

SEPAC and future strategies for AIN screening

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Conflict of Interest

I am chief investigator of the SEPAC study funded by Cancer Research UK, and member of the IANS Taskforce on the development of screening guidelines for anal cancer prevention.



Screening for anal pre-cancer - essential issues to address

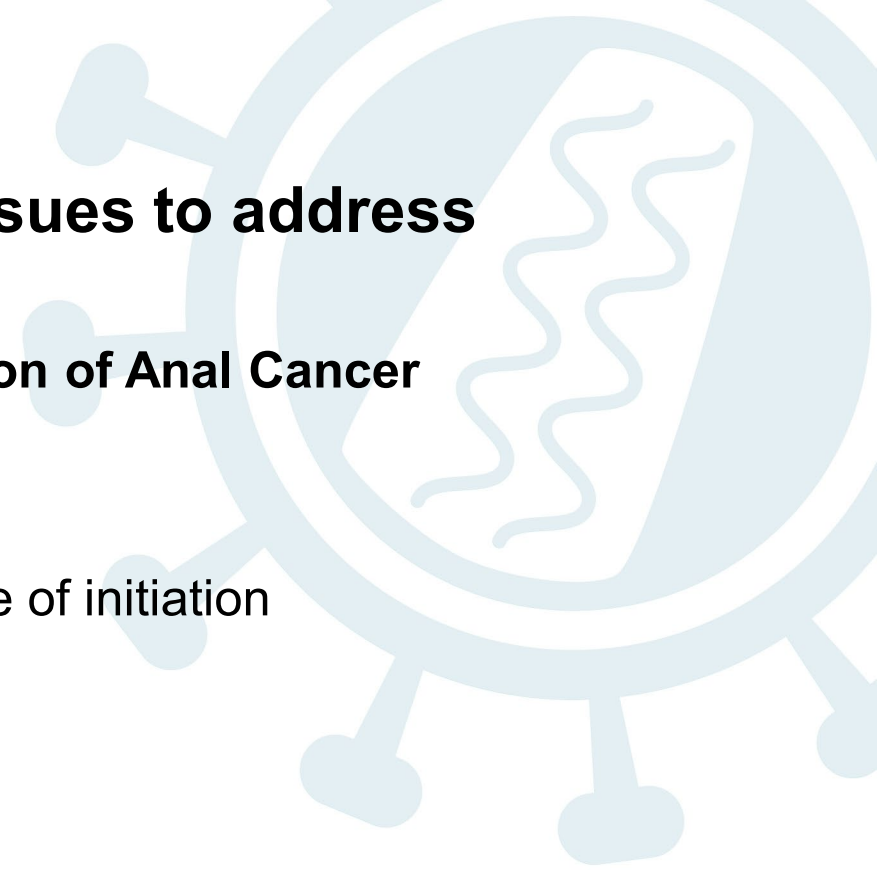
IANS Task Force on Screening Guidelines for Prevention of Anal Cancer

Addressed three questions:

- Who to screen – including populations to target and age of initiation
- What screening tool(s) to use
- Management and follow-up algorithms

Rationale for screening

- To prevent anal cancer
- A precancer stage exists
- Most patients are asymptomatic
- Treatment is available, effective, feasible and tolerable



