data analysis**

*Was the data analysis sufficiently rigorous?*

No

*(Insufficient detail regarding how codes were developed. Inter rater reliability or agreement between coders not reported)*

### Findings

*Is there a clear statement of findings?*

Yes

### Research value

*How valuable is the research?*

The research is valuable

### Overall risk of bias and directness

*Overall risk of bias*

Moderate

## Gerend, 2019

**Bibliographic Reference** Gerend, M.A.; Madkins, K.; Crosby, S.; Korpak, A.K.; Phillips, G.L.; Bass, M.; Houlberg, M.; Mustanski, B.; A Qualitative Analysis of Young Sexual Minority Men's Perspectives on Human Papillomavirus Vaccination; LGBT health; 2019; vol. 6 (no. 7); 350-356

### Study details

<b>Study design</b>	Qualitative study
<b>Study start date</b>	Aug-2016
<b>Study end date</b>	Aug-2016
<b>Aim</b>	To identify young sexual minority men's perspectives on HPV vaccination

<b>Country/geographical location</b>	United States of America
<b>Setting</b>	Participants were recruited through advertisements posted on Facebook and a local participant registry associated with the IMPACT LGBT Health and Development Program, which conducts translational research for improving the health of individuals in LGBT communities
<b>Inclusion criteria</b>	Assigned male sex at birth; male gender identity; ages 18–26 years; self-identify as gay, bisexual, or queer; and currently live in the Chicago metro area. Participants were also required to own a cell phone and have used text messaging in the past 6 months
<b>Exclusion criteria</b>	Not reported
<b>Statistical method(s) used to analyse the data</b>	Interviews were transcribed verbatim. Descriptive statistics were computed for sociodemographic and background characteristics that had been assessed on the screening survey and during the interview. Transcripts were imported into Dedoose (Socio- Cultural Research Consultants, LLC, Los Angeles, CA) and coded by two study team members. Any coding inconsistencies were discussed and resolved.
<b>Attrition</b>	Not applicable
<b>Study limitations</b>	Relatively small sample size, and convenience sample, may have limited generalizability. Authors noted that findings may not extend to rural populations, HIV +ve men or men who have sex with men and do not identify as gay, bisexual or queer. Participants were recruited primarily from neighborhoods with higher socioeconomic status. Findings may not extend to rural sexual minority populations, HIV-positive men, or MSM who do not identify as gay, bisexual, or queer.
<b>Study theme 1</b>	<p><b><u>Information</u></b></p> <p><b>Knowledge of HPV infection</b></p> <p>The most common misconception was that HPV affects women, but not men. Common misunderstanding that men primarily carry but do not experience symptoms.</p> <p>Most participants lacked specific details about how HPV is transmitted and were unaware of the connection between HPV and anal cancer. Although many men knew about the link between HPV infection and cancer in women, they were often shocked to learn that HPV could cause anal and oropharyngeal cancers in men. Several men expressed surprise and frustration about the lack of HPV testing for men</p> <p><i>I've heard it doesn't affect men, but they can transmit it. I don't know if that's true.</i></p> <p><i>I didn't know like it affected guys at all.</i></p>

<p><b>Study theme 2</b></p>	<p><b>Knowledge of HPV vaccine</b></p> <p>Approximately 20% had never heard of HPV vaccination, vaccine knowledge varied across participants.</p> <p>The most common misconception regarding HPV vaccination was that only women could receive the vaccine. At the same time, several participants were aware that men could be vaccinated for HPV.</p> <p><i>"Not getting HPV and not developing any of the cancers or anything related to it. Don't have to worry as much. One of the few STIs have vaccine for—click that one off the list"</i></p> <p><i>"I've always assumed it was geared toward women more than men"</i></p> <p><b>Vaccine effectiveness</b></p> <p>Participants were unsure about whether the HPV vaccine is effective for men who have already been sexually active. They also had questions about the recommended number and timing of doses, typical age for receiving the HPV vaccine, and common side effects</p> <p><i>"So, if someone were to get a vaccine, but say they already have it (HPV), how does that work?"</i></p>
<p><b>Study theme 3</b></p>	<p><b><u>Motivation</u></b></p> <p><b>Behavioural beliefs</b></p> <p>Primary advantages included preventing HPV and reducing risk of HPV-related diseases, peace of mind, and protecting sexual partners. Participants acknowledged the physical and psychological health benefits of HPV vaccination and were enthusiastic about the ability to protect both themselves and their partner(s).</p> <p><i>Not getting HPV and not developing any of the cancers or anything related to it.</i></p> <p><i>Don't have to worry as much. One of the few STIs have vaccine for—click that one off the list.</i></p> <p><i>Yeah like I care about my health, but I also care about other people's health too and I don't want anyone else to get infected or have to go through with something like that.</i></p>



Primary disadvantages included side effects (e.g., pain), sexual disinhibition (i.e., concern that someone would become less inhibited in their sexual behaviour after vaccination), and stigma (e.g., being labeled as promiscuous).

*I imagine that there are some people who are more concerned about side effects. Some people may be more prone to them than others*

*Just one I can think of is that, maybe now that the vaccine—you have the vaccine, a mindset might think, like, “Unprotected sex might be okay.” Or, “You don’t need to be as careful,” or whatnot*

*...some people will consider somebody very promiscuous. ‘Oh, you’re getting a vaccine because you’re sleeping with multiple people,’ and there’s just a stigma associated with that*

#### **Perceived threat of HPV**

Many spontaneously shared threat-related comments after the fact sheet. There was surprise about the high level of exposure to HPV, there was a lack of awareness of the link between HPV and cancer.

#### **Motivation**

Personal experience with genital warts was often cited as a reason for getting HPV vaccine, with acknowledgement that vaccination could protect them from other HPV types.

#### **Normative beliefs**

Participants thought that most people in their lives would be supportive of them receiving the HPV vaccine. Participants had more difficulty identifying unsupportive referents. Those who did typically mentioned their parents (especially their father) or extended family members.

Several participants had had female friends or relatives who had received the HPV vaccine, very few knew another gay man who had been vaccinated.

*I have a very good relationship with my entire family. They all know I’m gay. No one cares one bit. I’m very fortunate. So if I were to say I was getting the Gardasil vaccine, they would be (very supportive)*

	<p><i>Maybe my dad. Because he's just ignorant with regard to sexuality and vaccines and stuff like that. He's kind of a anti-government conspiracies person, so I don't really have a good relationship with him</i></p> <p><b>Social support from significant others</b></p> <p>Among vaccinated participants, the primary social factor that motivated them to get vaccinated was a recommendation from a health care provider. Nearly all vaccinated participants mentioned the central role of the provider in their decision to receive the HPV vaccine.</p> <p><i>"It was the doctor's recommendation. I honestly wouldn't have thought about it had he not recommended it</i></p>
<p><b>Study theme 5</b></p>	<p><b><u>Behavioural skills</u></b></p> <p><b>Disclosure of sexual orientation</b></p> <p>Two thirds had discussed sexuality with healthcare provider. Willingness to disclose was connected to the type of clinic and expectations of how the provider might respond. Some described providers uncomfortable or awkward in asking questions, or described feeling stigma or judgment – several shared positive experiences of disclosure.</p> <p><b>Comfort discussing HPV vaccine</b></p> <p>Majority would be comfortable asking provider for the HPV vaccine. Some expressed hesitation, especially if they had to discuss their sexuality.</p> <p><b>Control/efficacy beliefs</b></p> <p>Although a few participants said that they would ask their primary care provider for the vaccine, most did not know where they could receive the vaccine.</p> <p>When asked to identify what made it easier for them to receive the HPV vaccine, nearly all vaccinated participants cited the convenience of being offered the vaccine while at the clinic. Participants suggested that coupling HPV vaccination with another reason for going to the clinic (e.g., HIV testing and PrEP follow-up) could increase accessibility. Participants were especially keen on getting vaccinated at a walk-in clinic or pharmacy, or if they were students, on campus.</p> <p>Participants acknowledged the inconvenience of having to receive three doses to complete the series.</p>

