Increasing influenza immunisation uptake in pregnant women

Resource pack for NHS organisations in HPA South East Region
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Introduction

The South East region of the Health Protection Agency funded a short term project during February and March 2012 to investigate the attitudes of pregnant women and healthcare professionals with regard to influenza immunisations and to explore models of good practice. The project group was tasked with producing a resource pack for NHS organisations to use in both primary and secondary care settings to assist them to increase their influenza immunisation uptake rates in pregnant women.

This resource pack includes:

- Description of the scientific evidence as to why influenza vaccination is recommended in pregnancy
- Identification of barriers to vaccination and suggested solutions
- Examples of models of good/current practice for delivering vaccination to pregnant women for both primary and secondary care.
- Training pack for midwives
- Suggested Patient Group Direction (PGD) template
- Examples of Local Enhanced Service (LES) agreements
- Template information leaflet for pregnant women
- Template leaflet for GP administrative staff
- Suggested messages for media campaign
- Links to useful websites and resources

The project steering group had multi-agency membership with representatives from the Health Protection Agency, Primary Care Trusts (PCT), Strategic Health Authority (SHA) and Acute Trusts.

Steering Group membership

Dr Angela Iversen, Director, Surrey and Sussex Health Protection Unit (chair)
Dr James Sedgwick, Interim Director, Kent Health Protection Unit
Dr Noel McCarthy, CCDC, Thames Valley Health Protection Unit
Ms Fiona Bower, Public Health Outcomes Lead, South East Coast SHA
Mrs Jenny Hughes, Midwifery Officer, South East Coast SHA
Dr Faiza Khan, Consultant in Public Health, NHS Kent
Mrs Anita Turley, Health Protection Specialist Nurse, Kent Health Protection Unit
Mrs Katie Allen, Health Protection Specialist Nurse, Kent Health Protection Unit
Mrs Liz Maddock, Senior Health Protection Nurse, Surrey and Sussex HPU
Mrs Denise McCoy, Health Protection Practitioner, Kent Health Protection Unit
Mrs Ann Brown, Immunisation coordinator, West Kent PCT
**Influenza**

Influenza is an acute viral infection of the respiratory tract. There are two main types that cause infection – Influenza A and Influenza B. The influenza virus is unstable and new strains and variants are constantly emerging, which is one of the reasons why the influenza vaccine should be given each year.

Influenza is highly infectious with an incubation period of one to three days. For most healthy individuals influenza is an unpleasant but usually self-limiting illness with symptoms lasting two to seven days. The most common complications of influenza are bronchitis and secondary bacterial pneumonia. These illnesses may require treatment in hospital and can be life threatening especially in the elderly, asthmatics and those in poor health. Influenza is a contributory factor to approximately 5,000 deaths per year in the UK.

Studies have shown that pregnant women, even those in good health, can become seriously ill if they acquire influenza and these risks increase the further along the woman is in her pregnancy. Evidence shows that the influenza vaccine provides protection against flu for both the pregnant women and their babies. Studies have also shown reductions in hospital admissions during the influenza season amongst infants whose mothers had received influenza vaccination during pregnancy and there is also some evidence to suggest a decreased risk of premature and small for gestational age births.

The pandemic H1N1 influenza virus has proved to be particularly harmful to pregnant women and as this strain is still circulating as seasonal influenza, it is imperative that we continue to ensure this vulnerable group are protected by vaccination.

Influenza immunisation has been recommended in the UK since the late 1960s with the aim of directly protecting those who are most at risk of serious illness or death should they develop influenza, (for a full list of clinical at-risk groups see Appendix 1). Pregnant women were identified as being particularly at risk from influenza during the pandemic in 2009. Following this they were added to the seasonal campaign in the UK as a risk group and recently the Department of Health (DH) have confirmed that they will remain so. Primary Care Trusts (PCTs) are currently responsible for the delivery of this campaign and commission General Practitioners (GPs) to provide this service.

The Chief Medical Officer’s (CMO) letter dated 3rd May 2012 has given a target of 75% for flu vaccination uptake in pregnant women.
Epidemiology

Data for the 2011/12 seasonal influenza campaign indicate that approximately 195,031 (27.4%) pregnant women were vaccinated in England during the campaign. However, this data needs to be interpreted with caution as it is likely that the uptake by pregnant women is underestimated due to denominator inflation which has proved difficult to quantify.

Uptake figures for PCTs in the region are listed below:

Table 1: South East Coast – Influenza vaccination rates for pregnant women

<table>
<thead>
<tr>
<th>Trust / Area</th>
<th>% Practices Responding</th>
<th>Women in Clinical Risk Group</th>
<th>All Pregnant Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Registered</td>
<td>% Uptake</td>
</tr>
<tr>
<td>Brighton &amp; Hove City</td>
<td>100</td>
<td>272</td>
<td>59.2</td>
</tr>
<tr>
<td>E. Sussex Downs &amp; Weald</td>
<td>95.5</td>
<td>272</td>
<td>43.0</td>
</tr>
<tr>
<td>Eastern and Coastal Kent</td>
<td>97.4</td>
<td>598</td>
<td>38.0</td>
</tr>
<tr>
<td>Hastings &amp; Rother</td>
<td>100</td>
<td>155</td>
<td>45.2</td>
</tr>
<tr>
<td>Medway</td>
<td>100</td>
<td>184</td>
<td>54.9</td>
</tr>
<tr>
<td>Surrey</td>
<td>100</td>
<td>1,190</td>
<td>43.4</td>
</tr>
<tr>
<td>West Kent</td>
<td>100</td>
<td>565</td>
<td>45.1</td>
</tr>
<tr>
<td>West Sussex</td>
<td>100</td>
<td>675</td>
<td>49.9</td>
</tr>
<tr>
<td>South East Coast Total</td>
<td>99.2</td>
<td>3,911</td>
<td>45.6</td>
</tr>
<tr>
<td>England</td>
<td>99.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2: South Central - Influenza vaccination rates for pregnant women

<table>
<thead>
<tr>
<th>Trust / Area</th>
<th>% Practices Responding</th>
<th>Women in Clinical Risk Group</th>
<th>All Pregnant Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Registered</td>
<td>% Uptake</td>
</tr>
<tr>
<td>Berkshire East</td>
<td>100</td>
<td>457</td>
<td>52.3</td>
</tr>
<tr>
<td>Berkshire West</td>
<td>100</td>
<td>529</td>
<td>59.4</td>
</tr>
<tr>
<td>Buckinghamshire</td>
<td>100</td>
<td>526</td>
<td>52.3</td>
</tr>
<tr>
<td>Hampshire</td>
<td>100</td>
<td>1381</td>
<td>54.8</td>
</tr>
<tr>
<td>Isle of Wight</td>
<td>100</td>
<td>92</td>
<td>41.3</td>
</tr>
<tr>
<td>Milton Keynes</td>
<td>100</td>
<td>318</td>
<td>50.6</td>
</tr>
<tr>
<td>Oxfordshire</td>
<td>100</td>
<td>832</td>
<td>58.7</td>
</tr>
<tr>
<td>Portsmouth City Teaching</td>
<td>100</td>
<td>227</td>
<td>51.1</td>
</tr>
<tr>
<td>Southampton City</td>
<td>100</td>
<td>326</td>
<td>57.4</td>
</tr>
<tr>
<td>South Central Total</td>
<td>100</td>
<td>4688</td>
<td>54.9</td>
</tr>
<tr>
<td>England</td>
<td>99.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen in table one and two, the actual uptake figures fall well below the Department of Health’s 2011/12 target of 60 % for pregnant women. PCTs have been requested to plan to increase their uptake figures for this risk group to 70% in 2012/13 and ultimately to 75% - the same as other clinical risk groups.
**Top 10 PCT areas**

The following PCT were the best performing for uptake in pregnant women in the 2011/12 influenza campaign.

<table>
<thead>
<tr>
<th>Trust (PCT) Name</th>
<th>% practices responding</th>
<th>Pregnant women</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Registered</td>
<td>Vaccinated</td>
</tr>
<tr>
<td>STOCKPORT PCT</td>
<td>100</td>
<td>3,269</td>
<td>2,116</td>
</tr>
<tr>
<td>TAMESIDE AND GLOSSOP PCT</td>
<td>100</td>
<td>2,364</td>
<td>1,166</td>
</tr>
<tr>
<td>SALFORD PCT</td>
<td>100</td>
<td>2,241</td>
<td>1,091</td>
</tr>
<tr>
<td>HEYWOOD, MIDDLETON AND ROCHDALE PCT</td>
<td>100</td>
<td>2,898</td>
<td>1,324</td>
</tr>
<tr>
<td>SOUTH TYNESIDE PCT</td>
<td>100</td>
<td>2,016</td>
<td>858</td>
</tr>
<tr>
<td>OLDHAM PCT</td>
<td>100</td>
<td>2,832</td>
<td>1,204</td>
</tr>
<tr>
<td>DERBY CITY PCT</td>
<td>100</td>
<td>3,106</td>
<td>1,290</td>
</tr>
<tr>
<td>LEEDS PCT</td>
<td>100</td>
<td>8,183</td>
<td>3,368</td>
</tr>
<tr>
<td>CENTRAL AND EASTERN CHESHIRE PCT</td>
<td>100</td>
<td>4,545</td>
<td>1,856</td>
</tr>
<tr>
<td>SHROPSHIRE COUNTY PCT</td>
<td>100</td>
<td>3,546</td>
<td>1,448</td>
</tr>
</tbody>
</table>
Summary of themes from literature searches

Literature searches were carried out in February 2012 with the following aims:
• Investigate and articulate the attitudes of pregnant women to influenza vaccination
• Investigate and analyse evidence about the risks and benefits of influenza vaccination and the risks of influenza in pregnancy
• Identify success factors of programmes for influenza vaccination in pregnancy

This section summarises key themes from these literature searches. The search criteria can be found in Appendix 2 and the results in the Bibliography.

1. Pregnant women's attitudes to the influenza vaccination

Safety of vaccine
The most commonly mentioned barrier to vaccination was concerns about the safety of the vaccine (23) and several studies reported this to be the strongest barrier. Some studies identified a generic theme of safety, but others identified safety for the foetus and safety to self separately. Safety of the foetus was more commonly identified than safety of self.

Recommendations and knowledge given by healthcare professionals
The second most common factor in decision making was the behaviour of healthcare professionals (22). A number of studies mentioned that recommendation by healthcare professionals was a strong motivator. Others cited the ability of healthcare professionals to answer questions and their level of knowledge influenced pregnant women’s decisions positively towards vaccination. Some studies also reported concerns of healthcare professionals as a barrier to vaccination.

Knowledge about the risks of flu in pregnancy
Knowledge about the risks of flu in pregnancy and the recommendation that pregnant women should be vaccinated emerged as a key factor in decision-making (15). The majority of these studies reported that lack of knowledge about the risks and the importance of vaccination was a barrier. A small number of studies reported that concern about acquiring the disease was a motivator.

Demographic factors
Some studies found that vaccination rates were related to ethnic origin, socio-economic group, age, education attainment and cultural beliefs (15). Younger women were less likely to accept vaccination, as were women in lower socio-economic groups and with lower educational attainment. Certain ethnic groups (e.g. black women) were less likely to accept vaccination. Some of the studies went on to suggest that women from different population groups may need different kinds of information about flu vaccination to take account of their different perceptions of risk.

Protection for baby
A small number of articles (5) mentioned the protection of the baby following birth as a motivator for vaccination.
Other factors
Other factors associated with the decisions of pregnant women to accept vaccination were:
Barriers – lack of knowledge about vaccination, personal experience of health / vaccination, doubts about efficacy of vaccination, a distrust of healthcare system, logistics or lack of knowledge about obtaining vaccination, negative media attention, lack if consideration about failure to intervene and fear of needles.
Motivators – positive media attention, trust in official information, recommendation by government agency and easily accessible vaccination.

2. Risks and benefits of flu vaccination in pregnancy

Protection of baby from influenza and other benefits
The most commonly mentioned theme about the risks and benefits of influenza vaccination in pregnancy is the protection of the baby from influenza like illness. This theme was mentioned 12 times (four times associated with H1N1 vaccination and eight times associated with seasonal / unspecified influenza). Articles included results related to immune response and reduction in risk of admission to hospital for influenza or similar conditions. Some studies suggested that protection of the infant was up to around six months old.

It should be noted that two articles reported finding no evidence of a reduction in respiratory illness or influenza among infants.

Another article mentioned that babies born to mothers who had been vaccinated during pregnancy were less likely than babies born to unvaccinated women to be born prematurely or to be small for gestation age.

