Anal cancer screening and prevention is in its infancy, and the timely study by Rim et al\(^1\) quantifies the profound mismatch between the coming demand for high-resolution anoscopy (HRA) services and the current dearth of clinicians providing this cancer-preventing procedure. The conclusion reached by Rim et al\(^1\), that the paucity of clinicians providing HRA may be a key factor limiting increased anal cancer screening and prevention, is a gross understatement. Without an enormous increase in HRA capacity, anal cancer prevention programs will be out of reach for most individuals who are at risk and who would benefit from screening.

In attempting to quantify the coming need for HRA services, Rim et al\(^1\) appropriately focused on people with HIV (PWH). This group has the highest risk for anal cancer\(^2\) and is the only population included in the landmark ANCHOR trial\(^3\), which reported markedly reduced incidence of anal cancer following HRA-based treatment of pre-invasive disease. To estimate the number of PWH needing HRA, Rim et al\(^1\) extrapolated data from the 2019 Medical Monitoring Project (MMP), a Centers for Disease Control and Prevention–sponsored sample survey of 4100 US adults with HIV, and a 2021 supplemental to the 2019 MMP survey, which included clinic-specific data for HRA availability. Rim et al\(^1\) estimated that 124,386 PWH had no referral resource, despite meeting screening and HRA referral criteria.\(^4\) This population represents just a fraction of the future care deficit.

While this estimate of PWH without access to follow-up HRA is disturbingly large, Rim et al\(^1\) counted patients with no access to a referral. The bigger story is the overwhelming demand that current referral resources will need to absorb when anal cancer screening becomes standard of care for PWH. Rim et al\(^1\) estimated that 31,200 PWH met screening criteria, completed screening, and had abnormal results in 2019. If all PWH meeting screening criteria had received anal screening, Rim et al\(^1\) estimated that 422,888 would need follow-up HRA. Rim et al\(^1\) did not estimate how many new referrals would be generated if all eligible PWH were screened; however, subtracting current estimated referrals (31,200) from total estimated referrals if all PWH were screened (422,888), we get an estimate of 391,688 additional HRA referrals. Even in settings with robust HRA referral resources, it would be impossible to accommodate a 10-fold increase in volume without systematically addressing the scarcity of trained HRA clinicians.

Just how many additional HRA clinicians, then, do we need? A 2022 study of 104 HRA clinicians found that 38% of anoscopists see 5 to 10 patients per week, 23% see 11 to 20 patients per week, 21% see fewer than 5 patients per week, and 12% see more than 20 patients per week.\(^6\) Using 10 patients per week and 45 clinician-workweeks per year as a rough measure of mean HRA output per clinician, it would take 870 new HRA clinicians nationally to do even 1 procedure per patient per year for the additional demand created by screening all PWH. But that estimate may be overly optimistic: a study of colonoscopy resources needed for New York, New York, found that a mean of 130 colonoscopies were performed per clinician-year.\(^5\) Using 130 HRAs per clinician-year as a measure, we would need an additional 3012 HRA clinicians to meet the projected need.

Importantly, all of the aforementioned estimates of future demands for HRA are solely focused on the cancer prevention needs of PWH. There are several other high-risk groups that would benefit from anal cancer screening, including older men who have sex with men without HIV, older transgender women without HIV, women with history of vulvar cancer or precancer, and men and women more than 10 years after solid organ transplant.\(^2\) While anal cancer incidence rates in these
groups are not as high as those of PWH, they still exceed the screening inclusion threshold of 10-fold or greater risk, relative to the general population, set by the International Anal Neoplasia Society in guidelines. If these at-risk groups are to be screened, capacity needs for HRA clinicians would be more than double the estimates above.

Unequal geographic accessibility compounds the HRA clinician shortage. As of April 2022, there were 181 HRA sites in the US and Puerto Rico; however, 47% of these are located in just 5 states: California (25 sites), New York (25 sites), Florida (15 sites), Maryland (9 sites), and Massachusetts (9 sites). There are 17 states without an HRA site, 5 states with a single HRA resource, and another 8 states with multiple HRA clinics clustered in a single metropolitan area. Unequal HRA distribution is largely a rural vs urban phenomenon, yet in Texas there are 11 cities with populations exceeding 100 000 that are more than 2 hours' drive from HRA, including San Antonio and Austin, each with approximately 1 million inhabitants.

Finally, unlike many other cancers that are currently screened for, anal cancer does not have an obvious medical home for clinical ownership, research leadership, or training of new HRA clinicians. The 2022 survey of HRA clinicians found a wide range of settings for HRA provision: free-standing HRA clinic (12%), gynecology (7%), infectious disease and HIV (33%), gastroenterology (6%), surgery (21%), sexual health clinic (5%), and others (14%). In fact, no single discipline or department is ideally suited for leading expansion of HRA services, which presents a challenge for coordinated implementation of anal cancer screening and prevention. However, the multidisciplinary nature of anogenital dysplasia care also presents an opportunity for multiple specialties to expand their scope of practice in a variety of clinical settings, and this may permit faster growth of services than any single discipline might achieve.

Anal cancer screening offers a new chapter in cancer prevention. Unlike cervical, breast, colorectal, and prostate screening, no single specialty will be primarily responsible for expanding these services, and demand for care is likely to precede sufficient access. In the market-driven health care system, sufficient access will lag training resources, programmatic support, and adequate reimbursement. The study by Rim et al provides a key piece in attempting to quantify the prospective future demand for HRA. The next step will be to develop and disseminate best practices for stewardship of this strained resource and training of additional workforce to meet the challenge.