Who to screen: defining anal cancer risk groups




Received: 7 April 2020 | Revised: 11 June 2020 | Accepted: 17 June 2020

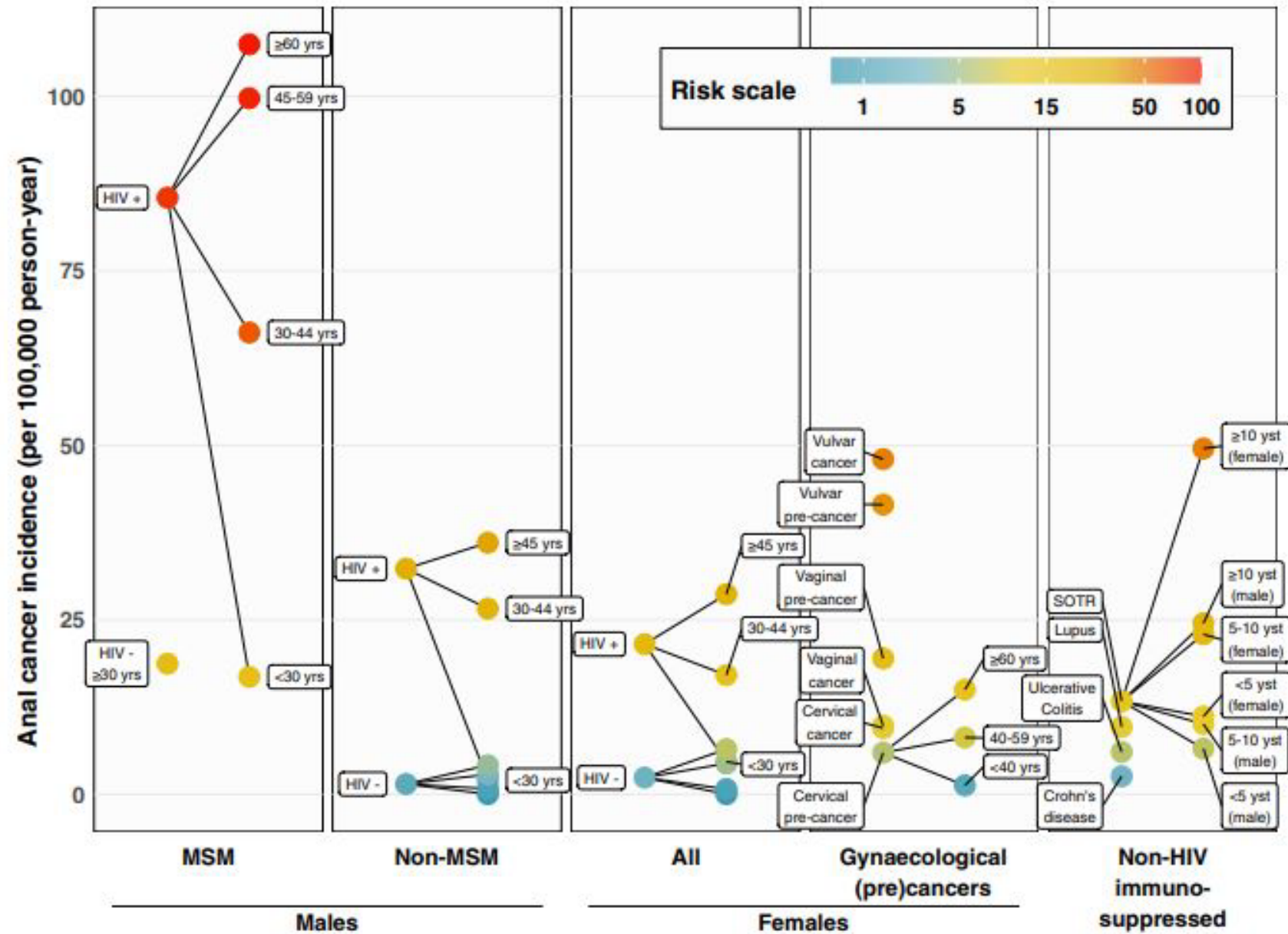
DOI: 10.1002/ijc.33185

CANCER EPIDEMIOLOGY



A meta-analysis of anal cancer incidence by risk group: Toward a unified anal cancer risk scale