Adverse effects on foetus / infant
It was mentioned nine times that evidence of adverse effects on the foetus or infant had not been found in the article (four times in relation to H1N1 and five times in relation to seasonal or unspecified influenza). This was mainly mentioned in terms of general adverse fetal outcomes, but adverse effects specifically mentioned in investigations included spontaneous abortion, congenital anomalies, pre-term delivery and low birth weight.

An additional article mentioned no evidence of neurological disorders in infants associated with vaccination of mothers during pregnancy or of childhood cancer.

Adverse effects on mother
It was mentioned nine times that evidence of adverse effects on the mother had not been found in the article (four times in relation to H1N1 and five times in relation to seasonal or unspecified influenza). This was mainly mentioned in terms of general adverse effects or pregnancy complications.

Protection of mother from influenza
Protection from influenza of mothers vaccinated during pregnancy was mentioned five times (three times associated with H1N1 vaccination and twice associated with seasonal influenza vaccination). Sometimes this was in relation to immune response
and sometimes in relation to a reduction in hospitalisations for influenza like-illness or similar measures.

It should be noted that one article mentioned finding no evidence of a reduction in influenza-like illness among women vaccinated during pregnancy.

**Other risks**
One article mentioned finding evidence that vaccine associated symptoms following vaccination during pregnancy were more frequent. Symptoms included redness, sore throat, fatigue, myalgia, hypotension, emesis and dizziness.

### 3. Risks of influenza in pregnancy

**Morbidity and mortality of mothers**
The most commonly mentioned themes relate to the greater risk of morbidity and mortality in pregnant women compared to non-pregnant women or the general population (mentioned 24 times associated with A H1N1v and nine times associated with seasonal or non-specific influenza). Studies reported greater risks of morbidity, mortality, severe complications, hospital admission and/or admission to ICU. It should be noted, however, that two articles mentioned not finding evidence of excess morbidity or mortality.

Two articles mentioned that pregnant women with additional health problems were at even greater risk of serious illness if infected with influenza during pregnancy. A further article mentioned that pregnant women infected with influenza were at greater risk of complications during pregnancy.

**Impact on baby**
A number of articles (11) mentioned that babies of mothers infected with influenza during pregnancy may be adversely affected (mentioned eight times associated with A H1N1v and three times associated with influenza in general). Some studies mentioned an increased risk of stillbirth or mortality in the first week of life. Other articles mentioned greater risks of prematurity, low birth weight and small for gestation weight births. One article mentioned an increased risk of a poor neonatal outcome in general and another that there may be an increased risk of birth defects. It should be noted, however, that one article found no increased risk of an adverse effect on the baby.

**Long-term impact on children**
Three articles mentioned possible longer-term impacts on children born to women who were infected with influenza during pregnancy. These included a range of conditions or other outcomes, such as childhood leukaemia, mental health problems and socio-economic circumstances.
4. Programmes to increase uptake of flu vaccination amongst pregnant women

Systems and processes
The most common themes relate to systems and processes, which were mentioned 14 times. Reimbursement and financial arrangements were reported most frequently (6 times). Having systems, either electronic or manual, to prompt healthcare professionals about flu vaccination was found to increase vaccination rates and/or discussions about vaccination (4) and one article identified that keeping a registry of vaccination contributed to an increase in uptake. Solving logistical issues, such as vaccination storage, and administering the flu vaccination within the antenatal clinic also emerged as motivators for healthcare providers to provide the flu vaccination.

Knowledge and behaviour of healthcare professionals
The knowledge and behaviour of healthcare professionals was another commonly mentioned theme, which appeared 13 times in the analysis. Seven articles mentioned the importance of providing information and training to healthcare professionals and one article that providing feedback of rates to healthcare professionals had a positive effect. A further four articles suggested that a recommendation from their healthcare professional was a motivator for flu vaccination for pregnant women. One article found that an “Immunisation Champion” healthcare professional had a positive influence.

Information for pregnant women
Attitudes of pregnant women were not the focus of this part of the literature search strategy; however, information for pregnant women was mentioned five times in the literature that mentioned schemes and programmes for flu vaccination of pregnant women. Three articles suggested that sending reminders to the women may increase vaccination rates and two that pregnant women should be provided with educational information.
Key messages

The weight of evidence from research says that:

• Influenza vaccination will provide protection for your baby from influenza-like illness

• Influenza vaccination will not harm your unborn child, or cause any longer term health problems for your child

• Influenza vaccination will not harm you

• Influenza vaccination will provide protection for you from influenza-like illness

• Influenza can cause serious complications when you are pregnant

• If you are infected with influenza, this can endanger your unborn child

Campaign

• Midwives participation is key to making this campaign a success

• Ensuring pregnant women and significant others get appropriate and consistent information and advice is key to making this campaign a success

• Extensive media campaign is required - ensuring that the information is available in areas pregnant women are likely to visit i.e. antenatal clinics, GP surgeries

• Staff education is paramount

• Ensuring there is a robust mechanism for the reporting of immunisation onto the ImmForm system is key to ensuring correct reporting for the campaign
<table>
<thead>
<tr>
<th>Barriers</th>
<th>Suggested Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Healthcare professionals lack of knowledge about how flu can affect</td>
<td>To provide education and information to all staff groups to ensure that they are fully aware of the benefits of vaccine and the potential life threatening</td>
</tr>
<tr>
<td>pregnant women and their unborn child</td>
<td>consequences to both mother and child of influenza. Training package for midwives and information leaflet for non clinical staff see pages 19 and 52.</td>
</tr>
<tr>
<td>- General lack of understanding that flu vaccine is safe to be given to</td>
<td></td>
</tr>
<tr>
<td>pregnant women.</td>
<td></td>
</tr>
<tr>
<td>- Staff (clinical and non-clinical) are not always aware that pregnant</td>
<td></td>
</tr>
<tr>
<td>women are classed as a “risk group” for annual flu vaccine</td>
<td></td>
</tr>
<tr>
<td>• A lack of knowledge amongst pregnant women, regarding the benefits of</td>
<td>To ensure that healthcare professionals provide accurate and up- to -date information, that staff are able to answer the pregnant women’s questions, that information is backed up with the provision of a leaflet. An example of which can be found on page 50.</td>
</tr>
<tr>
<td>influenza vaccine and the potential life threatening consequences to both</td>
<td></td>
</tr>
<tr>
<td>themselves and their unborn child from influenza illness.</td>
<td></td>
</tr>
<tr>
<td>• Accessibility of vaccine – pregnant women are busy women with either</td>
<td>Multiple site options for accessing the vaccine, to be combined with other appointment e.g. scans</td>
</tr>
<tr>
<td>work and/or family commitments and they do not have time for multiple</td>
<td></td>
</tr>
<tr>
<td>appointments in different healthcare settings.</td>
<td></td>
</tr>
<tr>
<td>• Without adequate commissioning of the midwifery service, the provision</td>
<td>PCTs to work with midwifery services to ensure there is adequate commissioning of this service.</td>
</tr>
<tr>
<td>of influenza vaccine within the antenatal setting will not be possible,</td>
<td></td>
</tr>
<tr>
<td>therefore having a detrimental effect on the number of pregnant women</td>
<td></td>
</tr>
<tr>
<td>vaccinated</td>
<td></td>
</tr>
<tr>
<td>• Data capture is essential to evaluate the effectiveness of the campaign.</td>
<td>Vaccination must be recorded not only in the woman’s midwifery notes but also in her medical notes held by the GP. PCTs may want to consider offering an LES for this service. There needs to be a system devised that will ensure that the information is cascaded through to the GPs in order for them to upload it onto the ImmForm system.</td>
</tr>
</tbody>
</table>
Description of different delivery options

These options are based on examples from different PCTs

Option one- joint GP and midwifery programme

This option is Consultant led (Immunisation coordinator) with input from specialist nurses. The vaccinations are offered by both GP surgeries and the midwives in antenatal clinics.

Main parts of the programme were:

- PCT meeting with Heads of Midwifery at beginning of campaign – midwifery engagement is critical to campaign success
- Training provided for midwives by HPA
- GPs encouraged to invite pregnant women along with their other risk groups and offer vaccination and are provided with a list of newly pregnant women each week by the midwifery team
- Influenza vaccine is offered at time of booking. If missed at booking they are offered immunisation at their next appointment. If not vaccinated by the time they attend for their first scan they are encouraged to visit the antenatal clinic straight after their scan for their vaccination. Every time a pregnant women is seen by any health professional they should be asked/offered influenza vaccination
- Midwives working in community centres are signposted to GP surgeries and they provided them with their immunisation data to upload onto their data system. GPs are given an enhanced payment for this
- Media campaign – posters, leaflets, a local story every week in local paper.

Option two- midwifery-led programme

The PCT commissions the midwifery service to administer the influenza vaccines in the antenatal setting. The funding provided by the PCT allows for backfill for midwives.

Main parts of the programme:

- GPs encouraged to call in pregnant women along with their other risk groups and offer vaccination as normal
- Pregnant women given advice and information leaflet at booking and are offered vaccination at 18-21 week scan as it is felt that this will be the best
time to capture all those women who have not already been vaccinated in primary care.

• Midwives complete a triplicate vaccination record – top copy into patient’s notes, 2nd copy to PCT and 3rd copy to GP.

• GPs are responsible for uploading this information onto ImmForm

• Media campaign – posters, leaflets, a local story every week in local paper.

**Option three- GP-led programme**

This programme is GP based. The campaign is led by the Immunisation coordinator within the PCT but vaccinations are solely offered in primary care.

Main parts of this programme:

• GPs encouraged to call in pregnant women along with their other risk groups and offer vaccination

• Vaccination clinics arranged at surgery as well as individual appointments being available

• GPs are responsible for uploading this information onto ImmForm

• Media campaign – posters, leaflets, a local story every week in local paper

• Ensure admin staff are available to record the vaccinations onto GP data system at time of clinic/appointment

• Organise large vaccination clinic(s) at the beginning of the campaign to catch all the patients

• Midwives supply GPs with a weekly list of newly booked women

• Consider offering clinics outside of normal working hours – i.e. lunchtimes, evenings and Saturday mornings

• Check on a weekly/monthly basis those who have not been vaccinated and re-invite them to clinics/appointments

• Start planning the campaign as early as possible – advertise early
Option four – joint GP and pharmacist programme

This programme is mainly GP based (as in option 3) but with the addition of community pharmacists offering the vaccinations. Historically, community pharmacists have offered the influenza vaccinations to members of the public who wish to purchase it. This option allows for the PCT to commission some community pharmacists to provide immunisation to at risk groups including pregnant women.

Main parts of this programme:

- GPs encouraged to call in pregnant women along with their other risk groups and offer vaccination
- Vaccination clinics arranged at surgery as well as individual appointments being available
- Patients are advised that they are able to access the vaccination at community pharmacists. Vaccination data is sent to GP for uploading onto ImmForm.
- Training provided to pharmacists by HPA
- Media campaign – posters, leaflets, a local story every week in local paper.

Steering Group recommendations

Whilst the experience of using option one appears to have been successful (reaching a 60% uptake rate), each PCT and acute trust will have different staffing and structural considerations.

Discussions with midwifery leads in Kent, Surrey and Sussex have shown encouraging strong support for midwifery input into the flu vaccination programme, provided that there is adequate resourcing.

Transfer of information between general practice and antenatal clinics is essential. A programme where flu vaccination is offered at the time of booking appears to be the most successful. There needs to be a clear care pathway for flu vaccination of pregnant women with defined responsibilities.
GP Questionnaire

The steering group thought it was very important to ascertain the views of GPs and their staff on current practices surrounding the influenza campaign and pregnant women. To gather these, a short questionnaire (see Appendix 3) was devised and sent/emailed out to 30 practices in Kent, Surrey and Sussex. 14 responses were received.

It is acknowledged that this is a small sample population, however the results are still useful in reflecting current practice, views and concerns.

The conclusions and recommendations are listed below. For full report please see Appendix 4.

Conclusions

- Many Practices have some concerns about their uptake rate
- Some Practices have ad hoc arrangements for alerting GPs about pregnant women and inviting them for vaccination
- Many Practices have no follow up system
- Not all staff are as aware of the need for influenza vaccination in pregnant women as they could be, especially administrative staff
- Virtually all Practices would be happy to upload information on to ImmForm, where the vaccines are administered elsewhere but this may incur a cost for a small number
- It would be acceptable if vaccination were administered in antenatal clinics, GP Practices or combinations of these settings
- Practices would consider displaying information in a wide variety of formats
- The role of the midwife is considered pivotal.

Recommendations

1. Training should be available to all primary care staff, including GPs clinical and administrative staff
2. Resources should be provided about good practice for systems for alerting GPs to pregnancy and inviting women for vaccination and follow up
3. Practices should receive regular feedback of their uptake rates throughout the flu season
4. Models for administering influenza vaccination for pregnant women should include antenatal clinics and GP Practices and combined settings
5. Resources should be provided to support the reimbursement of GPs for inputting information onto ImmForm if necessary
6. Information about influenza vaccination in pregnancy should be provided in a variety of formats, including posters, leaflets, messages for electronic message boards and material that can be used on websites or in newsletters
7. A training pack for midwives should be developed.
Training package for midwives

This training pack is available electronically from your local Health Protection Unit.

