

# **Promoting influenza vaccine for children: the important role of healthcare professionals**

**A Edwards<sup>1</sup>, H Bedford<sup>2</sup>, Helen Campbell<sup>3</sup>, L Letley<sup>4</sup>, P Paterson<sup>5</sup>, R Pebody<sup>6</sup>, V Saliba<sup>7</sup>, J Yarwood<sup>8</sup>, J Yates<sup>9</sup>. [See end for authors details]**

**Correspondence to:** Angela Edwards, Seasonal Flu Lead, Immunisation, Hepatitis & Blood Safety Dept., National Infection Service, Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG. Telephone: 0207 654 8123

## **Abstract**

This autumn influenza vaccine will again be offered to all two- and three-year-olds in general practice. In addition, all children in clinical risk groups aged 6 months and above should be offered vaccine. Children in primary school years from reception class to year 4 will also be offered the vaccine as part of the on-going extension of influenza vaccination to healthy children. Since the start of the paediatric programme, transmission of influenza has reduced across all age groups in those parts of the country vaccinating all children of primary school age. Children under five years of age have the highest rate of hospital admissions for influenza. However, many parents do not think that influenza is a serious illness and it is the vaccine they are most likely to decline. Health care professionals are the most trusted source of advice and information about vaccination, so staff in general practice have a crucial role to play in recommending this vaccine to parents.

## **Key words**

Influenza. Vaccine. Children. Healthcare professional. General Practice.

## **Key points**

- Influenza vaccine is offered to children to provide protection to the individual children as well as to reduce transmission across all ages.
- Results from pilot areas in England have shown a positive population impact on influenza transmission from vaccinating children of primary school age both in the children themselves and in the wider population.
- Influenza can cause serious illness in children. Children under five years of age have the highest rate of hospital admissions for influenza of all age groups.
- Healthcare professionals are the most trusted source of information and advice on immunisation and discussions increase parental confidence, particularly among black and ethnic minority parents.
- General practice staff have a key role to play in advocating the child influenza vaccine to parents.

## **Introduction**

Influenza immunisation, recommended in the UK since the 1960s, aims to protect those who are at higher risk of influenza associated morbidity and mortality. Originally targeted at those in clinical risk groups, the programme was extended in 2000 to all people aged 65 years and over. In 2010, after the 2009 pandemic, pregnancy was added due to evidence that pregnant women are at increased risk of complications from influenza.

In 2012 the Joint Committee on Vaccination and Immunisation (JCVI), the independent expert group that advises Government on vaccination policy, recommended extending influenza immunisation to children. The aim is to provide individual protection to the vaccinated children themselves and reduce transmission across all ages. Influenza is an unpleasant but self-limiting illness in the majority of children, but it can cause serious complications and death, even in previously healthy children. Children under five years of age have the highest rate of hospital admissions for influenza (Cromer et al, 2014). JCVI recommended that all eligible children are offered a live attenuated influenza vaccine (LAIV), administered as a nasal spray (JCVI, 2012).

In 2013/14 the influenza immunisation programme began with pre-school children offered vaccination through GP surgeries. For the first year the offer was to all two- and three-year-olds, the following year it was extended to four-year-olds. When the programme began geographically discrete pilots in England were also run for primary school aged children (and for one year only secondary school aged children aged 11-13 years), with the vaccine mostly delivered through schools but also in pharmacies and general practice in a few areas.

In 2015/16 the programme was rolled out nationally to primary schools starting with children in years 1 and 2 (aged 5–6 years) and then for years 1, 2, and 3 (aged 5-7 years) in 2016/17, with year 4 (8 year olds) being added this year (2017/18). This coming year four year olds, previously offered the vaccine in general practice, will be offered it in reception class at school. General practices will be offering influenza vaccination to two- and three-year-olds in 2017/18 and will continue to offer vaccination to children in clinical risk groups. This includes at risk children covered by the school vaccination programme if their parents prefer vaccination to be given in general practice.

## **Influenza vaccine uptake rates for children**

JCVI recommended schools as the most effective route to deliver immunisations to school-aged children. Table 1 gives vaccine uptake rates in general practice and those in school-aged children are given in table 2. It shows that school aged children have higher uptake rates than younger children offered the vaccine in general practice, and that uptake in schools in the national roll-out is higher in the younger than older aged children.

