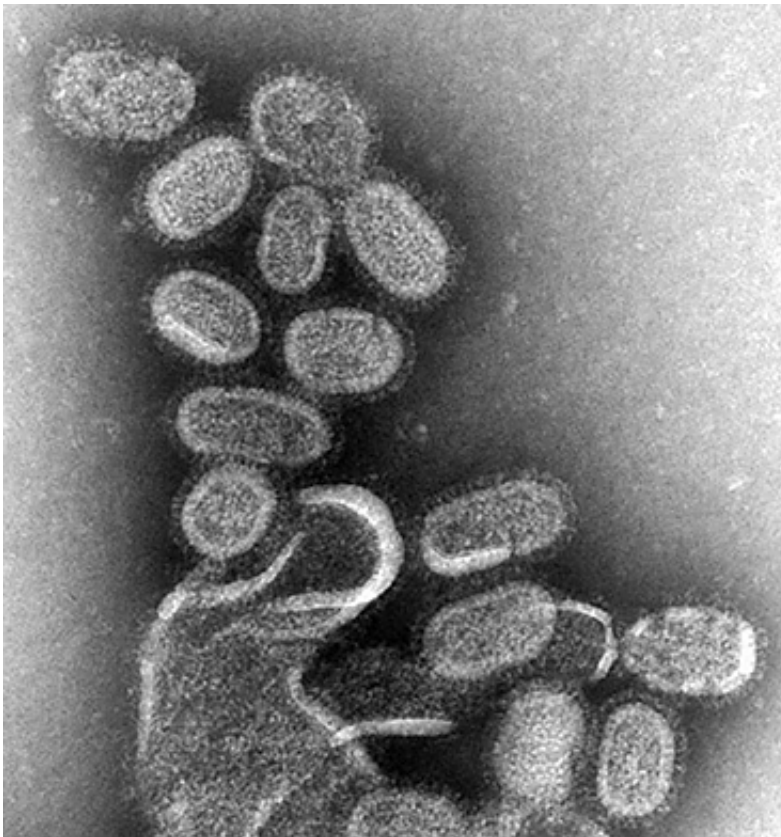


Vaccinating children may be cost-effective for tackling flu

October 12 2015



Electron microscopy of influenza virus. Credit: CDC

Extending flu vaccine administration to UK children may be a cost-effective way to reduce disease burden in the general population, according to research published in the open access journal *BMC Medicine*.

The study, which was part of the evidence used by the UK to add a paediatric component to its influenza immunization programme, finds that the most cost-effective option is extending the vaccination programme covering high risk and elderly individuals, to 5-16 year old [children](#).

Most high income countries recommend that influenza vaccination should be targeted at individuals at highest risk of complications following infection, such as those with chronic heart or lung disease, metabolic or renal disease or immunodeficiencies, and the elderly.

In 2012, the World Health Organization also recommended vaccination of children aged 6-59 months and there has been a recent recommendation to vaccinate all children in the US by the Advisory Committee on Immunization Practices, based on high hospitalisation rates in the younger age groups.

These recommendations, however, tend to consider only the direct benefits of immunization for those receiving the [vaccine](#). Targeting groups such as school aged children, who play a key role in the spread of influenza, could be a more efficient use of limited resources than targeting groups at highest risk of disease.

The researchers from Public Health England and the London School of Hygiene & Tropical Medicine looked at the cost-effectiveness of extending the UK's seasonal influenza immunization programme, targeting for high risk and elderly individuals over 65, to various low-risk groups of different ages, from young children to 50-64 year olds.

They used a mathematical model based on 14 years of surveillance data, gathered from 1995 to 2009, to simulate influenza transmission in a population of England and Wales representing an average total of 52.6 million people.

The team tested alternative vaccination scenarios, evaluating various outcomes including number of infections, clinical cases, general practitioner consultations, hospitalizations and deaths, and took into consideration vaccination programme costs, and a measure known as quality-adjusted life-years (QALY), often used to assess the value for money of a medical intervention.

The study found that vaccination of children in the UK is likely to be highly cost-effective, not only for their own benefit but also to reduce the disease burden in the rest of the community. The most cost-effective option was extension to 5-16 year old children. Universal vaccination, extension to all low risk individuals over 2 years, would achieve the highest net benefit.

The researchers also found that the extension of the UK programme in 2000 to include individuals over the age of 65 years, similar to current WHO recommendations, may not have made optimal use of resources. Although the extension was cost effective, an alternative extension to children would have yielded a substantially higher net benefit.

The study prompted the Joint Committee on Vaccination and Immunisation to recommend [influenza vaccination](#) for all children aged 2 to 17. The programme started in 2013-14, initially with pre-school children. This season will see for the first time flu vaccinations to be delivered nationally in primary schools children in school years 1 and 2.

The authors note that influenza viruses are constantly evolving and that childhood vaccination, while retrospectively the best option, may not be optimal for future seasons if the [influenza](#) epidemiology changes substantially. Their model also does not consider the impact of repeated vaccinations and its wider effects on immunity in the population.

More information: Marc Baguelin et al. Extending the elderly- and

risk-group programme of vaccination against seasonal influenza in England and Wales: a cost-effectiveness study, *BMC Medicine* (2015).
[DOI: 10.1186/s12916-015-0452-y](https://doi.org/10.1186/s12916-015-0452-y)

Provided by BioMed Central

Citation: Vaccinating children may be cost-effective for tackling flu (2015, October 12)
retrieved 19 April 2024 from
<https://medicalxpress.com/news/2015-10-vaccinating-children-cost-effective-tackling-flu.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--