Condom failure in South Africa

To the Editor: It was with great interest that we read the recent editorial by Dr Khumalo[1] in which she expressed concern regarding potential condom failure in Africa. The issue of condom failure is certainly important and we were most alarmed by the lack of prevalence data on condom failure in South Africa. In her literature search Dr Khumalo did not find any research on the prevalence of condom failure in Africa aside from that in pregnant women.

We have been conducting HIV/AIDS behavioural surveillance research at a large public health clinic that provides sexually transmitted infection (STI) services in Cape Town and have collected data that can help shed light on this urgent problem. In anonymous behavioural surveys collected from 1 729 men and 470 women receiving STI services we have found that 41% of men and 37% of women have experienced condom failure, defined as a broken, torn, or slipped-off condom. In a subsample of 202 patients who reported condom failure, 12% had used oil-based condom lubricants that are known to degrade latex, such as hand creams, vaseline, or oils. In another separate subsample of 214 patients who had experienced condom failure, 7% reported having practised dry sex, although we do not know if the dry-sex practices were directly associated with condom failure. These rates of 30 - 40% of persons experiencing condom failure are similar to those reported in the US studies cited by Dr Khumalo.[2,3] Our behavioural surveillance data confirm that condom failure is prevalent in at least some high-risk populations in South Africa and may be of particular concern in the populations at highest risk. The causes of condom failure remain undocumented as we found only a minority of cases potentially attributable to improper use of lubricants or dry-sex practices.

As stated by Dr Khumalo, there are interventions that reduce condom failure and there are now brief counselling interventions that increase condom uptake and proper use in STI patients tested in South Africa.[4,5] We must also remember that condoms succeed in preventing pregnancy, STI and HIV infection far more often than they fail. We therefore applaud Dr Khumalo's call for more research as well as evidence-based guidelines that include skill-building techniques for improving correct and consistent use of condoms.

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Overestimation of the South African HIV incidence using the BED IgG assay?

To the Editor: We thank Rehle *et al*. for their important study of HIV incidence in South Africa,[1] which we read with great interest. We agree with the authors that the incidence of HIV in South Africa is probably extremely high, particularly among young women, and believe that the study will help us focus HIV prevention efforts on appropriate subgroups. We have serious concerns, however, about the applicability of the BED IgG assay to the South African HIV epidemic. In light of recent evidence, we are concerned that Rehle *et al*. have overstated the true absolute incidence of HIV in South Africa.

As the name implies, the BED assay was developed using sequences from HIV subtypes B, D and E.[2] To compensate for imperfect sensitivity and specificity, Rehle *et al*. use a correction factor based on McDougal *et al*.'s study of subtype B virus.[3] Given that the majority of HIV infections considered by Rehle *et al*. were (apparently) of subtype C,[1] the applicability of the McDougal correction, and indeed of the BED assay itself, to these samples is problematic. More questions arise in light of a recent report by Karita *et al*.[4] that the BED assay does not perform well in subtype C virus infections; investigators found a specificity of 71% (95% confidence interval (CI) 54 - 84%),[4] substantially different from one estimate of specificity used in the McDougal correction[3] (94% for infections more than 360 days in the past). In addition, Karita *et al*. found that using the BED assay with the McDougal correction resulted in overestimation of incidence in prospective Ugandan samples (subtype not available, but probably A and D[5]), reporting a corrected BED incidence of 6.4% and a true incidence of 1.3 - 1.7%.[4]

We are therefore concerned that the incidence figures reported by Rehle *et al*. may be overestimates. If indeed these figures are incorrect, this will make future comparisons with more accurate measures of incidence difficult and could lead to spurious conclusions with regard to the course of the epidemic. Given these concerns and the current UNAIDS recommendation against using the BED assay for incidence estimation,[6] it would be helpful if the authors clarified their findings with a quantitative sensitivity analysis of their estimates. Until the BED assay has been further validated, we