Cost-effectiveness estimates: the need for complete reporting

Authors' reply

We thank James O'Mahony for his comments on our study.[1] The strategies considered in our evaluation were pre-specified according to a Decision Analytic Protocol, which was developed by the Protocol Advisory Sub-Committee for Australia's Medical Services Advisory Committee (MSAC). The protocol included strategies that were more likely to be acceptable to women and providers, and therefore of greatest interest in Australian policy context. A 5-yearly interval for human papillomavirus (HPV)-based screening options was specified for the main analysis. We also did supplementary analysis at a 6-yearly interval, and considered variations in screening age range, screening test technology (eg, conventional cytology, manual liquid-based cytology, image-read liquid-based cytology, or HPV testing), triage options, exit testing options, and invitation strategies. On the basis of the comprehensive modelled analysis done in 2014 and an extensive review of the literature, MSAC's recommendations stated "MSAC supported HPV testing as the primary cervical screening test every 5 years".[2] Therefore, the subsequent evaluation done in 2015–16 considered screening at 5-yearly intervals only. Theoretical analysis of many, incrementally longer, screening intervals could also have been done (screening intervals as long as 10 years for HPV screening have been implemented in the Netherlands in women older than 40 years[3]). However, because the choice of strategies that are included in an economic evaluation can influence the calculated incremental cost-effectiveness ratios (ICERs) for other included strategies, it is important that a policy-facing evaluation involves a careful a priori specification of the main strategies of interest for a particular country.

We did not explicitly report on ICERs in the evaluation findings because these are usually referenced to the effects and costs of current practice. The decision maker thus usually obtains an estimate of the additional cost per life-year saved (or per quality-adjusted life-year saved), compared with current practice, after investing in a new intervention. In this case, however, the ICER calculation could not be referenced to current practice because the evaluation had the highly favourable outcome that all strategies for HPV screening—including both 5-yearly and 6-yearly HPV screening options—were cost saving and life-year saving compared with current practice for cytology-based screening. Given this win-win situation, other outcomes were considered to be more informative for decision making in Australia, such as health outcomes (eg, cervical cancer cases and deaths) and resource utilisation (eg, colposcopies, test volumes, and treatment numbers). After fully considering all of these outcomes, MSAC supported HPV testing as the primary cervical screening test every 5 years.[2]

We do acknowledge that for other countries, more detail on our initial comparison between 5-yearly and 6-yearly screening and the ICERs for alternate strategies might be useful. We present the detailed findings in the appendix. However, we urge caution in interpretation of these findings because, in relation to Australia, they do not reflect the final evaluation of 5-yearly HPV screening that we did to incorporate clinical management guidelines, and, in relation to other countries, they reflect the Australian situation for burden of disease, screening and vaccination uptake, management pathways, health-care costs, and health economic conventions. We have previously found that country-specific differences can heavily influence evaluation findings.[4] Therefore, we recommend that other countries considering primary HPV screening also invest in doing similar country-specific and comprehensive modelled evaluations of health and economic outcomes in the context of HPV vaccination.

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1 Lew J-B, Simms KT, Smith MA, et al. Primary HPV testing versus cytology-based cervical screening in women in Australia vaccinated for HPV and unvaccinated: effectiveness and economic assessment for the National Cervical Screening Program. *Lancet Public Health* 2017; **2:** e96–107.

2 Medical Services Advisory Committee. MSAC outcomes: application no. 1276—renewal of the National Cervical Screening Program. Canberra: Australian Government Department of Health, 2014. http://www.msac.gov.au/internet/msac/publishing.nsf/Content/D924E2F768B13C4BCA25801000123B9E/$File/1276%20-%20Final%20MSAC%20PSD%20-%20NCSP%20Renewal.pdf (accessed May 28, 2015).

3 Wentzensen N, Arbyn M, Berkhof J, et al. Eurogin 2016 roadmap: how HPV knowledge is changing screening practice. *Int J Cancer* 2017; **140:** 2192–200.

4 Simms KT, Smith MA, Lew JB, et al. Will cervical screening remain cost-effective in women offered the next generation nonavalent HPV vaccine? Results for four developed countries. *Int J Cancer* 2016; **139:** 2771–80.

For the **Decision Analytic Protocol** see http://www.msac.gov.au/internet/msac/publishing.nsf/Content/D924E2F768B13C4BCA25801000123B9E/$File/1276-NCSP-FinalDAP.pdf

See **Online** for appendix