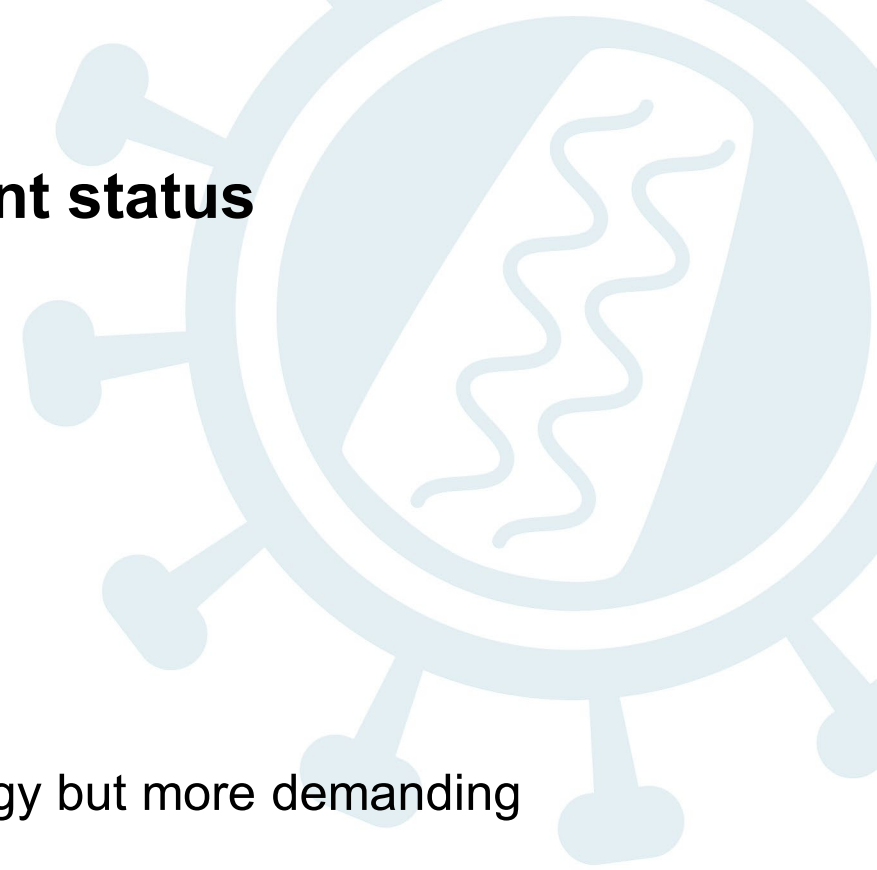
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Screening tools for anal pre-cancer – current status

Strengths and limitations of current methods

- HRA gold standard for the diagnosis of HSIL
 time-consuming
 requires highly trained anoscopist
 resource intensive
- Cytology familiar technology from cervical cytology but more demanding
 sub-optimal sensitivity and specificity
- HR-HPV easiest to collect/process
 as for cytology re sensitivity and specificity
- Other biomarkers – data accumulating



Performance of anal cytology and HPV and related biomarkers for anal pre-cancer screening in MSM

- Anal cytology (ASC-US+ threshold; 14 studies):
 - Overall Sensitivity = 77.3% (80.8% in studies restricted to HIV+MSM)
 - Overall Specificity = 55.5% (54.0% in studies restricted to HIV+ MSM)
- HPV Testing (positive vs. negative; 9 studies)
 - Overall Sensitivity = 91.3% (95.4% in studies restricted to HIV+MSM)
 - Overall Specificity = 33.1% (23.8% in studies restricted to HIV+ MSM)
- HPV16/18 Genotyping (HPV16/18 positive vs. negative; 5 studies)
 - Overall Sensitivity = 39.9% (41.3% in studies restricted to HIV+MSM)
 - Overall Specificity = 74.3% (68.5% in studies restricted to HIV+ MSM)
- HPV E6/E7 mRNA (positive vs. negative; 4 studies)
 - Overall Sensitivity = 74.3%
 - Overall Specificity = 65.5%
- p16/Ki-67 Dual Stain and p16 (positive vs. negative; 2 studies each)
 - Overall Sensitivity = 56.6%
 - Overall Specificity = 62.3%





Received: 8 April 2022 | Revised: 25 May 2022 | Accepted: 10 June 2022

DOI: 10.1002/ijc.34199

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IJC INTERNATIONAL
JOURNAL OF CANCER 

A systematic review and meta-analysis of cytology and HPV-related biomarkers for anal cancer screening among different risk groups