*I think ease of access. I don't know how many hospitals or locations would have this vaccine or if it's accessible in that capacity.*

*Well, it was offered right there while I was getting the physical done. So I didn't even have to make a special trip or anything.*

## Characteristics

### Study-level characteristics

	Study (N = 29)
<b>Age</b>	22.66 (2.3)
<b>Ethnicity</b>	
Asian	n = 2 ; % = 7
Black or African American	n = 4 ; % = 14
White	n = 17 ; % = 59
Multiracial	n = 4 ; % = 14
Latino or Hispanic (yes)	n = 7 ; % = 24
Latino or Hispanic (no)	n = 22 ; % = 76
Other or unknown	n = 2 ; % = 7
<b>Sexual Orientation</b>	
Gay	n = 22 ; % = 76
Bisexual	n = 4 ; % = 14
Queer	n = 3 ; % = 10
<b>HIV serostatus</b>	
HIV negative	n = 24 ; % = 83
HIV positive	n = 1 ; % = 3
Never tested	n = 4 ; % = 14
<b>HPV Vaccination status</b>	

	<b>Study (N = 29)</b>
Don't know	n = 1 ; % = 3
HPV vaccine - No	n = 19 ; % = 66
HPV vaccine - Yes	n = 9 ; % = 31

### Critical appraisal - CASP Qualitative checklist

<b>Aims of the research</b>
<i>Was there a clear statement of the aims of the research?</i>
Yes
<b>Appropriateness of methodology</b>
<i>Is a qualitative methodology appropriate?</i>
Yes
<b>Research Design</b>
<i>Was the research design appropriate to address the aims of the research?</i>
Yes
<b>Recruitment Strategy</b>
<i>Was the recruitment strategy appropriate to the aims of the research?</i>
Yes
<b>Data collection</b>
<i>Was the data collected in a way that addressed the research issue?</i>

Yes

**Researcher and participant relationship**

*Has the relationship between researcher and participants been adequately considered?*

Can't tell

**Ethical Issues**

*Have ethical issues been taken into consideration?*

Can't tell

*(Ethics approval not mentioned but study reported that procedures were approved by the Institutional Review Board at Northwestern University)*

**Data analysis**

*Was the data analysis sufficiently rigorous?*

Yes

**Findings**

*Is there a clear statement of findings?*

Yes

**Research value**

*How valuable is the research?*

The research is valuable

**Overall risk of bias and directness**

*Overall risk of bias*

Moderate

## Grace, 2018

**Bibliographic Reference** Grace, Daniel; Gaspar, Mark; Paquette, Rachelle; Rosenes, Ron; Burchell, Ann N; Grennan, Troy; Salit, Irving E; HIV-positive gay men's knowledge and perceptions of Human Papillomavirus (HPV) and HPV vaccination: A qualitative study.; PloS one; 2018; vol. 13 (no. 11); e0207953

**Study details**

<b>Study design</b>	Qualitative study
<b>Study start date</b>	Nov-2016
<b>Study end date</b>	Jul-2017
<b>Aim</b>	To explore HPV vaccination barriers and hesitancy among HIV-positive gay men in Canada by examining participants' narrative accounts of their knowledge, experiences and perceptions related to HPV and HPV vaccination.
<b>Country/geographical location</b>	Toronto, Canada
<b>Setting</b>	With the exception of one interview conducted by phone for accommodation reasons, all interviews were conducted in-person at the University of Toronto in a private meeting room.
<b>Inclusion criteria</b>	Participants were purposively recruited from a subsample of men who took part in the larger HPV Screening and Vaccine Evaluation (HPV-SAVE) study and who indicated a willingness to be contacted for additional research activities. Participants were HIV positive, self-identified as gay and were at various stages of the anal cancer screening process
<b>Exclusion criteria</b>	None reported
<b>Statistical method(s) used to analyse the data</b>	Interviews were audio recorded, transcribed verbatim, and reviewed for accuracy. QSR NVivo 11 qualitative software was used to code transcripts following Grounded Theory. Using an iterative, constant comparative method, transcripts were systematically reviewed and coded as interviews were completed. Codes were written for sections or units of texts, and memos were created that expanded upon sections of coded text and described relationships across the codes. Qualitative coding was conducted concurrently with data collection, allowing the interview guide to be iteratively refined and enabling the exploration of emergent themes in subsequent interviews.

<p><b>Study limitations</b></p>	<p>Authors highlight that they exclusively focused on HIV-positive GBM, noting that these men may have different understandings of the necessity of the HPV vaccine than HIV negative GBM, because they are at higher risk for HPV associated cancers. They also noted that participants tended to be older (mean age of 50.4 years old), white, and identified as gay males. The authors did not interview any transgender males. Participants were recruited from a clinical trial on anal Pap testing and thus the participants may be more active in their health care than the general GBM population. Nonetheless, the authors point out that their finding of vaccine hesitancy and low awareness of the HPV vaccine among a group of highly active health seekers may indicate just how significant the problem may be across a more generalized population of GBM.</p>
<p><b>Study theme 1</b></p>	<p><b><u>Vaccination History</u></b></p> <p>Some decided to be vaccinated after their first anal Pap. Others still felt their risk level for HPV related cancers to be low or minimal – were not currently considering vaccination.</p> <p>Men described no negative or unusual experiences, such as adverse events or pain, associated with receiving the vaccine. Some men expressed the positive benefits to vaccination, including that their anxieties around anal cancer risks had been substantially reduced.</p> <p>Vaccination decision making and risk perception;</p> <p>Almost all were aware of HPV vaccine before entering the HPV-SAVE study. Some men said that they first became familiar with the vaccine after they were diagnosed with anogenital warts. A history of anogenital warts increased concern over HPV-associated disease and was discussed by some participants as a facilitator to receive vaccination and anal Pap testing.</p> <p>The majority had not considered HPV vaccine until their involvement in HPV-SAVE.</p> <p>Most reported beliefs that vaccines were safe, effective and necessary.</p> <p>Nonetheless, despite an emerging sense among many participants that HPV and anal cancer are serious health risks to HIV-positive men, and a reported interest by many to be vaccinated, most men in our sample had not received the vaccine and many remained ambivalent about HPV vaccination.</p> <p>Overall factors affecting vaccine hesitancy in the themes below.</p>
<p><b>Study theme 2</b></p>	<p><b><u>HPV, gendered risk perceptions and vaccination knowledge</u></b></p>

Almost all participants reported initially believing HPV vaccination was predominately or exclusively an intervention designed for cisgender girls or women and it was for the prevention of cervical cancer.

The earliest recollections of HPV tended to involve education and campaigns addressing women about the risk of cervical cancer.

The perceived association between HPV and women appeared to be a significant factor affecting the vaccine hesitancy of the participants we interviewed.

*I've always associated it to cervical cancer and to women. I didn't realize at the time, until recently, that it affected men as well*

*My own ignorance was that HPV was something that really only affected women and cervical cancer. I didn't hear it as much as something that was affecting men*

Some participants described that the association between HPV and women made it hard for them to locate health promotion material that was directly relevant for them once they realized that they could be at risk.

*[I] tried to look up HPV and there wasn't a whole lot for men.*

Many participants reported low levels of health literacy regarding HPV risks among GBM. Once informed about the risks posed by HPV to gay men in the form of anal cancer, most men were interested in learning more and becoming vaccinated. In other words, the gendered associations held about HPV appear to have impacted HPV risk perception and vaccine health literacy levels.

### **Gendered associations and the role of physicians in decision making**

The gendered associations about HPV, seem to have impacted risk perception going into the study. this didn't appear to impact on attitudes towards accepting HPV as a health concern once risks were clearly presented.

Some of our participants reported that their physicians had never brought up either HPV or the HPV vaccine to them. None of our participants reported that the vaccine was strongly recommended by a physician: the vaccine may have been recommended but it was still presented as optional from the perspective of participants.



