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# The other “H” virus: HPV among gay, bi and other MSM with HIV in Canada

- **Ann Burchell, PhD**, epidemiologist and scientist at St. Michael's Hospital, Toronto
- **Troy Grennan, MD**, physician at the BC Centre for Disease Control, Vancouver



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# The Other 'H' Virus: HPV Among Gay, Bi and Other Men Who Have Sex With Men with HIV in Canada

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CATIE Webinar Series, 1 November 2017



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# Your Speakers:

## **Ann N. Burchell, PhD**

Scientist, Dept of Family and Community Medicine and  
Centre for Urban Health Solutions,  
Li Ka Shing Knowledge Institute, St. Michael's Hospital

Assistant Professor,  
Dept of Family and Community Medicine and Dalla Lana School of Public Health,  
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## **Troy Grennan, MD FRCPC**

Physician Lead, Provincial HIV/STI Program, Clinical Prevention Services  
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# Acknowledgments

## HPV-SAVE

All study participants

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OCS Governance and Scientific Steering Committees

Participants and staff of the OHTN Cohort Study Sites

## Participating Clinical Sites

### Toronto

Maple Leaf Medical Clinic (Drs. Crouzat, Knox, Loutfy, Sharma)

Church-Wellesley Medical (Dr. Chan, Chen, Goodhew, Klein, Mobo, Rubin)

Toronto General Hospital (Drs. Bunce, Kaul, Salit) 790 Bay Street (Dr. MacLeod)

### Vancouver

BCCfE (Dr. M. Harris)

St Paul's Hospital (Drs. Guillemi, Hall, Hull, Morris, Stanley, Stone)

### Ottawa

The Ottawa Hospital (Dr. MacPherson)

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AIDS Bureau

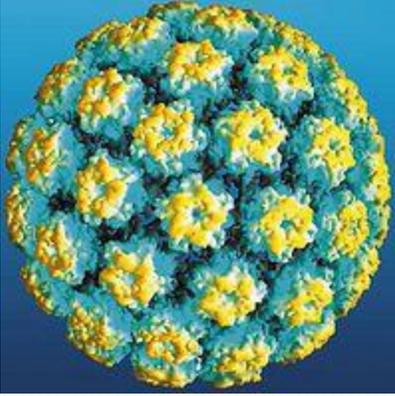
Ontario Ministry of Health And Long-Term Care





# Learning Objectives

1. To learn about human papillomavirus (HPV) and its importance for men living with HIV.
2. To provide an overview of HPV's role in anal cancers, and how these impact men living with HIV.
3. To share the beliefs and attitudes of men living with HIV regarding HPV, cancers caused by HPV, and ways to prevent it
4. To present information from the large Canadian study HPV-SAVE, examining various aspects of HPV and anal cancer screening in men living with HIV.



# Human papillomavirus (HPV)

- HPV is **sexually transmitted**, and the **most common STI worldwide**.
- **Both women and men can get it** from skin-to-skin contact during many types of sexual activities (e.g., oral, anal, vaginal sex); most will have at least one infection in their lifetime.
- There are over 150 HPV types overall, and over **40 types that cause anal and genital infection**
  - HPV-6 and -11: **Low-risk types**; Cause 90% of genital warts
  - HPV-16, -18, -31, -33, -35, -45, -52, -58: **High-risk (cancer-causing) types**; Cause majority of anal, cervical, oral, penile, vulvar, and vaginal cancers.



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## Farrah Fawcett: My terrifying battle with cancer

By PAUL THOMPSON FOR MAILONLINE  
UPDATED: 13:21 BST, 14 May 2009



View comments

Farrah Fawcett has made her feelings on her terrifying battle with cancer public for the first time.

The terminally ill 62-year-old is no longer receiving treatment for the disease, is bed-ridden, being fed intravenously and has lost all her famous blonde locks.



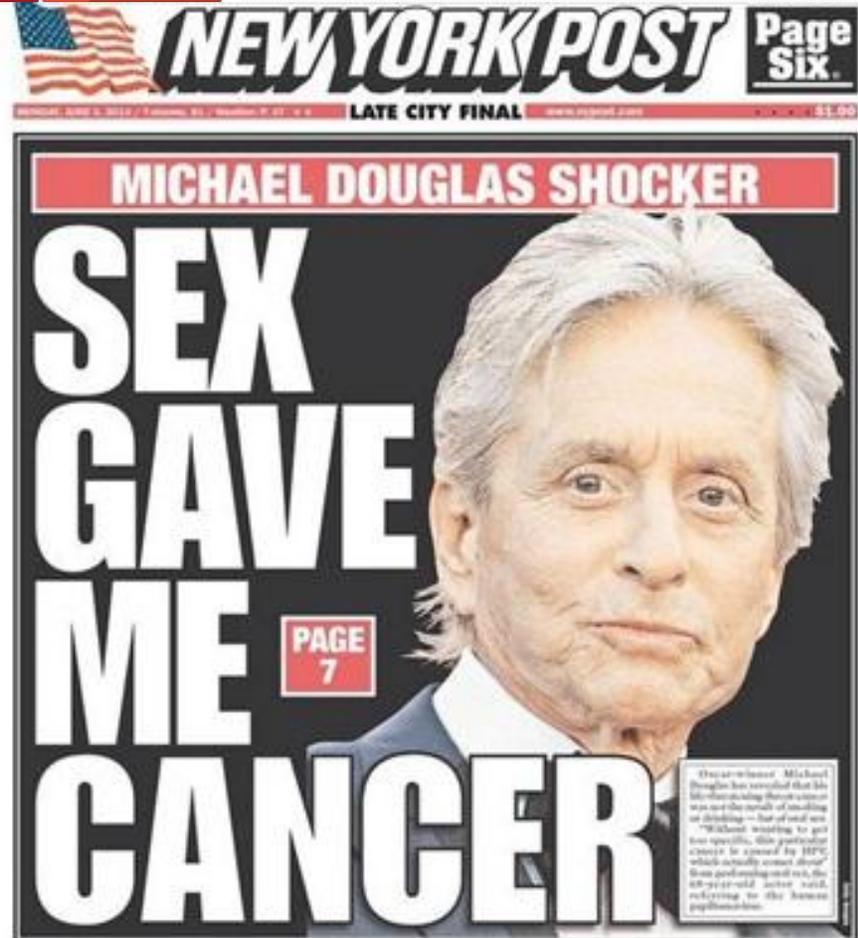
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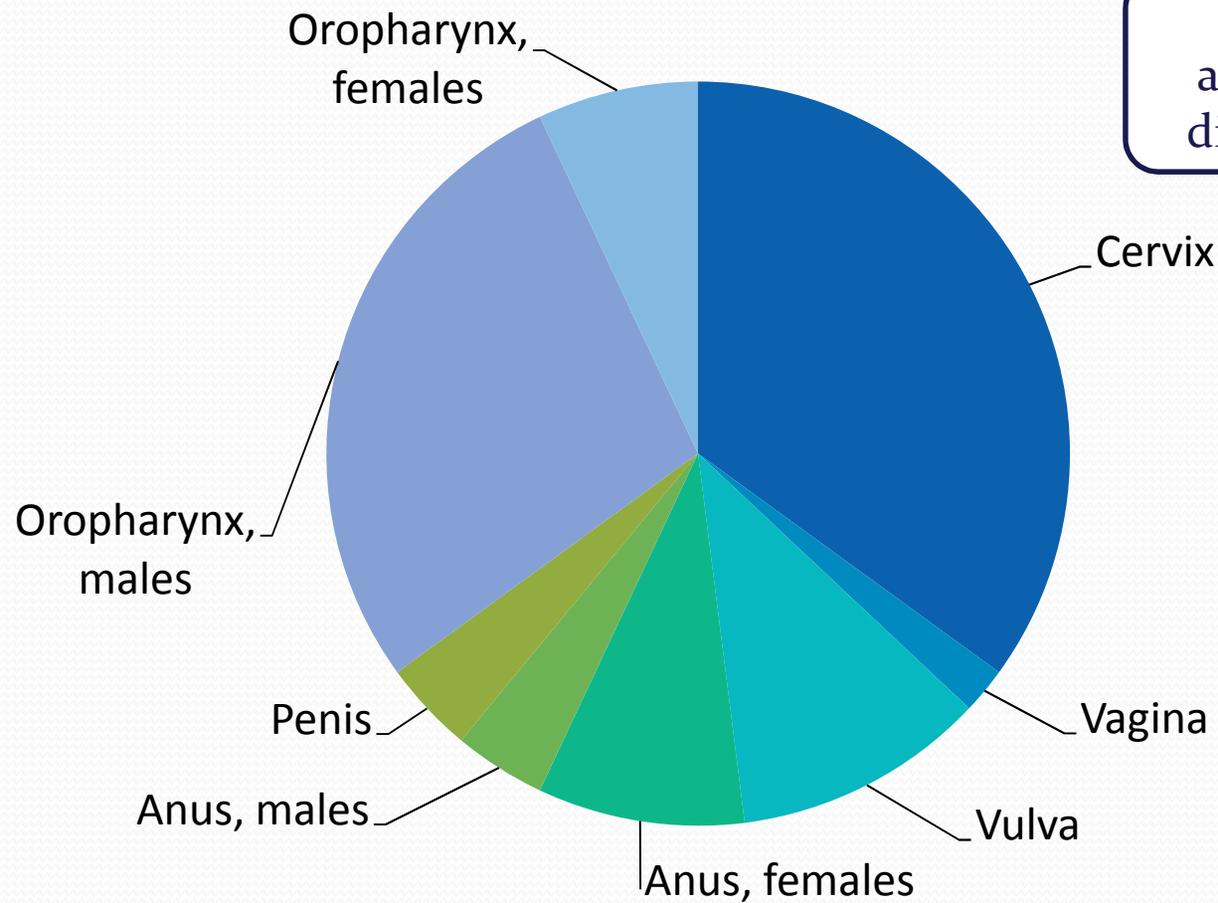
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The focus of this talk will be on **HPV-related anal cancer**, an often overlooked cancer disproportionately affecting HIV-positive MSM.

