

# HPV Vaccination Among Sexual and Gender Minorities in the United States

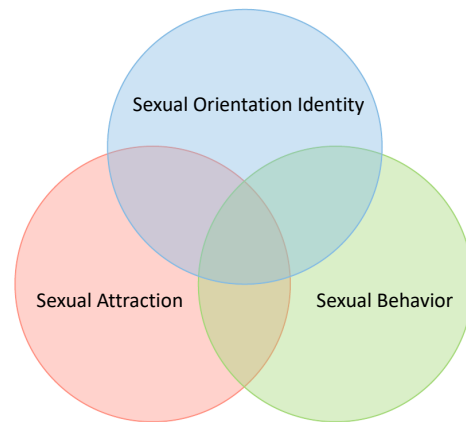
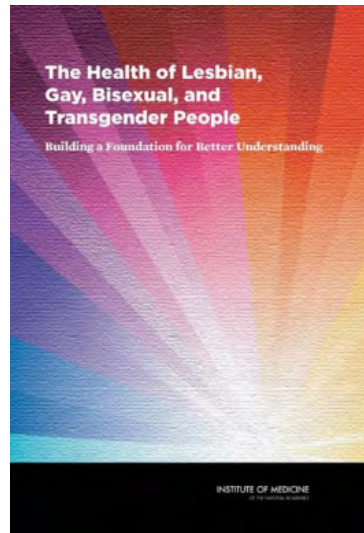
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## Overview

1. HPV risk and vaccination among **sexual minority women**
2. HPV risk and vaccination among **sexual minority men**
3. HPV risk and vaccination among **gender minorities**
4. Multilevel **social determinants of HPV vaccination** among sexual and gender minorities
5. **Recommendations** for clinical practice

## Sexual Orientation



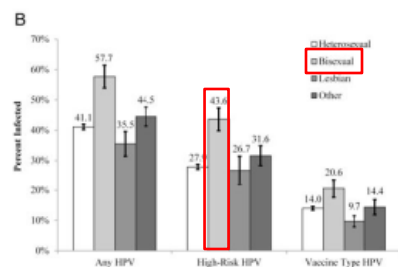
## Terminology

- **Sexual minority women (SMW):** women who identify as lesbian, bisexual, queer, or another non-heteronormative sexual orientation identity and/or have same-sex sexual partners and/or attractions
- **Sexual minority men (SMM):** men who identify as gay, bisexual, queer, or another non-heteronormative sexual orientation identity and/or have same-sex sexual partners and/or attractions

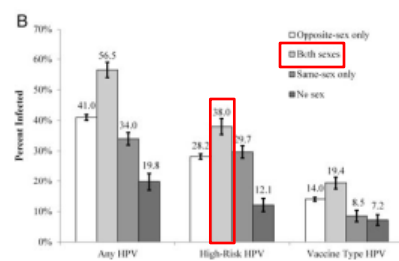
## HPV Risk Among Sexual Minority Women

- **SMW are at risk of acquiring HPV from male and female sexual partners**
  - ▣ HPV transmitted through skin-to-skin contact
  - ▣ HPV infection from vaginal, anal, and oral sexual contact with body parts and sex toys
- **SMW may be at higher risk of developing cervical cancer than non-SMW**
  - ▣ Lower Pap test use, health insurance, and access to health care, and higher smoking
- **SMW may be at higher risk of developing oral cancer than non-SMW**

**Sexual orientation identity disparities in HPV among U.S. women aged 20-59 years**



**Sexual behavior disparities in HPV among U.S. women aged 20-59 years**



Source: Reiter PL, McRee AL. HPV infection among a population-based sample of sexual minority women from USA. *Sex Transm Infect* 2017;93:25-31.