Some were uncertain about whether or not it was useful to receive the vaccine, given they had most likely already been infected with HPV.

Many patients described requiring a very clear recommendation about the vaccine from their physician before they would get the vaccine. In the absence of this recommendation, they said that they would not actively pursue HPV vaccination.

## Characteristics

### Study-level characteristics

	Study (N = 25)
<b>Age</b> Mean (SD)	50.44 (9.99)
<b>Ethnicity</b>	
White	n = 20 ; % = 80
First nations	n = 1 ; % = 4
Asian	n = 2 ; % = 8
Other	n = 2 ; % = 8
<b>Sexual Orientation</b>	
Gay	n = 24 ; % = 96
Two-Spirit	n = 1 ; % = 4
<b>Education</b>	
Some secondary	n = 1 ; % = 4
Completed secondary	n = 3 ; % = 12
Some college	n = 6 ; % = 24
Completed college	n = 10 ; % = 40
Graduate education	n = 5 ; % = 20
<b>HPV Vaccination status</b>	
HPV vaccinated	n = 6 ; % = 24
Not HPV vaccinated	n = 19 ; % = 76

## Critical appraisal - CASP Qualitative checklist

### Aims of the research

*Was there a clear statement of the aims of the research?*

Yes

### Appropriateness of methodology

*Is a qualitative methodology appropriate?*

Yes

### Research Design

*Was the research design appropriate to address the aims of the research?*

Yes

### Recruitment Strategy

*Was the recruitment strategy appropriate to the aims of the research?*

Yes

### Data collection

*Was the data collected in a way that addressed the research issue?*

Yes

### Researcher and participant relationship

*Has the relationship between researcher and participants been adequately considered?*

Can't tell

**Ethical Issues**

*Have ethical issues been taken into consideration?*

Yes

**Data analysis**

*Was the data analysis sufficiently rigorous?*

No

*(Process of researcher agreement not described; inter-rater reliability not reported)*

**Findings**

*Is there a clear statement of findings?*

Yes

**Research value**

*How valuable is the research?*

The research is valuable

**Overall risk of bias and directness**

*Overall risk of bias*

Moderate

## Jaiswal 2020

**Bibliographic Reference** Jaiswal, Jessica; LoSchiavo, Caleb; Maiolatesi, Anthony; Kapadia, Farzana; Halkitis, Perry N; Misinformation, Gendered Perceptions, and Low Healthcare Provider Communication Around HPV and the HPV Vaccine Among Young Sexual Minority Men in New York City: The P18 Cohort Study.; Journal of community health; 2020; vol. 45 (no. 4); 702-711

### Study details

<b>Study design</b>	Qualitative study
<b>Trial registration number</b>	Not reported
<b>Study start date</b>	Apr-2018
<b>Study end date</b>	Jun-2018
<b>Aim</b>	To elucidate the nature and depth of (a) HPV and HPV vaccine knowledge and (b) provider communication about HPV vaccine, in a diverse sample of young urban sexual minority men (SMM). It also sought to illuminate barriers and facilitators to vaccination, the degree of vaccine literacy, and sources of vaccine knowledge in SMM.
<b>Country/geographical location</b>	New York City, USA
<b>Setting</b>	Not reported
<b>Inclusion criteria</b>	Interview participants were recruited from a larger cohort study of emerging adult sexual minority men and transgender women. The inclusion criteria of the parent study were: <ul style="list-style-type: none"> <li>- aged 22-23 years at the time of recruitment</li> <li>- were assigned male at birth</li> </ul>

	<ul style="list-style-type: none"> <li>- had sex with a man in the previous 6 months</li> <li>- reported negative or unknown HIV serostatus</li> <li>- lived in the New York City metropolitan region</li> </ul>
<b>Exclusion criteria</b>	None reported
<b>Method of randomisation</b>	
<b>Statistical method(s) used to analyse the data</b>	<ul style="list-style-type: none"> <li>- Interviews were audio-recorded by trained research assistants, transcribed by research interns, and checked for accuracy by two additional interns.</li> <li>- Participant names and other potentially identifying information were redacted while transcribing, so that participants were anonymous during analysis; pseudonyms are used to identify participants in the manuscript.</li> <li>- A multi-step approach to analysis was used to identify and analyse salient themes. This included open coding, application of codes to transcripts, and rigorous review of transcripts and codes to identify themes and patterns.</li> <li>- Once coding was complete, quotations were extracted and organised by codes and sub-codes into larger themes, based on patterns revealed throughout analysis.</li> <li>- Occasional differences in interpretation were resolved by discussion between the first two authors</li> <li>- Qualitative data were coded and organised using Dedoose v8.0.35</li> </ul>
<b>Study limitations</b>	<ul style="list-style-type: none"> <li>- The interview guide was designed to take about 30 minutes and to complement the larger quantitative component of the study. The brief nature of the interview did not permit an in-depth exploration of the guide topics.</li> <li>- It is not possible to establish causality between low knowledge, gendered perceptions of HPV and the HPV vaccine, and low vaccine initiation and completion rates.</li> <li>- This study took place in New York City, where participants likely have more access to sexual health resources than in other parts of the United States. Thus, findings are not necessarily generalisable to the experiences of sexual minority men in other areas.</li> </ul>

**Study theme 1**

**Knowledge about HPV and the vaccine is generally low**

Participant knowledge about HPV and the vaccine widely varied, but was most often incorrect. In many cases, participants shared incorrect information with elements of correct information. Participants frequently confused HPV with other STIs, and often conflated transmission routes with those of HIV.

*"Interviewer: Anything you know about ways that HPV is transmitted? Or ways that you can give or get HPV? Participant: Well I'm sure it's vaginal, anal, oral. I'm sure there's, yeah, like open wounds. Pretty sure it's similar to like HIV... I know with HIV it's through blood, vaginal, anally, breast milk, and there's one more but I'm missing that."*

*"I mean I think the most common thing is that we would think of as a preventing, as a presenting symptom would be warts, I think as with any kind of virus, I'm sure when you have uptake, depending on the severity, you could have general symptoms of virus from being a temperature, or cramps, or aches, or things like that, maybe chills, I don't know."*

The pervasive lack of knowledge around HPV also extended to issues related to vaccination. For example, this participant explains his understanding of HPV vaccine efficacy, framing it in terms of the age guidelines: *"The vaccine, it works best when you're between, I guess fourteen and twenty-six. Or twenty-four. Yeah. But when you're past that, it doesn't really work anymore, and it could cause some adverse reactions."*

**Study theme 2**

**Sexual minority men think only cisgender women are vulnerable to HPV**

Many participants were under the impression that HPV was only experienced by women, suggesting a widespread perception that boys and men are not affected by it. This also led to many participants perceiving that the HPV vaccine was only for cisgender women. Very few participants discussed HPV with their family. For those that did, HPV most often came up in the context of a female relative's vaccination. Participants also reported that Gardasil commercials contributed to the perception that only cisgender women are affected by HPV.

