



# Implementation of anal cancer screening: An evidence-based roadmap to successful implementation

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HPV Prevention and Control Board Technical Meeting

Elimination of HPV-associated cancers: Routine universal HPV vaccination and the role of anal screening

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# International / National anal screening guidelines

Target groups for screening	U.S. National Institutes of Health Office of AIDS Research	Brazilian Society of Surgical Oncology	Portuguese Society of Colproctology	French National Society of Colproctology	Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine	International Anal Neoplasia Society
MSM living with HIV						
Transgender women living with HIV						
Transgender men living with HIV						
Cisgender women living with HIV						
MSW living with HIV						
Women with solid organ transplant >10 years						
Men with solid organ transplant >10 years						
Women with vulvar (pre)cancer						
MSM / transgender women living with HIV						

Albuquerque et al. *J Lower Genital Tract* 2025; online ahead of print.  
[www.ashm.org](http://www.ashm.org), released March 2025

MSM, men who have sex with men  
 MSW, men who have sex with women

# How do you implement / scale-up a new cancer screening practice?

- International guidelines now recommend screening for anal precancer via cytology and/or HPV testing for high-risk populations
- Clinicians / organizations contemplating adoption of anal screening or scale-up of existing screening practice
- Most health service activities fail to systematically plan for adoption and implementation → can lead to failed efforts
- Where to begin?



# Aims

01

To contemplate  
research strategies to  
support  
implementation of  
anal screening  
guidelines

02

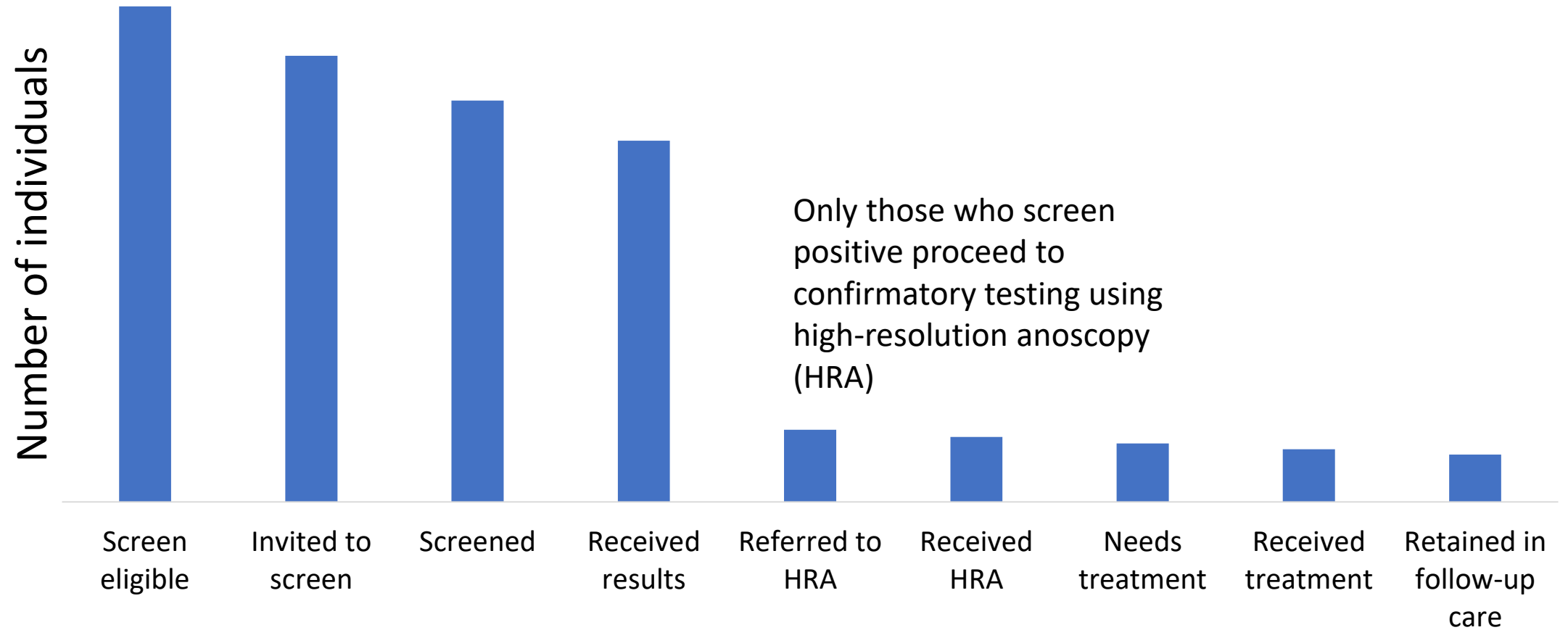
By considering the  
steps along the anal  
screening cascade