# Sexual Orientation Disparities in Sexually Transmitted Infections: Examining the Intersection Between Sexual Identity and Sexual Behavior

Bethany G. Everett

**Abstract** The terms MSM (men who have sex with men) and WSW (women who have sex with women) have been used with increasing frequency in the public health literature to examine sexual orientation disparities in sexual health. These categories, however, do not allow researchers to examine potential differences in sexually transmitted infection (STI) risk by sexual orientation identity. Using data from the National Longitudinal Survey of Adolescent Health, this study investigated the relationship between self-reported STIs and both sexual orientation identity and sexual behaviors. Additionally, this study examined the mediating role of victimization and STI risk behaviors on the relationship between sexual orientation and self-reported STIs. STI risk was found to be elevated among heterosexual-WSW and bisexual women, whether they reported same-sex partners or not, whereas gay-identified WSW were less likely to report an STI compared to heterosexual women with opposite sex relationships only. Among males, heterosexual-identified MSM did not have a greater likelihood of reporting an STI diagnosis; rather, STI risk was concentrated among gay and bisexual identified men who reported both male and female sexual partners. STI risk behaviors mediated the STI disparities among both males and females, and victimization partially mediated STI disparities among female participants. These results suggest that relying solely on behavior-based categories, such as MSM and WSW, may mischaracterize STI disparities by sexual orientation.

# Sexual Orientation Identity Disparities in Awareness and Initiation of the Human Papillomavirus Vaccine Among U.S. Women and Girls

## A National Survey

Madina Agénor, ScD, MPH; Sarah Peitzmeier, MSPH; Allegra R. Gordon, MPH; Sebastien Haneuse, PhD; Jennifer E. Potter, MD; and S. Bryn Austin, ScD

Table 2. Prevalence of Awareness and Initiation of the HPV Vaccine Among U.S. Women and Girls Aged 15–25 y, Overall and by Sexual Orientation Identity\*

Variable	Total	Ever Heard of HPV Vaccine			Ever Received HPV Vaccine†		
		Participants, n	Prevalence Estimate (95% CI), %	P Value	Participants, n	Prevalence Estimate (95% CI), %	P Value
Overall	3253	2698	84.4 (81.5–86.9)	–	790	28.5 (25.4–31.8)	–
Sexual orientation identity							
Heterosexual	2914	2426	84.4 (81.6–87.2)	Reference	719	28.4 (25.2–31.6)	Reference
Bisexual	235	195	85.7 (80.5–90.9)	0.64	56	33.2 (22.8–43.7)	0.33
Lesbian	62	55	91.8 (83.7–99.8)	0.160	7	8.5 (0.0–17.2)	0.007
Not reported‡	42	22	68.4 (56.6–80.2)	0.004	8	41.7 (13.2–70.2)	0.34

**Note.** Prevalence estimates are adjusted for age, race/ethnicity, nativity, language, childhood religion, place of residence, relationship status, educational attainment, household poverty level, employment status, health insurance status, receiving contraception in past year, and sexually transmitted infection services use in past year.

Source: Agénor M, Peitzmeier S, Gordon AR, Haneuse S, Potter J, Austin SB. Sexual orientation identity disparities in awareness and initiation of the human papillomavirus vaccine among U.S. women and girls: a national survey. *Annals of Internal Medicine* 2015;163:99–106.

# Sex of Sexual Partners and Human Papillomavirus Vaccination Among U.S. Girls and Women



Madina Agénor, ScD, MPH,<sup>1,2</sup> Heather L. McCauley, ScD,<sup>3,4</sup> Sarah M. Peitzmeier, MSPH,<sup>5</sup> Sebastien Haneuse, PhD,<sup>6</sup> Allegra R. Gordon, ScD, MPH,<sup>7,8</sup> Jennifer Potter, MD,<sup>9,10,11</sup> S. Bryn Austin, ScD<sup>1,7,8</sup>

**Table 2.** Prevalence of HPV Vaccine Awareness and Initiation by Sex of Sexual Partners

Variable	Ever heard of HPV vaccine (N=3,253)			Ever received HPV vaccine <sup>a</sup> (n=2,698)		
	Total	n	Prevalence estimate, % (95% CI)	n	Prevalence estimate, % (95% CI)	
Total	3,253	2,698	84.4 (81.5, 86.9)	790	28.5 (25.4, 31.8)	
Sex of lifetime sexual partners						
Only male	1,889	1,569	85.3 (82.5, 87.8)	458	28.5 (24.5, 32.9)	
Both male and female	493	440	88.9 (84.1, 92.3)	108	26.8 (21.0, 33.6)	
Only female	46	37	84.8 (64.5, 94.5)	9	27.7 (11.1, 54.1)	
None	798	637	81.1 (76.8, 84.7)	212	30.0 (25.4, 35.0)	
Sex of past-year sexual partners						
Only male	1,973	1,663	85.9 (83.2, 88.3)	471	28.3 (24.4, 32.5)	
Both male and female	192	172	92.8 (87.5, 96.9)	43	27.1 (18.0, 38.5)	
Only female	60	47	79.1 (58.7, 91.0)	6	6.2 (1.8, 19.3)	
None	989	794	81.7 (77.7, 85.1)	266	30.6 (26.2, 35.5)	