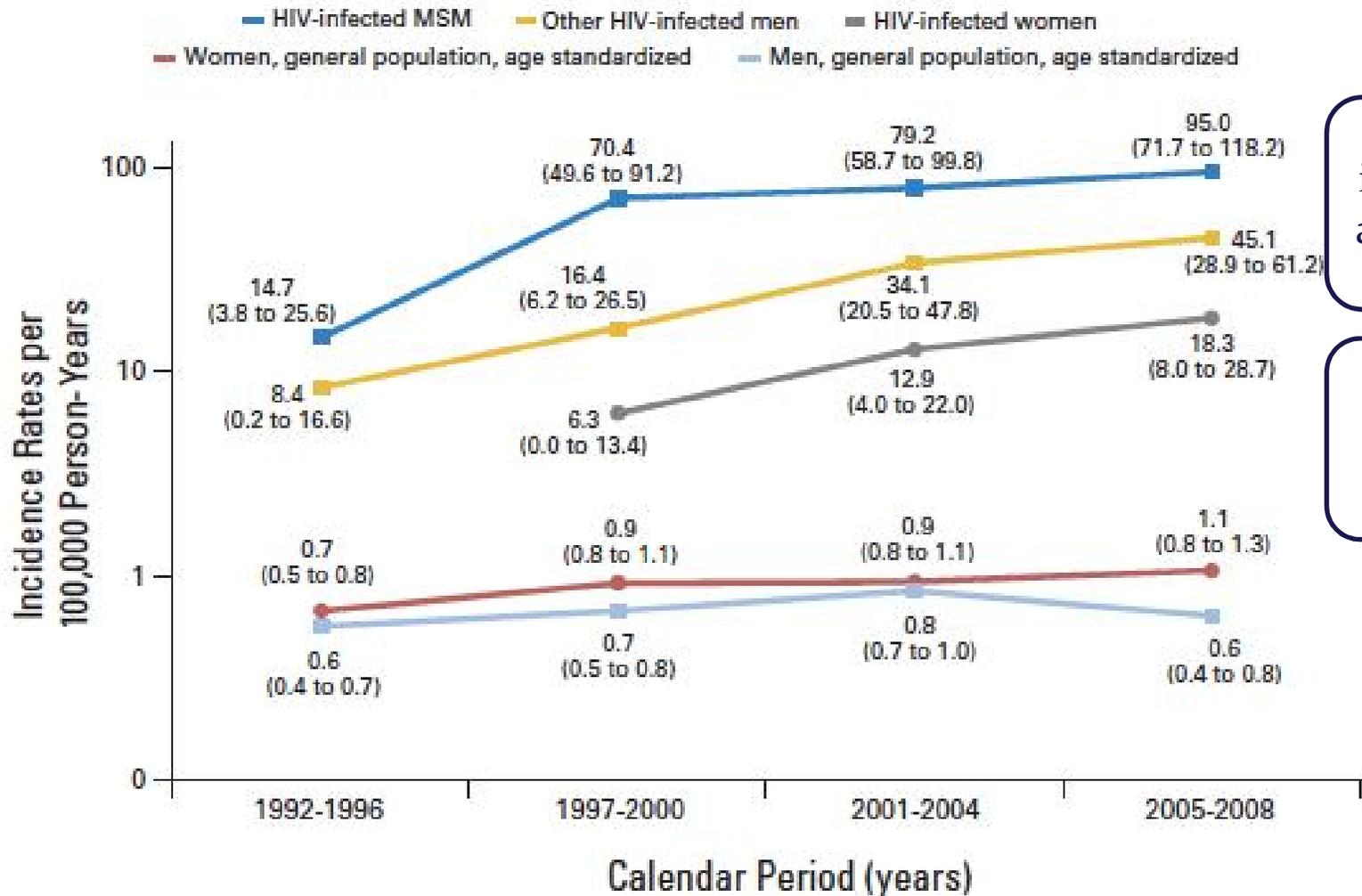
# There were 3,760 HPV-associated cancers diagnosed in Canada in 2012



36% of HPV-associated cancers diagnosed in males

Source: Canadian Cancer Society. *Canadian Cancer Statistics 2016*.

## Though effective HIV therapies have led to many improvements, anal cancer has continued to increase in HIV+ men



HIV infection increases risk of anal cancer ~30-100 fold

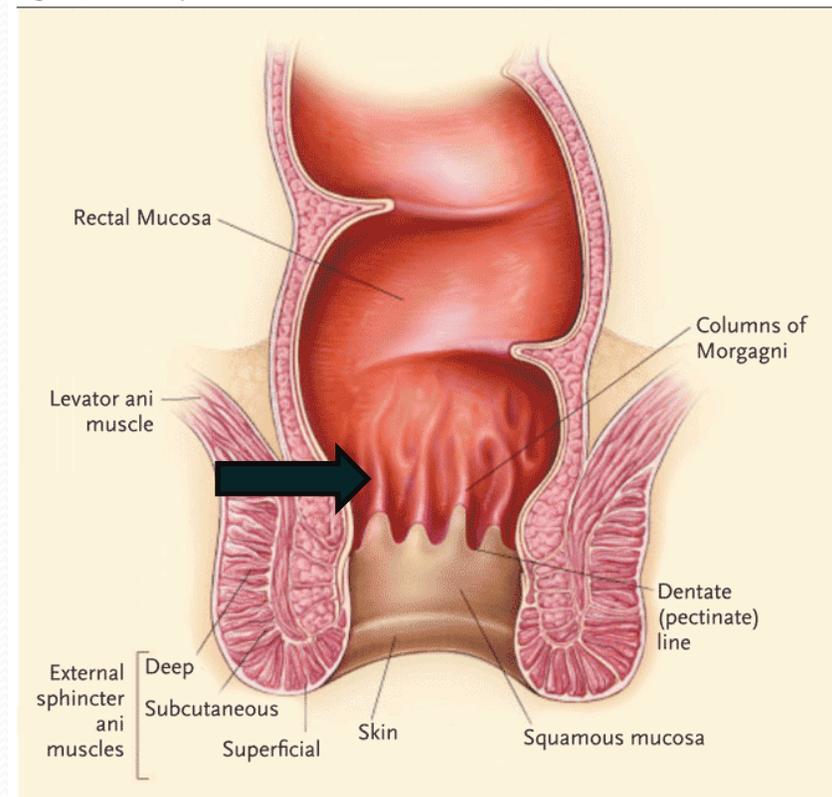
Lifetime risk of anal cancer by age 75: 1.7%

Sources: Piketty et al. *J Clin Oncol* 2012; 30: 4360-4366.  
Silverberg et al. *Ann Int Med* 2015; 163:507-518.

# Anal Cancer: A quick review

- Most anal cancers occur at the junction between the anus and rectum.
- **Colon cancer  $\neq$  anal cancer**
  - Colonoscopy is not a good screening test for anal cancer, and vice versa.
- Symptoms may include: bleeding, pain, obstruction, masses/lumps...
  - But, some of these happen very late; **early cancer can have no symptoms.**

Figure 4. Anatomy of the Anus



From Ryan D, Compton C, and Mayer R. Medical progress: carcinoma of the anal canal. *N Engl J Med.* 2000;342(11):792-800. Reprinted with permission from the publisher. Copyright © 2000 Massachusetts Medical Society. All rights reserved.



## Bottom Line: Why should we care about anal cancer?

- HPV is a **very common** infection in men.
- Anal cancer rates in HIV+ MSM are **~50-100x the rate in the general population.**
- Outcomes for anal cancer are poor, and it is often diagnosed late.
- Given all of this, **why are there no established guidelines or protocols in place to screen all HIV+ men for anal cancer?**



# Anal cancer screening: A primer

- In studies, it seems to be an **acceptable intervention**.
  - 85% of MSM willing to accept free screening
  - In the STANDOUT study in Toronto, 54% of HIV+ MSM who had been mailed a screening invitation accepted and came in for a Pap test.
- Most anal cancer screening techniques adopted from cervical cancer screening: Pap smear (anal cytology), high resolution anoscopy, ablation therapy of pre-cancerous lesions.

# Issues preventing anal cancer screening from hitting 'prime time'

- Very few clinics and very few health care providers trained to do this work in Canada.
  - Up to 2-year wait lists for non-urgent cases.
- A single anal Pap test is difficult to interpret
  - It can potentially miss important disease, and may overcall others.
- It's unclear what role there is for HPV testing as a screening tool
  - HPV is very common in MSM, and is often transient.
- We don't have any evidence indicating that the treatment of anal pre-cancers actually prevents progression.