03

And applying  
implementation  
science approaches  
for evidence-  
informed local  
adoption of  
screening

# Anal screening cascade

can identify implementation steps



# Anal screening cascade

can guide implementation research questions and study design

Which populations to screen?

How often?

Who to prioritize

for invitations?

What screening test(s)?

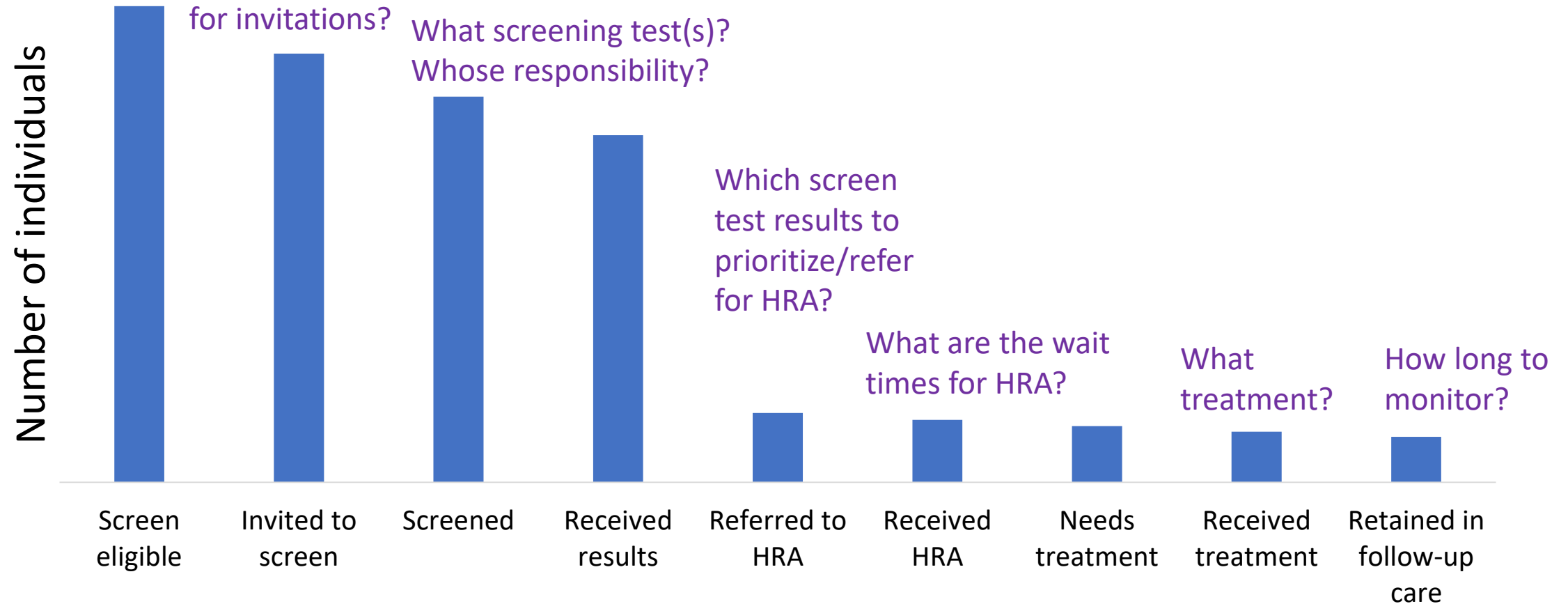
Whose responsibility?

Which screen  
test results to  
prioritize/refer  
for HRA?

What are the wait  
times for HRA?

