

# Do we DARE? Improving digital ano-rectal examination in men who have sex with men living with HIV: a quality improvement initiative

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## ABSTRACT

Men who have sex with men (MSM) living with HIV are at increased risk of anal cancer and annual screening via digital ano-rectal examination (DARE) is recommended. Baseline audit (Cycle 1) was undertaken of the medical records of MSM living with HIV aged  $\geq 50$  years ( $n = 85$ ) from 1 January 2017 to 31 December 2018, in line with guidelines at the time. Data collection included whether DARE was discussed and offered, and whether DARE was accepted or declined. We provided staff training and altered clinic proformas aiming to increase DARE. Audit Cycle 2 (Cycle 2) was undertaken of eligible MSM ( $n = 86$ ) who attended between 1 January 2019 to 31 December 2020. DARE frequency increased from 4.7% in Cycle 1 to 41.8% in Cycle 2 ( $P < 0.001$ ) and discussion and offer of DARE increased from 8% to 64% in Cycle 2 ( $P < 0.001$ ).

**Keywords:** anal cancer, anal examination, anal warts, DARE, digital ano-rectal examination, HIV, MSM, screening.

## Introduction

Incidence of anal cancer in men who have sex with men (MSM) living with HIV are higher than for HIV-negative men<sup>1</sup> and therefore anal cancer screening is recommended.<sup>2</sup> The optimum screening method has not yet been defined. Although identified as effective screening strategies, anal cytology and anoscopy are not widely implemented<sup>3</sup> and are not accessible in most clinical settings. Digital ano-rectal examination (DARE) technique involves perianal examination and insertion of a lubricated, gloved finger into the ano-rectal canal, palpating the circumference of the distal rectum and anal canal for masses, lesions, thickening or granularity.<sup>3,4</sup>

Several studies have found DARE to be acceptable to patients and clinicians and cost-effective,<sup>5–9</sup> with Australian guidelines recommending annual DARE.<sup>10</sup>

Our aim was to identify the baseline frequency of DARE discussion and recommendation to MSM living with HIV aged  $\geq 50$  years by medical officers (MO) and nurse practitioners (NP) as part of routine HIV care and increase DARE recommendation to 85% by 31 December 2020 using a quality improvement approach.

## Methods

Audit Cycle 1 was undertaken in May 2019 from a manual review of medical records of all MSM living with HIV aged  $\geq 50$  years ( $n = 85$ ) who attended our sexual health service from 1 January 2017 to 31 December 2018. Data collected included whether DARE recommendations were discussed, and if DARE was offered, attended and/or declined. Data was entered into an Excel database with descriptive statistics to explore the dataset. All MO and NP were asked by the study team if they were aware of DARE recommendations.

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Changes were made to support improvement. In May 2019, an education session on anal dysplasia and DARE techniques was provided. Cycle 1 results were presented to the team with discussion of DARE facilitators and barriers and the importance of documentation. HIV care proformas were amended to include DARE prompts. In 2020, DARE information was included in the MO orientation, and all new clinical staff were educated.

In March and April 2021, Cycle 2 was undertaken of medical records of MSM living with HIV aged  $\geq 50$  years ( $n = 86$ ) who attended between 1 January 2019 and 31 December 2020. Statistical analysis of results was done using the Chi-squared test for percentages with one degree of freedom using the standard formula.

## Ethics

Approval was obtained from the ACT Health Research Ethics Office.

## Results

In Cycle 1, DARE was discussed and offered to 7 (8%) of 85 individuals, and in Cycle 2, 55 (64%) of 86 individuals were offered DARE ( $P < 0.001$ ). DARE was performed in 4 (4.7%) of 85 individuals in Cycle 1, and 36 (41.8%) of 86 individuals in Cycle 2 ( $P < 0.001$ ; Table 1). This suggests that clinician behaviour is important in increasing DARE. Four patients had more than one DARE in the 2-year audit period. For the subset offered DARE in Cycle 1, 4 (57%) of 7 had DARE performed and in Cycle 2, 36 (65%) of the 55 men who were offered DARE accepted ( $\chi^2$  not significant). In Cycle 2, two men had DARE performed at other services within the relevant timeframe and were excluded from statistical analysis. However, this did not alter the study results. Where patients were offered DARE in both cycles, examination was declined by over one-third of men. There was minimal documentation of reasons for declining, but when documented, these included recent colonoscopy or deferral to next appointment.

## Clinician awareness of DARE recommendations

At baseline, four (50%) of the eight MO or NP providing HIV care were aware of the DARE recommendations and this number increased to 100% in December 2019.

**Table 1.** DARE recommendation and patient acceptance.

MSM with HIV aged $\geq 50$ years	Audit cycle 1 (baseline), $n = 85$	Audit cycle 2 (post intervention), $n = 86$
DARE discussed and offered	7/85 (8%)	55/86 (64%)
DARE attended	4/85 (4.7%)	36/86 (41.8%)

## Discussion

DARE allows for early identification of abnormalities and can be used for screening in HIV outpatient services that do not offer anal cytology and high resolution anoscopy.<sup>11</sup> Despite an improvement in the frequency of clinicians offering DARE from 8% to 64% in this patient cohort, we did not achieve our target of DARE discussion for 85% of patients.