HPV-SAVE is one of three large studies globally looking at HPV/anal cancer in MSM



**spanc**  
Study of the Prevention of Anal Cancer

**About SpAnc**

**IS YOUR BUTT GETTING ENOUGH ATTENTION?**

**50% OF HIV+ MEN HAVE PRECANCEROUS ANAL CELLS AND ARE SYMPTOM-FREE.**

WE NEED HIV+ VOLUNTEERS OF ALL GENDERS WHO ARE 35+ TO TAKE PART IN A NATIONAL ANAL CANCER PREVENTION STUDY. VISIT THE WEBSITE [ANCHORSTUDY.ORG](http://ANCHORSTUDY.ORG) OR CALL 1-800-555-5555

the **ANCHOR** study.org

# HPV-SAVE Team Grant

- The HPV Screening and Vaccine Evaluation (HPV-SAVE) study is a five year (2014-2019) CIHR-funded Team Grant examining the screening and treatment of anal cancer precursors, HPV vaccine and the impact of HPV infection on HIV transmission. The target population for this study is **MSM living with HIV in Toronto, Vancouver and Ottawa.**

# HPV-SAVE: Some highlights of our research program

Mixed-methods study examining knowledge, attitudes and beliefs around anal cancer screening, pre-cancerous lesion treatment, and HPV vaccine

Mucosal immunology study examining the role of HPV infection on  
(i) HIV transmission  
(ii) susceptibility to HIV infection

Invitation of HIV+ MSM to anal cancer screening via primary care providers, for entry into screening validation study

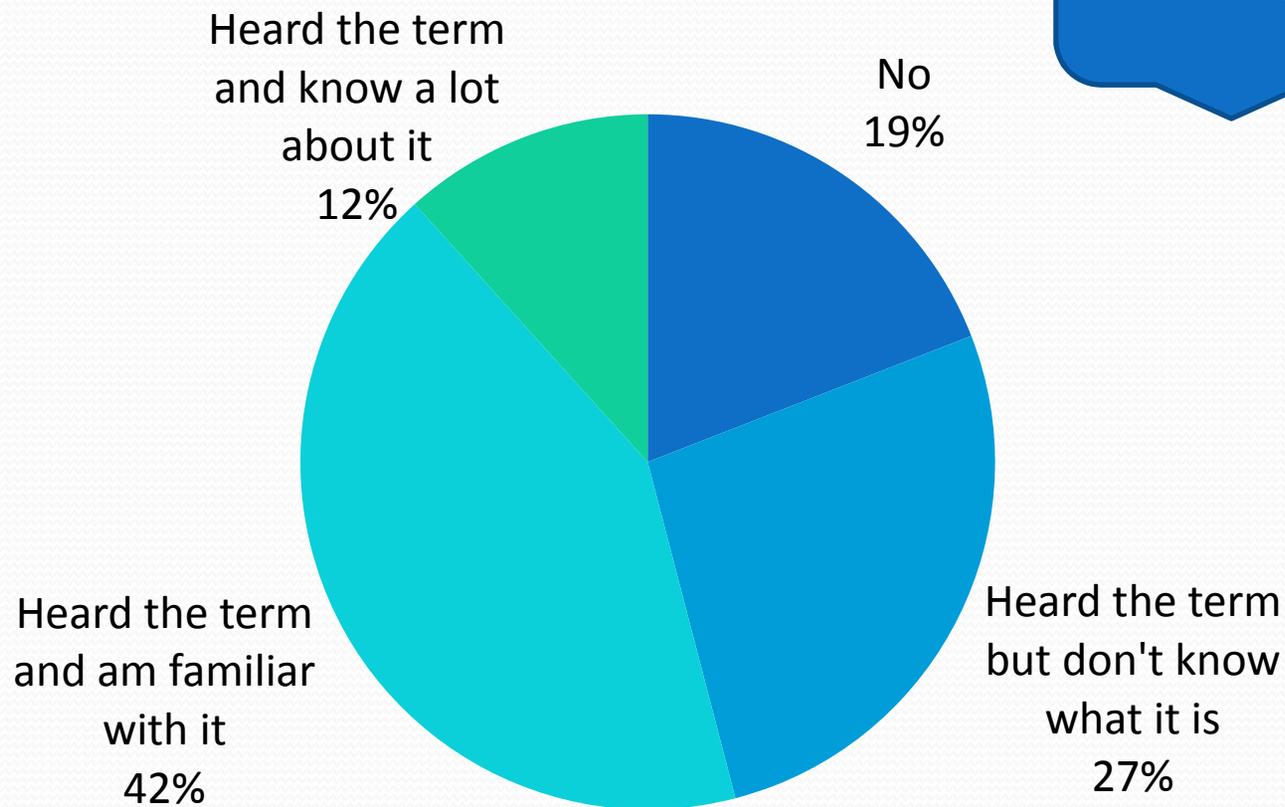
RCT examining ablative treatment of high-grade dysplasia versus observation alone

## What do men know and believe about HPV, HPV-associated disease, HPV vaccine, and anal cancer screening?

- Questionnaire administered once to male participants of the OHTN Cohort Study attending one of 9 specialty HIV clinics across Ontario
- Preliminary data from interviews carried out up to June 2017



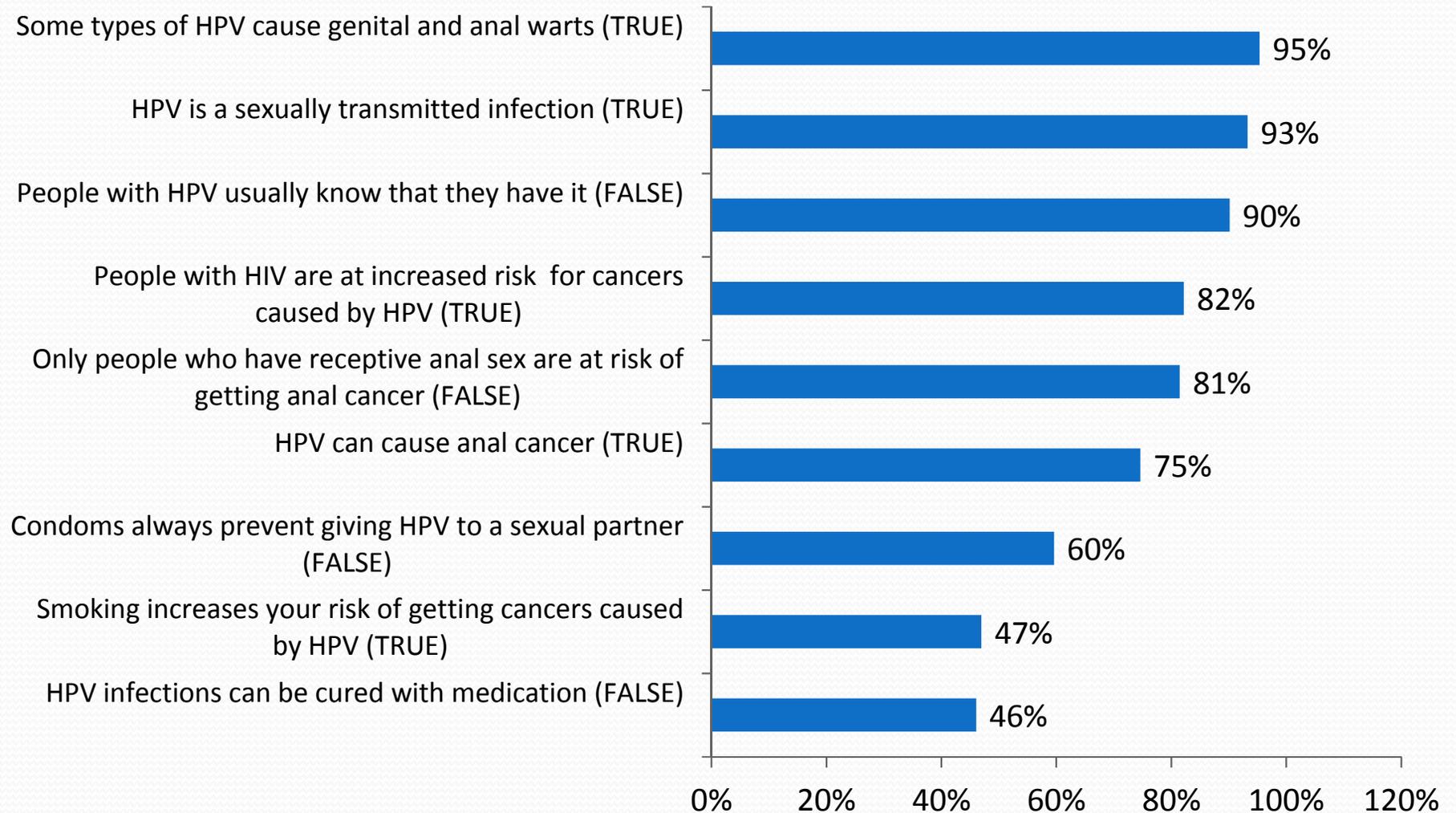
## Knowledge of HPV



Have you heard of the human papillomavirus or "HPV"?

