

Dear Colleague,

As we approach our busiest time of the year the possibility of an influenza outbreaks occurring in the workplace and out in the community rises.

I have spoken many times of the need to take care of ourselves as well as our patients: so I am writing to urge you to take the precaution of getting vaccinated against flu this winter so we can continue to provide services and protect those in our care.

We should also all play our part in promoting vaccination against flu to our colleagues and those in our care. I encourage you to read the supporting evidence attached to this letter on the importance of having the vaccine. This evidence will also help you dispel some of the myths about the flu vaccine.

Flu can kill, so in leading by example, and recognising the importance of having the flu vaccine yourself, you will help reinforce the benefits of immunisation and reassure people that it is safe and effective.

For more information about the national seasonal flu campaign for staff visit <http://www.nhsemployers.org/flu>

Thank you for your support.

Yours faithfully,



Karen Middleton CBE

Chief Health Professions Officer

The importance of influenza vaccination for allied health professionals

Every year influenza vaccination is offered to NHS staff as a way to reduce the risk of staff and clients/patients contracting and transmitting the virus. Vaccine uptake across NHS organisations varies from below 10% to above 90% with a national uptake of 45% (2011/12). This document summarises the evidence showing why vaccination of healthcare workers is important.

Why should we worry about influenza?

Influenza can cause a spectrum of illness from mild to severe, even among people who are previously well. There were 457 confirmed deaths from influenza reported in 2009-10 and 602 in 2010-11^{i,ii}. Nearly 9000 people were admitted to hospital with influenza in England in 2010-11, of whom 2200 were admitted to intensive care^{2,iii}. While the impact of influenza was less marked during the 2011-12 season, influenza remains unpredictable and it is hard to forecast the severity of future influenza seasons.

These figures are high for a disease that is largely preventable through vaccination. As a comparison, hepatitis B causes around 60 deaths per year^{iv}. Influenza deaths are also high compared to other infectious diseases such as invasive meningococcal disease which causes around 60-80 deaths per year⁴.

Why is vaccination important for clinical staff?

Protecting yourself

Frontline healthcare workers are more likely to be exposed to the influenza virus, particularly during winter months when some of the people in their care will be infected. It has been estimated that up to 1 in 4 healthcare workers may become infected with influenza during a mild influenza season, a much higher incidence than expected in the general population^v.

Even previously healthy people and the young can develop severe complications from influenza; up to one third of deaths in 2009-10 and 2010-11 were in people considered healthy^{vi}, with many of the cases of severe illness in those aged under 65 years^{2,5,vii,viii,ix} (89% of hospital admissions, 87% of critical care beds occupied and 79% of deaths).

Protecting the people in your care

Influenza is a highly transmissible infection. The patient population found in hospital is much more vulnerable to the severe effects of influenza^x. Healthcare workers may transmit the illness to patients even if they are mildly or sub-clinically infected. There are reports of influenza outbreaks within hospitals and other care settings where transmission from healthcare workers to the people in their care is likely to have facilitated spread of the

disease^{xi,xii,xiii}. In one outbreak 118 staff and 49 patients were infected¹¹. A second resulted in six infections among neonates and one death¹³.

'Herd-immunity' of healthcare workers to reduce the likelihood of introduction and transmission of the virus in care settings is an effective way to prevent this. Settings randomised to high levels of immunisation had reduced rates of flu-like illness, hospitalisation and mortality in the elderly in comparison with controls^{xiv,xv,xvi,xvii}.

Protecting your friends, family and colleagues.

Some healthcare workers, aware that they are more likely to become infected with influenza, get the flu vaccination in order to protect other family from influenza, particularly young children or other relatives who may fall into at-risk groups^{xviii}.

How effective is the vaccine?

The vaccine is 60-90% effective depending on the age and health of the person receiving it^{xix,xx,xxi}, and on how well the circulating influenza strains match the composition of the vaccine.

How safe is the vaccine?