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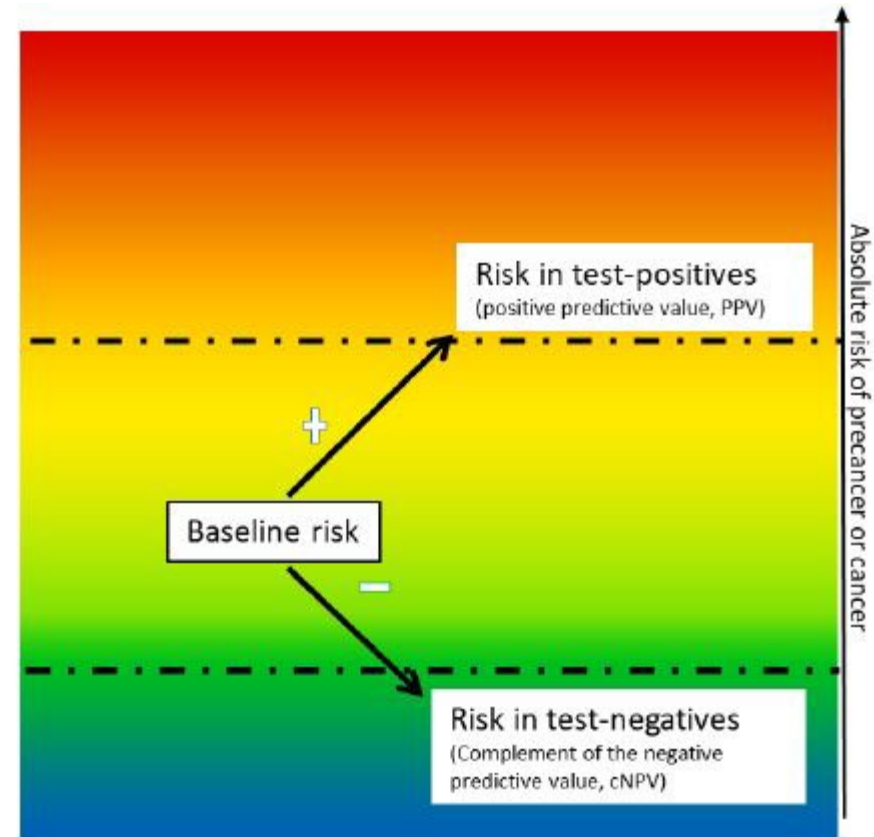
Assessment of the performance of screening tools

