

Male circumcision for HIV prevention in Sub-Saharan Africa: who, what and when?

R. White¹, J. Glynn¹, K. Orroth¹, E. Freeman¹, R. Bakker², H. Weiss¹, L. Kumaranayake¹, D. Habbema², A. Buvé³, R. Hayes¹

¹London School of Hygiene and Tropical Medicine, EPH, London, United Kingdom,

²Erasmus MC, University Medical Center Rotterdam, Rotterdam, Netherlands, ³Institute of Tropical Medicine, Antwerp, Belgium

Introduction: UNAIDS recommends the provision of safe circumcision services for HIV prevention in countries with high HIV and low circumcision prevalence, prioritising 12-30 year old HIV-uninfected males. We explore how the population-level impact of circumcision in males and females separately varies by target age-group, coverage, time-to-scale-up, level of risk-compensation and circumcision of HIV-infected males.

Methods: The model *STDSIM* was fitted to the characteristics of a typical high HIV-prevalence population in sub-Saharan Africa and three scenarios of individual-level impact corresponding to the central and the 95% confidence estimates from the Kenyan circumcision trial. The simulated intervention increased the prevalence of circumcision from 25% to 75% over 5 years in targeted age-groups. The impact and cost-effectiveness of the intervention were calculated over 2-50 years. Future costs and effects were discounted and compared to the present value of lifetime HIV-treatment costs (US\$4,043).

Results: Short-term impact varies by gender. Initially targeting men older than the UNAIDS recommended age-group may be the most cost-effective strategy, but targeting any adult age-group will be cost-saving. Substantial risk-compensation could negate impact, particularly if already circumcised males compensate.

Conclusions: This is the first study to show in detail how the (cost-)effectiveness of male circumcision for HIV prevention may vary by age at circumcision. Circumcision was shown to be a cost-saving intervention in a wide range of scenarios of HIV and initial circumcision prevalence but the UNAIDS recommended target age-group should be widened to include older HIV-uninfected males and counselling should be targeted at both newly and already-circumcised males to minimise risk-compensation. More results will be presented at the conference.

Presenting author email: richard.white@lshtm.ac.uk