The most common side effect is bruising or local muscular stiffness (10-64%) at the injection site^{xxii}. Other reported side-effects after the vaccine include fever, malaise and myalgia. These are short lived and their incidence may not be much greater in comparison with those who receive a placebo vaccine (fever 3% vs 1%; malaise 9% vs 6%; myalgia 18% vs 10%)^{xxiii}. Some of these side effects were particularly common during the pandemic, as the vaccines used then had an adjuvant. The present trivalent vaccine does not contain adjuvants so such side effects will be less common.

Although it is common for people to complain that the vaccine gave them influenza, this is not possible. It is most likely that flu-like symptoms experienced by people who have just had the vaccine are not caused by influenza but are the result of many other circulating viruses that can produce influenza-like symptoms. It also takes up to two weeks to develop immunity after vaccination, so infection could occur during this window.

What about severe reactions?

The risk of having an anaphylactic reaction to the seasonal influenza vaccine is very rare, but those who have had a severe reaction (anaphylaxis) to a previous dose of seasonal influenza vaccine or to any part of the vaccine should not receive it. Individuals who have egg allergy may be at increased risk of reaction to influenza vaccines. In recent years, inactivated influenza vaccines that are egg-free or have a very low ovalbumin content have become available. People who have either confirmed anaphylaxis to egg or egg allergy with uncontrolled asthma (BTS SIGN step 4 or above) can be immunised with an egg-free influenza vaccine. If no egg-free vaccine is available at the clinic, they should be referred to specialists for vaccination in hospital using an inactivated influenza vaccine with an ovalbumin content less than 0.12 µg/ml. A split dose schedule may be required at the discretion of the

supervising physician. Facilities should be available and staff trained to recognise and treat anaphylaxis. Vaccines with ovalbumin content more than 0.12 µg/ml or where content is not stated should not be used in egg-allergic individuals.

All other egg allergic individuals can be given egg-free vaccine or inactivated influenza vaccine with an ovalbumin content less than 0.12 µg/ml administered as recommended in primary care.

How is safety of the vaccines monitored?

As with all medicines in the UK, influenza vaccines require licensing by the Medicines and Healthcare Products Regulatory Agency (MHRA). Like other medical products, passive surveillance, using reports from yellow cards, is used to identify adverse events. The observed rate of adverse reports is compared to the expected rate, based on data from a general practice research database, after making allowance for under-reporting.

This is complemented by active surveillance, which uses very large population cohorts from primary care databases to proactively look at the risk of an adverse event which may be of concern. Comparisons are made between patterns of self-presenting illness to general practice in the period after vaccination compared to controls. Other countries have similar systems and data is pooled and reviewed at national and international levels.

When should I be vaccinated?

The new vaccines are available from the end of September 2012 and any healthcare worker with direct patient contact is urged to get vaccinated as soon as possible. Your local occupational health department is likely to lead on delivery so the advice is to contact them or the appropriate team from September onwards. Any healthcare workers in at-risk groups can receive the vaccine at their GP, but are asked to please report this vaccination at work to ensure inclusion in uptake figures recorded for the Department of Health.

ⁱ Hinde D. The 2009 influenza pandemic – an independent review of the UK response to the 2009 pandemic. The Cabinet Office, London, 2010.

ⁱⁱ Health Protection Agency. Surveillance of influenza and other respiratory viruses in the UK: 2010-2011 report. HPA, London, 2011.

ⁱⁱⁱ Estimates of hospital admissions from Hospital Episode Statistics 2010-2011; estimates of critical care admissions taken from HPA annual influenza report based on bed-days and a mean length of stay of seven days.

^{iv} Office of National Statistics. Mortality Statistics: Deaths registered in England and Wales. ONS, London (based on data from 2006-2010).

^v Elder AG, O'Donnell B, McCrudden EA, Symington IS, Carman WF. Incidence and recall of influenza in a cohort of Glasgow healthcare workers during the 1993-4 epidemic: results of serum testing and questionnaire. The British Medical Journal, 1996;313:1241-2.

