Re: Cost-Effectiveness Analysis of Human Papillomavirus Vaccination in the Netherlands

de Kok et al. (1) recently reported the cost-effectiveness of human papillomavirus vaccination in the Netherlands and argued that human papillomavirus vaccination is not a cost-effective preventive measure in the Netherlands. They calculated a discounted (annual rate 3%) incremental cost-effectiveness ratio (ICER) of €53,500 per quality-adjusted life-year (QALY), which is clearly higher than the Dutch willingness-to-pay threshold of €20,000 per QALY.

In a similar cost-effectiveness analysis of human papillomavirus vaccination in the Netherlands, we (2) arrived at a different conclusion based on a computed ICER of €19,500 per QALY. The model presented by de Kok et al. and our model predicted similar reductions in the number of cervical cancers (60% and 61%, respectively) and similar undiscounted lifetime costs per woman (€272 and €251, respectively). The predicted lifetime number of cervical cancers under screening was somewhat lower in the model of de Kok et al. than in our model (496 vs 634 per 100,000 women), which contributed to the difference in the reported ICERs. The two models also differed in the choice of discount rates. de Kok et al. used discount rates of 3% for both costs and effects. We used discount rates of 4% for costs and 1.5% for effects as recommended by the Dutch Health Council and the Health Care Insurance Board. Using our original model output, we recomputed the ICER at discount rates of 3% for both costs and effects and obtained an ICER of €37,400 per QALY. In a sensitivity analysis, de Kok et al. reported an ICER of €19,700 per QALY at discount rates of 4% for costs and 1.5% for effects. The difference in reported ICERs between the two studies can thus be largely explained by the discount rates that were used.

The question remains about what discount rates to use in cost-effectiveness studies. The choice of discount rates should depend on the aim of the study. If the purpose of the study is to provide internationally comparable figures, 3% discount rates for costs and effects seem appropriate. If the purpose is to facilitate local health decision making, as was the case in our study, we think that it is important to adopt locally defined criteria for discounting. Health systems, preferences, and resources vary across countries, and these differences are reflected in the choices of the discount rates and the willingness-to-pay threshold. The use of local criteria enables the health decision maker to compare human papillomavirus vaccination with concurrent medical interventions in a local setting.

VEERLE M. H. COUPÉ
CHRIS J. L. M. MEIJER
JOHANNES BERKHOF

References

Notes
Affiliations of authors: Department of Epidemiology and Biostatistics (VMHC, JB) and Department of Pathology (CJLMM), VU University Medical Centre, Amsterdam, the Netherlands.
Correspondence to: Veerle M. H. Coupé, PhD, Department of Epidemiology and Biostatistics, VU University Medical Centre, PO Box 7057, 1007 MB Amsterdam, the Netherlands (e-mail: v.coupe@vumc.nl).
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