



## QUESTIONS AND ANSWERS ON VACCINES FOR PANDEMIC (H1N1) 2009 ('SWINE FLU')

### **1. What is the 'swine flu' pandemic?**

The 'swine flu' outbreak started in April 2009 in Mexico, and was officially declared a pandemic by the World Health Organization in June 2009. A pandemic is an outbreak of influenza due to a new type (strain) of flu virus that is spread to humans from another animal species, in this case pigs. It is different from the normal 'seasonal' flu, because the strain is new, and therefore, most people have no protection (immunity) against it. Because of the lack of immunity, the new virus, known as influenza A (H1N1), can spread extremely rapidly and infect very large numbers of people.

### **2. Which vaccines can be used during the pandemic?**

Normal flu vaccines, which are prepared to protect against seasonal flu, are not effective in this pandemic. Instead, special pandemic flu vaccines have been developed. These vaccines will be used to build up protection against the pandemic virus in people who have not yet been exposed to it. This is expected to lessen the overall impact of the pandemic.

## **Licensing (Authorisation/Approval) of H1N1 Vaccines**

### **1. How are pandemic vaccines authorised?**

Following a strategy established by the European Medicines Agency (EMA) in 2003, there are two ways pandemic vaccine manufacturers can obtain a marketing authorisation (licence):

- Using the 'mock-up' vaccine approach: A mock-up pandemic influenza vaccine is a vaccine that is prepared in advance of a future pandemic using a virus strain that could cause a pandemic, but before knowing the actual strain that will cause the pandemic. Companies carry out full studies of the quality, safety and efficacy of the mock-up vaccine with the original virus strain. Once the pandemic virus strain is known, it is used to replace the original strain in the vaccine. The original studies can be used to predict how people will react to the vaccine once the flu strain causing the pandemic has been included. These vaccines have been tested in trials involving more than 8,000 subjects.
- Developing a new vaccine 'from scratch': This requires a new, full marketing authorisation and therefore more time than the mock-up approach. The EMA has announced that it is currently working with two manufacturers towards the authorisation of new pandemic vaccines.

**2. What role does the Irish Medicines Board (IMB), the European Medicines Agency (EMA) and the European Commission fulfil in the development and authorisation of Pandemic (H1N1) 2009 vaccines?**

The IMB is the competent authority for the regulation of medicines in Ireland. It also represents Ireland in relation to EU authorisation procedures for medicines through its participation at committees/working parties, convened by the EMA.

The IMB is represented on a continuous basis on the EMA's scientific committee, the Committee for Medicinal Products for Human Use (CHMP). The CHMP was responsible for reviewing data on the methods used to make and test the final vaccines. This review, in conjunction with the reviews previously carried out for the mock-up vaccines, allowed the CHMP to issue an opinion on its assessment of the vaccines.

For each of the vaccines, the CHMP made a recommendation to the European Commission based on its opinion that the benefit/risk profile of the vaccines was positive and the European Commission subsequently issued authorisations for the vaccines concerned. Following approval through these centralised European assessment procedures, the availability and use of the vaccines in each Member State then depends on national recommendations. In Ireland, these recommendations were developed by the national Pandemic Influenza Expert Group and the National Immunisation Advisory Committee in collaboration with the Department of Health and Children.

Now that the vaccines have been authorised, the CHMP will continue to evaluate further data that will be generated from the clinical trials and post-marketing experience.

**3. How many Pandemic (H1N1) 2009 vaccines are currently authorised?**

The European Commission, on the recommendation of the EMA, has to date granted authorisations for three vaccines for use against Pandemic (H1N1) 2009.

These vaccines are:

- Celvapan (Baxter);
- Pandemrix (GlaxoSmithKline Biologicals);
- Focetria (Novartis).

**4. Which vaccines are being used in Ireland?**

The Department of Health and Children has made arrangements for Celvapan and Pandemrix to be made available for use in Ireland.

## **Availability of H1N1 Vaccines**

### **1. *When did the vaccination programme against Pandemic (H1N1) 2009 begin in Ireland?***

The HSE began the distribution of the vaccines in October 2009. The Swine Flu Vaccination Programme announced by the HSE and the Department of Health began in early November. Further details are available on the [www.swineflu.ie](http://www.swineflu.ie) website.

## **Safety of H1N1 Vaccines**

### **1. *Are the Pandemic (H1N1) 2009 vaccines safe?***

A risk of adverse reactions exists for all medicines, including vaccines. However, the risks need to be considered in the context of the overall benefits of the medicine/vaccine and whether these outweigh the risks for individual patients.

The H1N1 vaccine is expected to have a similar safety profile to the mock-up vaccine, but it is only with widespread use of the vaccines that rare adverse reactions can be detected. Risk Management Plans for the pandemic vaccines have been developed and assessed, to facilitate intensive post-marketing monitoring by both companies and regulatory authorities.

The IMB will communicate with healthcare professionals and the public on experience gained with use of the pandemic vaccines and provide advice as necessary. A weekly update providing information on adverse reactions reported for both pandemic vaccines is published every Thursday afternoon on the H1N1 section of the [IMB](#) website. A weekly summary of the adverse reactions reported across Europe is also available on the [EMEA](#) website.