*"I think the vaccine is for woman... I heard it's only, the vaccine...no no, the virus only target woman, even if the man got it, it wouldn't affect them. But he would be the carrier of that [virus], he might transmit that [virus] to his partner who is a female."*

*"I just vaguely remember [women] being like the target audience like earlier on. I would, yeah there was like a, a commercial, I don't know for, for, it might've been for the vaccine but that's just the impression I had."*

<b>Study theme 3</b>	<p><b><u>Healthcare providers under-communicate about HPV and vaccination</u></b></p> <p>Participants overwhelmingly reported inadequate HPV-related communication with their healthcare providers, with most reporting minimal, if any, communication about HPV. Although some were offered the vaccine, their clinicians rarely explained the importance of the vaccine or facilitated discussion. For participants that initiated the series, HCPs did not adequately follow-up their patients to facilitate vaccine completion. The data strongly suggest that sexual minority men are not receiving adequate messaging around HPV or the vaccine.</p> <p><i>"When I was 17 or something, my doctor was like "Oh it's on your shot list!" And I was like "Okay." Beyond that, not really... it was just like a annual checkup thing. It's like "Oh okay you also need your flu shot as well," so I probably got that."</i></p> <p><i>"No doctor has ever brought [HPV] up to me. And I've always had to advocate for this. I remember when it came out, and it was just women getting it, I read somewhere like gay men need to get this because you can get anal cancer, so I went to my doctor, and she was like "Oh I guess that's technically correct," and I was like "Okay so vaccinate me," and she was like "Well, your insurance isn't gonna cover it." So I ended up getting it, but I had to pay for it out of pocket."</i></p> <p><i>"I remember getting one shot...And I know that it's supposed to be more I just don't know if I ever got the other ones."</i></p>
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**Characteristics**

**Study-level characteristics**

<b>Characteristic</b>	<b>Study (N = 38)</b>
<b>Age Range</b>	24 to 27
<b>Age Mean (SD)</b>	25.82 (0.95)
<b>Ethnicity</b>	
Hispanic/Latino	n = 10 ; % = 26.3
Black	n = 10 ; % = 26.3
Asian	n = 9 ; % = 23.7

Characteristic	Study (N = 38)
White	n = 9 ; % = 23.7
<b>Sexual orientation</b>	
Exclusively homosexual	n = 21 ; % = 55.3
Not exclusively homosexual	n = 17 ; % = 44.7
<b>Education</b>	
High school degree or less	n = 8 ; % = 21
Some college education, including associate's degree and current undergraduate students	n = 13 ; % = 34.2
Bachelor's or graduate degree	n = 17 ; % = 44.7
<b>HIV Serostatus</b>	
HIV negative	n = 35 ; % = 92.1
HIV positive	n = 2 ; % = 5.3
Not tested	n = 1 ; % = 2.6

### Critical appraisal - CASP qualitative checklist

<b>Aims of the research</b>
<i>Was there a clear statement of the aims of the research?</i>
Yes
<b>Appropriateness of methodology</b>
<i>Is a qualitative methodology appropriate?</i>



Yes

**Research Design**

*Was the research design appropriate to address the aims of the research?*

Yes

**Recruitment Strategy**

*Was the recruitment strategy appropriate to the aims of the research?*

Yes

**Data collection**

*Was the data collected in a way that addressed the research issue?*

Yes

**Researcher and participant relationship**

*Has the relationship between researcher and participants been adequately considered?*

No

**Ethical Issues**

*Have ethical issues been taken into consideration?*

Yes

**Data analysis**

*Was the data analysis sufficiently rigorous?*

Yes

*(Analyses appear rigorous but no critical examination of researcher's own role or potential for bias)*

### Findings

*Is there a clear statement of findings?*

Yes

*(Findings are stated clearly and good use of quotes to evidence themes, but no discussion of credibility of findings or inter-rater reliability)*

### Research value

*How valuable is the research?*

The research is valuable

### Overall risk of bias and directness

*Overall risk of bias*

Moderate

*(No critical examination of researcher-participant relationship, the researcher's own role or the potential for bias. Findings are stated clearly and well supported with quotes to evidence themes, but no discussion of credibility or inter-rater reliability.)*

## Kesten, 2019

### Bibliographic Reference

Kesten, J.M.; Flannagan, C.; Ruane-Mcateer, E.; Merriel, S.W.D.; Nadarzynski, T.; Shapiro, G.; Rosberger, Z.; Prue, G.; Mixed-methods study in England and Northern Ireland to understand young men who have sex with men's knowledge and attitudes towards human papillomavirus vaccination; *BMJ Open*; 2019; vol. 9 (no. 5); e025070

### Study details

<b>Study design</b>	Qualitative study
<b>Study start date</b>	Sep-2016
<b>Study end date</b>	Dec-2016
<b>Aim</b>	To understand young MSM's (YMSM) knowledge and attitudes towards HPV vaccination
<b>Country/geographical location</b>	United Kingdom
<b>Setting</b>	Questionnaires were completed online or on paper. Focus groups were conducted within Lesbian Gay Bisexual Transgender Queer organisational settings and a university student's union in England and Northern Ireland
<b>Inclusion criteria</b>	YMSM were defined through self-identification as male (including transgender male), at or over the age of sexual consent, sexually attracted to men or had sex with a man. Aged 16-24years
<b>Exclusion criteria</b>	Not reported
<b>Statistical method(s) used to analyse the data</b>	Focus groups were audio recorded, transcribed verbatim, anonymised and analysed thematically <sup>23</sup> using QSR NVivo (V.10.0).  At each stage findings were verified and discussed by the research team to assess the interpretation, promote inter-rater reliability and ensure rigour.
<b>Attrition</b>	Not applicable
<b>Study limitations</b>	Due to recruitment difficulties, data collection was not saturated. Authors linked lack of data saturation to the sensitivity of the topic, the hard to reach population and the lack of monetary compensation for participant's time.  Recruitment through LGBTQ organisations narrowed the participants to those engaged with services who had disclosed their sexual orientation.

<b>Study theme 1</b>	<p><b>Willingness to be vaccinated</b></p> <p>Despite a perceived lack of knowledge about HPV and the vaccine and the threat posed to men, most participants were willing to receive the vaccine and wanted more information.</p> <p><i>"I only knew about it because of the cervical cancer (...)"</i></p> <p><i>"I didn't know even if like that would apply to us, so I don't even know what the dangers are"</i></p> <p>A small number of participants suggested that the cost and number of doses of the vaccine were not barriers to vaccination</p> <p><i>I'm not going to say like get rid of worry because you still have to...it's your sexual health, but it would be safer in a sense (...) I'm better protected – I think would be a better way of putting it. So, I think my own health would encourage me more [to ask or accept the HPV vaccine]. I'd rather be protected than not protected</i></p>
<b>Study theme 2</b>	<p><b>Promoting and raising awareness of the vaccine</b></p> <p>Participants noted that better understanding of the benefits and side effects of the vaccine would be expected to encourage uptake. Awareness campaigns and adverts including conventional channels and social media and apps.</p> <p>Participants suggested including information about the vaccine for YMSM in primary care and the sexual health education curriculum in schools. Indeed, it was noted that there is a lack of MSM-specific sexual health and relationship information provided in the latter.</p> <p><i>When you're receiving that [heterosexual relationship education] in school, (...) it just reinforces the fact that you're (...) not relating to it means that you're not normal like everyone else, so you don't want to speak about it. So it would just be better if it [HPV vaccine education for MSM] was just part of that education anyway</i></p>

	<p>Better understanding of the benefits and side effects of the vaccine were expected to encourage uptake. To promote the vaccine and inform YMSM, awareness campaigns and advertisements on the internet, radio, television, social media, in University society's, LGBTQ youth groups and dating apps were suggested</p> <p><i>For this generation particularly, social media and TV ads and newspapers – well, probably not newspapers, but radio ads as well. You know, a campaign around getting people vaccinated, I think that would be very beneficial for young people these days</i></p>
<p><b>Study theme 3</b></p>	<p><b>Identifying and offering YMSM the HPV vaccination</b></p> <p>The ideal pre-exposure timing for vaccination and the fluid, undefined nature of sexual preferences at a young age were perceived as barriers to identifying eligible recipients. There were mixed feelings about whether it would be acceptable for HCPs to ask boys (&lt;16 years) to disclose their sexuality for this purpose due to concern about parents being informed and a lack of a trusting relationship. It was, however, also noted that questions about sexuality need to be normalised, particularly in primary care.</p> <p>Interviewer: If everybody was getting the HPV vaccine...</p> <p><i>That's probably what they should do, because, I mean, (...) someone might think now, oh, I'll never have sex with a man, but then, later down the line, they might do</i></p> <p>Participants wanted the benefits of vaccination to be explained and for the vaccine to be offered in a natural, relaxed manner, opportunistically, rather than having to request it. Participants felt that they would be unlikely to request the vaccine because they would need more knowledge and they felt too uncomfortable.</p> <p><i>As long as there was someone professional telling me what's it about, what's it going to do, and what it could do if it goes wrong</i></p> <p>Participants reckoned it was not feasible to expect young boys to identify themselves for the HPV vaccine when they potentially had not disclosed or decided their sexual orientation. There was also a preference for not singling boys out by their sexuality when offering the vaccine. Similarly, receiving the vaccine confidentially was important because the potential for bullying and embarrassment would act as barriers. It was noted by participants that universal vaccination of all boys would avoid these problems.</p> <p><i>I would want them to approach me. I wouldn't go out of my way to go and get it.</i></p>

