

## Secondary education and HIV infection in Botswana

In a reanalysis of our results,<sup>1</sup> Michelle Remme and colleagues (October, 2015)<sup>2</sup> found that “secondary schooling might [even] be as good an HIV investment as male circumcision”, not to mention more expensive biomedical options.<sup>2</sup> As Remme and colleagues rightly point out, we had excluded from our cost-effectiveness calculations the myriad other benefits to secondary schooling beyond HIV. If the HIV community paid the costs of schooling net of those other benefits, secondary schooling would be extremely cost-effective. A crucial question is how to operationalise this insight. Remme and colleagues suggest a “cofinancing” approach based on willingness to pay in the HIV sector: HIV budgets would contribute to educational funding up to the value of their next best investment (ie, male circumcision).<sup>3</sup> Of course, the impact of cofinancing will depend not just on the size of the subsidy, but also on the elasticity of supply in the education sector. There is urgent need for case studies to determine whether cofinancing can be successfully implemented.

In a Comment,<sup>4</sup> Karen Ann Grépin and Prashant Bharadwaj wrote: “increasing access to education in low-income countries should be an important priority.” But at what level of schooling should such investments be made? Investments at different school levels may have vastly different health effects due to several factors such as stages of cognitive development,<sup>5</sup> risk exposures, and long-run habit formation. We found a large causal effect of upper secondary schooling on HIV infection, but no association with primary schooling. In a natural experiment in Zimbabwe, secondary schooling led to delayed sexual debut, delayed fertility, and reduced child mortality.<sup>6</sup> There is

mounting evidence of health returns at the secondary level. Whether these results can be integrated into policy (eg, through cofinancing) will have real implications for global health.

We declare no competing interests.

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