### **2. *Are there any clinical trial data available for these vaccines?***

Yes, some clinical trials have been conducted with both Pandemrix and Celvapan and further clinical trials are ongoing. Additional data is expected to become available over the coming weeks and months.

### **3. *Now that the vaccines have been authorised, what specific actions has the IMB taken re monitoring its safety? Is the manufacturing company monitoring its use?***

The IMB, and its EU counterparts, will be actively monitoring the safety of the vaccines as the vaccination programme is rolled out. This is considered essential as limited safety data on pandemic H1N1 influenza vaccines are currently available.

It is critical that all suspected adverse reactions are reported to the IMB as soon as possible. This information greatly assists the IMB in the monitoring of the safety profile of these vaccines.

The IMB has developed a special web-based system for reporting suspected adverse drug reactions associated with pandemic vaccines. This online reporting system is accessible via the IMB homepage [www.imb.ie](http://www.imb.ie).

Guidance on reporting suspected adverse reactions has been sent to all healthcare professionals by the IMB.

In addition, the IMB has provided guidance specifically for patients and members of the public on how to report an adverse reaction to a medicine used to treat or prevent the Pandemic (H1N1) 2009 virus. [This guidance is published on the IMB website.](#)

As part of their obligations to monitor the safety of their medicines, the manufacturing companies are also responsible for the monitoring, assessment and reporting of suspected adverse reactions and cumulative safety data.

#### **4. *What are the known/expected side effects (adverse reactions) of the vaccines?***

The authorised vaccines are expected to have a similar safety profile to the mock-up vaccines but it is only with the widespread use of the vaccines and reporting of experience that this can be confirmed.

It is expected that injection site reactions (i.e. redness/swelling/pain where the vaccine is injected) will be the most commonly occurring adverse reactions associated with use of the vaccines.

Other common adverse reactions include 'well-recognised' reactions (e.g. runny nose and sore throat, headaches, dizziness, muscle aches/joint pain, mild fever and fatigue).

These effects usually disappear within 1-2 days without treatment, but if they persist, you should consult your doctor.

Less commonly, allergic-type reactions will occur (e.g. rash, localised/generalised itching). Serious allergic reactions (such as anaphylaxis) are only expected to occur rarely.

Other less common reactions include flu-like symptoms, swollen glands in the neck, armpit or groin, tingling or numbness of the hands or feet, sleep disturbances, dizziness, diarrhoea, vomiting and stomach pain

It is also expected that immediate events which are not due to the vaccine itself, but due to fear or anticipation of the injection, will be reported. These are known as 'psychogenic' events and can typically involve fainting and associated symptoms.

The IMB will carefully evaluate all adverse reactions notified. In addition to the above, reports of 'unexpected' adverse reactions will be monitored and

evaluated and may represent either new adverse reactions or coincidental medical conditions which are not due to the vaccine.

Most of the 'at risk' people offered the vaccine in Ireland in the coming months have serious and/or chronic underlying medical conditions which puts them at greater risk of developing serious flu-related complications or even death. This is why it is so beneficial for these people to be vaccinated as a priority. Over the next few months, many of these patients will naturally suffer an exacerbation of their existing illness. As in any influenza season, swine flu will also worsen underlying illness in many of these patients. Regardless of underlying illness, such patients may also develop other medical conditions, especially those that can be caused by other circulating pathogens. Inevitably, as so many of these people are vaccinated, at a time when swine flu is also causing illness, some people will develop these medical conditions not long after receiving the vaccine, but this temporal association in itself does not mean that the vaccine caused the condition.

The IMB accepts all reports or 'suspicions' of an adverse reaction even if an alternative explanation is likely/possible.

#### **5. *What should I do if I feel unwell post vaccination?***

The IMB encourages anyone who has experienced a suspected adverse reaction to the vaccine or who feels unwell following vaccination to follow the advice given at the time of vaccination or contact their doctor, as necessary. Patients are advised to report suspected adverse reactions to their doctor, who can then notify the IMB, as well as considering any treatment required.

#### **6. *Will the vaccine be safe for pregnant women?***

The available evidence suggests that in pregnant women the risk for complications due to infection with pandemic influenza increases with the duration of pregnancy with the risk considered lower in the first trimester, though not negligible. The risk was highest during the third trimester. Moreover, the risk of complications is higher in a pregnant woman with an underlying illness. Clinical trials with the 'mock-up' vaccines and to some extent the vaccines that include the A(H1N1)v strain provide immunogenicity results in women of childbearing age. Based on experience from other influenza vaccines, it is assumed that immunogenic responses in non-pregnant women can be extrapolated to pregnant women. Vaccine effectiveness and safety in pregnant women will be closely monitored, as part of the post-marketing surveillance plan.

#### **7. *Are the vaccines safe for children?***

With respect to pandemic influenza vaccines, limited data have been collected in children within the development of 'mock up' vaccines. Preliminary results from ongoing clinical trials suggest a comparable safety profile to that for the H5N1 mock-up vaccine formulation.