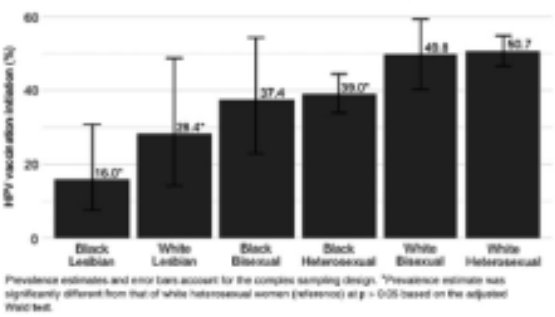
Source: Agénor M et al. Sex of sexual partners and human papillomavirus vaccination among U.S. girls and women. *Am J Prev Med* 2016;50:318-327.

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## Original Article

### Human Papillomavirus Vaccination Initiation Among Sexual Orientation Identity and Racial/Ethnic Subgroups of Black and White U.S. Women and Girls: An Intersectional Analysis

Madina Agénor, ScD, MPH,<sup>1</sup> Ashley E. Pérez, ScM,<sup>2</sup> Sarah M. Peitzmeier, PhD, MSPH,<sup>3</sup> Jennifer Potter, MD,<sup>4,5</sup> and Sonya Borrero, MD, MS<sup>6,7</sup>



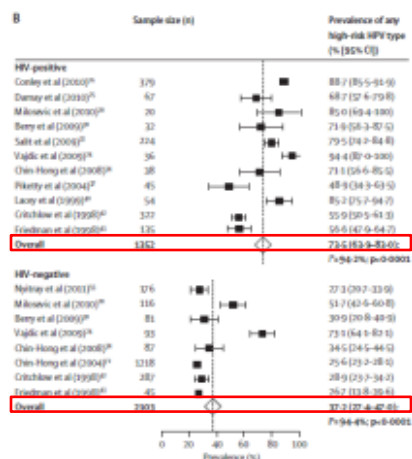
**FIG. 1.** Prevalence of human papillomavirus vaccination initiation among sexual orientation identity and racial/ethnic subgroups of white and black heterosexual, bisexual, and lesbian U.S. women aged 15–24 years (N=2,413).

Source: Agénor M, Pérez AE, Peitzmeier SM, Potter J, Borrero S. Human papillomavirus vaccination initiation among sexual orientation identity and racial/ethnic subgroups of black and white U.S. women and girls: An intersectional analysis. *Journal of Women's Health* 2018. doi: 10.1089/jwh.2017.6768.

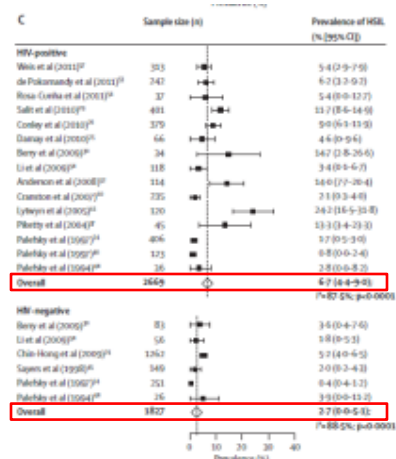
## HPV Risk Among Sexual Minority Men

- ❑ **SMM are at much higher risk of acquiring HPV than non-SMM**
  - ❑ Higher receptive anal sex and HIV infection
  - ❑ Highest prevalence of HPV among SMM with HIV
- ❑ **SMM are at much higher risk of developing anal cancer than non-SMM**
  - ❑ Higher anal HPV infection, HIV infection, and smoking
  - ❑ Highest incidence of anal cancer among SMM with HIV
- ❑ **SMM are at higher risk of developing some penile and oral cancers than non-SMM**
  - ❑ Higher HPV infection, higher HIV infection, and smoking

**Prevalence of high-risk anal HPV among SMM by HIV status**




**Prevalence of anal high-grade cytological lesions among SMM by HIV status**




Source: Machalek DA et al., Anal human papillomavirus infection and associated neoplastic lesions in men who have sex with men: a systematic review and meta-analysis. *Lancet Oncol* 2012;13:487-500.