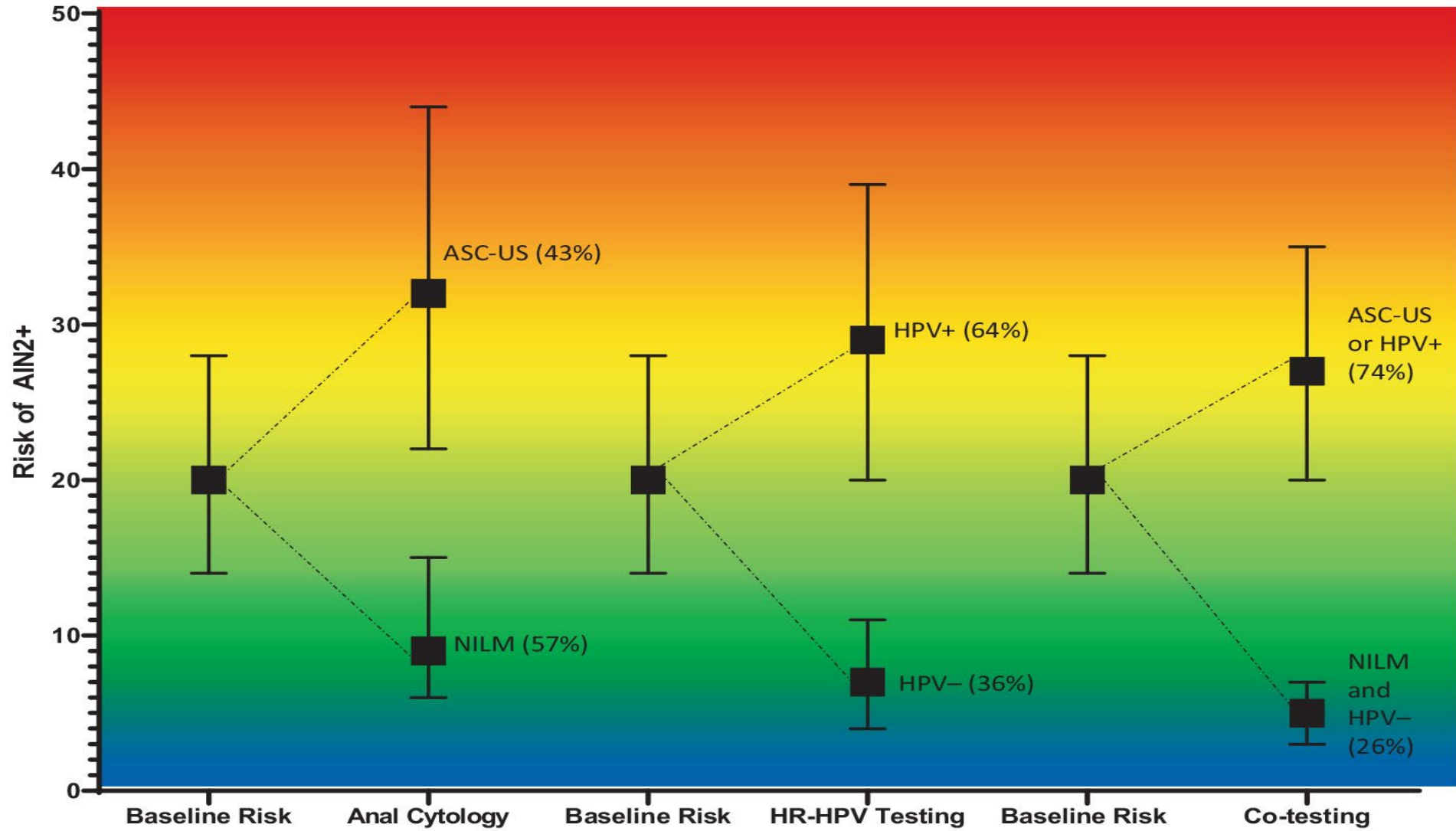
Test accuracy

- sensitivity
- specificity

Test positivity

Absolute risk estimates – to inform threshold setting





SEPAC study - outline

**(SCREENING AND EARLY DETECTION TO PREVENT ANAL CANCER;
DEVELOPMENT OF A BIOMARKER SCREENING TOOL)**

Primary objective: to determine the sensitivity and specificity of a panel of biomarkers to detect persistent high grade AIN lesions in an at-risk population

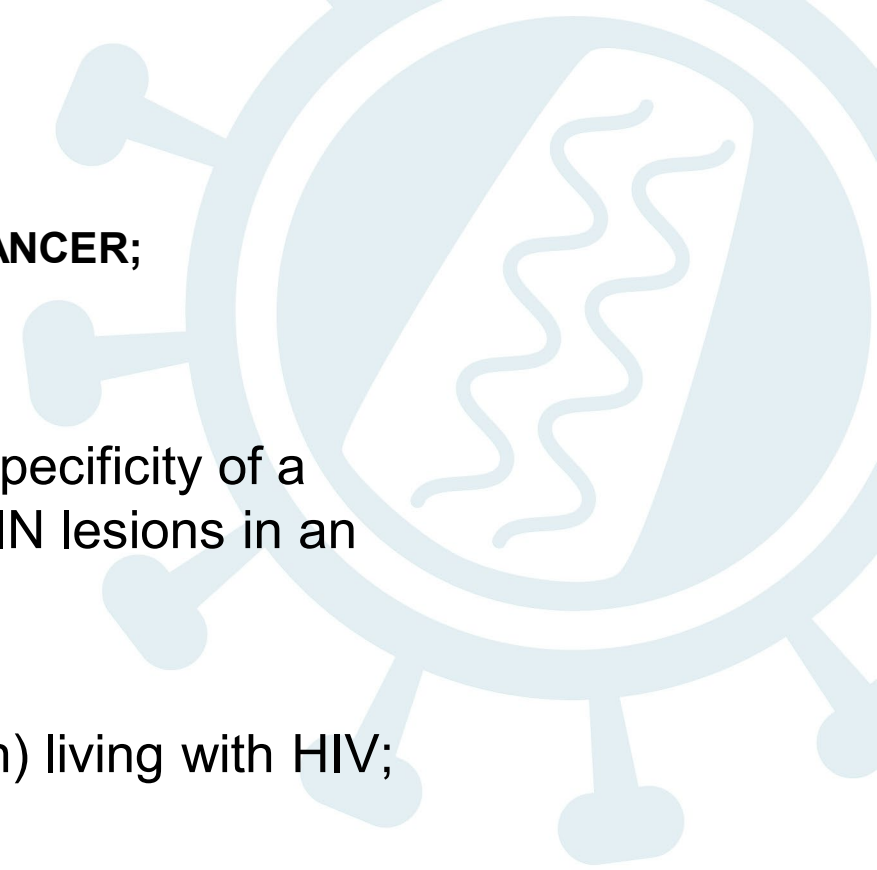
Design: cross-sectional, observational study