Both Celvapan and Pandemrix are licensed for use in children aged 6 months of age and older. Neither vaccine is recommended for children less than 6 months of age.

As further data becomes available the recommendations may be updated. Recommended doses for children are provided later in this document.

**8. *I have heard that the vaccine contains thiomersal. Is this safe?***

Thiomersal (also known as thimerosal, mercuriothiolate and sodium 2-ethylmercuriothio-benzoate) is a mercury-containing compound used to prevent bacterial and fungal growth in some vaccines during storage, and especially during use of opened multi-dose vials. Thiomersal has been used since the 1930s in the manufacture of some vaccines and other medicinal products.

The EMEA has repeatedly concluded that there is no evidence of harm caused by the small amount of thiomersal in vaccines, except for minor effects like swelling and redness at the injection site due to sensitivity to thiomersal. The presence of thiomersal (and other preservatives) in the composition of vaccines is stated on the label. A warning regarding the risk of sensitisation in relation to thiomersal and other preservatives is included in the Summary of Product Characteristics and Package Leaflet of such products.

**9. *If I have a history of allergies, can I have this vaccine?***

The IMB strongly recommends that you should consult the product information and discuss any history of allergies with your GP or healthcare professional prior to administration of the vaccine. The Package Leaflet (PL) and the Summary of Product Characteristics (SPC) documents are available to download on the [IMB](#) and [EMEA](#) websites. Refer to sections 4.3 'Contraindications' and 4.4 'Special warnings and precautions for use' of the SPC.

**10. *How can I report a side effect with the vaccine?***

You or your doctor can report an adverse reaction in two ways:

- Visit [www.imb.ie](http://www.imb.ie), download an adverse report form, fill it in and send it to the IMB Pharmacovigilance Department;
- Contact the Pharmacovigilance Department in the IMB on 01-676 4971.

Further guidance is available on the [IMB website](#).

## Other Vaccine Related Questions

### **1. *Is this pandemic influenza vaccine being used in other countries?***

Yes, both vaccines that are in use in Ireland are being used in many other European countries. These include:

#### **Celvapan (Baxter)**

Austria; France; Netherlands; Spain and UK.

#### **Pandemrix (GSK)**

Belgium; Finland; Denmark; France; Germany; Greece; Iceland; Israel; Norway; Spain; Sweden; Switzerland and UK.

### **2. *Are the vaccines manufactured in Ireland?***

No the vaccines are not manufactured in Ireland.

### **3. *How many shots of the new vaccine would someone need? Will it be one or two doses?***

Immunogenicity data reflect the extent to which a vaccine provokes an immune response. On the basis of the most recent data available to the EMEA and the IMB, the current recommended doses for both vaccines are as follows:

#### **Celvapan**

Two doses of vaccine, at an interval of at least three weeks, are currently recommended for all individuals receiving this vaccine.

#### **Pandemrix**

- For children aged 10 years and older, and for adults, one dose of 0.5 ml (adult dose) is recommended. A second dose is not required unless the individual is immunocompromised.
- For children aged from 6 months to 9 years, one dose of 0.25 ml (paediatric dose) is recommended. A second dose is not required unless the individual is immunocompromised.

All people over 6 months who are immunocompromised are recommended two doses of either vaccine as their ability to mount an immune response is likely to be impaired. If two doses of the vaccine are required the second dose should be the same vaccine as the first dose.

Both vaccines are licensed for adults and for children 6 months of age and older. Neither vaccine is recommended for children less than 6 months of age.

These above recommendations are subject to change as new evidence becomes available.

**4. Will current seasonal influenza vaccines offer any protection against infection from the H1N1 virus?**

Evidence suggests that it is unlikely that seasonal influenza vaccines will be protective against the new pandemic virus.

**5. Can the vaccine cause influenza H1N1?**

No. The H1N1 vaccines are 'inactivated' vaccines. This means that they contain no live virus and therefore cannot cause influenza.

**6. Will those who have been given Tamiflu previously still need to be vaccinated?**

Yes, Tamiflu is an antiviral medicine used to prevent the complications of influenza and to reduce the spread of the disease, but is not a substitute for the influenza vaccine.

**7. Where can I get more information about the Pandemic (H1N1) 2009 vaccines?**

For information in relation to the vaccines, visit the relevant sections of the [IMB](#) and [EMA](#) websites.

Package Leaflets (PL) for each of the vaccines are available on both websites. More detailed product information for each of the vaccines can also be found in the Summary of Product Characteristics (SPC) documents. An EU explanatory document on the scientific considerations regarding the licensing of the pandemic vaccines is also available.

To find out more about the H1N1 pandemic, visit the HSE website [www.swineflu.ie](http://www.swineflu.ie).

**Please Note**

This Q&A document provides information on the scientific considerations which underpin regulatory recommendations in the context of Pandemic H1N1 2009. Please note that the IMB may change its recommendations based on post-marketing experience and new data which may emerge in relation to these vaccines. Patients who may have specific questions on the H1N1 vaccine in relation to their current medication, or any medical condition they may have, are advised to consult with their GP or healthcare professional.

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