Training for Midwives
2011/2012

Aim
To provide midwives with sufficient knowledge and confidence to promote and/or offer flu immunisation to pregnant women and to raise awareness of the issues influencing vaccine uptake.

Objectives
Participants will be able to:
X Identify benefits of flu immunisation for pregnant women and their unborn babies
X Identify adverse events and contraindications
X Review own practice and identify any further training needs

What is the flu virus?
A highly infectious respiratory viral illness
X Sudden onset, symptoms include pyrexia, headache, aching muscles, cough, runny nose, sore throat & feeling very unwell generally
X All age groups affected
X Lasts between 2-7 days
X Can lead to bronchitis & pneumonia, requiring hospital admission
X Deaths occur every year from influenza (approx 5000 per year)

Influenza - mode of transmission
Influenza is transmitted by the spread of airborne droplets and through articles such as handkerchiefs contaminated by nasopharyngeal secretions
Influenza is also transmitted from surfaces which have been contaminated with infected respiratory secretions
Transmission of the virus is thought to be facilitated by the indoor crowding that takes place during the winter months

Influenza - the virus
There are three main types of influenza virus A, B, and C - these are determined by the nuclear material within the viral particle
Influenza viruses mutate rapidly with new strains being identified each year
Influenza the virus

Neuraminidase spike (Acts to release newly formed virions from the cells in which they are produced)

Haemagglutinin (the means by which the virus attaches itself to the host cell)

Membrane matrix protein

Core: nucleoprotein and ribonucleic acid

Virus mutation

There are two main ways in which the virus changes
These are
X Antigenic drift - small changes
X Antigenic shift – major change and emergence of totally new strains

Influenza antigenic drift

Minor change in surface antigens, which can occur in all three types of influenza (A, B and C)
Antigenic drift can give rise to epidemics since protection gained from previous exposure to similar influenza viruses or antigens provided by vaccination may be incomplete

Influenza antigenic shift

Major change in one or both surface antigens and is a characteristic of type A influenza viruses.
Probably due to genetic recombination.
Can result in a worldwide pandemic.

Influenza epidemics in the UK

An epidemic refers to more cases of the disease than normal
An epidemic is declared when the weekly incidence of reported influenza is greater than a certain number of cases per 100,000 population.

England > 400 cases
Wales > 400 cases
Scotland > 1000 cases
**Epidemic key features**

- Seasonal variation
- In northern and southern hemisphere, high level transmission in the winter months
- Complications – mortality
- More likely to occur in high-risk individuals, children <3 years and pregnant women
- Winter epidemics associated with excess mortality

**Pandemic key features**

- A pandemic is a worldwide epidemic of the disease
- Influenza pandemic may occur when a new virus appears against which the human population has no immunity
- The resulting disease can be mild or severe
- Severity of the pandemic can change over the course of the pandemic

**H1N1**

- First influenza pandemic of this century declared by WHO in June 2009 A-H1N1v
- Characteristic of H1N1v – higher rates of illness in children and young people and pregnant women, lower rates in adults 60 years+
- Highest mortality rates in those with neurological disease, respiratory disease, immunosuppression and pregnant women
- Significant proportion arose in those who were healthy

**Influenza nomenclature**

- Location of laboratory where 1st isolated
- A / Singapore / 6 / 86 (H1N1)
- Year identified
- Influenza type
- Laboratory number of the strain
- Subtype

**Seasonal influenza vaccine composition**

- Northern Hemisphere Winter
- A/..............................
- A/..............................
- B/..............................

Information to be completed with information from the WHO cascaded by the CMO usually in March / April

**Influenza vaccine annual vaccination**

- Before or at beginning of each influenza season:
- Influenza activity usually peaks between late December and early March
- New strain/new composition each year

Revaccination every year
Influenza vaccine
Logistics of vaccine production

- **March:** WHO issues its recommendation for composition of vaccine for next winter influenza season (northern hemisphere)
- **March–June:** Grow virus strains
- **June–August:** Formulate the vaccine and perform clinical trial for licensing
- **August–September:** Fill and pack vaccine, batch release
- **September–October:** Deliver vaccine
- **October–March:** Vaccinate

Very complex in tight time frame

New risk group introduced 2010

Prior to 2009 pregnant women not in a clinical risk group were not vaccinated.

From 2010/11 all pregnant women are classed as a clinical risk group for seasonal influenza

Who needs flu vaccine?

The flu vaccine is given to people who are more at risk of serious illness or death should they develop complications from flu such as:

- **X Those over 65 years**
- **X Those in a clinical risk group**
  - Chronic respiratory, heart, kidney, liver, neurological disease
  - Diabetics
  - Immunocompromised
  - Pregnant women

The complications caused by flu include meningitis, encephalitis, secondary bacterial pneumonia, bronchitis and otitis media in children

Pregnant women in the following categories are at even greater risk of complications from flu infection

**CLINICAL RISK GROUPS 2008/09**

<table>
<thead>
<tr>
<th>Chronic risk group</th>
<th>Examples (decision based on clinical judgement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic respiratory disease and asthma that requires chronic or repeated use of inhaled or systemic steroids or oxygen for more than 3 months prior to pregnancy</td>
<td></td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease (COPD) including chronic bronchitis and emphysema, bronchiectasis, cyclic thoracic, interstitial lung disease, pulmonary, sarcoidosis and bronchiolitis obliterans (BO)</td>
<td></td>
</tr>
<tr>
<td>Children who have previously been admitted to hospital for bronchitis (exact duration)</td>
<td></td>
</tr>
<tr>
<td>Chronic heart disease</td>
<td></td>
</tr>
<tr>
<td>Congenital heart disease</td>
<td></td>
</tr>
<tr>
<td>Hypertension with cardiac complications</td>
<td></td>
</tr>
<tr>
<td>Chronic heart failure</td>
<td></td>
</tr>
<tr>
<td>Individuals requiring regular medication and/or follow-up for congenital heart disease</td>
<td></td>
</tr>
<tr>
<td>Chronic renal disease</td>
<td></td>
</tr>
<tr>
<td>Chronic renal failure</td>
<td></td>
</tr>
<tr>
<td>Nephrotic syndrome</td>
<td></td>
</tr>
<tr>
<td>Renal transplantation</td>
<td></td>
</tr>
<tr>
<td>Chronic liver disease</td>
<td></td>
</tr>
<tr>
<td>Cirrhosis</td>
<td></td>
</tr>
<tr>
<td>Biliary atresia</td>
<td></td>
</tr>
<tr>
<td>Chronic hepatitis</td>
<td></td>
</tr>
</tbody>
</table>

These are subject to annual change

Pregnant women in the following categories are at even greater risk of complications from flu infection

| Chronic neurological disease |
| Diabetes |
| Immunosuppression |

- Stroke
- Transient ischemic attack (TIA)
- Type 1 diabetes
- Type 2 diabetes requiring insulin or oral hypoglycemic drugs
- Infection
- Hematologic suppression due to disease or treatment
- Patients undergoing chemotherapy leading to immunosuppression
- Malignancy or systemic lupus
- HIV infection
- Individuals treated with or likely to be treated with agents known to increase the risk of infection or who are exposed to hepatitis B virus at 3 or more times per week or more per kg per day
- Individuals under 28 days of age or 60 days if older
- Some immunocompromised patients may have a suboptimal immunological response to the vaccine

Studies related to influenza risk in pregnant women

- **X The prevention of maternal influenza and small for gestational age (SGA) through immunization has the potential to offer tremendous and broad health benefits both for pregnant women and their children in both low and high income countries and should be seen as a priority research area.** (McNeil et al 2011)
- **X In USA during 1 month period (April-May09) 34 confirmed cases, 32% required hospitalisation, pregnant women accounted for 13% of all H1N1 deaths during that time period. Most of the pregnant women who died were healthy prior to their illness.** (Pranita et al, 2009)
Risk summary

Risk increased due to a combination of decreased lung capacity and tidal volume, increased oxygen consumption and suppression of T cell activity

Highest risk during 3rd trimester

Pregnant women with underlying medical conditions or obesity are at greater risk

Benefits of flu vaccination

Studies have shown that flu vaccination in pregnancy helps prevent low birth weight and small for gestational age babies (Omer et al 2011, Goodman 2009)

National targets for influenza vaccination

X National targets are set for the number of people who should receive flu vaccination; these targets vary annually
X 75% uptake for people aged 65 years and over as recommended by the WHO; and
X A reasonable trajectory for increases in uptake in clinical risk groups and pregnant women might be 60% in 2011/12, and 70% in 2012/13, so that an uptake of 75% can be reached or exceeded in 2013/14

Risk continued

X Study in Australia and New Zealand looked at admissions for pregnant women to ICU with confirmed H1N1 during period 1st June 31st August 2009.
X Of 69 women admitted, 69% were mechanically ventilated. Seven women died, all of whom suffered viral pneumonitis or acute respiratory distress syndrome, with complications in some women of pulmonary haemorrhage, septic shock and viral encephalitis. Of 60 births after 20 weeks gestation, four were stillborn and three were infant deaths. Twenty two babies were preterm and thirty two were admitted to NICU.

Risk continued

X Pregnant women, particularly in the second half of pregnancy, are more likely than non-pregnant women to develop critical illness associated with 2009 H1N1 influenza. Among women who developed critical illness, the outcomes were poor, including death of the mother or baby.
X Pregnant women with co-existing medical conditions are at even greater risk of influenza related morbidity, in particular asthma and obesity (ANZIC, 2010)

Benefits of flu vaccination

Protect mother and baby:
A review of studies on the safety of flu vaccine concluded that inactivated flu vaccine can be given safely and effectively during any trimester of pregnancy. A number of studies show that seasonal flu vaccination given during pregnancy provides passive immunity against flu to neonates in the first few months of life (DH, 2011)
Purpose of vaccination

Vaccines stimulate the immune system to produce antibodies to protect against the flu virus.
It takes approximately two weeks to develop protective antibodies following flu vaccination.
To understand how the immune system works see the HPA animated slide show.
URL http://immunologyanimation.hpa.org.uk/

Competency

Vaccinators must ensure that they feel competent to give advice and/or flu vaccines.
Have received training in,
  X what is flu
  X benefits of having a flu vaccine,
  X side effects of having a flu vaccine,
  X cold chain and vaccine storage
Signed a PGD (a copy of which they should have with them when vaccinating)
Be up to date with anaphylaxis and resuscitation

Giving of a vaccine

Contra-indications
Adverse events
Administration
  X Route
  X Cold chain
  X Disposal of sharps

Contraindications

X Confirmed anaphylactic reaction to any component of the vaccine
X Confirmed anaphylactic reaction to a previous dose of the vaccine
X Known anaphylactic hypersensitivity to egg products
X Febrile—postpone vaccine until well

Pregnancy and breastfeeding

X Pregnant women should be vaccinated regardless of stage of pregnancy
X No evidence of risk from vaccinating breastfeeding women with inactivated or live vaccines (Plotkin and Orenstein, 2004)
Adverse events

X Advise on common side effects such as pyrexia, fatigue, headache etc that will usually disappear in 1-2 days
X Rarely reactions such as neuralgia, paraesthesia
X See product info leaflet or summary of product characteristics for full list of side effects
X Complete & return yellow card for serious adverse events on www.yellowcard.mhra.gov.uk

Advice

X Advise on management of possible side effects
X If symptoms persist, seek medical opinion

Exclusions

Patient already fully immunised this year
Patient has a contraindication
If excluded, record in notes
Advise when vaccine can be given
If patient declines, record in notes & give information about protective effects of vaccine & disease complications

Route

Vaccination should occur either in the deltoid or anterolateral thigh muscle
Most vaccines are given IM, if history of bleeding disorders, offer SC (check SPC prior to administration)
Can be given at same time as Anti D, in separate limb

Injection technique

There is no need to clean socially clean skin prior to vaccination
IM injections should be given with needle at a 90° angle to the skin
The skin should be stretched flat (NOT bunched)
It is not necessary to aspirate the syringe after the needle is put into the muscle (DH 2011, WHO 2004, Plotkin and Orenstein 2004)

Needle size

<table>
<thead>
<tr>
<th>Colour</th>
<th>Gauge</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>25</td>
<td>16 mm long</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25 mm long</td>
</tr>
<tr>
<td>Blue</td>
<td>23</td>
<td>25 mm long</td>
</tr>
<tr>
<td>Green</td>
<td>21</td>
<td>38 mm long</td>
</tr>
</tbody>
</table>

For IM injection, needle needs to be long enough to ensure vaccine is injected into muscle. This significantly reduces the incidence of localised reactions.
In larger adults, a longer length (38mm) may be required – individually assess patients
Cold chain

The ‘cold chain’ is the system of transporting and storing vaccines within the safe temperature range of 2°C to 8°C. These temperatures have to be maintained from production through to administration to ensure the vaccine remains efficacious.