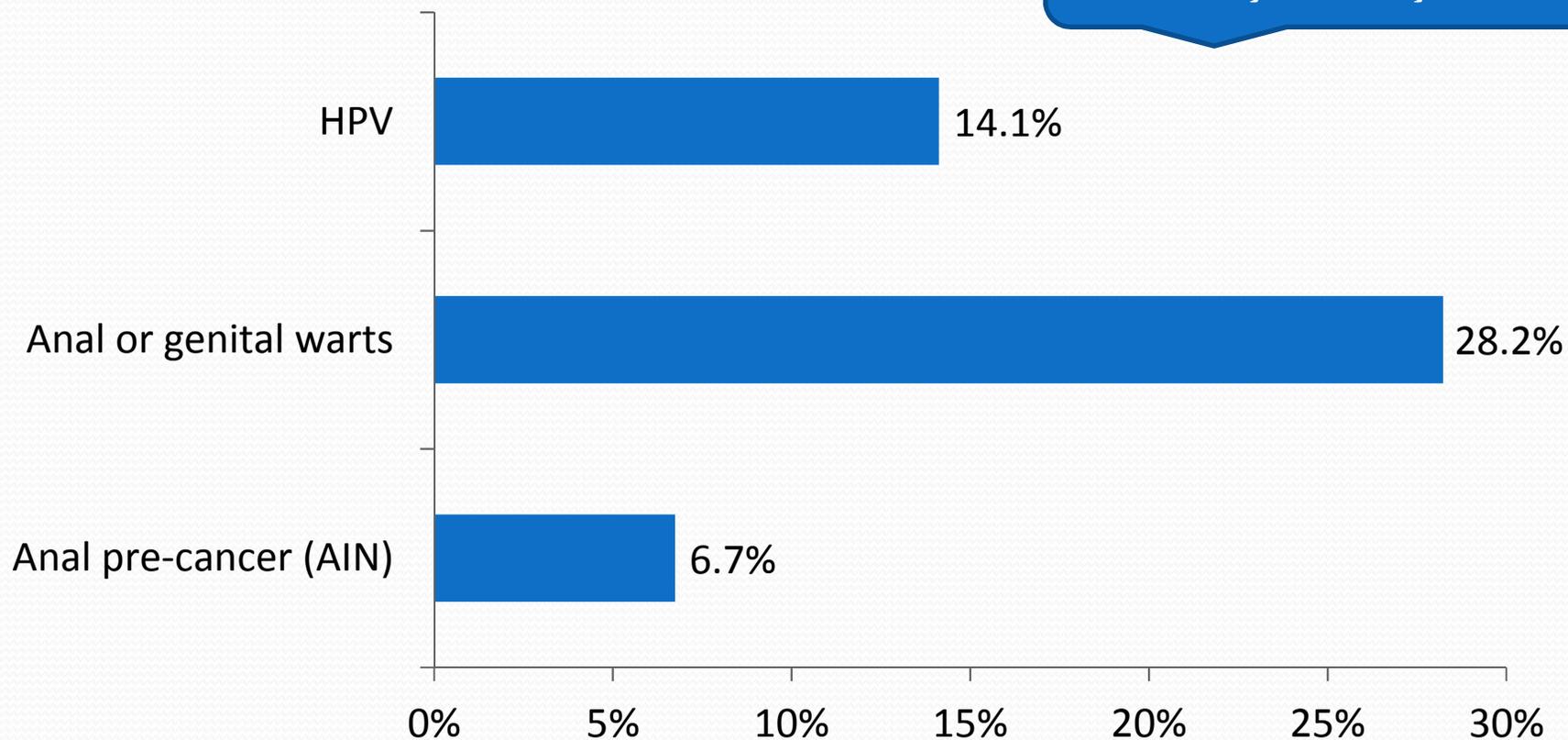
## HPV-SAVE: Mixed-methods study examining knowledge, attitudes and beliefs around anal cancer screening, pre-cancerous lesion treatment, and HPV vaccine

### Specific knowledge items among men who answered yes



## History of HPV-associated disease

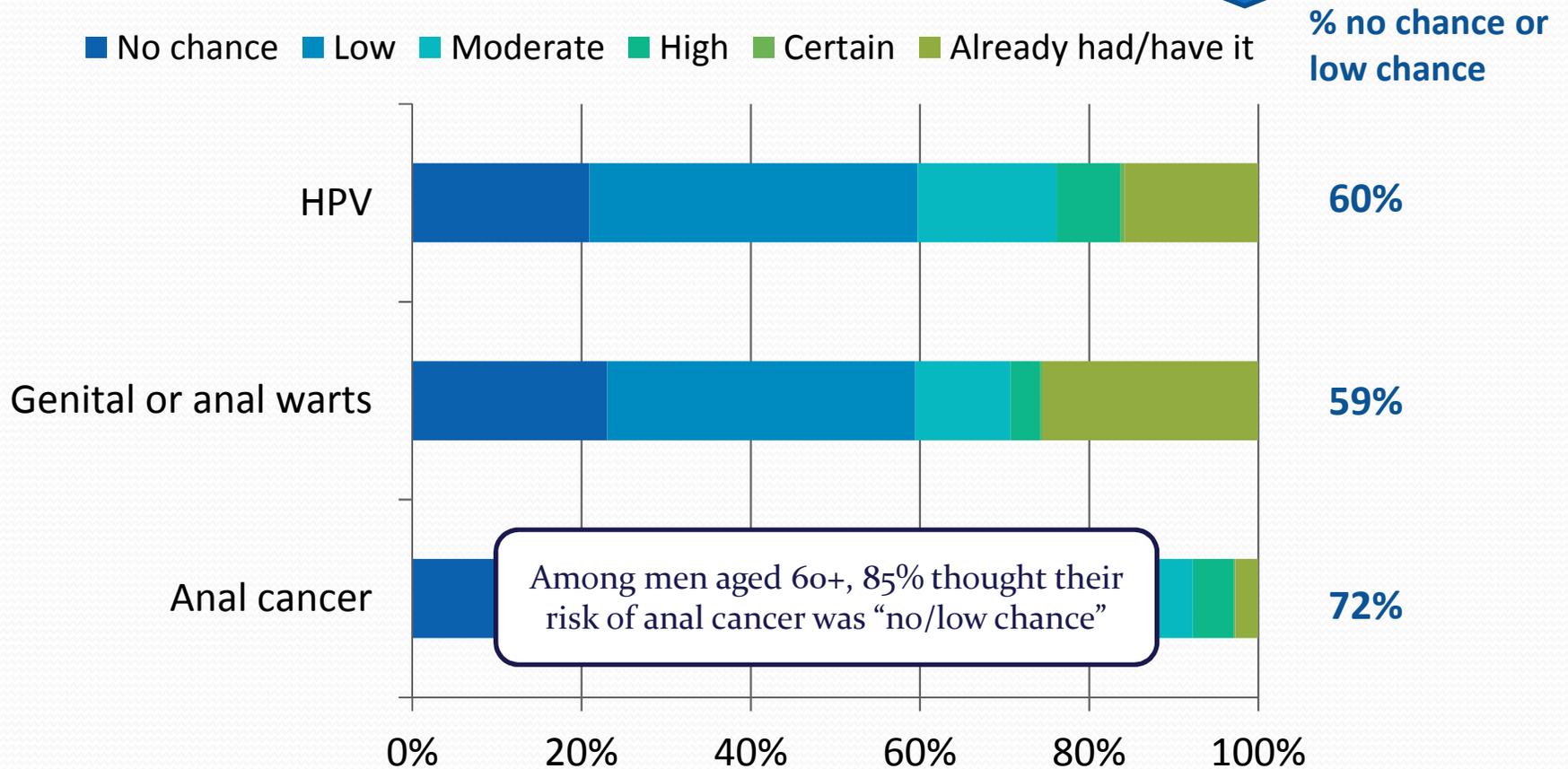
Has a healthcare provider ever told you that you had...



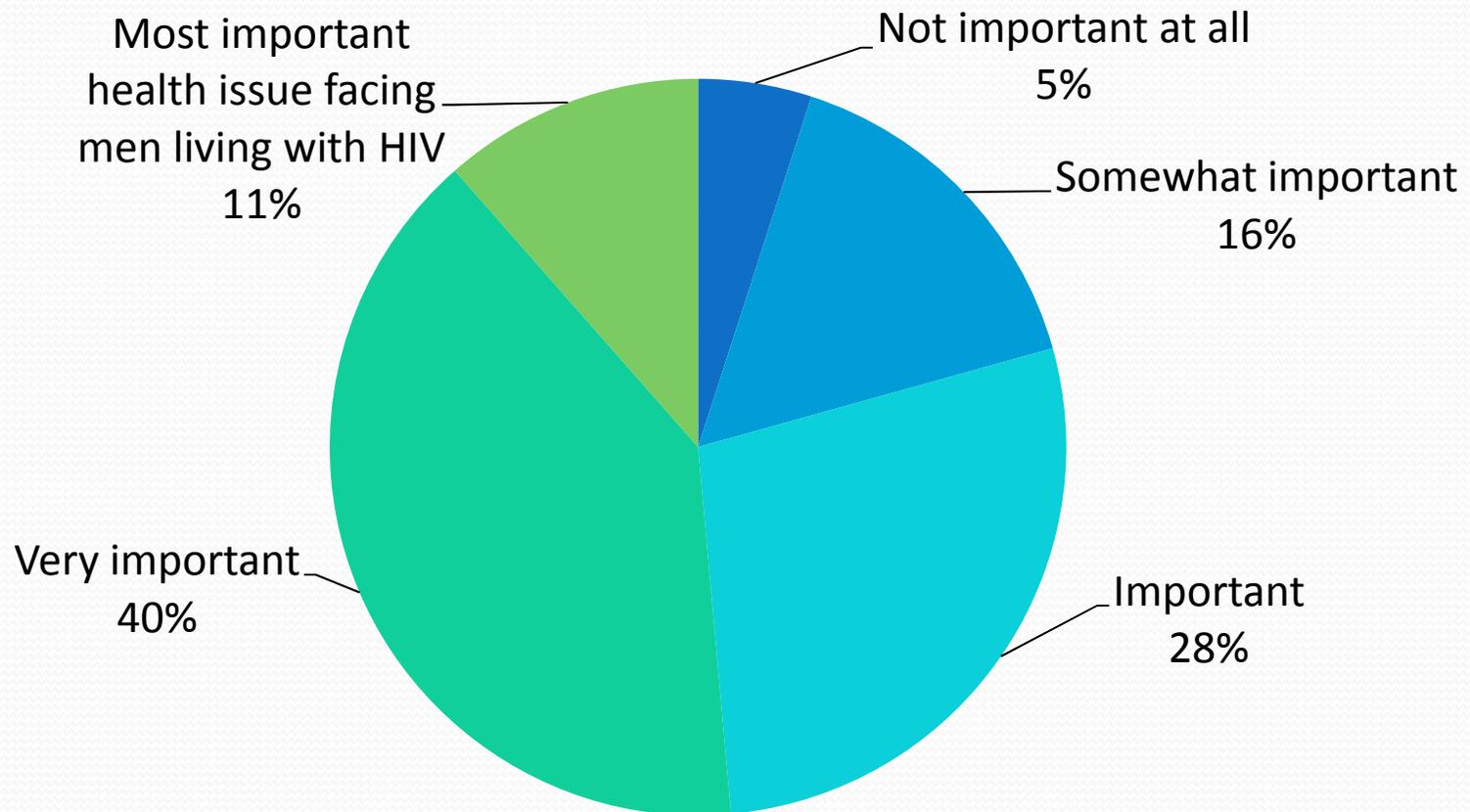
HPV-SAVE: Mixed-methods study examining knowledge, attitudes and beliefs around anal cancer screening, pre-cancerous lesion treatment, and HPV vaccine

# Self-perceived risk

In your lifetime, what do you think your chance is of getting ...