	<p><i>When you get your vaccinations in school, you all, (...) used to go in to get your vaccinations [as a class]. If it were like that, I wouldn't do it, because I wouldn't like anyone seeing.</i></p> <p><i>Why wouldn't it be offered to like young males in school, (...) so it was like before like presumably anybody had had sex (...). A lot more people would get it that way.</i></p>
<p><b>Study theme 4</b></p>	<p><b>General practitioners (GPs) or specialist sexual HCPs offering the vaccine</b></p> <p>There were mixed feelings about general practitioners (GPs) or specialist sexual HCPs offering the vaccine. The relationship with the HCP was important; if YMSM have a good relationship with their GP then being offered the HPV vaccine by them is preferable. In contrast, a small number would feel more comfortable being offered the vaccine by someone they trust from a community LGBTQ group or local sexual health centre.</p> <p>A comment was also made about the nature of the vaccine being related to sexual health. Meaning it made more sense/was easier to offer it via specialist services. However, prior to disclosure or sexual activity, the participants commented that boys may not engage with or know about sexual health or LGBTQ organisations, so offering the vaccine in these settings may represent a barrier.</p> <p><i>Telling your family GP you're gay before you've told your family would be a big no I think because the GP might go back and tell your parents and then out you</i></p> <p><i>If you have to go and ask about it and ask for it, who would you ask because you wouldn't be able to come here [Community LGBTQ group] because you wouldn't know here existed</i></p>

## Characteristics

### Study-level characteristics

	Study (N =17)
<b>Age</b> Mean/SD	20.5 (2.73)
<b>Ethnicity</b>	
White	n = 15 ; % = 83.3
<b>Education</b>	

	<b>Study (N =17)</b>
Full-time education	n = 11 ; % = 61

### Critical Appraisal – CASP Qualitative Checklist

#### Aims of the research

*Was there a clear statement of the aims of the research?*

Yes

#### Appropriateness of methodology

*Is a qualitative methodology appropriate?*

Yes

#### Research Design

*Was the research design appropriate to address the aims of the research?*

Yes

#### Recruitment Strategy

*Was the recruitment strategy appropriate to the aims of the research?*

Yes

#### Data collection

*Was the data collected in a way that addressed the research issue?*

Yes

**Researcher and participant relationship**

*Has the relationship between researcher and participants been adequately considered?*

Can't tell

**Ethical Issues**

*Have ethical issues been taken into consideration?*

Yes

**Data analysis**

*Was the data analysis sufficiently rigorous?*

Yes

**Findings**

*Is there a clear statement of findings?*

Yes

**Research value**

*How valuable is the research?*

The research is valuable

**Overall risk of bias and directness**

*Overall risk of bias*

Low



## Koskan, 2018

**Bibliographic Reference** Koskan, Alexis M; Fernandez-Pineda, Madeline; Human Papillomavirus Vaccine Awareness Among HIV-Positive Gay and Bisexual Men: A Qualitative Study.; LGBT health; 2018; vol. 5 (no. 2); 145-149

### Study details

<b>Study design</b>	Qualitative study
<b>Aim</b>	To explore this HIV-positive gay and bisexual men's (GBM)' understanding of HPV and the HPV vaccine as well as preferences for future health promotion.
<b>Country/geographical location</b>	United States of America
<b>Setting</b>	Health-related organizations that offer outreach services to HIV-positive populations (e.g. health department, nonprofit organizations which focus on the health of racial/ethnic minority HIV-positive men, and LGBT community health center).  Participants also recruited via snowball sampling. This study was part of a larger study of 91 gay and bisexual men were interviewed about anal cancer prevention.
<b>Inclusion criteria</b>	HIV-positive, self-identify as gay or bisexual men, age 18-30, English or Spanish fluency, reside in Miami-Dade County), and a Google number that rang directly to the PI's cell phone (for English speakers) or the bilingual Graduate Research Assistant's (GRA's) cell phone (for Spanish speakers) to screen potential participants
<b>Exclusion criteria</b>	Transgender populations were excluded from this study
<b>Statistical method(s) used to analyse the data</b>	All interviews were audio recorded. All audio files were translated, back translated, and transcribed removing any identifying information. All transcribed files were read to ensure that such information had been removed. Coding guide were created for the interview using the interview guide for a priori themes
<b>Attrition</b>	Not applicable
<b>Study limitations</b>	All participants were engaged in HIV primary care. Therefore, the study findings may not be generalizable to HIV-positive GBM who are currently not sustained in HIV care.  Authors suggest that a potential limitation may include interviewer variability. However, the PI tried to eliminate potential variability in how questions and probes were asked by training and conducting mock interviews with the Graduate Research Assistant's (GRA's)
<b>Study theme 1</b>	<u>HPV related knowledge</u>

	<p>Knowledge about HPV:</p> <p>Majority could describe HPV as a health condition that can be spread via sex.</p> <p>None knew that the HPV vaccine is used to prevent genital warts and cancer.</p> <p>Some participants lacked knowledge about HPV, HPV related diseases and the vaccine. Most participant perceived it as a vaccine for women only</p> <p><i>I haven't heard about that disease. Personally, I have never—my doctors have never told me about it</i></p> <p><i>I heard that it's really contagious. I heard that some people catch it through [having] sex</i></p> <p><i>I mean I've heard it mentioned on the news here and there, but my understanding, which is minimal, is that it's not just affecting gay men</i></p> <p><i>Well, I heard it when it first came out, and it was only for females, right? For girls at a certain age? I didn't pay that much attention because it didn't pertain to me</i></p>
<p><b>Study theme 2</b></p>	<p><u>Facilitators to HPV vaccine</u></p> <p>Participants reported willingness to receive HPV vaccine if their provider recommended it for disease prevention. Lack of provider recommendation was the most cited barrier to HPV vaccination.</p> <p>All expressed positive attitudes towards vaccination in general.</p> <p>Desire to prevent diseases:</p> <p><i>I'm looking at HPV vaccine I'm thinking that it will prevent me from getting this [virus]. I don't think I've ever had a doctor speak of it either. But I would be willing to take it if it's going to prevent me from getting sick</i></p> <p>Provider recommendation:</p> <p><i>If my doctor brings it to my attention that I need to get a vaccine for something, I will take it. I know it's in my best interest</i></p>

<b>Study theme 3</b>	<u>Barriers to HPV vaccine uptake</u>
	Lack of awareness, some described needing needing more information to make an informed decision.
	<i>There's a lack of information. And ignorance about it.</i>
	Potential side effects:
	<i>I mean I don't know, I mean I'm not too fond of the guinea pig thing, so I don't know, it depends on the side effects, I actually [inaudible] that. So I would have to see—weigh my options and see what my side effects are</i>
	Belief that HPV affects women and children only:
<i>Well, I heard it when it first came out, and it was only for females, right? For girls at a certain age? I didn't pay that much attention because it didn't pertain to me</i>	
Stigma:	
<i>The embarrassment, being embarrassed about getting a vaccine shot or whatever type of vaccine they may need. I know when I first had to get a vaccine shot for a STD, I was kind of nervous about that and embarrassed about that</i>	