Vaccine storage

Use a dedicated vaccine fridge
- No food/medical specimens
- Safeguard electricity supply
- Do not place in direct sunlight or near heat source
- No more than 50% full
- Defrost/calibrate regularly
- Ensure back up facilities are available in the event of fridge failing
- Use independent maximum/minimum thermometers inside fridge
- Monitor and record maximum/minimum and current temperature daily

Cool boxes and transporting vaccines

- Use a validated cool box and ice packs from recognised medical supply company
- Monitor maximum/minimum temperature, recording at regular intervals
  - Vaccines should be wrapped in bubble wrap or similar insulation material to prevent direct contact with ice packs
  - Use insulating material to fill any spaces within the cool box
  - Only take enough vaccine for particular session and minimise exposure of the vaccines to room temperatures

What to do if there has been a Cold Chain failure

Any vaccine that has not been stored at a temperature of 2-8°C as per its licensing conditions is no longer a licensed product
Where there is any doubt that cold chain has not been maintained, vaccines should not be used
Seek advice from the pharmacist
Use the following for information
or
http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1267551139589

Light sensitive

Vaccines should always be stored in their original packaging until point of use to protect them from light

Disposal of vaccination equipment

All:
- reconstituted vaccines
- opened single and multidose vials
- empty vials and ampoules
- used needles and syringes
Should be disposed of in sharps bins as per Trust policy
Sharps bins should be sealed and replaced once 2/3rds full
Patient Group Directions

"is a legal mechanism that allows named registered healthcare professionals to supply and/or administer medicines to groups of patients that fit the criteria laid out in the PGD"

NHS National Prescribing Centre Patient Group Directions(2009): A practical guide and framework of competencies for all professionals using patient group directions

www.npc.nhs.uk/non_medical/resources/patient_group_directions.pdf

Scope and limitations of PGDs

- PGDs are not a form of prescribing but provide a legal framework for the supply and/or administration of vaccines
- Patients may present directly to a healthcare professional using PGDs in their service, without seeing a doctor
- Healthcare professionals working with PGDs are responsible for assessing that the patient fits the criteria in the PGD
- Healthcare professionals signing up to PGDs must be fully competent qualified and trained in all aspects of immunisation

Patient Group Directions

PGD’s available from Head of Midwifery

I had flu vaccine before & still got flu or it gave me flu

- May have had contact with flu virus before immunisation
- Flu vaccine does not contain live virus, so can’t give you flu
- Lots of respiratory infections around in winter
- Some have similar symptoms to flu
**Key messages**

Influenza vaccine
- does not harm the unborn child
- prevents preterm delivery and low birth weight
- prevents infants under six months being admitted to hospital with influenza
- reduces admissions to hospital with complications of influenza illness in pregnant women

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**References**


Resources

http://www.hpa.org.uk/web/HPAweb&Page&HPAwebAutoListName/Page/1202115586990

Local Contacts

Acknowledgement

Health Protection Agency South East Region – Katie Allen, Liz Maddock and Anita Turley

North West Head of Midwifery - Julie Annakin, Immunisation Coordinator, Tameside and Glossop PCT
## Core competencies

**Flu vaccination for pregnant women - competency check-list for midwives**

<table>
<thead>
<tr>
<th>Competency</th>
<th>Dates of Assessment (min 2 per competency)</th>
<th>Signature of Assessor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Has completed basic training in flu immunisation in line with these core competencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Has understood and signed appropriate and current PGDs (unless a Nurse Prescriber), or is working to a PSD or prescription</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Has read the current chapter of the Green Book and the current flu season instructions from the Department of Health, is aware of how to access this online to ensure use of the current chapter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Demonstrates understanding of importance of maintaining cold chain: - can state correct temperature range for vaccine storage - records vaccine fridge temperature at start of each vaccination session - is aware of actions required should the fridge be out of the cold chain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Ensures anaphylaxis equipment is readily available, knows what should be provided and how and when to use it</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Checks patient’s records prior to vaccination to ascertain previous immunisation history</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Knows whom to contact for advice if unsure about which vaccination to give and compatibility with Anti D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Gives appropriate advice and information to clients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Gives advice to client about potential side effects and management of these</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Ensures informed consent has been obtained prior to vaccinating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Checks correct vaccine and vaccine dose has been prepared prior to administration in line with the current national schedule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Demonstrates correct injection technique, uses recommended needle size and recommended vaccination site(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 Disposes of sharps, vaccine vials and other vaccine equipment safely and appropriately</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Documents type of vaccine, batch number, expiry date, date given and injection site in medical notes and informs GP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Name of Midwife:** ........................................................................................................

I agree that I am competent in administering flu vaccines to pregnant women

Signed ........................................ Date ........................

**Name of Supervisor:** .......................................................................................................

I agree that ........................................ is competent in administering flu vaccines to pregnant women

Signed ......................................................... Date ........................

Based on the Health Protection Agency’s National Minimum Standards for Immunisation Training and the Core Curriculum for Immunisation Training, June 2005

http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1196942164323

http://www.hpa.org.uk/Publications/InfectiousDiseases/0506CoreCurriculumforImmunisationTraining
<table>
<thead>
<tr>
<th>Administration of Influenza Vaccine</th>
<th>POM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepared by:</td>
<td></td>
</tr>
<tr>
<td>Doctor:</td>
<td></td>
</tr>
<tr>
<td>Pharmacist:</td>
<td></td>
</tr>
<tr>
<td>Practitioner:</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
</tr>
<tr>
<td>Ratified by:</td>
<td></td>
</tr>
<tr>
<td>Version:</td>
<td></td>
</tr>
<tr>
<td>Review Date:</td>
<td></td>
</tr>
<tr>
<td>Expiry Date:</td>
<td></td>
</tr>
</tbody>
</table>

**Approved by:**
- Pharmacist:
- Medical Director (Senior Midwife):
- Date:

Upon issue of this version of the PGD, all previous versions must be removed from use. No supply or administration may be made under the terms of this PGD after the expiry date above.
The information within this PGD is not exhaustive and should be used in conjunction with the current Summary of Product Characteristics (SPC) and the current chapter of the ‘Immunisation against infectious diseases’ (Green Book). YOU MUST BE AUTHOURISED BY NAME TO WORK UNDER THE CURRENT VERSION OF THIS PGD BEFORE YOU ATTEMPT TO WORK ACCORDING TO IT.

<table>
<thead>
<tr>
<th>Clinical Condition</th>
<th>POM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indication</strong></td>
<td>Immunisation of pregnant women against influenza in accordance with the National Influenza programme</td>
</tr>
<tr>
<td><strong>Inclusion criteria</strong></td>
<td>All pregnant women at any stage of pregnancy (1\textsuperscript{st}, 2\textsuperscript{nd}, or 3\textsuperscript{rd} trimesters)</td>
</tr>
</tbody>
</table>
| **Exclusion criteria** | Known hypersensitivity to any component of the vaccine (refer to SPC)  
Confirmed anaphylactic reaction to a previous dose of the vaccine or  
Confirmed anaphylactic reaction to any component of the vaccine (other than ovalbumin see cautions), refer to the relevant SPC for a full list of excipients  
A confirmed anaphylactic hypersensitivity to egg products as the vaccines are prepared in hens’ eggs  
Other contra-indications to vaccination as per the Green Book Chapter 6  
Immunisation should be postponed in individuals with any febrile illness or acute infection, postpone until recovered  
Consent not obtained |
| **Cautions**       | People with impaired immune response e.g. those with HIV infection or long-term immunosuppressive therapy must be vaccinated according to the recommended schedule, though they not produce a sufficient protective antibody response. Immunological response may be diminished if the patient is undergoing immunosuppressant treatment  
Refer to doctor or non-medical prescribers if contraindications exist or reschedule vaccination  
Give advice on ‘flu’ management |
### Clinical condition

<table>
<thead>
<tr>
<th>Action if excluded or declines including criteria</th>
<th>POM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document reason for exclusion and actions taken in the patients records and /or the computer record</td>
<td></td>
</tr>
<tr>
<td>If the nurse working under this PGD does not have access to the patient's notes then the nurse should inform the patient's GP surgery that the patient was unable to receive the vaccine</td>
<td></td>
</tr>
<tr>
<td>If the patient declines treatment; provide information about the protective effects of immunisation. If the patient still refuses treatment, document in the patients notes and / or the computer record. Refer the patient to their GP.</td>
<td></td>
</tr>
</tbody>
</table>

### Drug Details

<table>
<thead>
<tr>
<th>Name, form and strength of vaccine</th>
<th>POM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactivated influenza vaccine as 0.5ml pre-filled syringe (Brands may vary – refer to brand specific SPC)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Route/Method of administration</th>
<th>POM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramuscular injection into the deltoid area of the upper arm or the anterolateral aspect of the thigh. Individuals with a bleeding disorder should be vaccinated by deep subcutaneous route</td>
<td></td>
</tr>
<tr>
<td>Intramuscular injections should give with the needle at 90_ angle to the skin and the skin should be stretched. Deep subcutaneous injections should be given with the needle at a 45_ angle to the skin and the skin should be bunched not stretched.</td>
<td></td>
</tr>
<tr>
<td>Before administration</td>
<td></td>
</tr>
<tr>
<td>Check the vaccine to be administered is correct and in date</td>
<td></td>
</tr>
<tr>
<td>The manufacturer’s instructions for use and disposal</td>
<td></td>
</tr>
<tr>
<td>The vaccine must not be used after the expiry date</td>
<td></td>
</tr>
<tr>
<td>Shake well before use</td>
<td></td>
</tr>
</tbody>
</table>

Effectiveness of the vaccine cannot be guaranteed unless it has been stored at the correct temperature. Vaccines should be stored in the original packaging in a designated refrigerator and protected from light. The refrigerator temperature must be maintained between +2_\text{C} - +8_\text{C} |
<table>
<thead>
<tr>
<th>Drug Details</th>
<th>POM</th>
</tr>
</thead>
</table>
| **Route/Method of administration cont’d** | Ensure the cold chain has been maintained before and after receipt of the vaccine  
Ensure the vaccine has not been frozen: if it has then it must not be used  
Document vaccine administered in notes |
| **Legal Status** | Prescription only medicine (POM) |
| **Dosage/Frequency** | 0.5ml single dose |
| **Duration of treatment** | Single dose  
Note this PGD does not cover the use of intradermal vaccine Intanza® |
| **Side effects / Adverse reactions** | **Common**  
Local reactions: redness: swelling, pain, ecchymosis induration  
Systemic reactions: low grade, fever, malaise, shivering, fatigue, headache, sweating, myalgia, arthralgia  
These reactions usually disappear within 1-2 days without need for treatment  
**Rare**  
Immediate reactions such as urticaria, angioedema, bronchospasm and anaphylaxis can occur, most likely due to hypersensitivity to residual egg protein.  
Neuralgia, paraesthesia, transient thrombocytopenia, local lymphadenopathy  
Allergic reactions leading to shock  
**Very rare**  
Vasculitis with transient renal involvement  
Neurological disorders such as encephalomyelitis, neuritis and Guillain Barré syndrome |
| **Reporting of side effects** | Black triangle vaccines should have all suspected adverse reactions reported  
Other vaccine all serious adverse reactions should be reported to the MHRA via the Yellow card scheme at [www.yellowcard.gov.uk](http://www.yellowcard.gov.uk)  
Contraindications: refer to the SPC, the British National Formulary (BNF) (current edition) and the online edition of the Green Book chapter 19 |
## Drug Details

<table>
<thead>
<tr>
<th>Patient advice</th>
<th>All patients should be given the patient information leaflet included with the vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error reporting</td>
<td>As per trust policy</td>
</tr>
</tbody>
</table>

## Staff characteristics

<table>
<thead>
<tr>
<th>Qualifications</th>
<th>Registered Nurse or Midwife with current Nursing and Midwifery Council</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist competencies or qualifications</td>
<td>Has undertaken training in all aspects of immunisation and vaccination</td>
</tr>
<tr>
<td></td>
<td>Has undertaken Trust PGD training</td>
</tr>
<tr>
<td></td>
<td>Has undertaken anaphylaxis and resuscitation training for pregnant women</td>
</tr>
</tbody>
</table>

### Continuing training and Education

The practitioner should be aware of any change to the recommendations for the vaccine listed. It is the individual’s responsibility to keep up to date with continued professional development and to work within the limitations of their individual scope of practice.