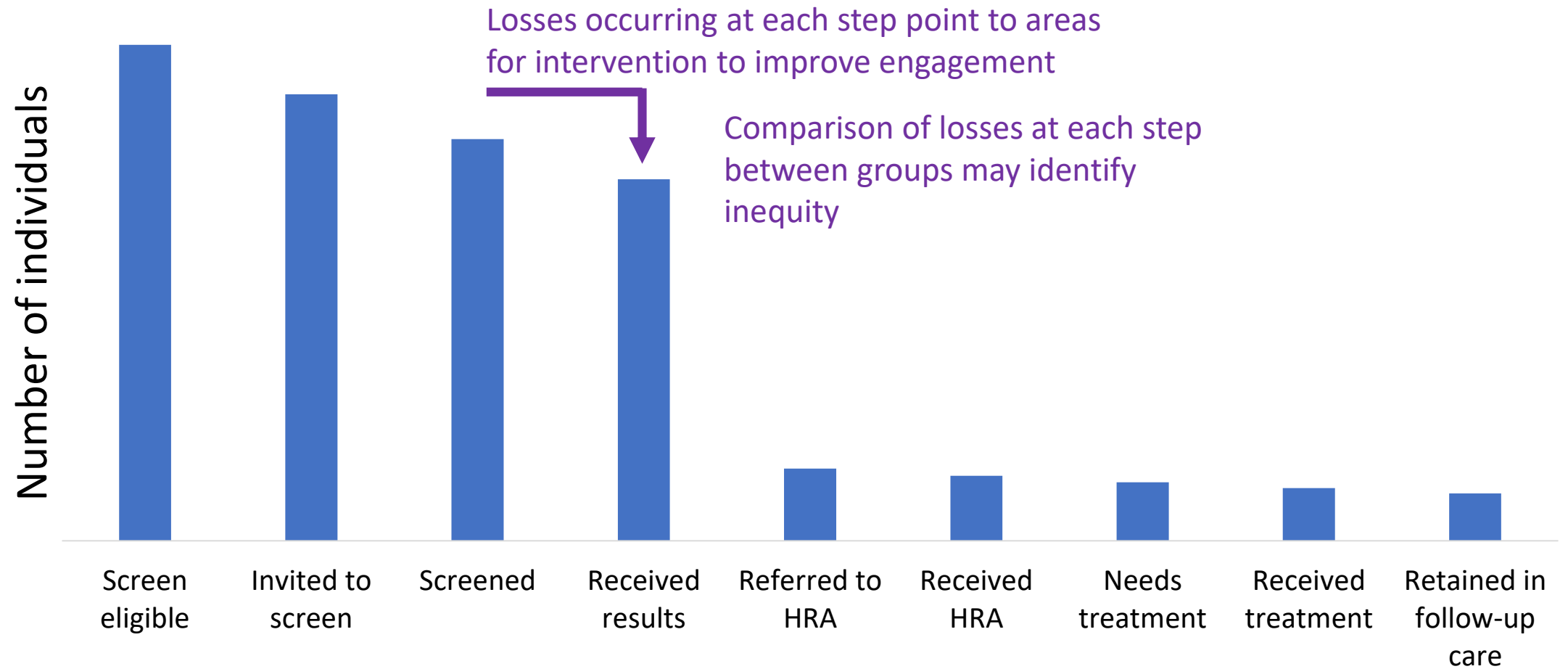
What  
treatment?

How long to  
monitor?