## Characteristics

### Study-level characteristics

	Study (N = 15)
Age Mean	25.5

## Critical Appraisal – CASP Qualitative Checklist

<b>Aims of the research</b>
<i>Was there a clear statement of the aims of the research?</i>

Yes

**Appropriateness of methodology**

*Is a qualitative methodology appropriate?*

Yes

**Research Design**

*Was the research design appropriate to address the aims of the research?*

Yes

**Recruitment Strategy**

*Was the recruitment strategy appropriate to the aims of the research?*

Can't tell

**Data collection**

*Was the data collected in a way that addressed the research issue?*

Yes

**Researcher and participant relationship**

*Has the relationship between researcher and participants been adequately considered?*

Yes

**Ethical Issues**

*Have ethical issues been taken into consideration?*

Yes

**Data analysis**

*Was the data analysis sufficiently rigorous?*

Yes

**Findings**

*Is there a clear statement of findings?*

Yes

**Research value**

*How valuable is the research?*

The research is valuable

**Overall risk of bias and directness**

*Overall risk of bias*

Low

**Nadarzynski, 2017**

**Bibliographic Reference**

Nadarzynski, Tom; Smith, Helen; Richardson, Daniel; Pollard, Alex; Llewellyn, Carrie; Perceptions of HPV and attitudes towards HPV vaccination amongst men who have sex with men: A qualitative analysis.; British journal of health psychology; 2017; vol. 22 (no. 2); 345-361

**Study details**

<b>Study design</b>	Qualitative study
<b>Study start date</b>	Nov-2014
<b>Study end date</b>	Mar-2015
<b>Aim</b>	To explore men who have sex with mens' perceptions of HPV and HPV vaccination prior to the introduction of the vaccination programme in the UK
<b>Country/geographical location</b>	Brighton, United Kingdom
<b>Setting</b>	Community-based lesbian, gay, bisexual, transgender (LGBT) venues and organizations
<b>Inclusion criteria</b>	English-speaking men who have sex with men between 16 and 40 years old. All self-identified men, who were sexually attracted to or had already had sex with other men, were eligible for inclusion in the study
<b>Statistical method(s) used to analyse the data</b>	Study applied 'methodological pluralism' utilizing both focus groups and individual interviews to facilitate the capture not only the depth of views but also the range of perspectives on the HPV vaccination
<b>Attrition</b>	Not applicable
<b>Study limitations</b>	<p>Authors report that it is possible that men who have sex with men, who live in other parts of the United Kingdom, where LGBT matters are not so visible, might report other/different potential barriers to HPV vaccination.</p> <p>Also, the level of education and sexual health literacy of the sample was not assessed, risking the possibility of self-selection bias if men who were willing to take part in the study had existing high levels of knowledge about STIs and sexual health services.</p> <p>Authors suggest that the information on the relative risk of anal cancer in MSM could evoke unrealistic expectations about the prevalence of anal cancers in MSM. The attitudes towards HPV vaccine might have been different if men were made aware of the prevalence of anal cancers in the population</p>
<b>Study theme 1</b>	<p><u>Awareness about HPV</u></p> <p>Generally poor awareness of HPV and the HPV vaccine amongst participants. Older MSM were unaware of HPV and were unable to recall any information related to the HPV vaccine. Younger men were more familiar with the term 'HPV' and were able to recall that the HPV vaccine was offered to girls at school. They knew that it could cause cervical cancer and believed that HPV only affected women:</p> <p><i>I know that it's more dangerous for girls. It can cause genital warts and it can also increase their chances of cervical cancer?</i></p>

**Study theme 2**

Beliefs about HPV

MSM were often surprised that HPV could affect men. They reported that the lack of media coverage about HPV in men led them to believe that HPV was not relevant or deserving of their attention:

*I didn't realise this was an issue for men. I've heard of HPV because when I was at school all the girls had to have vaccinations*

The lack of visible symptoms in most cases of HPV was related to their perceptions of HPV being relatively innocuous and trivial. Some thought HPV was easily curable and the majority of participants did not express any worry or concerns. They thought that there were 'bigger ones' to worry about, referring mainly in this context to HIV infection:

*It's not something that, you know, being concerned about getting, because HIV they're the ones that are kind of worried about*

Participants varied in their individual perceived susceptibility to HPV. They were unable to assess their personal risk of exposure. Some participants believed that having two sexual partners would be sufficient to acquire the virus, others thought that only more promiscuous men are at risk of HPV and other STIs:

*I'm sexually active with other people who have sex with other people so I would say probably quite a big risk of HPV, and I would just get on with it and say that's probably gonna be part of my life at some point. So, not scared of that one*

Several participants believed that being in a monogamous sexual relationship and using condoms would protect them from acquiring HPV. Most men did not perceive HPV to be a serious concern and assumed that men could only 'carry' the virus without symptoms or affect. Some participants had received consistent negative STI test results, which led them to believe they were free from any STI.

Others were uncertain whether HPV was included in standard STI screening and most expressed a willingness to test for the virus in the future.

*Not at risk [of HPV] on the basis that I was sort of tested for everything that was available and so was my sexual partner and neither of us had anything*

Perceptions of genital warts

	<p>Over half thought HPV and genital warts to be two discrete conditions. After reading the information provided, several struggled to understand that HPV is the virus that causes genital warts. The causal role of HPV in the development of genital warts increased their level of concern about genital warts.</p> <p><u>Perceptions of HPV related cancers</u></p> <p><u>The majority were surprised to read information on how they could develop genital cancers related to an STI. This increased anxiety and worry about HPV.</u></p>
<b>Study theme 3</b>	<p><u>Attitudes towards targeted HPV vaccination for MSM</u></p> <p>Most men expressed willingness to be vaccinated against HPV. Three participants would only be willing to be vaccinated if it was free of charge. Some reported that they would prefer to wait until an HCP offered the vaccine to them rather than actively seeking it. Doctors were perceived as the most trusted source of medical information, and their opinions as well as recommendations would substantially influence their decision to obtain the vaccine:</p> <p><i>I think I'd be more likely to accept it if it were offered than I would actively request it. I think because if it was, if it was recommended to you it would be coming from a trusted source</i></p> <p>One man stated that offering the vaccine solely to women and gay men would undermine men's masculinity because the vaccine has been initially introduced to combat female genital diseases:</p> <p><i>It may be that masculinity aspect of it if it's been given to women only previously. Services that are exclusively given to women I suppose seem feminine. I can imagine that there are some people who would resist against something if they thought it had feminine associations to it</i></p> <p>More information was not necessarily seen as helpful. A few participants believed that highlighting the additional risk of anal cancer amongst MSM only would increase stigma and prejudice, comparable to the AIDS epidemic. Some men believed that a targeted HPV vaccination programme for MSM would not be received well by the gay community that have already been marginalized because of high HIV incidence:</p> <p><i>If there's another virus, like HPV, it's going to be strongly linked to gay men community again. I don't think it's a good thing for people because it will strengthen the gay label to this specific disease. I don't think people will like it. Since they just got rid of HIV labels and they don't want another stigma again</i></p>



	<p>A few participants emphasized the need to educate MSM about the vaccine in order to encourage them to visit their doctor and ask to be vaccinated. Some men were afraid that the vaccine could have serious side effects or even lead to autism. Participants also questioned the effectiveness of the vaccine in sexually active men who might already have been exposed to HPV and/or had genital warts in the past. Some thought that the vaccine would probably be ineffective, and they did not need to be vaccinated:</p> <p><i>I suppose the only reason why you would not is because it says it does not cure existing HPV infections so if you already have it, that would be the only reason</i></p> <p>Most participants were in favour of HPV vaccination at school for both sexes. They expressed regret and a sense of injustice that HPV vaccination was not routinely offered to boys, as HPV affects all men:</p> <p><i>If it's been proven to protect you against problem in men then yeah I'm a man so. . . I would be more concerned about why health authorities are considering whether to vaccinate gay or bisexual men in the future. What are they gonna do? Cos it seems to me like it's all men, not just gay and bisexual men. So they should just offer it with the girls at school</i></p>
<p><b>Study theme 4</b></p>	<p><u>Eligibility based on sexuality perceived as barriers to HPV vaccination</u></p> <p>Participants perceived sexuality as a barrier to HPV vaccination. Men believed that same sex sexual contacts were becoming more acceptable and it was difficult to set boundaries between men that identify as gay or straight. Some men argued that MSM, who do not identify as gay or bisexual, would be unable to benefit from the vaccine if it was only offered to self-declared gay or bisexual men.</p> <p><i>Sexuality is more fluid and flexible than we like to think. I know many people who identify as heterosexual or straight but at some point in their lives experimented with the same sex partner</i></p> <p>One participant, who had never been to a sexual health clinic, stressed the importance of the vaccine needing to be available in other accessible settings. As he did not want to be associated with the gay culture he might consider refusing the HPV vaccine.</p>

