Flu vaccination: information leaflet for clinical staff

Every year vaccination is offered to frontline healthcare staff as an important part of occupational health and infection control. Not all staff choose to take it up, this leaflet summarises the evidence for why being vaccinated is good for you, your patients and your family. It also addresses some frequently asked questions about the vaccine's effectiveness, side effects and safety.

Why should healthcare professionals worry about flu – isn’t it a mild illness?
Although flu is often a mild illness it can cause a spectrum of illness from mild to severe. There were 602 deaths reported last year, and 457 in the previous year. Moreover our best estimates suggest there were over 9000 patients admitted to hospital, of which over 2000 were admitted to intensive care in England last year.

While it is hard to produce accurate numbers, they are high for a disease that we can prevent (or at least significantly reduce) through vaccination (hepatitis B causes around 60 deaths per year, 270 new chronic infections per year among residents). They are also high compared to other infectious diseases (invasive meningococcal disease causes around 60-80 deaths and 900-1300 cases per year).

Why is it important that clinical staff receive the flu vaccine?

Protecting yourself
Front line healthcare workers are more likely to be exposed to flu virus, as some of their patients will be infected with flu. Even in a mild flu season up to 1 in 4 to healthcare workers may become infected with the flu, a higher incidence than expected to occur in the general population.

While much of the severe illness occurs in those with underlying conditions, up to one third of deaths due to the present A/H1N1 strain are occurring in those who were considered healthy. At present this strain is predominantly causing severe illness (hospital admissions, critical care admissions and deaths) in the young, those aged less than 65 years.

Protecting your patients
Flu is a highly transmissible infection. The patient population found in hospital is much more vulnerable to the severe effects of flu. Healthcare workers may transmit the illness to patients even if they are mildly or sub-clinically infected. There are reports of flu outbreaks within hospitals where transmission from healthcare workers to patients is likely to have facilitated spread of the disease. In one outbreak 118 staff and 49 patients were infected. A second resulted in six infections among neonates and one death.

‘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 randomized to high levels of immunisation had reduced rates of flu-like illness, hospitalisation and mortality in the elderly in comparison with controls.

Protecting your family and colleagues
Some healthcare workers, aware that they are more likely to become infected with flu, get the flu vaccine in order to protect other family members from flu, particularly young children or others relatives who may fall into at-risk groups.

Recommendation by professional bodies
The Green Book (that sets out national policy and recommendations on immunisation) recommends that healthcare workers directly involved in patient care be vaccinated annually. It is also encouraged by the General Medical Council as part of good medical practice, and the BMA.

Is the vaccine effective?
The vaccine is 60-90% effective. It is more effective in younger patients and those who are healthy. Even when there is no viral shift the efficacy of the vaccine may fall from one flu season to the next without re-vaccination. When the vaccine does not prevent infection it may reduce the severity and duration of the illness.
How is safety of the vaccines assured?

As with all medicines and devices used in the UK, flu vaccines require licensing by the Medicines and Healthcare Products Regulatory Agency (MHRA). The composition of the vaccine changes each year, requiring re-licensing. The nature of the additional safety (and efficacy) information to be supplied depends on the extent of the change made to the vaccine.

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

How safe is the flu vaccine?

The most common side effect is bruising or local muscular stiffness (10-64%) at the injection site. Other commonly 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%). Some of these side effects were particularly common during the pandemic, as the vaccines used then had an adjuvant (that stimulated the immune response in order to improve vaccine efficacy when low doses of the inactivated virus were used). The present trivalent vaccine does not contain adjuvants so such side effects will be less common compared with the vaccine used in the pandemic.

Although it is common for people to complain that the vaccine gave them flu, this is not possible. The vaccine does not use live virus, so cannot cause flu. Most likely these symptoms are not flu but may be caused by many of the other viruses circulating that may cause flu like symptoms. It also takes up to two weeks to develop immunity after vaccination, so infection during this window is still possible.

The risk of having a serious (anaphylactic) reaction to the seasonal flu vaccine is very rare. Those who have had a severe allergic reaction (anaphylaxis) to a previous dose of seasonal flu vaccine or to any part of the vaccine should not receive the vaccine. Those who have had a serious allergic reaction (anaphylaxis) to hens' eggs, may still be able to be vaccinated, but under specialist clinical supervision or have an egg-free flu vaccine. The following adverse events have been reported very rarely after seasonal flu vaccination over the past 30 years but no causal association has been established: neuralgia, paraesthesiae, convulsions (see note below) and transient thrombocytopenia, vasculitis with transient renal involvement and neurological disorders such as encephalomyelitis.

Guillan-Barré Syndrome

During the recent pandemic some people were concerned that the pandemic vaccine was associated with Guillan-Barré syndrome (GBS), a rare autoimmune disorder that affects the nervous system. Concern arose because of a past link with a swine flu vaccine used in America in 1976. There was additional case of GBS for every 100,000 people vaccinated (the background rate is 1 case per 100,000 people per year).51. While scientists now have a reasonable idea of what caused this problem, since 1976 there has been close scrutiny of all vaccines, including flu, to detect any increased risk of developing GBS due to vaccination. No evidence has been found, either for seasonal flu or the pandemic strains despite close scrutiny.

Safety concerns arising during the recent pandemic

Two safety concerns arose during the pandemic. In Australia Fluvax (a trivalent vaccine) was found to be associated with febrile seizures in children (one extra febrile seizure per 250 children vaccinated), leading to restriction in use among children. Fluvax was not used in the UK during the pandemic. No increased risk of febrile seizures was observed in the UK, nor has been found with other flu virus vaccines, despite extensive research. In Sweden and Finland Pandemrix (a monovalent adjuvanted vaccine) was found to be associated with narcolepsy in children and adolescents (around 3-4 additional cases per 100,000 people vaccinated). Although Pandemrix was used in the UK during the pandemic, it is no longer used. This side effect has not been reported with other vaccines.
References


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