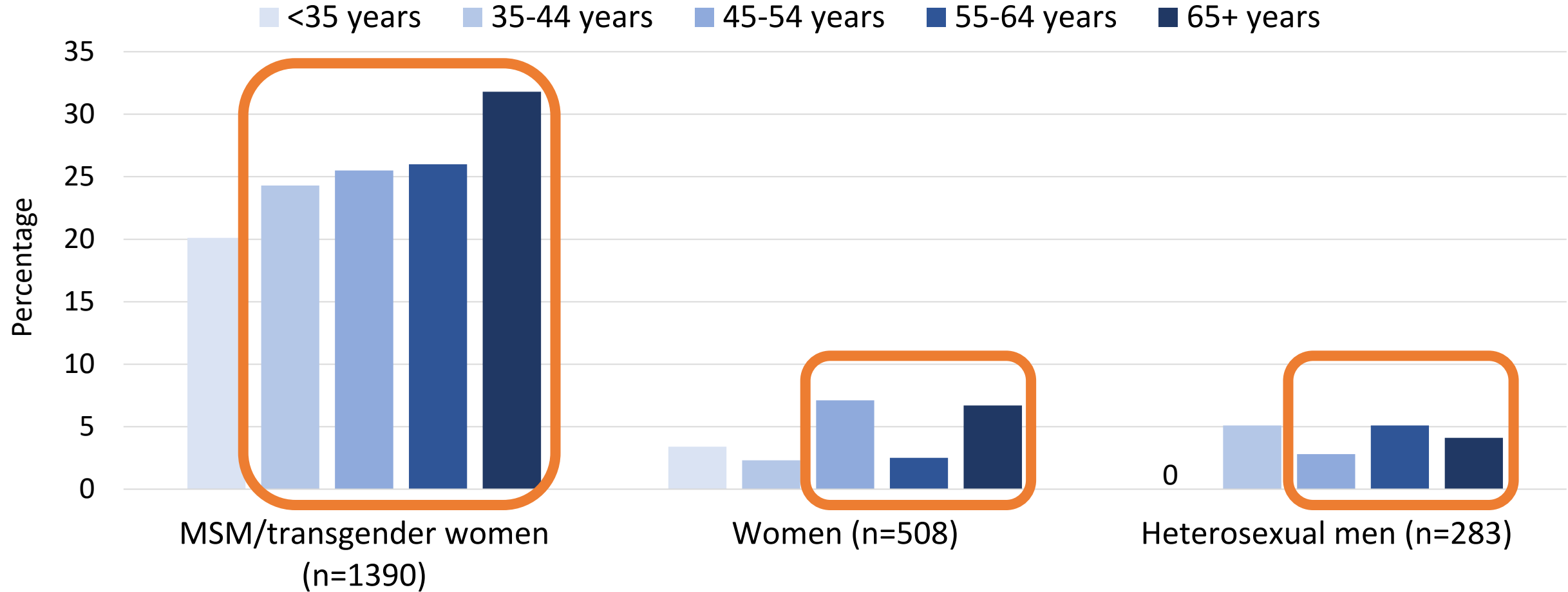


# Anal screening cascade

can guide implementation by identifying gaps



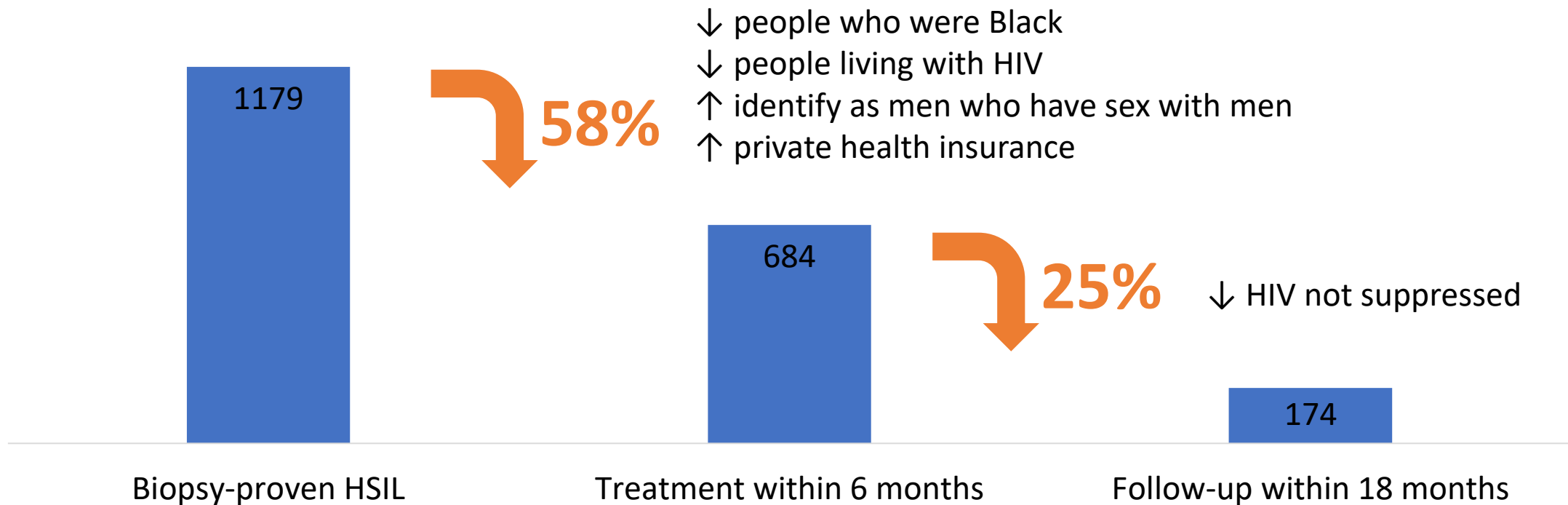
# Self-reported anal Pap cytology in the past 12 months among people living with HIV interviewed in 2023, Ontario, Canada