## Importance of HPV as a health concern among men living with HIV



# Vaccine to prevent cancer!

- Clinical trials indicate high efficacy of HPV vaccine for prevention of
  - Persistent genital and anal HPV infection
  - Genital warts
  - Pre-cancers of the cervix, vagina, vulva and anus
- Excellent safety profile
- Evidence of population-level impacts on ↓ genital warts, HPV infection, & cervical abnormalities in settings where vaccine programs have been implemented



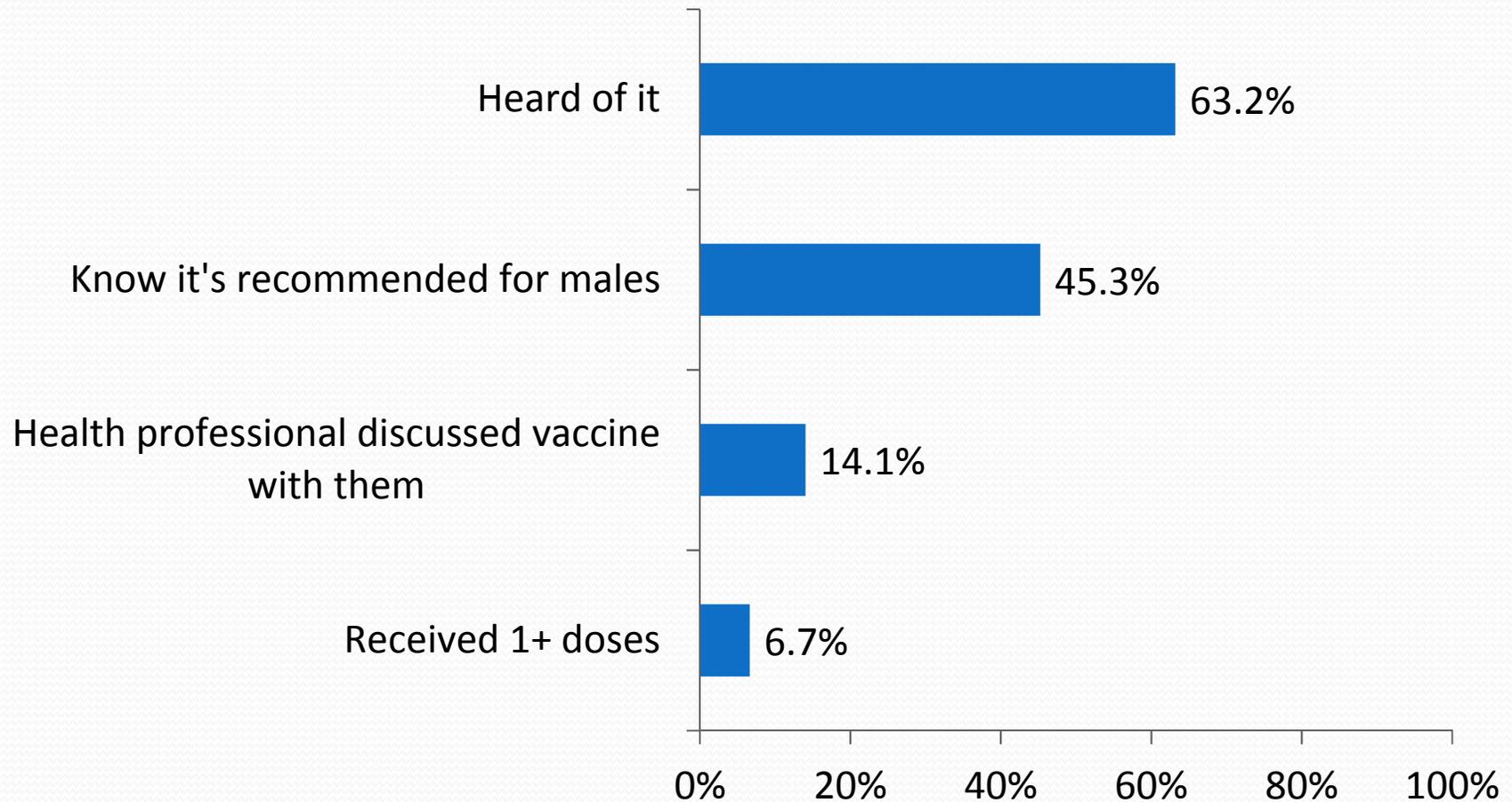
# Publically-funded HPV vaccination programs across Canada (as of 10/2017)



P/T	Vaccine	Females	High-risk females	Males	High-risk males
BC	9v	Gr 6	HIV 9-26 yo	Gr 6	MSM/HIV/street 9-26 yo
AB	9v	Gr 5		Gr 5 /9*	
SK	9v	Gr 6		Gr 6	HIV 9-17 yo
MB	4v	Gr 6	IC / HIV < 20 yo**	Gr 6/9*	IC / HIV < 15 yo**
ON	9v	Gr 7		Gr 7	MSM to 26yo
QC	9v	Gr 4	IC / HIV 9-26 yo	Gr 4	MSM/IC/HIV 9-26yo
NB	9v	Gr 7		Gr 7	
NS	4v	Gr 7		Gr 7	
PEI	9v	Gr 6	HR 18-45 yo	Gr 6	HR 18-26yo, MSM all
NFL	4v	Gr 6		Gr 6	
NWT	9v	Gr 4		Gr 4	
Yukon	9v	Gr 6		Gr 6	MSM/HIV/street
Nunavut	9v	Gr 6		Gr 6	