## Staff characteristics

<table>
<thead>
<tr>
<th>Records/Audit trail</th>
<th>Give specific details of the following</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Patients’ name, address, date of birth, NHS number and consent given</td>
</tr>
<tr>
<td></td>
<td>Dose and form administered (inc batch number)</td>
</tr>
<tr>
<td></td>
<td>Advice given to patient (inc side effects)</td>
</tr>
<tr>
<td></td>
<td>Signature/name of staff member who administered the vaccine</td>
</tr>
<tr>
<td></td>
<td>Details of any adverse drug reaction and actions taken including documentation in the patient’s medical records</td>
</tr>
<tr>
<td></td>
<td>Inform the GP surgery of vaccine administration</td>
</tr>
<tr>
<td></td>
<td>Influenza vaccine can be given at the same time as other vaccines. The vaccines should be given at separate sites, preferably in a different limb. If given in the same limb they should be given at least 2.5cm</td>
</tr>
</tbody>
</table>
apart. Administration of other vaccines is not covered by the PGD. The site at which each injection is given should be noted in the patient’s records. Some seasonal influenza vaccines may contain traces of thiomersal that are left over from the manufacturing process. There is no evidence of risk of thiomersal-containing vaccines, including for pregnant women. Based on the current evidence, JCVI does not recommend the preferential use of non-thiomersal containing vaccines in any group, including pregnant women.

For intramuscular injection, the needle length needs to be sufficiently long to ensure the vaccine is injected into the muscle (or deep subcutaneous tissue). The wider bore allows the vaccine to disperse over a large area, thus reducing the risk of localised redness and swelling. All products are supplied in pre-filled syringes and some are supplied with a needle. It therefore may not be possible to select the needle size. The current available influenza vaccines give 60 – 70% protection against influenza with influenza strains well matched with those in the vaccine.

Protection afforded by the vaccine lasts about one year. After immunisation antibody levels may take up to 10 – 14 days to reach protective levels.

Anaphylactic reactions to vaccines are extremely rare but have the potential to be fatal. Onset of anaphylaxis is rapid, typically within minutes and its clinical course is unpredictable with variable severity and clinical features. It is not possible to define a particular time periods in which an individual should be observed following immunisation to ensure they do not develop anaphylaxis. In practical terms, the specification of a particular time may not be helpful. Best practice would indicate that observation should continue until documentation is completed and the patient is assessed to be feeling well.

References / Resources and comments

Immunisation against Infectious Disease (Green Book) http://www.dh.gov.uk/HealthAndSocialCareTopics/Gre enB o o k/f s/en and compliance with its recommendations

Relevant CMO letters regarding the seasonal flu campaign

HPA core standards for immunisations
Examples of a LES

These are examples of a LES which have been kindly supplied by PCTs and as such are intended to give you an idea of how they commissioned their local programmes.

Example one:

Service Specification for Enhanced Flu Immunisation Uptake in 2011/12 - 80% for Over 65s and 75% for Under 65s At Risk.

September 2011 – 31st January 2012

1. Background


and in response to a need to expand the ‘at-risk’ groups beyond the existing DES specification.

In 2010/11 flu uptake across GP Practices was % for Over 65s and % for those under 65 in an at-risk group. There is considerable variation across GP Practices. The mortality rate for those in an at risk group is 4.0 per 100,000 population compared to 0.4 per 100,000 population for those not in any risk group. This increases to 20 per 100,000 population for those at in an immunosuppression risk group.

2. Service Aims

The LES is in addition to the existing Flu DES and is designed to provide financial support to GP Practices who by 31st January 2012, as reported by ImmForm achieve:

- 80% uptake in over 65s and
- 75% uptake in all under 65 At-Risk categories (as defined in Annex A of CMO letter).

It also clarifies a LES payment for vaccination for:
- employed GP Practice staff and for
- patients who are not in a defined at-risk group but whom the medical practitioner administers a flu vaccine to registered patients where in their judgement there is a risk of flu exacerbating any underlying disease that a patient may have, as well as the risk of serious illness from flu itself. These must be Read Coded as 9O4Z (Patient ‘recall’ admin NOS) and the underlying disease or serious illness recorded on the patient’s record and reported when claiming the LES.

3. Service Users

The Enhanced Flu Vaccination LES shall be provided to all registered patients.
4. Service Requirements

The Provider shall meet the following service requirements:

• Comply with the guidance set out by DH in the CMO letter of 25 May 2011 (Gateway ref 16066)
• Operate a robust programme to identify and invite all at-risk patients to have a flu vaccination in 2011/12 and then on an annual basis.
• Actively target those at-risk patients who have not previously had a flu vaccine and take a pro-active approach to engage these patients in understanding the risks of not having a flu vaccine and the benefits of immunisation.
• Accurately Read Code all at-risk patients in accordance with the coding dataset used to extract data to Immform https://www.immform.dh.gov.uk See Reporting requirements below.
• Develop and document a programme to vaccinate particularly hard to reach patients, eg housebound not on the DN case load, those in residential care not in a defined at-risk group.
• Participate and promote all Flu promotional materials made available locally and nationally through the practice’s web sites and in the practice premises.
• Work collaboratively with midwives where they are vaccinating registered patients to ensure supply of vaccine and to support midwives to accurately record vaccinations on practice’s clinical systems.
• Ensure all data is recorded accurately and to the specified deadlines on ImmForm and verified by the PCT.
• NHS funding not to be used to vaccinate patients who are not in an at-risk category as defined in this LES.
• Agree to the PCT’s reporting requirements.
• Comply with PCT pathways and plans to avoid unnecessary admissions as a result of flu.

5. Accreditation Requirements

To deliver the LES, practices must meet the PCT infection control requirements and have appropriately trained staff. Clinical governance should be provided by the Practice’s named lead for Flu Immunisation.

6. Reporting Requirements- ImmForm

The GP Practice is required to ensure flu immunisation data is uploaded to ImmForm in accordance with the agreed timescales. The GP Practice is also to make claims under the DES and LES using the Enhanced Services Submissions book. The dataset specification including the full set of Read Codes used by ImmForm to extract data can be found below: For specific ImmForm queries please contact: ####

7. Funding

GP Practices will be funded in two ways:

1. A DES/LES payment of £7.64 for flu immunisation of:
   • Any at-risk patient as defined in Annex A of Gateway 16066,
   • Employed GP Practice Staff
   • Those with an underlying disease whom a medical practitioner codes as requiring flu vaccine for specified clinical reasons (there is an assumption that this will be
relatively small numbers) **Read Code 904Z**, with the underlying disease or specific illness recorded and reported.

2. An incentive payment for achievement of the ‘stretch’ target of 80% for Over 65s and 75% for Under 65 at-risk patients (Annex A of CMO letter) as reported by ImmForm at 31st January 2012. This funding is based on the number of the practice’s Under 65 At Risk patients, the focus of this LES and is detailed below:

In addition GP Practices can claim a dispensing fee through the NHS Business Services Authority for personal administration of influenza vaccine as set out in the SFE Section 17

[http://www.nhsbsa.nhs.uk/PrescriptionServices/933.aspx](http://www.nhsbsa.nhs.uk/PrescriptionServices/933.aspx)


The Practice agrees to provide the Local Enhanced Service for Enhanced Flu Immunisation Uptake for Over 65s at 80% and Under 65 At-Risk Groups at 75% by 31st January 2012 as reported by ImmForm in accordance with the specification attached:

**Commissioner:**

**Authorised Signatory:**

Signed on behalf of the practice: _____________________________

Date: _____________________________

Practice Name: _____________________________

Practice Address: _____________________________

_______________________________

_______________________________
Local Enhanced Service for Influenza Immunisations (Additional to National Directed Enhanced Service for Influenza Immunisation) 2011/2012

Introduction

The purpose of this Local Enhanced Service is to supplement and update the Influenza Immunisations Directed Enhanced Service which commenced in 2004/05. Specifically, this service is designed to cover the ‘at risk’ groups as detailed in subsequent Chief Medical Officer’s letters, and not provided for in the original specification. The latest Chief Medical Officer’s (CMO) letter\(^1\) and the seasonal flu plan\(^2\) were issued by the Department of Health (DH) on 25 May 2011.

Practices should be aware that the CMO is asking for uptake in the clinical risk groups to be increased and it is recognised that this will be a challenge. By the end of the flu vaccination season in 2010, about 50% of people in clinical risk groups had been vaccinated against seasonal flu. The trajectory given from the DH calls for uptake to reach 60% in 2011/12, 70% in 2012/13 and 75% in 2013/14.

The specification provides for the following groups to receive seasonal influenza vaccine:

1. People aged 65 and over
2. People with chronic respiratory disease*  
3. People with chronic heart disease*  
4. People with chronic kidney disease*  
5. People with chronic liver disease*  
6. People with chronic neurological disease*  
7. People with diabetes*  
8. People with immunosuppression due to disease or treatment*  
9. All pregnant women  
10. People living in long-stay residential care homes  
11. Carers - those who are in the receipt of a carer’s allowance, or those who are the main carer for an elderly and disabled person whose welfare may be a risk if the carer falls ill.

* denotes patients aged six months or older who are not in category 1.

Further information on the eligibility for groups 2-11 is available on the CMO’s letter, available at


The list above is not exhaustive and the medical practitioner should apply clinical judgment to take into account the risk of flu exacerbating any underlying disease that a patient may have, as well as the risk of serious illness from flu itself, when considering the need to immunise individuals who may not be in the risk groups specified above.

The recommended dosage for trivalent seasonal flu vaccine should be adhered to and is available in the CMO’s letter using the link above. Further information is also available in the updated chapter 19 of Immunisation against infectious disease - 'The Green Book' - 2006 updated edition³.

Service outline

(i) This service is funded on a non-recurrent basis for the year 2008/09 in the first instance and will be reviewed for appropriateness in subsequent years and in light of further guidance from the Department of Health. The PCT reserve the right to withdraw or amend this scheme. The scheme will be extended to 2011/12 ensuring compliance with the Chief Medical Officer’s letter of 25 May 2011.

(ii) It is expected that, as is normal procedure, these immunisations will be concentrated in the period 1 September 2011 to 31 January 2012. However immunisations given at any time between 1 September 2011 and 31 March 2012 will qualify for payment under this LES.

(iii) Practices are required to provide data to the national ImmForm website http://www.immform.dh.gov.uk and the schedule of dates for the upload is attached in Appendix A. It is expected that practices will upload the data monthly as per the schedule in Appendix A.

(iv) Suggested Read codes for recording the various stages of the influenza immunisation program are:

- 9021. letter invite to screening
- 65E. influenza vaccine given
- 68NE. no consent to influenza vaccination
- 9OX5. influenza vaccination declined
- 68NI. Medical contraindication to immunisation

Payment

Similar to the Directed Enhanced Service, each practice contracted to provide this service in 2011/12 will receive £7.67 per patient vaccination for seasonal influenza vaccine.

Payments will be made quarterly in arrears on submission of an activity claim, as requested by the PCT.

Appendix A

**ImmForm: Survey Collection Dates schedule for Flu data 2011/2012 flu season**

<table>
<thead>
<tr>
<th>Survey Month</th>
<th>Data up to Date</th>
<th>Survey Start Date</th>
<th>PRIMIS+ Collection End*</th>
<th>XML Bulk Upload Submit Date</th>
<th>GP Survey End Date</th>
<th>PCT Survey End Date</th>
<th>HPA Survey End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>December</td>
<td>Sat 31/12/2011</td>
<td>Tue 03/01/2012</td>
<td>Thu 10/01/2012</td>
<td>Wed 11/01/2012</td>
<td>Tue 11/01/2012</td>
<td>Fri 13/01/2012</td>
<td>Mon 16/01/2012</td>
</tr>
<tr>
<td>January</td>
<td>31/01/2012</td>
<td>Tue 01/02/2012</td>
<td>Wed 08/02/2012</td>
<td>Thu 09/02/2012</td>
<td>Wed 14/02/2012</td>
<td>Fri 17/02/2012</td>
<td>Wed 22/02/2012</td>
</tr>
</tbody>
</table>

These dates are subject to change if e.g. there are technical issues. Clinical Governance will inform practices in this instance.

* cut off date for practices using CHART and auto upload facility
Example 3

Practice Name:

Practice Address:

Specification for a Local Enhanced Service Influenza immunisation for those in the 65 and over and other at-risk groups 2011/2012

Introduction

All practices are expected to provide essential and those additional services they are contracted to provide to all their patients. This enhanced service specification outlines the more specialised services to be provided. The specification of this service is designed to cover the enhanced aspects of clinical care of the patient, all of which are beyond the scope of essential services. No part of the specification by commission, omission or implication defines or redefines essential or additional services.

Equality

This service must be provided in a way that ensures it is equitable in respect of race, creed, culture, diversity, disability etc.