Burchell et al. Unpublished data.

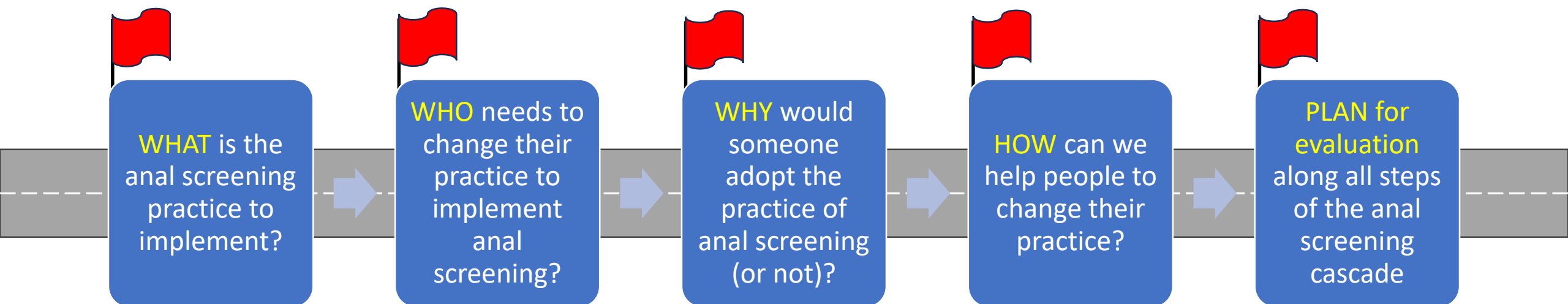


# Treatment and surveillance following diagnosis of high-grade squamous interepithelial lesion (HSIL), 2002 to 2018, Mount Sinai Anal Dysplasia Program, New York City



Silvera et al. The other side of screening: Predictors of treatment and follow-up for anal precancers in a large health system in New York City. *AIDS* 2021, 35:2157-2162.

# A roadmap for systematic planning for implementation of anal screening, selection of implementation strategies, and evaluation



Needs & assets assessment, barriers/facilitators, identify adopters, anal screening outcomes / performance objectives, determinants of anal screening practice