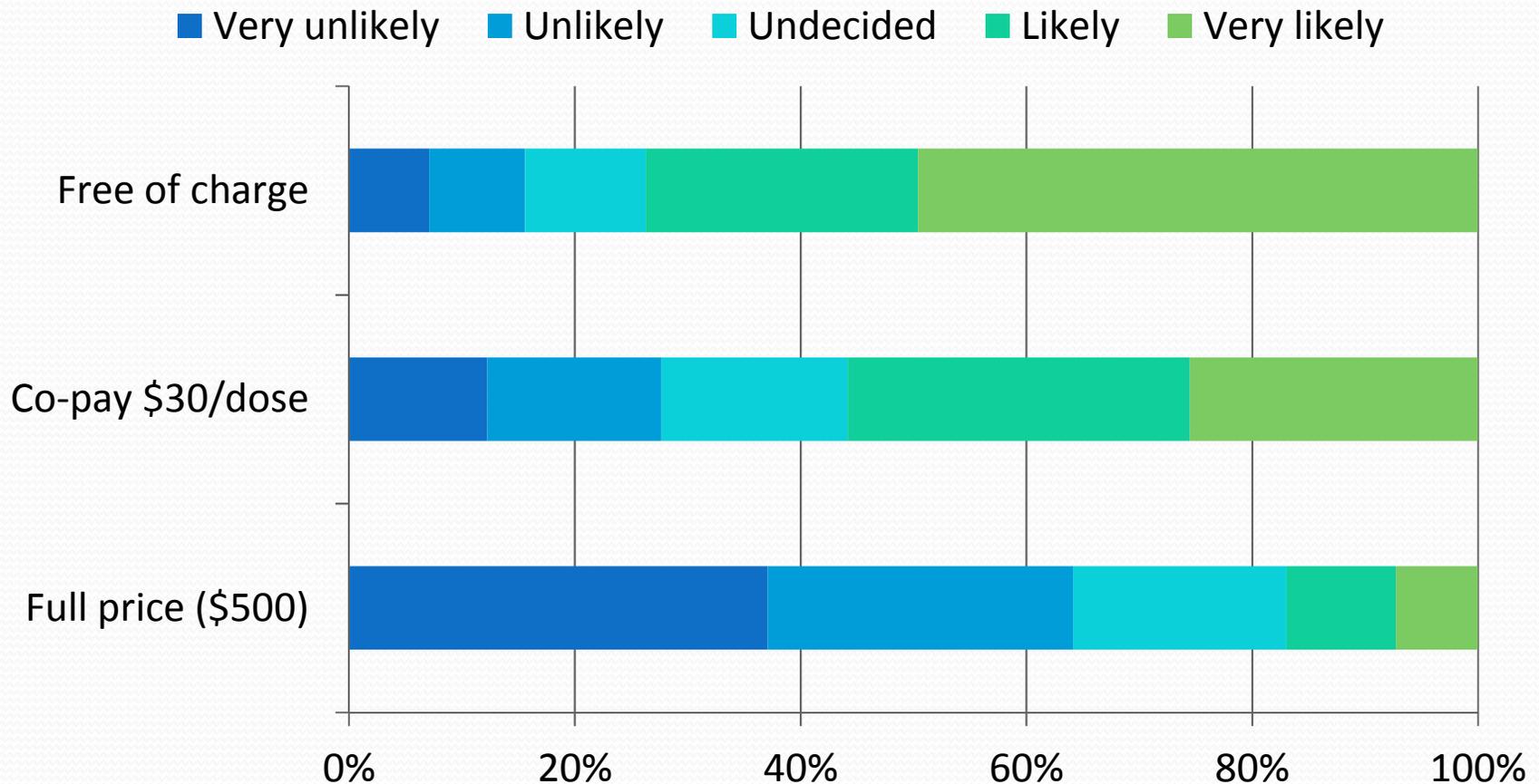


# Experience with HPV vaccine

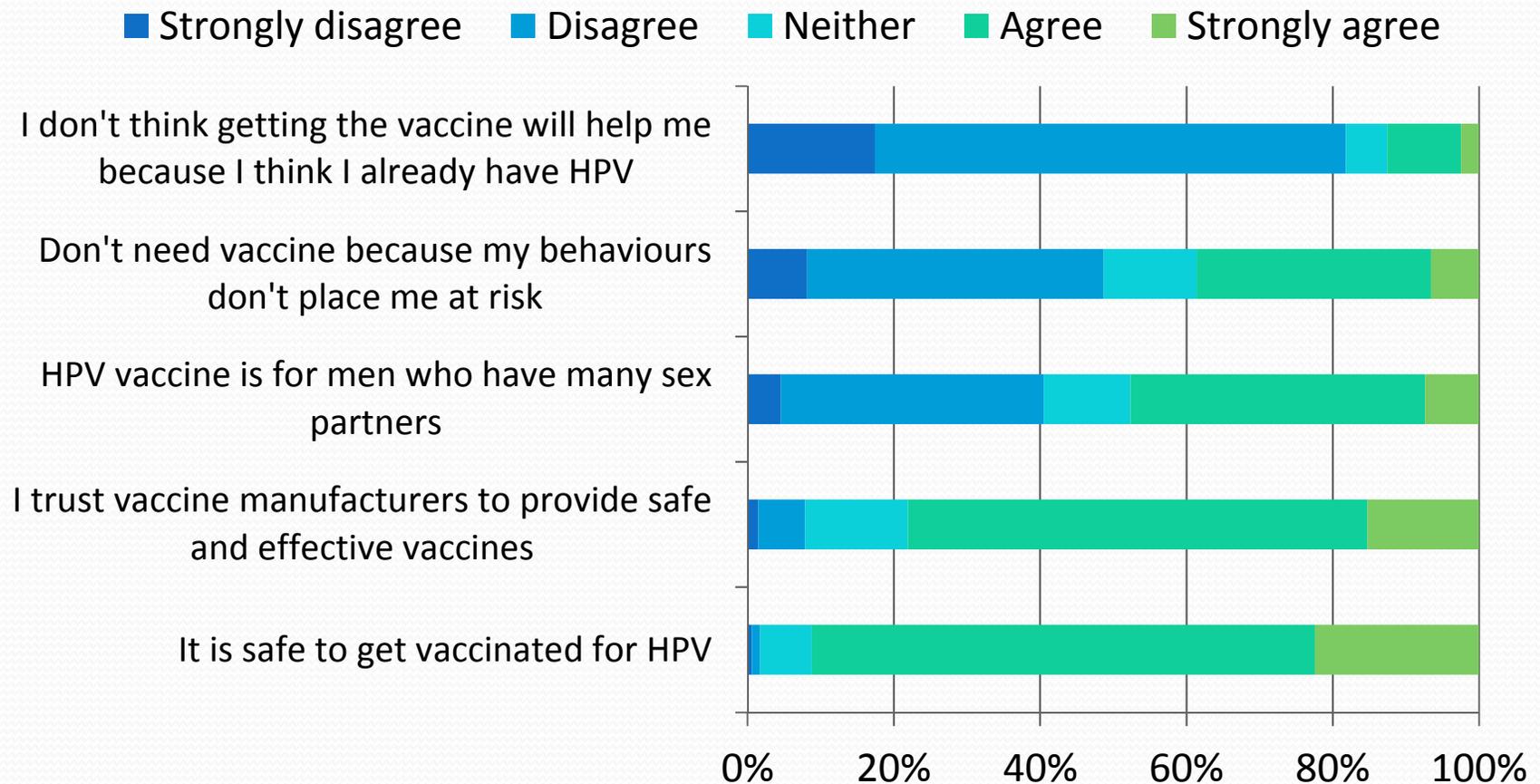


# Willingness to receive HPV vaccine

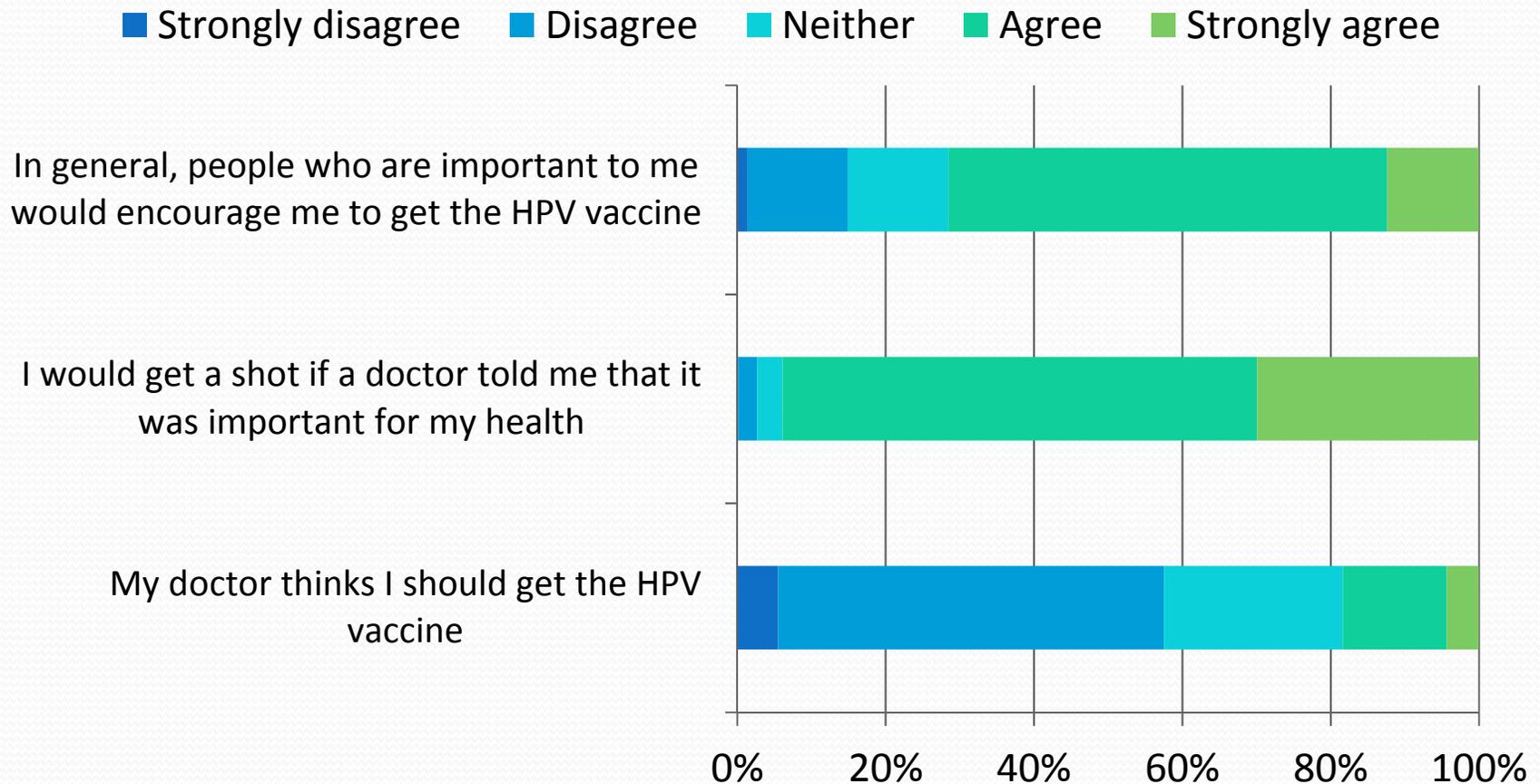
Think about what you might do in the next year.  
Would you get the HPV vaccine if it were... ..



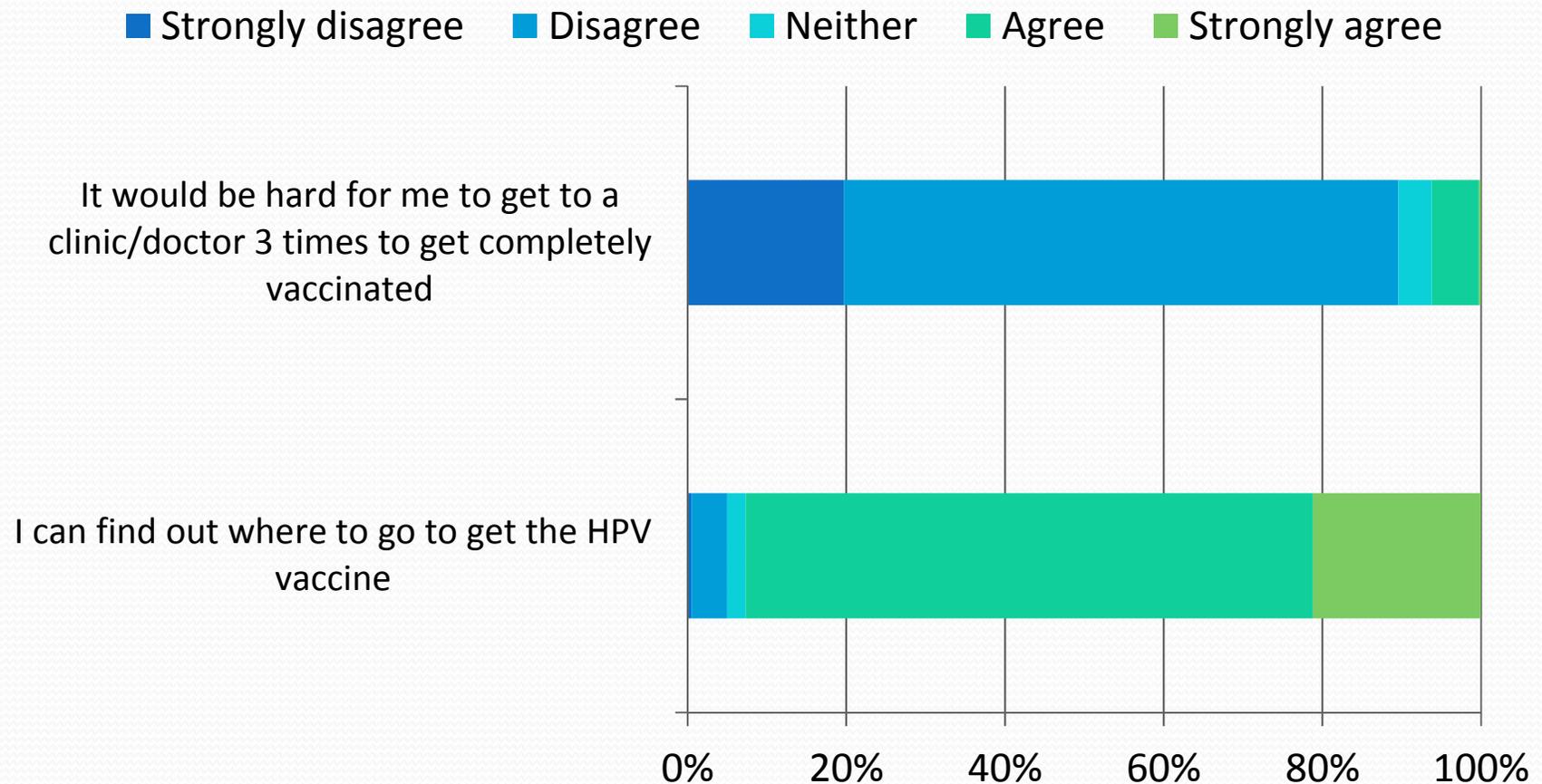
## Beliefs about HPV vaccine: beliefs surrounding likely outcome of vaccination



