

Flu vaccine and young people

Older people have traditionally been the target of flu vaccination campaigns, but it may be wise to vaccinate young people too

Seasonal flu can cause serious disease in older people, who are advised to have a flu jab each winter. In 2012 the UK's Joint Committee on Vaccination and Immunisation suggested that this programme should be extended to children aged 2–16 – both to protect the children themselves but also to reduce transmission to younger siblings, older relations or those otherwise at risk of serious disease following infection.

Children are often viewed as virus 'superspreaders' – they produce infectious virus particles for longer periods than adults. Furthermore, by frequently coming into close contact with their peers at school and with other family members, they play a key role in transmitting the disease.

Indeed, epidemiology data from 2009 show that the number of people suffering from swine flu in the first wave of the outbreak was climbing steeply through July until the week the schools broke up for the summer holiday, after which the numbers crashed. This research supports the idea that controlling flu in schools could reduce the total amount of flu in the community.

In a pilot study more than 100,000 primary school age children in different parts of the UK received the vaccine (mainly as a nasal spray), around half those who were offered it. Although the flu season was relatively mild in 2013/14, the approach showed encouraging effects on measures such as GP consultations for flu-like symptoms in target areas compared with non-target areas.

From September 2014 flu vaccination is being offered nationwide to children aged 2–4. The primary school pilots are continuing, and new pilots targeting Years 7 and 8 in secondary school have begun. These efforts will see some 700,000 children offered flu vaccination.

The nasal spray vaccine is a 'live attenuated influenza vaccine' – it is still an infectious virus, but has been manipulated so it does not cause disease. This is different from the vaccines given to adults, which are 'inactivated' or killed, or even just fragments of the virus. The live attenuated vaccine has the major advantage that it is delivered to the nose, where the virus gains entry to the body, and stimulates a more powerful immune response that may protect against a broader range of influenza virus strains than conventional vaccines.

This vaccine, known as Fluenz in Europe and Flumist in the USA, has already been widely used in other countries and has a well-established safety record. However, live attenuated vaccines are not

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recommended for the elderly because they tend to have failing immune systems that might allow the vaccine virus to become more harmful. The attenuated virus vaccine isn't used in normal healthy adults either because their very strong immune system probably won't allow the virus to replicate sufficiently to work.

Inactivated flu vaccines delivered by injection will continue to be offered to pregnant women, people over 65 and other vulnerable groups.

REFERENCES

[Scientific American: The best way to fight flu – inoculate children](#)

[Telegraph: Nasal spray flu vaccine extended to two million children](#)

[Live attenuated versus inactivated influenza vaccine in infants and young children \(2007\)](#)

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