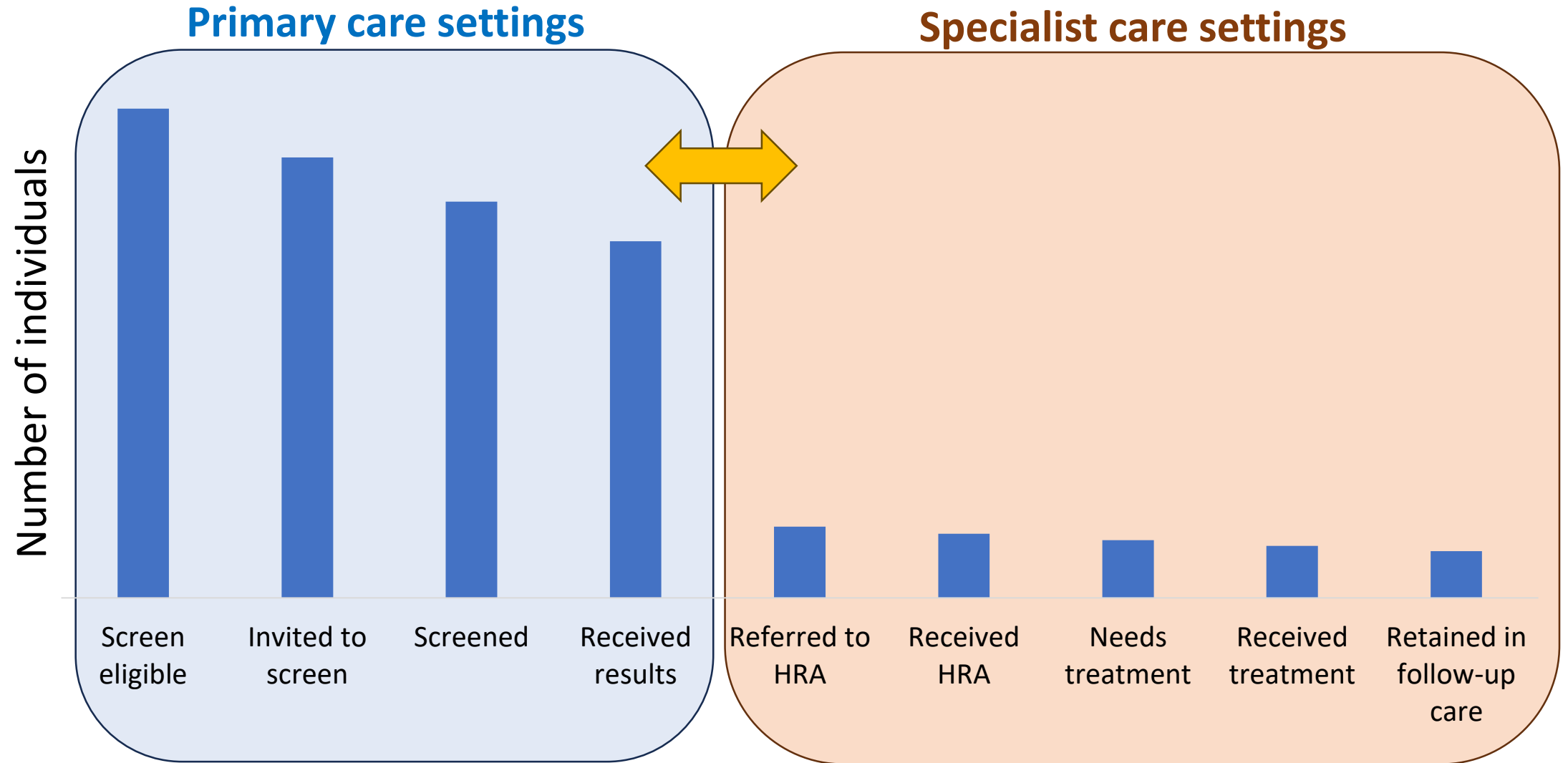
Selecting implementation strategies informed by theory/frameworks that address barriers/facilitators