Deferral of DARE to next appointment and perceived discomfort have been identified as common reasons for declining DARE in an Australian study.<sup>6</sup> Feeney *et al.* (2019) described low knowledge levels of anal cancer in men living with HIV, which may impact DARE acceptance.<sup>12</sup> It is necessary for clinicians to understand barriers to patient acceptance of DARE.

Our audit did not explore why clinicians did not consistently discuss and offer DARE despite awareness. Informally, clinicians reported inadequate time, assumption that the patient would decline, or simply forgot. These themes are shown to be common clinician barriers to anal examination and screening.<sup>5,7,8,13</sup>

Clinical audit as part of the quality improvement cycle is essential in evaluating and enhancing care. Following baseline audit, clinician education and proforma changes, DARE increased across our service, but further improvement is required. Additional changes to increase DARE could include rebooking a patient for DARE examination separate to their HIV care, as well as providing consumer education materials regarding the importance of DARE.

Future audits are planned to ensure compliance with current Australian Guidelines, revised since this initiative, which now recommend DARE for all patients aged  $\geq 45$  years as part of routine HIV care.<sup>14</sup>

## References

- Machalek DA, Poynten M, Jin F, Fairley CK, Farnsworth A, Garland SM, *et al.* Anal human papillomavirus infection and associated neoplastic lesions in men who have sex with men: a systemic review and meta-analysis. *Lancet Oncol* 2012; 13(5): 487–500. doi:10.1016/S1470-2045(12)70080-3
- Albuquerque A, Nathan M, Cappello C, Dinis-Ribeiro M. Anal cancer and precancerous lesions: a call for improvement. *Lancet Gastroenterol Hepatol* 2021; 6(4): 327–34. doi:10.1016/s2468-1253(20)30304-6
- Hillman RJ, Berry-Lawhorn JM, Ong JJ, Cuming T, Nathan M, Goldstone S, *et al.* International anal neoplasia society guidelines for the practice of digital anal rectal examination. *J Low Genit Tract Dis* 2019; 23(2): 138–46. doi:10.1097/LGT.0000000000000458
- University of California San Francisco Anal Dysplasia Clinic. DARE and HRA. Available at <https://analcancerinfo.ucsf.edu/dare-and-hra> [accessed 15 September 2021]
- Ong JJ, Grulich A, Walker S, Hoy J, Read T, Bradshaw C, *et al.* Baseline findings from the Anal Cancer Examination (ACE) study: screening using digital ano-rectal examination in HIV-positive men who have sex with men. *J Med Screen* 2016; 23(2): 70–6. doi:10.1177/0969141315604658
- Read TRH, Vodstrcil L, Grulich AE, Farmer C, Bradshaw CS, Chen MY, *et al.* Acceptability of digital anal cancer screening

- examinations in HIV-positive homosexual men. *HIV Med* 2013; 14(8): 491–6. doi:10.1111/hiv.12035
- 7 Ong JJ, Walker S, Grulich A, Hoy J, Read T, Bradshaw C *et al*. Incorporating digital anorectal examinations for anal cancer screening into routine HIV care for men who have sex with men living with HIV: a prospective cohort study. *J Int AIDS Soc* 2018; 21: e25192. doi:10.1002/jia2.25192
  - 8 Ong JJ, Temple-Smith M, Chen M, Walker S, Grulich A, Hoy J, *et al*. Why are we not screening for anal cancer routinely – HIV physicians' perspectives on anal cancer and its screening in HIV-positive men who have sex with men: a qualitative study. *BMC Public Health* 2015; 15(1): 67. doi:10.1186/s12889-015-1430-1
  - 9 Ong JJ, Fairley CK, Carroll S, Walker S, Chen M, Read T, *et al*. Cost-effectiveness of screening for anal cancer using regular digital ano-rectal examinations in men who have sex with men living with HIV. *J Int AIDS Soc* 2016; 19: 20514. doi:10.7448/IAS.19.1.20514
  - 10 Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine. HIV monitoring tool. 2021. Available at <https://www.ashm.org.au/resources/hiv-resources-list/hiv-monitoring-tool/> [accessed 18 August 2021]
  - 11 Nyitray AG, D'Souza G, Stier EA, Clifford G, Chiao EY. The utility of digital anal rectal examination in a public health screening program for anal cancer. *J Low Genit Tract Dis* 2020; 24(2): 192–6. doi:10.1097/LGT.0000000000000508
  - 12 Feeney L, Poynten M, Jin FJ, Cooper C, Templeton DJ, O'Dwyer MR, *et al*. Awareness and knowledge of anal cancer in a community-recruited sample of HIV-negative and HIV-positive gay and bisexual men. *Sex Health* 2019; 16(3): 240–6. doi:10.1071/SH18219
  - 13 Hughes R, Fitzpatrick C, Nichols K, Devlin J, Richardson D. A pilot study exploring sexual health clinician confidence and barriers to anal examination and proctoscopy in men who have sex with men. *Sex Health* 2022; 18(6): 515–6. doi:10.1071/SH21196
  - 14 Australasian Society for HIV. Viral Hepatitis and Sexual Health Medicine. Anal cancer in people living with HIV. 2021. Available at <https://www.ashm.org.au/HIV/hiv-management/anal-cancer/> [accessed 10 May 2022]

**Data availability.** Due to privacy issues, data from this study is not able to be shared.

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