Purpose

1. The purpose of this paper is to set out a model for a Local Enhanced Service (LES) for influenza immunisation in all at-risk groups.

2. The 2007/2008 DES covered most eligible groups that should receive seasonal flu vaccine, however, in light of the Chief Medical Officer’s (CMO) letters dated 14th March 2011 and 25th May 2011, NHS #### is now required to review the existing DES and ensure local arrangements are in place to cover all additional eligible groups, including pregnant women. In the absence of a revised DES, this LES includes the ‘2007/2008 Directed Enhanced Service for influenza immunization for those in the 65 and over and other at-risk groups’, together with additional requirements. This will ensure that NHS #### can provide assurance to the Strategic Health Authority, that GP practices have identified all those registered patients who fall into the relevant eligible categories for 2011/2012.

3. Based on the advice of the Joint Committee on Vaccination and Immunisation (JCVI) and endorsed in the CMO letters as above, the 2011/2012 groups to be offered the flu vaccine are:

   (i) All those aged 65 years and over;

   (ii) All those aged 6 months or over in a clinical risk group set out below;
(iii) All pregnant women;
(iv) Those living in long-stay residential care homes or other long-stay care facilities where rapid spread is likely to follow introduction of infection and cause high morbidity and mortality (this does not include prisons, young offender institutions, university halls of residence etc);
(v) Those who are in receipt of a carer’s allowance, or those who are the main carer for an elderly or disabled person whose welfare may be at risk if the carer falls ill;
(vi) Frontline health and social care workers.

As well as offering flu vaccine to people in the clinical risk groups set out in green book, GPs should use clinical judgement and take into account the risk of influenza infection exacerbating any underlying disease that the patient may have, as well as the risk of serious illness from influenza itself. Trivalent seasonal ‘flu vaccine should be offered in such cases even if the individual is not in the clinical risk groups specified above.

Further guidance on the list of eligible groups and guidance on administering the seasonal ‘flu vaccine can be found in the updated chapter of the Green Book: Immunisation against infectious disease:


Planning for flu immunisation next winter should be based around the above groups. Any changes to these groups, together with information on vaccine supply, will be communicated as soon as possible.

n.b. Responsibility for offering flu vaccination to frontline health and social care workers rests with their employers, who should ensure adequate vaccine orders and that appropriate plans and measures are in place. Vaccination of health and social care workers, not only offers protection to them and their families, but also reduces the transmission of infection to vulnerable patients. These workers (except those working in GP practices) should not generally seek vaccination through GPs, as they will not have been included in GPs’ calculations of the number of doses of vaccines needed to meet the needs of eligible patients.
**Vaccine Uptake Planning**

1. Data on vaccination uptake rates show that estimated uptake in those aged 65 years and over was 72.8% (2009/2010, 72.4%), and in the clinical risk groups under 65 years of age was 50.3% (2009/2010, 51.6%); and in pregnant women was 37.7% as of 27th February 2011.

2. Despite a relatively high uptake of vaccinations evidence shows that the World Health Organisation’s (WHO) aim of achieving 75% seasonal flu vaccine uptake in people aged 65 years and over has not been achieved. In addition, to the WHO target for the older population, the EU has adopted a Council Recommendation to achieve a vaccination uptake of at least 75% in people under age 65 with clinical conditions, which put them more at risk from the effects of flu, and pregnant women. Vaccination uptake for the under 65 clinical risk groups remains about 50%, and in pregnant women is currently 37.7%. Clearly, increasing vaccination uptake in people in clinical risk groups, and pregnant women, will have significant benefits, and we should be aspireing to vaccine uptake levels similar to those achieved for people aged 65 years and over.

3. The CMO has recommended to:
   - Reach or exceed 75% uptake for people aged 65 years and over as recommended by the WHO; and
   - Reach or exceed 75% uptake for people under age 65 with clinical conditions, which put them more at risk from the effects of flu, and pregnant women, as recommended by the EU. A reasonable trajectory for increases in uptake in clinical risk groups and pregnant women might be 60% in 2011/2012, and 70% in 2012/2013, so that an uptake of 75% can be reached or exceeded in 2013/2014.

4. All pregnant women will continue to be eligible for the influenza vaccine in 2011/2012. GPs will not be able to identify all pregnant women on a register at this stage, therefore GP practices will need to ensure the involvement of maternity services so they can work together with midwifery services to identify existing pregnant women and any newly pregnant women throughout the flu season so that no eligible patients are missed out.

**Eligibility**

1. Payment arrangements under the scheme will apply to all at-risk patients who are immunised by 31 March [in the relevant financial year]. These include all of those who are or will be aged 65 or over on 31 March [in the relevant financial year].

   For payment purposes the immunisation programme will operate from 1 August to 31 March [in the relevant financial year].

2. The non-age related at-risk groups are described in paragraph 2. It is for each practice to identify the patients concerned from their records and this will be consistent with the registers maintained as part of the quality and outcomes framework.
How will the immunisation programme work?

1. Individual GP practices must ensure accurate registers for the majority of the at-risk patient population as part of the quality and outcomes framework, if they are participating. Non-participating practices would have to be able to produce satisfactory registers to be eligible for the locally enhanced service.

2. It is expected that, as is normal procedure, influenza immunisation will be concentrated in the period 1 September to 31 January [of the relevant financial year], with priority being given to the months of September, October and November. However, immunisation given at any time between 1 August and 31 March [of the relevant financial year] will qualify under this scheme.

3. There are a number of obligations under the Seasonal Flu LES that are important to local planning and delivery of the seasonal flu vaccination programme. Practices will be responsible for developing a proactive and preventative approach to offering these immunisations with the aim of:
   - maximizing uptake in the interest of at-risk patients, and
   - meeting any public health targets in respect of such immunisations

4. In order to achieve the above, practices must implement robust call and reminder systems for all at-risk patients as follows:
   - all GP practices will have a register of all patients in at risk groups;
   - all GP practices will contact at risk patients with the aim of maximizing uptake and meeting any public health targets in respect of influenza immunisation; and
   - all GP practices will ensure robust call and reminder systems are in place and will be utilized during the influenza season.

5. In addition to those patients who can attend a surgery or clinic to receive a vaccination, GP practices must ensure that appropriate plans are in place to offer vaccinations to those who require home visits; those who are in long-term care; and those who are not registered with a GP practice.

6. A requirement that the contractor ensures that any health care professional who is involved in administering a vaccine has:
   (i) any necessary experience, skills and training with regard to the administration of the vaccine, and
   (ii) training with regard to the recognition and initial treatment of anaphylaxis;

7. A requirement that the contractor ensures that:
   (i) all vaccines are stored in accordance with the manufacturer’s instructions, and
   (ii) all refrigerators in which vaccines are stored have a maximum/minimum thermometer and that readings are taken from that thermometer on all working days;

8. A requirement that the contractor supply NHS ### with such information as it may reasonably request for the purposes of monitoring the contractor’s performance of its obligations under the plan.

9. A requirement that the contractor takes all reasonable steps to ensure that the lifelong medical records held by an at-risk patient’s general practitioner are kept up-to-date with regard to his immunisation status, and in particular include—
   (i) any refusal of an offer of vaccination,
   (ii) where an offer of vaccination was accepted:
(a) details of the consent to the vaccination or immunisation (where a person has consented on an at-risk patient's behalf, that person's relationship to the at-risk patient must also be recorded)
(b) the batch number, expiry date and title of the vaccine,
(c) the date of administration of the vaccine,
(d) where two vaccines are administered in close succession, the route of administration and the injection site of each vaccine,
(e) any contraindications to the vaccination or immunisation,
(f) any adverse reactions to the vaccination or immunisation

8. National Read codes are available and examples in use are shown below. These will be standardised as part of the UK approach to having agreed Read code definitions. If practices store information on computers, they should ensure that all staff enter the same Read code to indicate influenza immunization has been given or offered. The current codes are:

(i) 9021. letter invite to screening
(ii) 65E.. influenza vaccine given
(iii) 812F. influenza vaccination contraindicated.
     XaIOT in CTV3
(iv) 90X5. influenza vaccination declined
     XaIBI in CTV3
(v) 68NE. no consent to influenza vaccination

Please note that the dots after the codes are important.

Pricing

Payment will continue at the current existing rates until such time as a stock order system is in operation across the UK. The same rate will apply for under 65s at-risk as for the over 65s.

Termination

It is generally agreed that the notice period for enhanced services will be 3 months unless otherwise stated. However this LES will cease on 31st March 2012 as directed by the Department of Health, and therefore no notice period will apply.

Any changes or amendments to the termination period by the Department of Health will be applied as soon as notification has been received.
**Application:**

**Practice Name:**

<table>
<thead>
<tr>
<th>GP Provider Application for Directed Enhanced Service 2011/2012 – Flu Immunisations</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>This LES application form replaces the 2007/2008 Directed Enhanced Service application form for influenza immunization for those in the 65 and over and other at-risk groups.</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How will you meet the aims of the scheme?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Briefly describe the service to be provided and facilities available, providing information on call/recall system, clinic arrangements and vaccine supplier/quantity ordered.</td>
</tr>
</tbody>
</table>

| Will providing this service adversely affect the practice’s ability to provide essential or additional services? |

<table>
<thead>
<tr>
<th>Who will be providing the service?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you have evidence of appropriate staff qualifications, if appropriate?</td>
</tr>
</tbody>
</table>

| How will you ensure staff providing the service remain suitably qualified? |

| How will you monitor and audit service provision (refer to any requirements within the scheme). |
Please outline any other details relevant to your ability to provide this service

Cost
£7.64 per vaccination

**Practice declaration:**
The practice has understood the terms of the scheme and is seeking to provide a service on this basis. If commissioned the practice will adhere to the terms of the scheme and provide the monitoring/audit information within the timeframe given above.

**Breach**

Breach of conditions of this contract may result in a reduction or withdrawal of payment and cancellation of the contract.

Signed: ________________________________________
As representative of the practice

Name: ____________________________________________(please print)

Date: __________________________________________________________________

Signed: ________________________________________

Name: ___________________________________________

PCT
Date: __________________________________________________________________

**N.B.** This form must be completed in full for your application to be accepted and will be used as part of the monitoring information for the scheme.
General information that can be included in an influenza leaflet for pregnant women

What is Seasonal Influenza?

Seasonal influenza, better known as flu, is a highly infectious viral illness that affects the respiratory tract (nose, throat and lungs). Flu is more common in the winter months with the peak occurring between December and February. Flu is spread easily between people through contact with respiratory secretions (coughs and sneezes).

What are the symptoms of ‘flu’?

Flu tends to have a sudden onset of severe symptoms, including high temperature (fever), shivering, chills, headaches and aching muscles. Some people can develop more serious illnesses such as bronchitis and pneumonia; flu can make an underlying condition worse. In the worst case, flu can result in a stay in hospital and can even be life threatening.

What is the best way of avoiding getting flu?

Vaccination is the best method of preventing infection with flu. The vaccination will help your body to fight flu viruses. Your body starts making antibodies against the viruses in a week to ten days after the injection. These antibodies help to protect against similar flu viruses that you may come into contact with during the year.

I am pregnant, why do I need a flu vaccine?

Pregnant women are more prone to complications from flu, which can cause very serious (even life threatening) illness for both the mother and baby; sometimes resulting in the mother being admitted to hospital. Flu vaccine is even more important for pregnant women who have long term medical conditions such as heart, lung, kidney or liver disease.

Is the flu vaccine safe for pregnant women?

Yes – it is safe for a pregnant woman and her unborn baby to be vaccinated with the flu vaccine. The vaccine can be given to you at any stage (1st, 2nd or 3rd trimester) during your pregnancy. Some people with certain allergies (hens’ eggs) may need an alternative type of flu vaccine; this will be discussed with you prior to receiving the vaccine.

How does the vaccine work?

The vaccine cannot give you flu. The vaccine works by stimulating your immune system into thinking it has been infected with flu virus so that it creates antibodies against it. These antibodies help to protect you and your baby against the seasonal flu viruses that you may come into contact with.
Is there a benefit to the unborn baby from flu vaccine?

Yes – if a pregnant woman is infected with flu this could mean the baby is born prematurely or has a low birth weight and can even lead to a stillbirth or mortality in the first week of life. The flu vaccine can prevent babies born to pregnant women with flu illness being born prematurely with low birth weight and small for gestation weight births.

Is there a benefit to new born babies if their mother was vaccinated in pregnancy?

Yes – there is some evidence that if pregnant women are vaccinated, their babies may be protected from flu for up to six months after the baby is born. The risk of the baby being admitted to hospital for influenza like illnesses is reduced.

Where can I get the vaccine?

To be completed with the preferred method by the trust giving the advice / vaccine.