**Table 1: End-of-season Influenza vaccine uptake in 2 to 4 year olds in England from 2013/14 – 2016/17 (PHE, 2017a)**

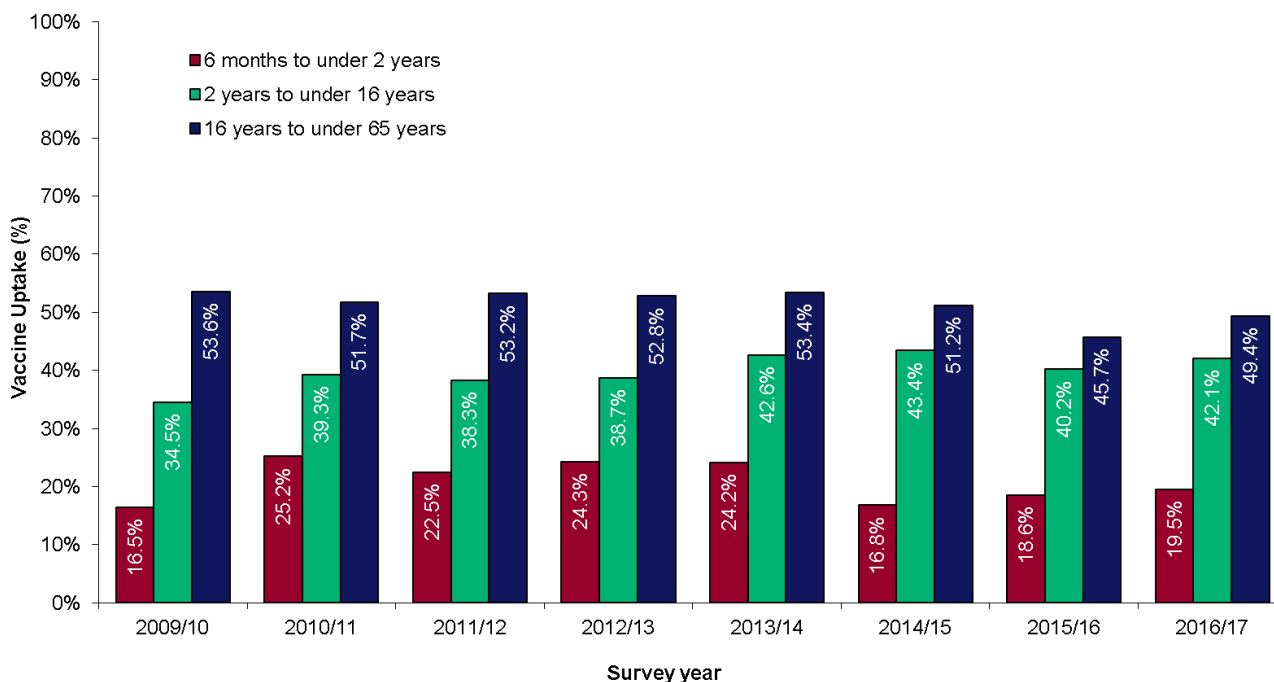
Age	2013/14	2014/15	2015/16	2016/17
2 years old	42.6%	38.5%	35.4%	38.9%
3 years old	39.5%	41.3%	37.7%	41.5%
4 year old	N/A	32.9%	30%	33.9%

**Table 2: End-of-season Influenza vaccine uptake in national roll-out to school aged children in England from 2015/16 – 2016/17 (PHE, 2017b)**

Age	2015/16	2016/17
Year 1 (Age 5-6)	54.4%	57.6%
Year 2 (age 6-7)	52.9%	55.4%
Year 3 (age 7-8)	N/A	53.3%

Vaccine uptake in children in clinical risk groups, who are offered the vaccine for their own individual protection, is given in figure 1. Historically uptake is lower in at risk children compared to at risk adults, and is particularly low for the 6 months to under 2 years age group. This is despite parents of children in clinical risk groups responding well to interventions encouraging vaccination, because it appeals to parental instincts to nurture and protect their children’s health (NICE, 2017).

**Figure 1: Vaccine uptake in the under 65 at risk groups by age (PHE, 2017a)**



Public Health England (PHE) has produced good practice guidance for general practice outlining key strategies to improve uptake in children. The evidence is that strategies such as identifying a member of staff with responsibility for running the influenza vaccination campaign and sending personal invitations (call-recall) to parents increases uptake (PHE 2017c).