	<p>One participant was not willing to disclose his sexuality to a doctor and would not like to be labelled as ‘gay man’ and therefore also perceived himself to be unlikely to uptake the HPV vaccine.</p> <p><i>I don't want to reveal my sexual orientation and if the leaflets keep telling me that if you're gay then it's more serious and if you're not then it's not, that it's fine, then probably I still don't want to take it because I don't want to be labelled that I'm a gay man</i></p> <p>Though several participants believed that young men do not feel comfortable discussing their sexuality with HCPs, nearly all agreed that it would not stop themselves being vaccinated. Another participant indicated that he searches for signs of friendliness towards gay and bisexual men in HCPs before he is ready to discuss any issues related to sexuality.</p> <p><i>Just body language. I guess a reluctance to make conversation or just being almost cold in that they're just getting information without taking into account that this could be some sort of sensitive issue. Especially if sexuality is involved</i></p>
<p><b>Study theme 5</b></p>	<p><u>Perceived motivational barriers</u></p> <p>Dislike or distrust of vaccinations were perceived as barriers.</p> <p>Some MSM associated the vaccine with promiscuity and expressed concerns about being stigmatized if they were to accept the HPV vaccination. Several men stated that despite seeing vaccinations as important for their health, they never felt an urge to be vaccinated against any disease. They expressed a ‘fatigue’ about health advice, where they might be aware of the value of vaccination, but still not make any effort to obtain it.</p> <p><i>You can push and push and push with posters and campaigns and stuff but the people that ain't gonna do it, ain't gonna do it</i></p> <p>Two men who disclosed being diagnosed with HIV were concerned about the interaction between the HPV vaccine and their HIV treatment. Several participants had difficulties understanding why MSM are at an increased risk for HPV-related diseases and requested more statistics on the prevalence of these diseases in gay and bisexual men. They wished to know more about HPV symptoms, routes of transmission, and whether they could be tested for it before making their decision whether to accept the HPV vaccine. A few participants suggested that having a picture of genital warts and HPV-related cancers would help them to better understand these diseases.</p> <p>The majority of men thought targeted HPV vaccination of MSM at school was not acceptable, and preferred sexual health clinics as the most suitable setting to reach MSM. These health care settings were perceived as relevant to sexual health and the openness and non-judgemental attitudes of staff in sexual health clinics were thought to be reassuring. HPV vaccination was most acceptable when given alongside sexual health screening, together with Hepatitis B vaccination.</p>

Although some men had experienced difficulties discussing sexual health with their general practitioners, some suggested that the vaccine should be offered at GP surgeries as some young men do not access sexual health services:

*If they start routinely testing for this at GUM clinics, and you're negative and not carrying it, then it should be suggested to you at the same point [like] they would suggest a hepatitis A and C vaccine*

*I think the best thing is to do it at your GP everywhere, offer it so don't make it like you have to go to a place to get it cos then there is potentially like, oh I have to make an appointment at a sexual health clinic, two, there's a stigma oh I need to go to a sexual health clinic so remove all that offer it at GP, if you want it, you'll get it*

### Study arms

Focus group (N = 20)

Interview (N = 13)

### Characteristics

#### Study-level characteristics

	Study (N = 33)
Age Median IQR	35 (21 to 27)
Sexual orientation	Most had disclosed sexual orientation to a HCP
Transgender	n = 3 ; % = 9

### Critical Appraisal – CASP Qualitative Checklist

#### Aims of the research

*Was there a clear statement of the aims of the research?*

Yes

#### Appropriateness of methodology

*Is a qualitative methodology appropriate?*

Yes

**Research Design**

*Was the research design appropriate to address the aims of the research?*

Yes

**Recruitment Strategy**

*Was the recruitment strategy appropriate to the aims of the research?*

Yes

**Data collection**

*Was the data collected in a way that addressed the research issue?*

Yes

**Researcher and participant relationship**

*Has the relationship between researcher and participants been adequately considered?*

Can't tell

**Ethical Issues**

*Have ethical issues been taken into consideration?*

Yes

**Data analysis**

*Was the data analysis sufficiently rigorous?*

Can't tell

### Findings

*Is there a clear statement of findings?*

Yes

### Research value

*How valuable is the research?*

The research is valuable

### Overall risk of bias and directness

*Overall risk of bias*

Moderate

## Wheldon, 2017

### Bibliographic Reference

Wheldon, C.W.; Daley, E.M.; Buhi, E.R.; Baldwin, J.A.; Nyitray, A.G.; Giuliano, A.R.; HPV vaccine decision-making among young men who have sex with men; Health Education Journal; 2017; vol. 76 (no. 1); 52-65

### Study details

<b>Study design</b>	Qualitative study
<b>Study start date</b>	2014
<b>Study end date</b>	2014
<b>Aim</b>	The purpose of this study was to (1) describe salient beliefs related to HPV vaccination among young MSM (2) determine factors that underlie these beliefs; and (3) describe a model for HPV vaccine decision-making.

<b>Country/geographical location</b>	Florida, USA
<b>Setting</b>	Participants were recruited from organisations (n = 9; e.g. Student Pride Groups) and virtual sites (n = 13; e.g. sexual networking applications commonly used by MSM) in a mid-sized city in Florida USA. Interviews were conducted in person (n = 14) or on the telephone (n = 8).
<b>Inclusion criteria</b>	MSM between the ages of 18 and 26 years who may or may not identify as gay or bisexual (referred to here as YMSM), and who self-reported HIV-infection in their profile on sexual networking applications.
<b>Exclusion criteria</b>	None reported
<b>Statistical method(s) used to analyse the data</b>	Interviews were digitally recorded and transcribed verbatim. A five-step process was used to analyse the data. This approach included (1) coding transcripts using the main categories from the Integrative Model (IM); (2) in vivo coding to identify text within the main categories that exemplify that category; (3) classifying in vivo codes into generic categories; (4) refining generic categories into specific and conceptually meaningful sub-categories; and (5) assessing the trustworthiness of the findings using independent coders. Inter-coder agreement was assessed by examining the number of times a code was used in a given transcript, the frequency with which each code was used to describe the text and how well the representative quotes represented the categories. Inconsistencies between coders were discussed and the codebook was revised to resolve these inconsistencies. In the revised codebook, codes with overlapping conceptual definitions were combined and further refined. In total, four researchers trained in qualitative data analysis worked independently to assess the trustworthiness of the findings.
<b>Attrition</b>	Not applicable
<b>Study limitations</b>	<p>The authors highlight that the study results are exploratory as they are based on a small sample that was relatively constrained within a specific geographic region and across a narrow spectrum of sociodemographic characteristics. Considered to have reached data saturation.</p> <p>Most participants had health insurance and were well educated. All but one participant self-identified as gay. There are likely important factors that may be unique to YMSM without health insurance, who have limited socioeconomic resources or who claim other sexual identities.</p>
<b>Study theme 1</b>	<p><b><u>Behavioural Beliefs</u></b></p> <p><b>Physical Advantages</b></p> <p>Participants perceived direct physical benefits from HPV vaccination, including better health and a lower risk of infection. General sense of as a preventive measure, few gave specific details.</p> <p><i>I would be less susceptible to anal cancer at least from HPV</i></p>

