

Predicting effectiveness of flu vaccination campaigns

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A new study, published by Elsevier this month in *Vaccine*, describes a new method that assesses the impact and cost-effectiveness of a range of vaccination options. The model was applied to the 2009 Influenza H1N1 outbreak and predicted accurately in real-time when the epidemic would peak and who should be prioritized for vaccination.

Last year, an outbreak of a novel strain of [influenza](#) linked to swine influenza was detected in Mexico. The infection has shown sustained human-to-human transmission across the world, leading the [World Health Organization](#) to declare an [influenza pandemic](#). Vaccines specific for [pandemic influenza](#) have been successfully developed and the UK Joint Committee on Vaccination and Immunization recommended that high-risk individuals be prioritized for vaccination.

Decisions about extending vaccination to low-risk individuals are heavily debated and depend partly on the epidemiological impact and cost-effectiveness of such options. Marc Baguelin, Albert Jan Van Hoek and colleagues from the Health Protection Agency and the London School of Hygiene and Tropical Medicine in the UK describe how they fit a [mathematical model](#) to the estimated number of cases in real-time to predict the effectiveness of alternative influenza vaccination strategies. Specifically, they show that, vaccination of high risk groups was probably very cost effective. However, the cost-effectiveness of vaccinating children depended on the progress of the epidemic and may be cost-effective in countries where a flu pandemic is not so far advanced.

"Given the present debates in different European countries about the legitimacy of the different choices of vaccination our paper is very topical", said Baguelin, "further it reinforces and expands a recent article in *The Lancet* as it also suggests that many more people than first thought were infected in the summer wave of the swine flu pandemic".

More information:

- Marc Baguelin, Albert Jan Van Hoek, Mark Jit, Stefan Flasche, Peter J. White, and W. John Edmunds, Vaccination against pandemic influenza A/H1N1v in England: A real-time economic evaluation, 2010 Vaccine, Article In Press. [doi:10.1016/s0140-6736\(09\)62126-7](https://doi.org/10.1016/s0140-6736(09)62126-7)
0.1016/j.vaccine.2010.01.002
- Lancet paper: [doi:10.1016/s0140-6736\(09\)62126-7](https://doi.org/10.1016/s0140-6736(09)62126-7)

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