Evaluate implementation & effectiveness outcomes

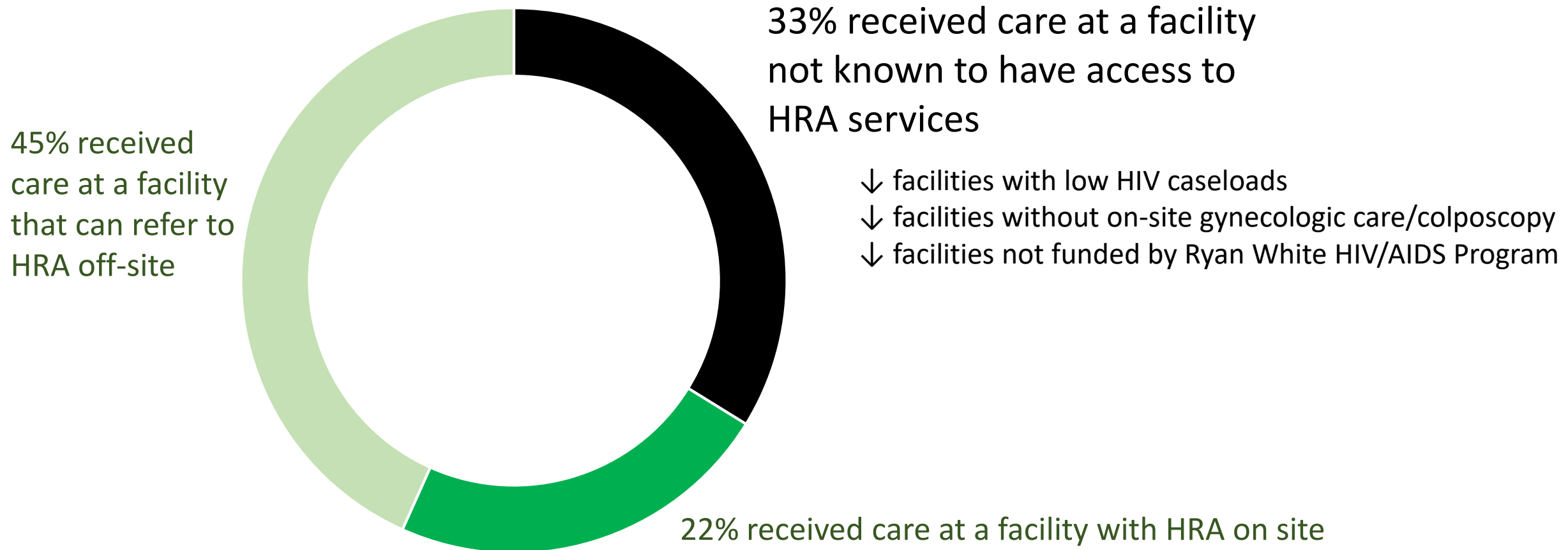
Fahim et al. *Impl Sci Comm* 2023; 4:99.

Fernandez et al. *Front Public Health* 2019; 7:158.