Obtaining further information

NHS Direct http://www.nhsdirect.nhs.uk
0845 4647

Health Protection Agency http://www.hpa.org.uk

Information is also available from your GP and/or midwife.
Sample text that can be included in an influenza leaflet for admin/reception staff

What is Seasonal Influenza?

Seasonal influenza, better known as flu, is a highly infectious viral illness that affects the respiratory tract (nose, throat and lungs). Flu is more common in the winter months with the peak occurring between December to February. Flu is spread easily between people through contact with respiratory secretions (coughs and sneezes).

What are the symptoms of ‘flu’?

Flu tends to have a sudden onset of severe symptoms, including high temperature (fever), shivering, chills, headaches and aching muscles.

Some people can develop more serious illnesses such as bronchitis and pneumonia; flu can make an underlying condition worse. In the worst case, flu can result in a stay in hospital and can even be life threatening.

What is the best way of avoiding getting flu?

Vaccination is the best method of preventing infection with flu. The vaccination will help patients to fight flu viruses. Patients start making antibodies against the viruses in a week to ten days after the injection. These antibodies help to protect against similar flu viruses that they may come into contact with during the year.

Why do pregnant women need a flu vaccine?

Pregnant women are more prone to complications from flu, which can cause very serious (even life threatening) illness for both the mother and baby; sometimes resulting in the mother being admitted to hospital.

Flu vaccine is even more important for women who have long term medical conditions such as heart, lung, kidney or liver disease as well as being pregnant.

Is the flu vaccine safe for pregnant women?

Yes – it is safe for a pregnant woman and her unborn baby to be vaccinated with the flu vaccine. The vaccine can be given at any stage of pregnancy (1st, 2nd or 3rd trimester). Some people with certain allergies (hens’ eggs) may need an alternative type of flu vaccine; this will be discussed with the patient prior to receiving the vaccine.
How does the vaccine work?

The vaccine cannot give patients the flu. The vaccine works by stimulating the immune system into thinking it has been infected with flu virus so that it creates antibodies against it. These antibodies help to protect the pregnant women and their baby against the seasonal flu viruses that you may come into contact with.

Is there a benefit to the unborn baby from flu vaccine?

Yes – if a pregnant woman is infected with flu this could mean the baby is born prematurely or has a low birth weight and can even lead to a stillbirth or mortality in the first week of life. The flu vaccine can prevent babies born to pregnant women with flu illness being born prematurely, low birth weight and small for gestation weight births.

Is there a benefit to the newborn baby if the mother is vaccinated during pregnancy?

Yes – there is some evidence that if pregnant women are vaccinated their babies may be protected from flu, for up to six months after the baby is born. The risk of the baby being admitted to hospital for influenza like illnesses is reduced.

Where can pregnant women access the vaccine?

To be completed with the preferred method by the trust giving the advice / vaccine.

Obtaining further information

NHS Direct http://www.nhsdirect.nhs.uk
0845 4647

Health Protection Agency http://www.hpa.org.uk
Useful contacts for Influenza campaign in Kent

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Person</th>
<th>Role</th>
<th>Contact number</th>
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</thead>
<tbody>
<tr>
<td>Health Protection Unit</td>
<td>Mrs Anita Turley</td>
<td>Health Protection Nurse</td>
<td>0844 225 7968</td>
</tr>
<tr>
<td>Health Protection Unit</td>
<td>Mrs Katie Allen</td>
<td>Health Protection Nurse</td>
<td>0844 225 7968</td>
</tr>
<tr>
<td>NHS Medway</td>
<td>Dr Alison Barnett</td>
<td>Director of public Health, Medway</td>
<td>01634 335176</td>
</tr>
<tr>
<td>NHS Medway</td>
<td>Dr Maggie Bruce</td>
<td>Consultant in Public Health</td>
<td>01634 335191</td>
</tr>
<tr>
<td>NHS Kent &amp; Medway</td>
<td>Mrs Meradin Peachy</td>
<td>Director of Public Health, Kent</td>
<td>01622 694317</td>
</tr>
<tr>
<td>NHS Kent &amp; Medway</td>
<td>Dr Faiza Khan</td>
<td>Consultant in Public Health</td>
<td>01732 375200</td>
</tr>
<tr>
<td>NHS Kent &amp; Medway</td>
<td>Mrs Ann Brown</td>
<td>Immunisation coordinator</td>
<td>01732 376068</td>
</tr>
<tr>
<td>NHS Kent &amp; Medway</td>
<td>Mrs Jo Treharne</td>
<td>Communications</td>
<td>01227 791160</td>
</tr>
<tr>
<td>Kent Community Health NHS Trust</td>
<td>Mrs Sarah leaver</td>
<td>Head of Pharmacy</td>
<td>01303 717010</td>
</tr>
<tr>
<td>Medway Community Healthcare</td>
<td>Mrs Frances Carr</td>
<td>Head of Human Resources</td>
<td>01634 382224</td>
</tr>
<tr>
<td>Kent &amp; Medway Partnership Trust</td>
<td>Mrs Rowena Chilvers</td>
<td>Senior Infection Control Nurse</td>
<td>01622 721800</td>
</tr>
<tr>
<td>Medway Foundation Trust</td>
<td>Mrs Jane Holt</td>
<td>Head of Occupational Health</td>
<td>01634 833883</td>
</tr>
<tr>
<td>Maidstone &amp; Tunbridge Wells NHS</td>
<td>Mrs Kim Bowler</td>
<td>Occupational Health Nurse</td>
<td>01622 224324</td>
</tr>
<tr>
<td>NHS Trust</td>
<td>Mr Des Tunstill</td>
<td>Head of Occupational Health</td>
<td>01322 428451</td>
</tr>
<tr>
<td>East Kent University Hospitals NSH</td>
<td>Mrs Lorraine Crawley</td>
<td>Business Manager Occupational Health</td>
<td>01227 864150</td>
</tr>
<tr>
<td>Kent County Council</td>
<td>Mrs Carol Cassin</td>
<td>Directorate Support Officer, Adult Social Services</td>
<td>01622 694887</td>
</tr>
<tr>
<td>Medway Council</td>
<td>Mr Jeremy Shannon</td>
<td>Older People’s Policy &amp; Service Manager</td>
<td>01634 331078</td>
</tr>
<tr>
<td>South East Coast Ambulance Service</td>
<td>Mr Richard Williams</td>
<td>HR Business Manager</td>
<td>01622 747010</td>
</tr>
<tr>
<td>South East Coast Ambulance Service</td>
<td>Mr Aide Hogan</td>
<td>Infection Control Manager</td>
<td>01622 747010</td>
</tr>
<tr>
<td>Local Medical Council</td>
<td>Dr Mike Parks</td>
<td>Medical Secretary</td>
<td>01622 851197</td>
</tr>
<tr>
<td>Kent Primary Care Agency</td>
<td>Mr Simon Brown</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Useful contacts for Influenza campaign in Surrey/Sussex

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Person</th>
<th>Role</th>
<th>Contact number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Protection Unit</td>
<td>Dr David Hagen</td>
<td>CCDC</td>
<td>0845 894 2944</td>
</tr>
<tr>
<td>NHS Brighton &amp; Hove</td>
<td>Dr Max Kammerling</td>
<td>Consultant in Public Health</td>
<td>01273 295490</td>
</tr>
<tr>
<td>NHS Brighton &amp; Hove</td>
<td>Anne Smith</td>
<td></td>
<td>01273 295490</td>
</tr>
<tr>
<td>NHS Brighton &amp; Hove</td>
<td>Jenny Leleux</td>
<td></td>
<td>01273 574667</td>
</tr>
<tr>
<td>East Sussex Downs &amp; Weald PCT</td>
<td>Dr Amy Bird</td>
<td>Consultant in Public Health</td>
<td>01273 336054</td>
</tr>
<tr>
<td>East Sussex Downs &amp; Weald PCT</td>
<td>Jennie Greenfield</td>
<td>Nurse Consultant/flu lead</td>
<td>01273 336050, 07881 501126</td>
</tr>
<tr>
<td>Hastings &amp; Rother PCT</td>
<td>Jennie Greenfield</td>
<td>Nurse Consultant/flu lead</td>
<td>01273 336050</td>
</tr>
<tr>
<td>NHS Surrey</td>
<td>Becky Kite</td>
<td>PH Development Worker</td>
<td>0208 541 7857</td>
</tr>
<tr>
<td>West Sussex PCT</td>
<td>Dr Nick Kendall</td>
<td>Commissioner-Immunisations</td>
<td>01243 815116</td>
</tr>
<tr>
<td>West Sussex PCT</td>
<td>Jackie Pierce</td>
<td>Immunisation coordinator</td>
<td>01243 815114</td>
</tr>
<tr>
<td>Surrey &amp; Sussex Healthcare NHS Trust</td>
<td>Michelle Cudjoe</td>
<td>Interim Head of Midwifery</td>
<td><a href="mailto:Michelle.cudjoe@sash.nhs.uk">Michelle.cudjoe@sash.nhs.uk</a></td>
</tr>
<tr>
<td>Epson &amp; St. Helier University Hospital NHS Trust</td>
<td>Sally Silvas</td>
<td></td>
<td><a href="mailto:Sally.silvas@esth.nhs.uk">Sally.silvas@esth.nhs.uk</a></td>
</tr>
<tr>
<td>Royal County Surrey &amp; Sussex NHS Trust</td>
<td>Jacqui Tingle</td>
<td></td>
<td><a href="mailto:Jacqui.tingle@nhs.net">Jacqui.tingle@nhs.net</a></td>
</tr>
<tr>
<td>Frimley Park Hospital NHS foundation Trust</td>
<td>Adrienne Price</td>
<td></td>
<td><a href="mailto:Adrienne.price@fph-tr.nhs.uk">Adrienne.price@fph-tr.nhs.uk</a></td>
</tr>
<tr>
<td>Brighton &amp; Sussex University Hospital NHS Trust</td>
<td>Lesley Maxim</td>
<td>Occupational Health</td>
<td>01273 696955 x4011</td>
</tr>
<tr>
<td>Western Sussex Hospitals NHS Trust</td>
<td>Kelly Pierce</td>
<td>Senior Midwifery Manager – PH Lead</td>
<td>01243 788122 x2816</td>
</tr>
<tr>
<td>Sussex Partnership NHS Trust</td>
<td>Helen Greatorex</td>
<td></td>
<td>01903 843000</td>
</tr>
<tr>
<td>East Sussex Hospitals Trust</td>
<td>Glynis May</td>
<td>Business Manager – Occupational Health</td>
<td>01424 758909</td>
</tr>
<tr>
<td>Ashford &amp; St. Peters Hospitals Service</td>
<td>Sandra Houston</td>
<td></td>
<td><a href="mailto:Sandra.houston@asph.nhs.uk">Sandra.houston@asph.nhs.uk</a></td>
</tr>
<tr>
<td>South East Coast Ambulance Service</td>
<td>Mr Richard Williams</td>
<td>HR Business Manager</td>
<td>01622 747010</td>
</tr>
<tr>
<td>South East Coast Ambulance Service</td>
<td>Mr Aide Hogan</td>
<td>Infection Control Manager</td>
<td>01622 747010</td>
</tr>
<tr>
<td>Local Medical Council</td>
<td>Dr Julius Parker</td>
<td></td>
<td></td>
</tr>
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</table>
## Useful contacts for Influenza campaign in Thames Valley

