Retrospective economic evaluations: Looking back at childhood pneumococcal vaccination in Australia

Retrospective cost-effectiveness analyses of vaccination programs using routinely collected post-implementation data can play an important role in assessing the success of public health programs. However, despite clear advantages in applying effects from real populations, these are rarely performed.

In this talk, I will present a case study for retrospective economic evaluation, looking back at the childhood 7-valent pneumococcal conjugate vaccine (PCV7) program in Australia. The analysis focuses on the period 2005-10 before a replacement vaccine was introduced and uses observed decreases in routine data such as hospitalisations to determine the effect of the program.

We found that the PCV7 program was unlikely to have been cost-effective (at conventional thresholds) at the initial vaccine price negotiated for Australia, unless observed reductions in non-invasive pneumonia deaths in the elderly are attributed to the program. We discuss some of the challenges associated with this kind of analysis and implications for other vaccine programs and retrospective economic evaluation.

About Dr Josephine Reyes

Dr Josephine Reyes is a postdoctoral fellow in the SPHCM working on studies evaluating epidemiological and economic impacts of immunisation programs. She has performed retrospective economic evaluations of the Australian childhood pneumococcal and rotavirus immunisation program and is currently involved in evaluating the cost-effectiveness of implementing a pneumococcal immunisation program using PCV13 for the elderly. She previously worked in the Kirby Institute on economic evaluations of HIV/AIDS prevention programs in Indonesia and the Philippines. Her PhD work at UNSW involved mathematical epidemiology of Mycobacterium tuberculosis, using global data on molecular types to understand the relatedness of different strains of the bacteria involved in outbreaks.