# Anal screening cascade

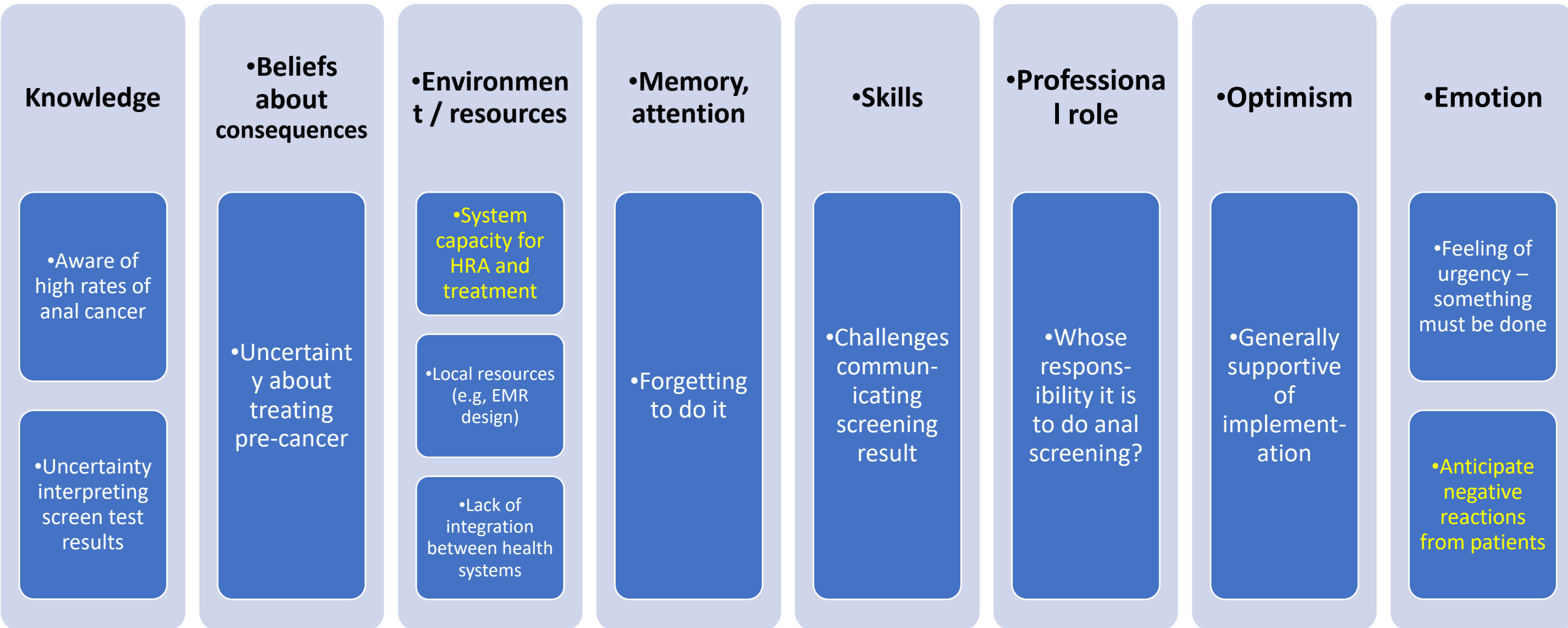


# Access to high-resolution anoscopy (HRA) services among people in HIV care in the United States, 2019



Rim et al. Prevalence of anal cytology screening among persons with HIV and lack of access to high-resolution anoscopy at HIV care facilities. *JNCI* 2024;116(8):1319-32.

# Barriers and facilitators of anal screening among **clinicians providing HIV care** *prior to release of ANCHOR findings and IANS/other guidelines*



Gaspar et al. *Soc Sci Med* 2020.

Higashi et al. *AIDS Care* 2022.

Ong et al. *BMC Public Health* 2015.

Atkins et al. A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. *Implement Sci.* 2017.

# Barriers and facilitators of anal screening among **people living with HIV** *prior to release of ANCHOR findings and IANS/other guidelines*

## Knowledge

- Familiar with HPV, anal cancer

- Know someone with HPV-associated cancer

- Knowing about anal screening

## •Social influences

- Encouragement from others, including doctor

- Comfort with anal health care from doctor

Stigma/shame

## •Beliefs about capabilities

- Confidence they could get an exam

Competing demands

## •Beliefs about consequences

- Increasing self-perceived risk of anal cancer

- Belief would be offered treatment

Fear of pain from procedure

## Emotion

Worry about anal cancer

Prior sexual trauma

## •Identity

- Older age, living with HIV longer, sexual minority male

- White race more likely than Black, Asian, Latin American, Indigenous and other race

Gillis, ..., Burchell. *JAIDS* 2020.

Geba et al. *AIDS Patient Care STD* 2024.

Gillis, ..., Burchell. *BMC Public Health* 2022.

Ortiz et al. *J Lower Gen Tract Dis* 2021.

Cruz et al. *BMC Public Health* 2023.

Rodriguez et al. *J Lower Gen Tract Dis* 2021

Atkins et al. A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. *Implement Sci.* 2017.

# Needs assessment post-release of IANS guidelines

Preliminary findings from qualitative interviews with healthcare providers and health system decision-makers in Ontario, Canada

## Barriers

- **Lack of knowledge about guidelines, who is recommended for screening, logistics about how to screen**
- Lack of resources: HRA services for referrals, funding
- Competing priorities / rushed visits
- Among patients → limited awareness of need for screening and trauma and stigma associated with screening

## Facilitators

- **Guidelines themselves, further simplification of them**
- **Clinical pathways: access to HRA specialists, knowing to whom to refer and their wait times**
- Skills building, opinion leaders who can offer guidance
- Consistency with clinic culture/values, task shifting, dedicated screening clinics
- Among patients → education, fostering positive beliefs about the process, self-collection, patient-peers to support implementation



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## Summary and conclusions

- Data can support evidence-informed implementation along all steps of anal screening cascade
- Applying **implementation science** methods
  - help to target efforts on weakest links along cascade
  - considering people, behaviours, processes, and systems needed for change
  - select strategies that address barriers and facilitators
- Most settings in early phases of implementation → **needs assessment is a good place to start**
- Integrate plans to **evaluate and sustain practice** with attention to **health equity**