Cancer Causes Control (2016) 27:1187–1196  
DOI 10.1007/s10552-016-0796-4

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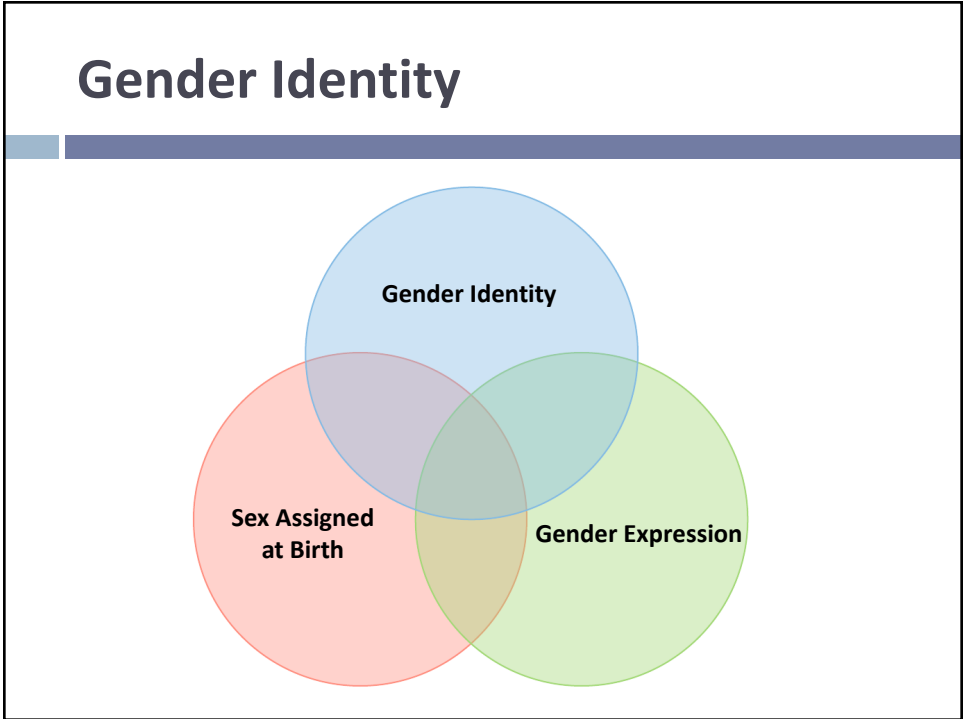
ORIGINAL PAPER

**Sexual orientation identity disparities in human papillomavirus vaccination initiation and completion among young adult US women and men**

Madina Agénor<sup>1</sup>  · Sarah M. Peitzmeier<sup>2</sup> · Allegra R. Gordon<sup>3,4</sup> · Brittany M. Charlton<sup>3,4</sup> · Sebastien Haneuse<sup>5</sup> · Jennifer Potter<sup>6,7,8</sup> · S. Bryn Austin<sup>1,3,4</sup>

**Table 2** Percent distribution of human papillomavirus vaccination initiation among young adult US women ( $n = 9,734$ ) and men ( $n = 6,812$ ) in relation to sexual orientation identity

Variable	Total	n	%	95 % CI	p value
<i>US women aged 18–34 years</i>					
Total	9,734	2,536	28.9	27.5, 30.3	
Sexual orientation identity					
Heterosexual	9,351	2,403	28.5	27.1, 29.9	Ref
Bisexual	209	80	43.1	35.3, 51.0	<b>0.0003</b>
Lesbian	174	53	30.5	22.0, 38.9	0.7
<i>US men aged 18–31 years</i>					
Total	6,812	433	6.6	5.8, 7.5	
Sexual orientation identity					
Heterosexual	6,599	407	6.5	5.6, 7.4	Ref
Bisexual	60	7	10.3	1.1, 19.5	0.4
Gay	153	19	11.4	6.3, 16.5	0.06