	<p><b>Psychological Advantages</b></p> <p>Participants mentioned feeling 'safer', having 'one less thing to worry about' and feeling better by not 'spreading' a sexually transmitted infection (STI). Most of these discussions focused on the infection itself and not HPV-related disease.</p> <p><i>It would be one less thing to worry about</i></p> <p><b>Concerns of Getting Vaccinated</b></p> <p>Concerns over side effects were nominal. There were more concerns about vaccine efficacy and whether HPV could be contracted from the vaccine itself.</p> <p><i>There is always the risk that you could contract it from getting the vaccine...</i></p>
<p><b>Study theme 2</b></p>	<p><b><u>Normative Beliefs</u></b></p> <p><b>Descriptive Norms</b></p> <p>Overall, there was a general expectation among the men in this study that the people in their lives would be supportive of their decision to get vaccinated; however, awareness and knowledge about the vaccine through their social networks were primarily limited to female friends and siblings. Only one knew of a gay man having had the vaccine.</p> <p><i>I know [about HPV vaccine] because my sister got it</i></p> <p><b>Supportive Referents</b></p> <p>Provider recommendation was the most salient interpersonal influence. Some mentioned older gay friends as a potential source of trusted health information. In general, similarly aged peers were not considered valuable sources of informational or emotional support regarding HPV vaccination. Some respondents felt that their family would be supportive (although overall perceived family support was mixed).</p> <p><b>Unsupportive Referents</b></p>

	<p>Some participants talked about anticipated negative responses from family or friends. In particular, they expressed a concern that – because HPV is an STI – some may assume they wanted to get vaccinated because they were being promiscuous.</p>
<p><b>Study theme 3</b></p>	<p><b><u>Control Beliefs</u></b></p> <p>Control beliefs characterise an individual’s assessment of factors that will inhibit or facilitate their ability to get the HPV vaccine, the most salient of which were cost (not relevant to current review), availability and convenience of getting vaccinated.</p> <p><b>External Facilitators - Convenience</b></p> <p>Convenience influenced vaccination. Participants mentioned clinics close to their homes or places of employment where they would prefer to be vaccinated. For students, getting vaccinated on campus was mostly preferred. Walk-in availability was also a noted facilitator. Overall, participants seemed open about where to get the vaccine as long as it fit into their schedule.</p> <p><b>Self-Efficacy Beliefs</b></p> <p>Participants were probed regarding their perceived self-efficacy for getting the HPV vaccine if they had to discuss aspects of their sexuality with their provider (i.e. sexual behaviours and/or identity). Some participants described themselves as having high self-efficacy to ask for the HPV vaccine, even if they had to discuss their sexuality. However, others expressed feeling uncomfortable disclosing their sexuality to healthcare providers, suggesting that they would be ‘very selective’ about answering questions regarding their sexual behaviour.</p> <p><i>I just feel weird talking to someone like that [healthcare provider] about those kind of things</i></p>
<p><b>Study theme 4</b></p>	<p><b><u>Background Factors</u></b></p> <p><b>HPV Knowledge and Information</b></p> <p>Nearly all of the participants had heard of HPV and typically described it as a STI that has multiple ‘strains’ that mostly affected women. Most men mentioned a vaccine but were not aware that men could be vaccinated. Genital warts and cancer were named as distinctive characteristics of HPV infection; however, when cancer was mentioned, it was usually limited to a generic explanation (e.g. ‘life threatening diseases like cancer’) or an explicit mention of cervical cancer. No participant mentioned anal, oral or penile cancers. Participants expressed minimal information needs related</p>



to related to (1) vaccine effectiveness in older, sexually active men; (2) the vaccine side effects; and (3) the types of sexual behaviours that spread HPV.

### **Perceived Threat of HPV Infection and Disease**

Perceptions regarding susceptibility to HPV infection were mixed. Some men described their risk as high because it 'only takes one sexual partner'. It was common for respondents to discuss their own risk in general terms like 'I always use protection to keep myself healthy' or 'I don't sleep around a lot'. There was a tendency to focus on anal sex as the only risk behaviour. Participants were surprised when informed that HPV can cause anal cancer.

### **Anogenital warts**

Personal experience of these was tied to attitudes and beliefs on HPV and vaccination, this was a primary reason for vaccination.

### **Sexuality and patient-provider relationship**

Majority of participants had talked about their sexual behaviour in a healthcare setting, often receiving STI testing. Sometimes the interactions were negative, affecting expectations around disclosure and confidence in healthcare providers.

### **Negative Emotions Surrounding Disclosure**

Feeling ashamed, awkward and judged were some of the emotions associated with discussing sexual behaviours with a healthcare provider which can act as a barrier to HPV vaccination. Negative experiences or the anticipation of a negative reaction were salient concerns expressed by YMSM when seeking treatment or information on sexual health-related issues from their healthcare providers.

*I feel like he judges me. I feel like if I had a provider or somebody who is a little more open-minded ... my doctor is a staunch Republican, white dude who is like 65 and I'm sitting there like a gay little Puerto Rican kid, and you know, it is just always awkward when I go to my doctor. We come from opposite ends of the earth.*

### **Management of Disclosure**

When seeking sexual health services, some participants were most comfortable going to clinics focused on STI testing (e.g. public health departments, planned parenthood, university medical services), even if they had established

relationships with primary care providers. Because of the perceived stigma and fear of judgement, they valued the privacy and anonymity provided by these venues when seeking sexual health services (including HPV vaccination). Seeking alternative venues for sexual health services was especially important for participants who received primary care services from a family physician or who depended on parents for health insurance. There was some concern that providers might – deliberately or non-deliberately – disclose sexual health information to parents. In addition, participants were concerned about the confidentiality of billing practices. In some cases, participants would not want their parents to know that they had received HPV vaccination.

### **LGBT Competence**

Previous negative interactions with a healthcare provider influenced some men's future expectations and perceptions regarding the overall competence of healthcare providers in caring for lesbian, gay, bisexual and transgender (LGBT) patients and their specific health needs. These men discussed a need to know where their providers stand on issues related to sexuality for fear that he or she may be biased or incompetent in providing care.

*A gay provider would be more into or up-to-date with newer things that are coming out. Especially like with the threats that are more for the gay lifestyle. Because I really don't think that my health provider would know about HPV*

Overall, there were conflicts with seeking sexual health services in some participants, due to previous experiences.

## **Characteristics**

### **Study-level characteristics**

	<b>Study (N = 22)</b>
<b>Age</b> Mean (range)	22 (18 to 26)
<b>Ethnicity</b>	
African American	n = 5
Hispanic / Latino	n = 6
White	n = 9
Other race/ethnicity	n = 2
<b>Sexual Orientation</b>	

	Study (N = 22)
Gay	% = 95
Bisexual	% = 5

### Critical Appraisal – CASP Qualitative Checklist

#### Aims of the research

*Was there a clear statement of the aims of the research?*

Yes

#### Appropriateness of methodology

*Is a qualitative methodology appropriate?*

Yes

#### Research Design

*Was the research design appropriate to address the aims of the research?*

Yes

#### Recruitment Strategy

*Was the recruitment strategy appropriate to the aims of the research?*

Can't tell

#### Data collection

*Was the data collected in a way that addressed the research issue?*

Yes

**Researcher and participant relationship**

*Has the relationship between researcher and participants been adequately considered?*

Yes

**Ethical Issues**

*Have ethical issues been taken into consideration?*

Yes

**Data analysis**

*Was the data analysis sufficiently rigorous?*

Yes

**Findings**

*Is there a clear statement of findings?*

Can't tell

*(Authors report that results are exploratory as they are based on a small sample size)*

**Research value**

*How valuable is the research?*

The research is valuable

**Overall risk of bias and directness**

*Overall risk of bias*

Moderate