HPV prevention in South Africa: Progress, priorities and the path to cervical cancer elimination

Robyn Anne Adams, Matthys Hendrik Botha

Human papillomavirus (HPV) is one of the most common viral infections globally, and affects people of all genders. While most infections are transient and clear spontaneously, persistent infection with high-risk HPV types can lead to malignancy, including cervical cancer. Cervical cancer remains the largest HPV-related disease burden worldwide and in SA, where it continues to be a leading cause of cancer morbidity and mortality among women.

HPV-related disease extends beyond the cervix. The virus is responsible for a substantial proportion of anogenital and oropharyngeal cancers. It is associated with nearly all cases of anal squamous cell carcinoma, approximately 48% of vulvar cancers among women aged 15 - 54 years (28% among ages 55 - 64; 15% among ≥65), around 78% of vaginal cancers, about 51% of penile cancers and approximately 30% of oropharyngeal cancers, with regional variation. Across HPV-associated malignancies, HPV16 remains the predominant genotype. These patterns highlight the need to strengthen prevention efforts across the full spectrum of HPV-related diseases.

SA has made meaningful progress in HPV prevention over the past decade. The national school-based HPV vaccination programme, introduced in 2014, was an important step in primary prevention. By targeting girls aged 9 years and older in public schools, it created a scalable platform for reducing future cervical cancer incidence. Continued efforts to strengthen vaccine coverage, address hesitancy and consider broader access, including gender-neutral vaccination, remain important. While the programme has successfully protected millions of young girls, boys, older adolescents and adults who could also benefit are not routinely included. In addition, targeted vaccination of high-risk populations, such as solid organ transplant recipients and people living with HIV, warrants consideration. Expanding access has the potential not only to accelerate progress towards cervical cancer elimination, but also to reduce the wider burden of HPV-related cancers in SA.

Dr Robyn Adams, postdoctoral researcher in the Department of Obstetrics and Gynaecology at Stellenbosch University

Secondary prevention has also evolved. The transition toward primary HPV DNA testing represents a significant shift in screening strategy, and aligns SA with global best practice. HPV-based screening improves sensitivity for detecting high-grade cervical disease, and allows for longer screening intervals where appropriate. An additional advantage of HPV testing is the option of self-sampling. Evidence supports self-sampling, where individuals

Dr Hennie Botha, Executive Head, SU Department of Obstetrics and Gynaecology

collect their own samples without a pelvic examination, as an effective strategy. Its introduction in SA could reduce barriers to screening and increase uptake, particularly among those who are reluctant to undergo pelvic examinations or have difficulty accessing clinic services.

While cervical cancer is the only HPV-related malignancy with established, population-level screening programmes, healthcare professionals are increasingly aware of the broader spectrum of HPV-related cancers, including anal, vulvar, vaginal, penile and oropharyngeal cancers. Currently, there are no routine national screening protocols for these malignancies. Clinical vigilance, risk-based assessment and timely evaluation of suspicious lesions remain central to early detection. Research and pilot programmes are ongoing to explore the feasibility of targeted screening strategies, particularly for high-risk populations, but prevention through vaccination remains the most effective tool to reduce the burden of these cancers.

Encouragingly, cervical cancer elimination has moved from aspirational dream to structured national planning. The National Department of Health's "Elimination of Cervical Cancer in South Africa: A Strategic and Implementation Framework 2026/2027 - 2029/2030" provides a co-ordinated roadmap across vaccination, screening, treatment and palliative care. The framework aligns with the WHO's global strategy to eliminate cervical cancer as a public health problem, and outlines the actions needed to strengthen prevention and care across the health system. Implementation will require sustained co-ordination across multiple sectors of healthcare, with professional societies, academic institutions and civil society organisations continuing to play a key role. Organisations such as CANSA, the Cancer Alliance and the Pink Drive support screening outreach and public education, while the recently established SA Papillomavirus Society strengthens professional collaboration and advocacy in HPV prevention.

While cervical cancer remains the primary focus of elimination efforts due to its high burden and the effectiveness of available prevention tools, the broader spectrum of HPV-related disease affects men and women alike. Inclusive prevention messaging, education and equitable access to services across populations are essential to achieving lasting impact.

SA now has many of the essential components for effective HPV prevention: vaccination programmes, improved screening technologies and a national strategic framework guiding implementation. Continued progress will depend on strengthening programme coverage, ensuring equitable access across regions and maintaining strong collaboration among clinicians, policy-makers and public health partners.

With sustained commitment and co-ordinated implementation, SA is well positioned to reduce the burden of HPV-related cancers and move closer to eliminating cervical cancer as a public health problem

With sustained commitment and co-ordinated implementation, SA is well positioned to reduce the burden of HPV-related cancers and move closer to eliminating cervical cancer as a public health problem. The combination of robust vaccination, effective screening and strong professional and community engagement offers a pathway to a future where preventable HPV-driven cancers are far less common, and cervical cancer elimination becomes a tangible public health achievement.

Dr Robyn Adams is a postdoctoral researcher in the Department of Obstetrics and Gynaecology at Stellenbosch University. Prof. Matthys (Hennie) Botha is Executive Head of the same department.