

## About this supplement...

In 2009, The Cancer Association of South Africa (CANSA) awarded its biggest research grant to date to the HPV Cervical Cancer Research Fund, under the auspices of Prof Greta Dreyer. This grant enabled a group of researchers from different disciplines to conduct a project to investigate large-scale cervical cancer screening of peri-urban women using cytology and molecular testing. The main findings of this study, performed in the Tshwane Health District, are reported in this supplement which is introduced by Dr Carl Albrecht, Head of Research, CANSA.

Cervical cancer screening with conventional cytology has not been successfully implemented in South Africa, mainly as a result of complexities inherent to such a screening method. In the first article in this supplement, Richter investigates alternative screening options, such as patient self-sampling combined with high-risk human papillomavirus (HPV)-based testing, which has the potential to increase cervical cancer screening coverage, especially in areas in which screening is inadequate.<sup>1</sup> The article focuses on sample collection, transportation, preparation, testing and the interpretation of the results. As the virologist in charge of the CANSA-funded study, Dr Richter was intimately involved in these aspects and provides a personal perspective.

Conducting meaningful clinical research can be a daunting endeavour in resource-poor settings, despite the abundance of research opportunities. As preventative medicine and clinical research unsuccessfully competes with the huge demand on service delivery in a severely strained primary healthcare system, Dreyer, Mnisi and Maphalala examine these challenges in depth.<sup>2</sup> The group provides some meaningful and innovative solutions that were implemented to successfully conduct this study in the existing primary healthcare setting.

HPV screening has the potential to overcome some of the obstacles of conventional cytology, partly because self-collected samples can be tested. Mnisi et al evaluated HPV DNA testing of tampons by comparing molecular test results to those of conventional cytology.<sup>3</sup> They found a high prevalence of cytological abnormalities in this population, with a high-risk HPV prevalence of 58%. The important conclusion is that HPV testing on self-collected tampon samples is feasible, highly sensitive and has a high negative predictive value for current cytological abnormalities.

It is important to understand the dynamics of high-risk HPV strains that are present in women with and without HPV-related disease. Results from the general screened population were previously reported.<sup>4</sup> In the fourth article in this supplement, Van Aardt, Dreyer, Richter and Becker report the findings of a retrospective descriptive study of HPV distribution in women without cervical cytological abnormalities.<sup>5</sup> The prevalence of high-risk HPV infection was 44.9%, and the reported type distribution forms the

basis of interpretation of HPV types in populations with preinvasive and invasive disease.

South Africa has one of the largest human immunodeficiency virus (HIV) epidemics. This has impacted on many other clinical conditions, including HPV disease and cervical cancer. Snyman and Dreyer examined the cytology data sets of different populations over time, and report on the impact that the evolving HIV epidemic has had on the epidemiology of cervical cytology.<sup>6</sup> There was an associated increase in the rate of abnormal cervical cytology as more women became HIV-infected, as well as an impact on the distribution of abnormalities, with a much higher prevalence of high-grade, than low-grade, lesions. This research provides a longitudinal or historical perspective for the current screening study.

There is considerable ongoing research on high-risk HPV types that cause cervical cancer, the role and place of HPV screening, and HPV vaccination for primary prevention. This research and knowledge is important for efforts to effectively control cervical cancer in South Africa, where the impact of HPV has been worsened by the high prevalence of HIV infection. Because results from developed countries are not always relevant to resource-poor settings, it is imperative that appropriate research is conducted on South African women. The current study provides valuable data on the current burden and nature of HPV-related disease in Gauteng.

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