^{vi} Donaldson L, Rutter P, Ellis B et al. Pandemic Flu Mortality in England. The British Medical Journal, 2009;339:b5213

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- ^{vii} Health Protection Agency. Epidemiological report of the 2009 pandemic (H1N1) 2009 in the UK. HPA, London, 2011.
- ^{viii} Campbell CN, Mytton OT, McLean EM et al. Hospitalization in two waves of pandemic influenza A(H1N1) in England. *Epidemiology and Infection*. 2011;139(10):1560-9.
- ^{ix} Mytton OT, Rutter PD, Mak M et al. Mortality due to pandemic (H1N1) 2009 influenza in England: a comparison of the first and second waves. *Epidemiology and Infection*. Published online: 1 Nov 2011.
- ^x Salisbury D, Ramsay M, Noakes K. Immunisation against infectious disease – ‘the Green Book’. Department of Health, 2011.
- ^{xi} Pachucki CT, Pappas SA, Fuller GF et al. Influenza A among hospital personnel and patients. Implications for recognition, prevention and control. *Archives of Internal Medicine* 1989; 149:77-80.
- ^{xii} Horcajada JP, Pumarola T, Martinez JA et al. A nosocomial outbreak of influenza during a period without influenza epidemic activity. *European Respiratory Journal* 2003; 21:303-7.
- ^{xiii} Cunney RJ, Bialachowski A, Thornley D, Smaill FM, Pennie RA. An outbreak of influenza A in a neonatal intensive care unit. *Infection Control and Hospital Epidemiology*. 200; 21:449-54
- ^{xiv} Potter J, Stott DJ, Roberts MA et al. The influenza vaccination of healthcare workers in long-term care hospitals reduces the mortality of elderly patients. *Journal of Infectious Diseases*. 1997; 175:1-6.
- ^{xv} Carman WF, Elder AG, Wallace LA et al. Effects of influenza vaccination of healthcare workers on mortality of elderly people in long term care: a randomised control trial. *The Lancet* 2000; 355:93-97.
- ^{xvi} Hayward AV, Harling R, Wetten S et al. Effectiveness of an influenza vaccine programme for care home staff to prevent death, morbidity, and health service use among residents: cluster randomised controlled trials. *The British Medical Journal* 2006; doi:10.1136/bmj.39010.581354.55.
- ^{xvii} Lemaitre M, Meret T, Rothan-Tondeur M et al. Effect of influenza vaccination of nursing home staff on mortality of residents: a cluster randomised trial. *Journal of American Geriatric Society* 2009; 57:1580-6.
- ^{xviii} Hollymeyer HG, Hayden F, Poland G, Buchholz U. Influenza vaccination of healthcare workers in hospitals – a review of studies on attitudes and predictors. *Vaccine* 2009; 27: 3935-44.
- ^{xix} Wilde JA, McMilan JA, Serwint J et al. Effectiveness of influenza vaccine in health care professionals: a randomised trial. *Journal of the American Medical Association*. 1999; 281: 908-13.
- ^{xx} Fleming DM, Watson JM, Nicholas S et al. Study of the effectiveness of influenza vaccination in the elderly in the epidemic of 1989-90 using a general practice database. *Epidemiology and Infection*, 1995; 115: 581-9.
- ^{xxi} Fleming DM, Andrews NJ, Ellis JS et al. Estimating influenza vaccine effectiveness using routinely collected laboratory data. *Journal of Epidemiology & Community Health*, 2010; 64:1062-7.
- ^{xxii} Centres for Disease Control. 2010-11 Influenza Prevention and Control Recommendations – Adverse Events After Receipt of TIV. CDC, Atlanta, 2011: www.cdc.gov/flu/professionals/acip/adversetiv.htm
- ^{xxiii} Jackson LA, Gaglani MJ, Keyserling HL et al. Safety, efficacy and immunogenicity of an inactivated influenza vaccine in healthy adults: a randomised, placebo controlled trial over two influenza seasons. *BMC Infectious Disease*, 2010; 10:71. doi. 10.1186/1471-2334-10-71