Eligibility: MSM or transgender women (male at birth) living with HIV; ≥40 years

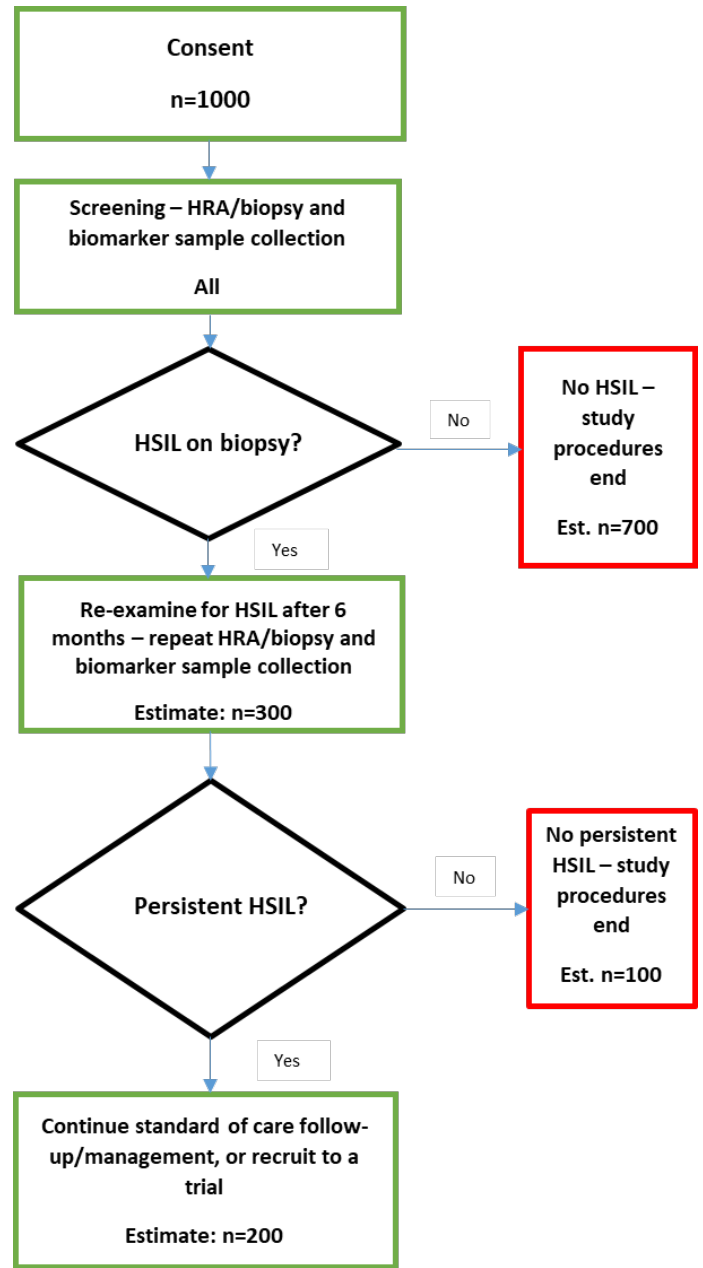
Exclusion: history of anal cancer; AIN treated by laser or other ablative Rx; AIN treated with topical agents ≤12 months