## Beliefs about HPV vaccine: what people important to me think

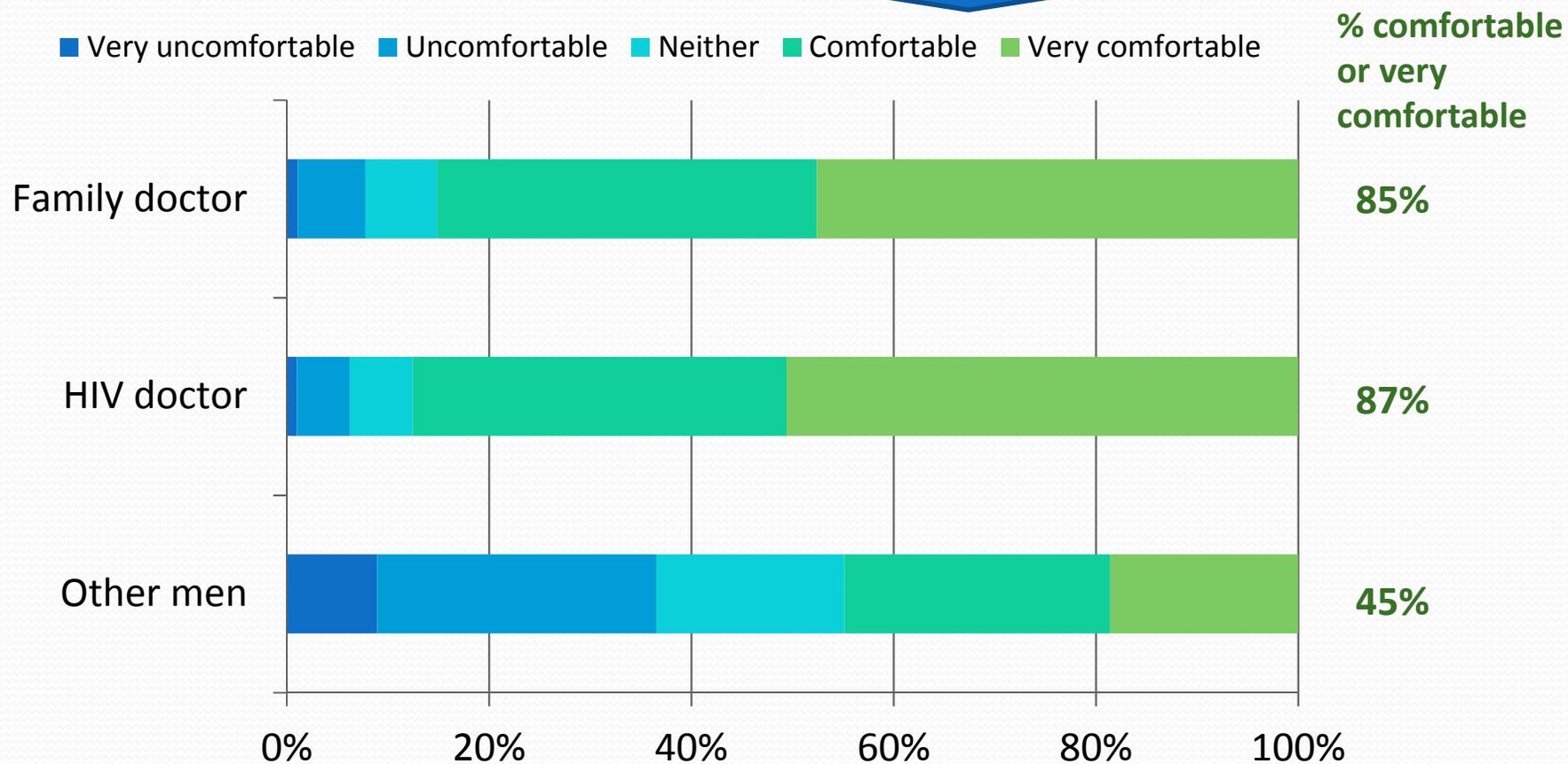


## Beliefs about ability to get HPV vaccine



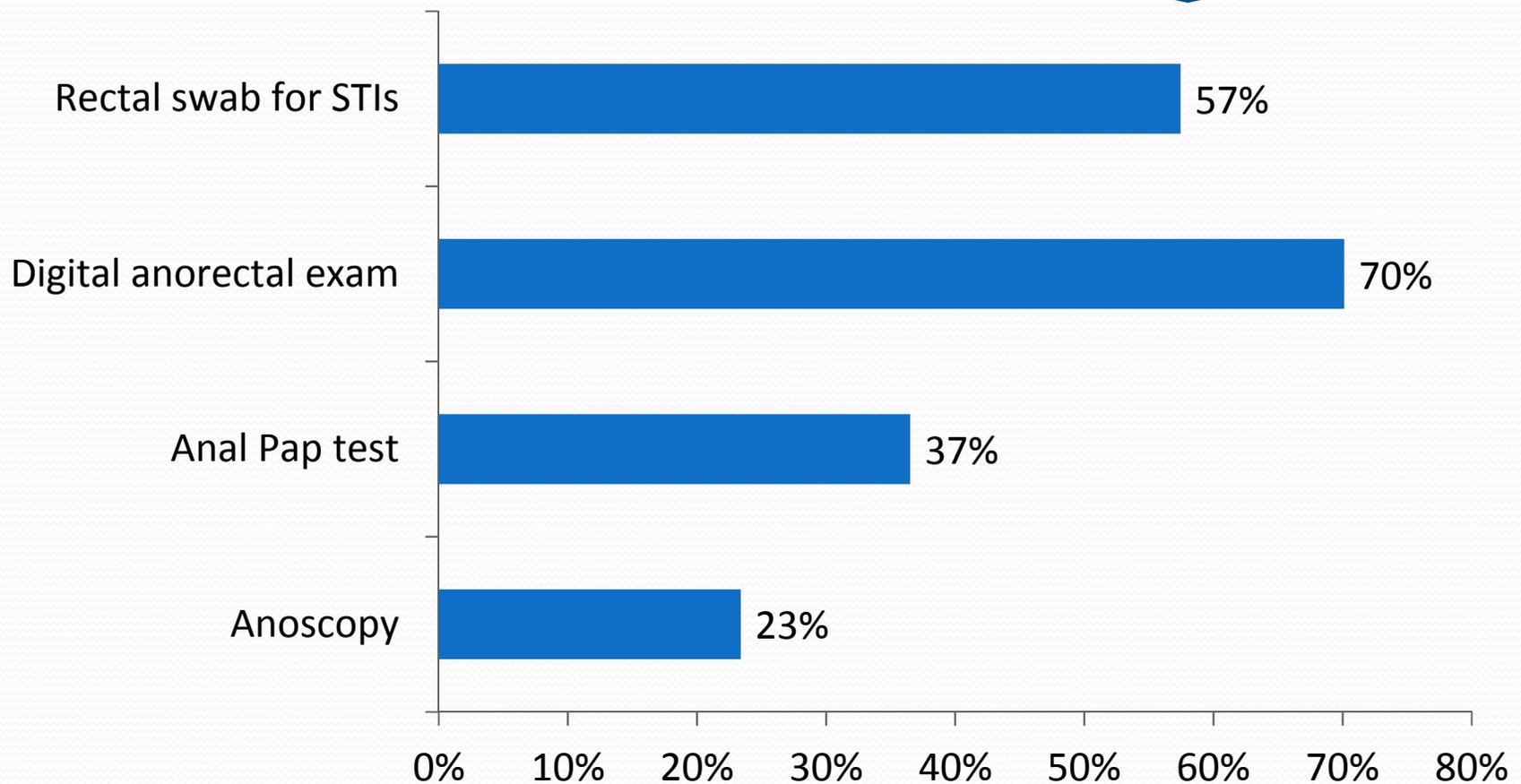
## Comfort discussing anal health

How comfortable are you discussing health issues relating to your anus with ...