### **The impact of the children's programme on influenza levels**

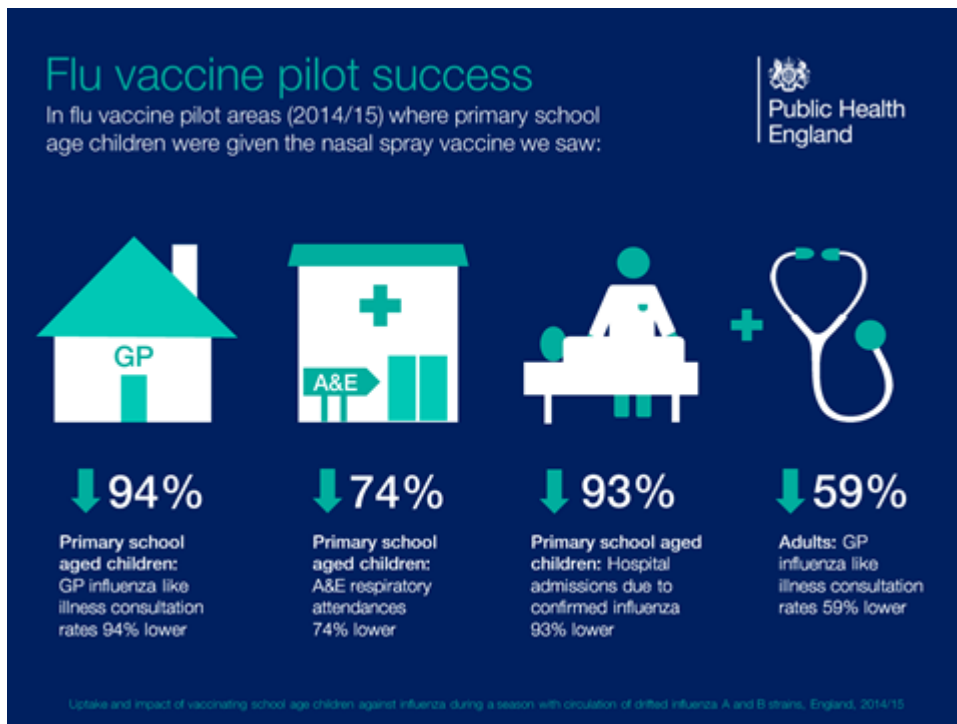
Since the introduction of the LAIV programme for children the vaccine effectiveness for laboratory confirmed infection has been good. In 2015/16 the 58% vaccine efficacy found in the UK was within the normal range for this vaccine (Pebody et al., 2016). JCVI has recommended that the UK continues with the programme (JCVI, 2016).

Evaluation of the first two years of the programme compared pilot areas, where the entire primary school age cohort was offered vaccination, to non-pilot areas in England where no primary school vaccination was given. The results show a positive impact on influenza transmission across a range of surveillance indicators including reductions in:

- GP consultations for influenza-like illness
- Influenza swab positivity in primary care
- laboratory confirmed hospitalisations
- respiratory emergency department attendances.

These effects were evident in both targeted and non-targeted age groups compared with populations where primary-school age children were not vaccinated (Figure 2). The size of the effect was less for more severe outcomes, in particular excess mortality (Pebody et al, 2014; Pebody et al, 2015).

**Figure 2: Flu vaccine pilot success in 2014/15.**



### **What parents think about influenza vaccination**

Although influenza vaccination rates in England are some of the highest in Europe, there are a number of misconceptions about influenza and the vaccine.

PHE commissions an annual survey of nearly 2,000 parents of children under the age of five on their views about all vaccines offered to their children. The survey consistently shows very high levels of confidence in the vaccine programme, with parents automatically having their children vaccinated when vaccines are due (Campbell et al, 2017). The survey includes specific questions about the influenza vaccine.

The 2017 survey shows that awareness amongst parents of children eligible for the influenza vaccine is high at 84%. While uptake rates across the routine childhood vaccination programme are high with almost all vaccines exceeding 90% uptake, the vaccine that parents are most likely to refuse for their children is the influenza vaccine.

Research at the start of the paediatric programme suggests that parents who typically support vaccination may doubt the necessity of an influenza vaccination for their child (Moulds et al., 2017). Uptake is lower amongst children living in areas of higher deprivation (Green et al., 2015) and in larger families (Hardelid et al., 2016) and amongst ethnic minority groups (Green et al., 2015), with these effects still evident in the programme (PHE, 2017d).