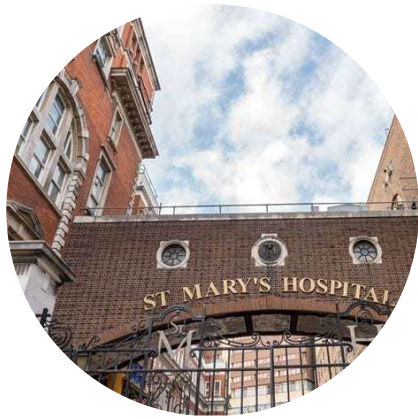
Procedures

- Sample collection: liquid-based cytology; serum;
- Digital exam
- HRA with directed biopsy; if HSIL detected, repeat exam at 6 months – hence determine presence of persistent HSIL



SEPAC study - outline

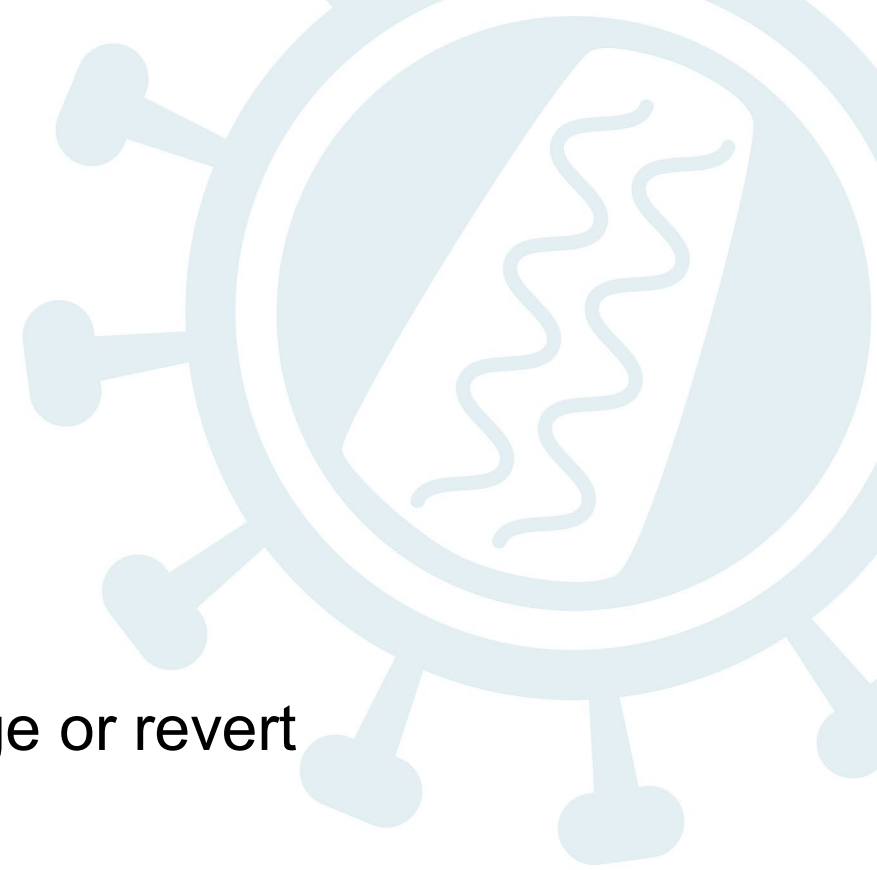
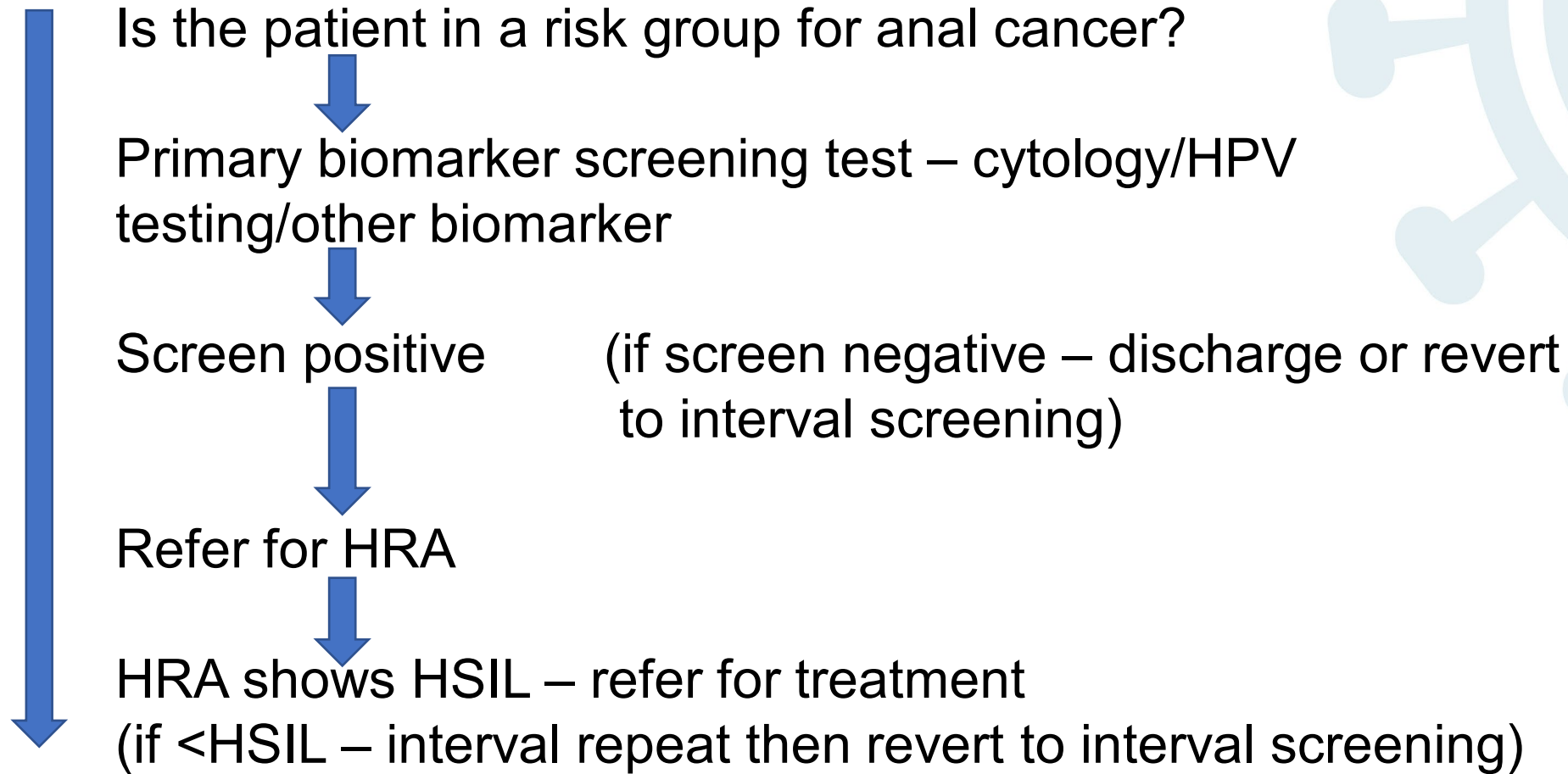




6 study sites in London



Future screening strategy?



SEPAC Study

For further information see:

<https://www.ucl.ac.uk/global-health/research/z-research/sepac>

Patient information sheet:

https://www.ucl.ac.uk/global-health/sites/global_health/files/sepac_participant_information_sheet_1.2_29012021_clean_version_cnwl.pdf

Note: potential participants can self-refer to the Mortimer Market Centre or another site, or can be referred. In either case contact email:

cnwl.sepac@nhs.net