## Terminology

- **Transgender men:** people who identify as men and were assigned female at birth
- **Transgender women:** people who identify as women and were assigned male at birth
- **Non-binary people:** individuals whose gender identity is neither woman nor man
- **Transmasculine:** an umbrella term that includes both binary (i.e., transgender men) and non-binary individuals assigned female at birth with a masculine gender identity and/or expression
- **Transfeminine:** an umbrella term that includes both binary (i.e., transgender women) and non-binary individuals assigned male at birth with a feminine gender identity and/or expression

## HPV Risk Among Gender Minorities

- **Transfeminine individuals are at high risk of HPV and anal, penile, and oral cancers**
  - ▣ Receptive anal and oral sex, HIV infection, sexual victimization
  - ▣ Exclusion and marginalization in social, economic, and health care systems
- **Transmasculine individuals are at risk of HPV and cervical cancer**
  - ▣ Barriers to health care, including regular Pap tests
  - ▣ Transgender men who have sex with cisgender men at especially high risk



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PERSPECTIVE

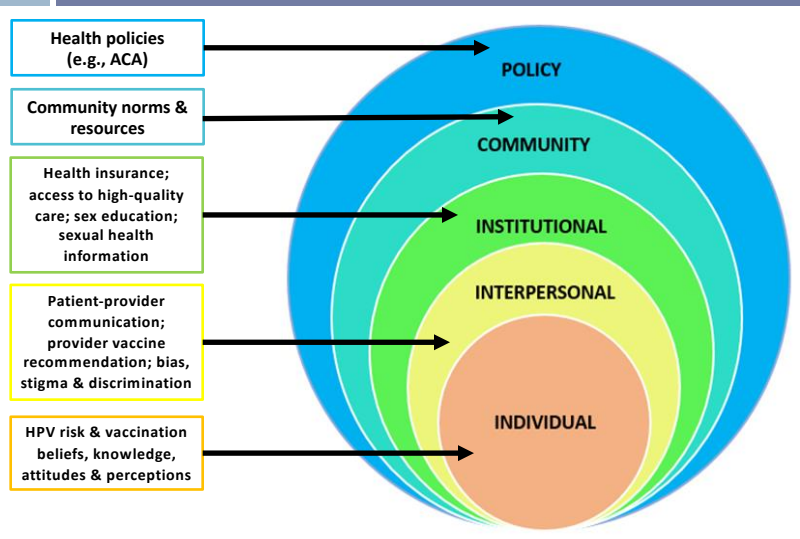
# Human Papillomavirus-Related Cancer Surveillance, Prevention, and Screening Among Transgender Men and Women: Neglected Populations at High Risk

Brandon Brown, PhD, MPH,<sup>1</sup> Tonia Poteat, PhD, MPH, PA-C,<sup>2</sup>  
Logan Marg, MA,<sup>3</sup> and Jerome T. Galea, PhD, MSW<sup>4</sup>

Abstract

Researchers and healthcare surveillance systems must clearly disaggregate data for transgender men and women from data for cisgender men and women to identify population-level health disparities and give every person an opportunity for cancer prevention. The limited human papillomavirus (HPV) vaccine recommendations for transgender men and women may be due to the scant literature on cancer prevalence coupled with poor understanding of HPV risks for these populations. Comprehensive cancer screening and prevention initiatives centered on relevant anatomy and sexual risk behaviors that are inclusive of transgender men and women are needed. Moreover, we need specific research to understand the impact of HPV and associated cancers on both transgender men's and women's lives.

## Multilevel Social Determinants of HPV Vaccination Among SGM



## Conclusions

- **SGM populations are at risk of HPV and HPV-related diseases**
  - ▣ Some subgroups at higher risk vs. non-SGM populations
- **Sexual orientation disparities in HPV vaccination**
  - ▣ Lesbian women < heterosexual women
  - ▣ Women with only female sexual partners < women with only male sexual partners
  - ▣ Gay men > heterosexual men
  - ▣ Bisexual women and men > heterosexual women and men (NS)
  - ▣ Heterogeneity in relation to race/ethnicity
- **Multilevel barriers to and facilitators of HPV vaccination among SGM populations**