Parents do not perceive the influenza vaccine to be as important as other childhood vaccines. In the PHE annual survey parents are asked about their perceptions of the severity of a number of vaccine preventable diseases. In 2010, when influenza vaccination was only offered to at risk children, just 8% of parents perceived influenza to be 'very serious'. Since then this has increased year on year from 22% in 2015 to 27% in 2017.

The offer of influenza vaccination to young children appears to have increased the understanding of parents that influenza can be very serious. However, it is still considered to be less serious relative to other vaccine preventable illness. For example, compared to the diseases ranked as most serious in a scale of severity, meningitis, septicaemia and pneumonia, which 85%, 82%, 76% of parents respectively said were 'very serious', influenza was ranked much lower at 24%, despite pneumonia being a relatively common complication of influenza.

### **The role of the healthcare professional in recommending influenza vaccination**

In the PHE survey parents are asked where they get information and advice about immunisation from. Over the years the survey has consistently shown how important discussions with health professionals are. In 2017, 74% of parents said they had such a discussion before their child was immunised. Of these parents, 58% felt more confident about immunising their child; among black and ethnic minority parents, this figure rose to 72%.

Healthcare professionals are seen as the most trusted source of advice on immunisation with 93% of parents agreeing that they trust their advice, compared to 60% when this advice comes from family and friends, and only 30% when the information is from the media. In a study in six European countries, general practitioners were listed as being the most trustworthy source of health information about medicines (Bouder et al., 2015).

Primary care health professionals have a key role in advocating for the influenza vaccine but many parents are not receiving an invitation to attend for the vaccine from their GP surgery. One study indicated that almost half of participants disagreed that a health professional had recommended vaccination (Smith et al, 2017). Draft guidelines from NICE on improving influenza vaccine uptake recommend that practices should have a systematic way of identifying eligible patients and inviting them for vaccination, as well as identifying opportunities when parents have contact with the general practice for other reasons. The draft NICE guidelines recognise the trusted role of healthcare professionals in providing advice on influenza vaccination. They emphasise the importance of those coming into contact with eligible groups being able to provide tailored information on the risks and benefits of influenza. They should also be able to offer and administer it (NICE, 2017). To help support this PHE makes available resources aimed at parents, which explain why children are being offered the vaccine, which can be ordered free of charge (PHE 2017e).

## Conclusion

Children under five years of age have the highest rate of hospital admissions for influenza of all age groups. Despite this, influenza is not seen as a serious illness in children by most parents and is the vaccine that they are least likely to accept for their child if offered. Health professionals are the most trusted source of information and advice for parents on vaccination, and parental confidence in immunisation is improved by having a discussion with a health professional, especially for parents from black and ethnic minority groups. Staff providing the influenza vaccine in general practice have a key role to play in recommending the vaccine for children and ensuring all eligible groups are actively invited for vaccination each season. The impact of the vaccination programme extends beyond the individual children protected by the vaccine. By reducing transmission of influenza from children further protection is extended to the wider population, including those who may be particularly vulnerable to influenza complications and may not respond well to their own influenza immunisation.

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### **Authors details**

<sup>1</sup> Seasonal Flu Lead, Immunisation, Hepatitis & Blood Safety Dept., National Infection Service, Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG.

<sup>2</sup> Professor of Children's Health, UCL Great Ormond Street Institute of Child Health, 30 Guilford Street, London WC1N 1EH.

<sup>3</sup> Senior Clinical Scientist, Immunisation, Hepatitis & Blood Safety Department, National Infection Service, Public Health England, 61 Colindale Avenue, London NW9 5EQ.

<sup>4</sup> Nurse Manager (Research), Immunisation, Hepatitis & Blood Safety Dept., National Infection Service, Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG.

<sup>5</sup> Co-director of the Vaccine Confidence Project, NIHR Health Protection Research Unit in Immunisation, London School of Hygiene & Tropical Medicine, Keppel Street, London WC1E 7HT.

<sup>6</sup> Head of Respiratory Diseases Department, National Infection Service, Public Health England, 61 Colindale Avenue, London NW9 5EQ.

<sup>7</sup> Consultant Epidemiologist, Immunisation, Hepatitis & Blood Safety Department, National Infection Service, Public Health England, 61 Colindale Avenue, London NW9 5EQ.

<sup>8</sup> National Immunisation Programme Manager and Head of Implementation and Planning, Immunisation, Hepatitis & Blood Safety Dept., National Infection Service, Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG.

<sup>9</sup> Consultant in Public Health- Screening and Immunisation Lead, NHS England South (South West), South West House, Blackbrook Park, Taunton TA1 2PX.