## History of anal testing

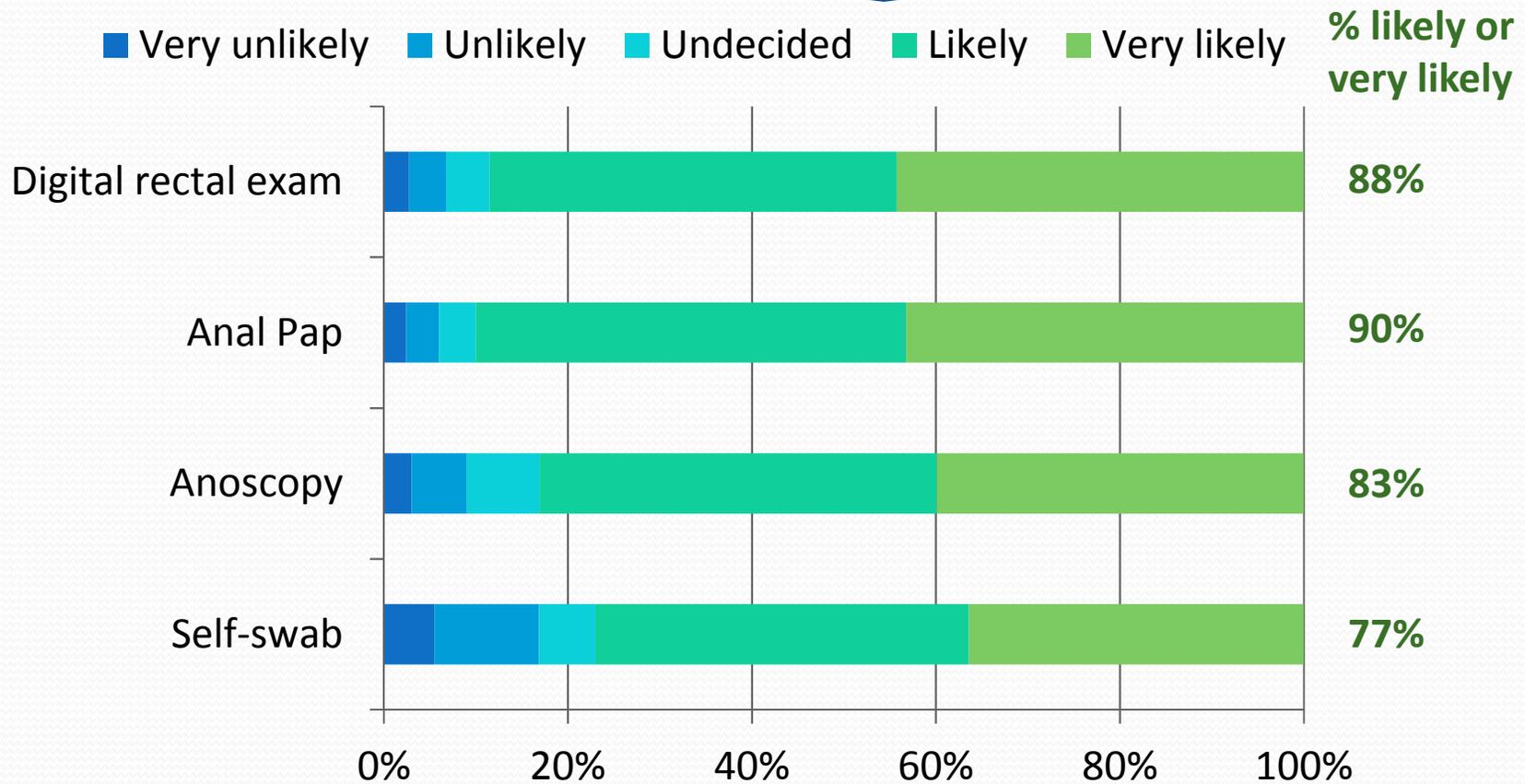
Have you ever had...



HPV-SAVE: Mixed-methods study examining knowledge, attitudes and beliefs around anal cancer screening, pre-cancerous lesion treatment, and HPV vaccine

# Willingness to undergo anal cancer screening

Think about what you might do in the next year. If anal cancer screening were offered to you, would you get ...



# HPV-SAVE Initial Results

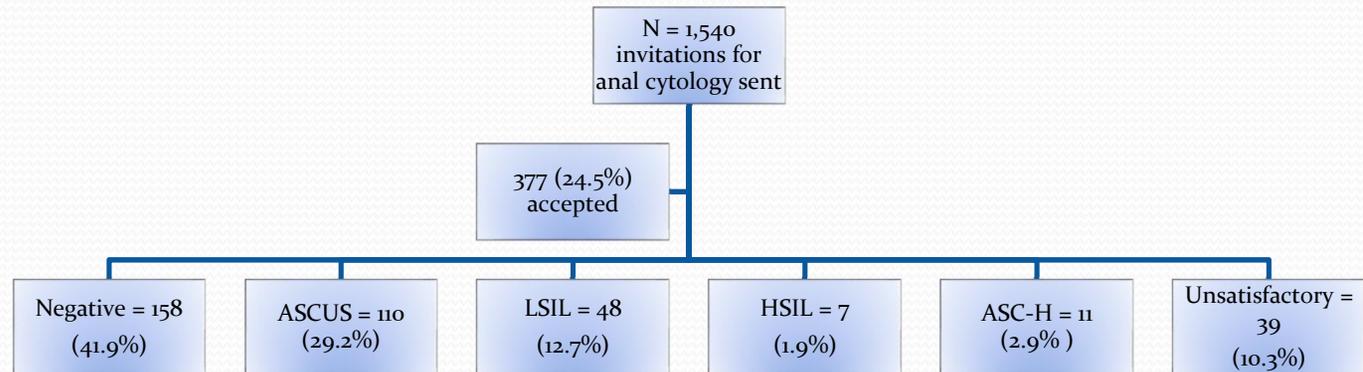
- Our study got underway in 2015, and we have been recruiting in Toronto since late 2015, in Vancouver since late 2016 and Ottawa since 2017.



## HPV-SAVE: Invitation of HIV+ MSM to anal cancer screening via primary care providers, for entry into screening validation study

### Toronto Results

- 14 Physicians participating across 4 clinics.
- Acceptance rate = 24.5% overall



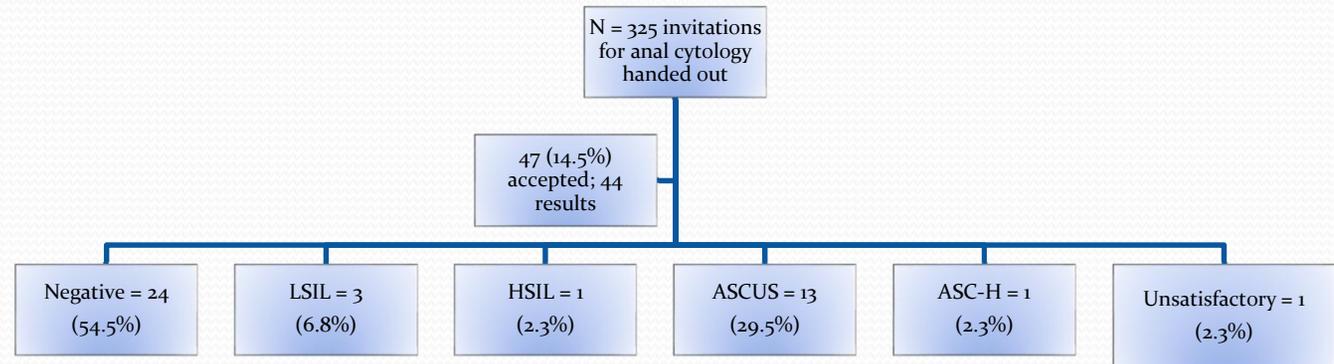
- 40 participants have undergone high-resolution anoscopy; 13 randomized into RCT.
- Results available for 24 participants: 14 AIN 2/3, 9 AIN-1 and 1 negative
- **One cancer diagnosed**

## HPV-SAVE: Invitation of HIV+ MSM to anal cancer screening via primary care providers, for entry into screening validation study

### Vancouver Results

6 Physicians participating across 3 clinics.

- Acceptance rate = 14.5% overall



2 participants have received HRA:

- 1 normal exam
- 1 AIN-1 lesion



# Summary

- HPV is very common, and responsible for roughly 90% of anal cancers
- MSM living with HIV have a rate of anal cancer 50-100x that of the general population.
- There are still a lot of missing pieces preventing anal cancer screening from being a universally offered clinical service
- Many knowledge gaps to address to improve health literacy surround HPV and HPV-associated disease
- Most men were comfortable discussing anal health with their HIV and family doctors
- Generally willing to get HPV vaccine and anal cancer screening, if offered at low/no cost
- HPV vaccine barriers were primarily financial, low perceived risk, and lack of provider recommendation



## If I am a man living with HIV, what can I do about it?

- ✓ Recognize that, like most people, you have probably had HPV at some point in your life
- ✓ Men of any age can benefit from HPV vaccination because the vaccine can protect them from types they have not been exposed to and also prevent reinfection from types they have already been exposed to
  - ✓ If you're 26 years old or younger, you can get the HPV vaccine at no cost
  - ✓ Some private health insurance plans cover the cost of HPV vaccine



## If I am a man living with HIV, what can I do about it?

- ✓ Consistent and correct use of condoms for oral, anal and frontal/vaginal sex can reduce but not completely eliminate your risk of HPV infection
- ✓ If you smoke, consider quitting
- ✓ Although anal cancer screening is not currently recommended as standard of care, studies like HPV-SAVE will provide the evidence to determine whether it may be beneficial for people living with HIV

Thank you

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**Please evaluate this webinar.**

Thank you!