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Person</th>
<th>Role</th>
<th>Contact number</th>
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<tbody>
<tr>
<td>Health Protection Unit</td>
<td>Dr Eamonn O’Moore</td>
<td>Director</td>
<td>0845 279 9879</td>
</tr>
<tr>
<td>Berkshire East PCT</td>
<td>Pat Riordan</td>
<td>Director of Public Health</td>
<td>01753 636645</td>
</tr>
<tr>
<td>Berkshire West PCT</td>
<td>Janet Maxwell</td>
<td>Director of Public Health</td>
<td>0118 982 2752</td>
</tr>
<tr>
<td>Buckinghamshire PCT</td>
<td>Jane O’Grady</td>
<td>Director of Public Health</td>
<td>01494 552233</td>
</tr>
<tr>
<td>Milton Keynes PCT</td>
<td>Nick Hicks</td>
<td>Director of Public Health</td>
<td>01908 254246</td>
</tr>
<tr>
<td>Oxfordshire PCT</td>
<td>Jonathan McWilliam</td>
<td>Director of Public Health</td>
<td>01865 336 800</td>
</tr>
<tr>
<td>Royal Berkshire NHS Foundation Trust</td>
<td>Jonathan Fielden</td>
<td>Medical Director</td>
<td><a href="mailto:Jonathan.fielden@royalberkshire.nhs.uk">Jonathan.fielden@royalberkshire.nhs.uk</a></td>
</tr>
<tr>
<td>Heatherwood &amp; Wexham Park Hospitals NHS Trust</td>
<td>John Wiggins</td>
<td>Medical Director</td>
<td>01753 633000</td>
</tr>
<tr>
<td>Buckinghamshire Hospital NHS Trust</td>
<td>Andrew Kirk</td>
<td>Medical Director</td>
<td><a href="mailto:Andrew.kirk@buckshosp.nhs.uk">Andrew.kirk@buckshosp.nhs.uk</a></td>
</tr>
<tr>
<td>Milton Keynes NHS Foundation Trust</td>
<td>Sandro Lanzon-Miller</td>
<td>Medical Director</td>
<td><a href="mailto:Sandro.lanzon-miller@buckshosp.nhs.uk">Sandro.lanzon-miller@buckshosp.nhs.uk</a></td>
</tr>
<tr>
<td>Oxford &amp; Radcliffe Hospital NHS Trust</td>
<td>Jonathan Michael</td>
<td>Medical Director</td>
<td><a href="mailto:Jonathan.michael@orh.nhs.uk">Jonathan.michael@orh.nhs.uk</a></td>
</tr>
<tr>
<td>Berkshire Hospital NHS Trust</td>
<td>Peter Sudbury</td>
<td>Medical Director</td>
<td><a href="mailto:Peter.sudbury@berkshire.nhs.uk">Peter.sudbury@berkshire.nhs.uk</a></td>
</tr>
<tr>
<td>Oxfordshire County Council</td>
<td>Jim Leivers</td>
<td>Director for Children, Education and Families</td>
<td>01865 815449</td>
</tr>
<tr>
<td></td>
<td>Ben Threadgold</td>
<td>Governance, Adult Services</td>
<td>01865 328219</td>
</tr>
<tr>
<td>Buckinghamshire County Council</td>
<td></td>
<td></td>
<td>01296 382173</td>
</tr>
<tr>
<td>Berkshire Unitaries</td>
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<td>01635 503050 01628 632012</td>
</tr>
<tr>
<td>SC Ambulance Service</td>
<td>John Black</td>
<td>Medical Director</td>
<td>01869 365 000</td>
</tr>
<tr>
<td>Local Medical Council</td>
<td>Paul Roblin</td>
<td>Chief Executive</td>
<td></td>
</tr>
<tr>
<td>TV Primary Care Agency</td>
<td>Penny Thorpe</td>
<td>Director</td>
<td>0118 918 3333</td>
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## Useful contacts for Influenza campaign in Hampshire & Isle of White

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Person</th>
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<tr>
<td>Health Protection Unit</td>
<td>Kathryn Rowles</td>
<td>Unit Director</td>
<td>0845 055 2022</td>
</tr>
<tr>
<td>Hampshire PCT</td>
<td>Dr Ruth Milton</td>
<td>Director of Public Health</td>
<td>02380 627444</td>
</tr>
<tr>
<td>Isle of White PCT</td>
<td>Dr Jenifer Smith</td>
<td>Director of Public Health</td>
<td>01983 814281</td>
</tr>
<tr>
<td>Portsmouth PCT</td>
<td>Dr Paul Edmondson-Jones</td>
<td>Director of Public Health</td>
<td>02392 688702</td>
</tr>
<tr>
<td>Southampton PCT</td>
<td>Dr Andrew Mortimore</td>
<td>Director of Public Health</td>
<td>02380 833204</td>
</tr>
<tr>
<td>Hampshire Hospitals NHS Foundation trust</td>
<td>Dr Andrew Bishop</td>
<td>Medical Director</td>
<td>01256 473202</td>
</tr>
<tr>
<td></td>
<td>Jayne Jempson</td>
<td>Head of Midwifery</td>
<td>01256 313329</td>
</tr>
<tr>
<td>University Hospital Southampton NHS Foundation Trust</td>
<td>Dr Michael Marsh</td>
<td>Medical Director</td>
<td>02380 777222</td>
</tr>
<tr>
<td></td>
<td>Maria Dore</td>
<td>Head of Midwifery</td>
<td>02380 796052</td>
</tr>
<tr>
<td>Portsmouth Hospitals NHS Trust</td>
<td>Mr Simon Holmes</td>
<td>Medical Director</td>
<td>02392 286000</td>
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<tr>
<td></td>
<td>Gill Walton</td>
<td>Head of Midwifery</td>
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<tr>
<td>Isle of White NHS Trust</td>
<td>Dr Mark Pugh</td>
<td>Medical Director</td>
<td>01983 524081</td>
</tr>
<tr>
<td></td>
<td>Annie Hunter</td>
<td>Head of Midwifery</td>
<td>01983 534364</td>
</tr>
<tr>
<td>Frimley Park Hospital NHS foundation Trust</td>
<td>Mr Edward Palfrey</td>
<td>Medical Director</td>
<td>01276 604604</td>
</tr>
<tr>
<td></td>
<td>Adrienne Price</td>
<td>Head of Midwifery</td>
<td>01276 604210</td>
</tr>
<tr>
<td>Hampshire County Council</td>
<td></td>
<td>Director Adult social care</td>
<td>0845 603 5630</td>
</tr>
<tr>
<td>Isle of White County Council</td>
<td></td>
<td>Director Adult social care</td>
<td>01983 823340</td>
</tr>
<tr>
<td>Portsmouth County Council</td>
<td></td>
<td>Joint Director Adult social services</td>
<td>023 8083 2548</td>
</tr>
<tr>
<td>Southampton County Council</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Central Ambulance NHS Foundation Trust</td>
<td>Mr John Black</td>
<td>Medical Director</td>
<td>01869 365 000</td>
</tr>
<tr>
<td>Local Medical Council</td>
<td>Dr Nigel Watson</td>
<td>Chief Executive – Wessex LMC</td>
<td>023 8025 3874</td>
</tr>
</tbody>
</table>
Pregnant women’s attitudes to influenza vaccination
suggested questions for questionnaires (if wanted)

Demographics and clinical history
Age group
Ethnic group: census categories
Marital status:
Level of education: census categories
Working status:
Other risk factors for influenza:

Antenatal care
Who provides antenatal care: GP, midwife, mixed

Flu vaccination
Received flu vaccination last season: Y/N
When flu vaccination was received: prior to pregnancy, 1st, 2nd, 3rd trimester, after pregnancy
Where flu vaccination was received: antenatal clinic, GP surgery, other setting
Who administered the flu vaccination: midwife, practice nurse, other
Received flu vaccination in previous seasons: Y/N
Been offered flu vaccination: Y/N
Who offered flu vaccination: GP, midwife, other healthcare professional
Been recommended flu vaccination: Y/N
Who recommended flu vaccination: GP, midwife, other healthcare professional
Been recommended NOT to receive flu vaccination: Y/N
Who recommended NOT to receive flu vaccination: GP, midwife, other

Knowledge regarding flu
Either as true / false statements or agreement scales with statements from strongly agree to strongly disagree:
Pregnant women are at greater risk of becoming seriously ill from flu
Concerned about risk to the baby if mother becomes ill with flu whilst pregnant
Concerned about risk to the baby if it is infected with flu during the first few weeks

Attitudes to flu vaccination
Either as true / false statements or how much agree with statements from strongly agree to strongly disagree:
Concerned about the safety of the flu vaccination for pregnant women
Concerned about the safety of the flu vaccination for the unborn child
Flu vaccination provides protection for the baby after it is born
Flu vaccination is recommended for pregnant women
Flu vaccination is effective in preventing flu
Flu vaccination has been thoroughly tested
Flu vaccination can/cannot give you the flu

Information sources
Either as yes / no questions or how much information seen in the following formats / locations from a lot to none:
Posters, leaflets, newspapers and magazines, TV news, radio news, internet (NHS, DH, other), friends and family, healthcare professionals
Useful links and resources

- Health Protection Agency – [www.hpa.org.uk](http://www.hpa.org.uk)
  - General disease information (for public and health professionals)
  - HPA National Influenza Report
  - Epidemiology/surveillance data
  - HPA guidance (antiviral/management of cases or outbreaks/infection control)
  - Standards for immunisation training

- Centres for Disease Control - [http://www.cdc.gov/flu/](http://www.cdc.gov/flu/)

- European Influenza Surveillance Network -

- Department of Health - [www.dh.gov.uk](http://www.dh.gov.uk)
  - Campaign information
  - Guidance
  - Green Book
  - vaccine uptake data (email vaccine.supply@dh.gsi.gov.uk to receive regular editions containing essential information about fl vaccines)

- National Institute for Health and Clinical Excellence - [www.nice.org.uk](http://www.nice.org.uk)

- NHS choices - [www.nhs.uk](http://www.nhs.uk)

- World Health Organization - [www.who.int/influenza/en](http://www.who.int/influenza/en)
  - Surveillance and monitoring
  - Vaccines
  - Guidance
### Appendix 1

Clinical risk groups who should receive the influenza immunisation

<table>
<thead>
<tr>
<th>Clinical risk category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic respiratory disease, including asthma</td>
<td>Asthma that requires continuous or repeated use of inhaled or systemic steroids or with previous exacerbations requiring hospital admission.</td>
</tr>
<tr>
<td></td>
<td>Chronic obstructive pulmonary disease, including chronic bronchitis and emphysema; bronchiectasis, cystic fibrosis, interstitial lung fibrosis, pneumoconiosis and bronchopulmonary dysplasia.</td>
</tr>
<tr>
<td></td>
<td>Children who have previously been admitted to hospital for lower respiratory tract disease.</td>
</tr>
<tr>
<td>Chronic heart disease</td>
<td>Congenital heart disease hypertension, with cardiac complications, chronic heart failure, individuals requiring regular medication and/or follow up for ischemic heart disease</td>
</tr>
<tr>
<td>Chronic kidney disease</td>
<td>Chronic kidney disease at stage 3, 4 or 5, chronic kidney failure, nephritic syndrome, kidney transplantation</td>
</tr>
<tr>
<td>Chronic liver disease</td>
<td>Cirrhosis, biliary atresia and chronic hepatitis</td>
</tr>
<tr>
<td>Chronic neurological disease</td>
<td>Stroke, transient ischemic attack. Conditions in which respiratory function may be compromised (e.g. polio syndrome sufferers).</td>
</tr>
<tr>
<td></td>
<td>Clinicians should consider on an individual basis the clinical needs of patients including individuals with cerebral palsy, multiple sclerosis and related or similar conditions; or hereditary and degenerative disease of the nervous system or muscles; or severe neurological disability</td>
</tr>
<tr>
<td>Diabetes requiring insulin or oral hypoglycaemic drugs</td>
<td>Type 1 diabetes, and type 2 diabetes requiring oral hypoglycaemic drugs, diet controlled diabetes</td>
</tr>
<tr>
<td>Immunosuppression</td>
<td>Due to disease or treatment. Patients undergoing chemotherapy leading to immunosuppression. Asplenia or splenic dysfunction, HIV infection at all stages.</td>
</tr>
<tr>
<td></td>
<td>Individuals treated with or likely to be treated with systemic steroids for more than one month at a dose equivalent to prednisolone at 20mg or more per day (any age0 or for children under 20kg a dose of 1mg or more per kg per day.</td>
</tr>
<tr>
<td></td>
<td>It is difficult to define at what level of immunosuppression a patient could be considered to be at a greater risk of serious consequences of influenza and should be offered influenza vaccination. This decision is best made on an individual basis and left to the patient’s clinician.</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>Pregnant women at any stage of pregnancy</td>
</tr>
</tbody>
</table>

Taken from *Immunisations against infectious diseases* The Green Book 2006.
Appendix 2

Search criteria for literature searches

1. BNI
1. BNI; exp PREGNANCY/ [Limit to: Publication Year 2005-Current]; 4619 results.
2. BNI; (pregnant OR pregnancy OR antenatal).ti,ab [Limit to: Publication Year 2005-Current]; 2585 results.
3. BNI; 1 OR 2 [Limit to: Publication Year 2005-Current]; 5100 results.
4. BNI; exp INFLUENZA/ [Limit to: Publication Year 2005-Current]; 304 results.
5. BNI; (influenza OR flu).ti,ab [Limit to: Publication Year 2005-Current]; 366 results.
6. BNI; 4 OR 5 [Limit to: Publication Year 2005-Current]; 367 results.
7. BNI; 3 AND 6 [Limit to: Publication Year 2005-Current]; 11 results.

2. CINAHL
1. CINAHL; exp PREGNANCY/ [Limit to: Publication Year 2005-2012 and (Language English)]; 39575 results.
2. CINAHL; (pregnancy OR pregnant OR antenatal).ti,ab [Limit to: Publication Year 2005-2012 and (Language English)]; 18761 results.
3. CINAHL; 1 OR 2 [Limit to: Publication Year 2005-2012 and (Language English) and (Language English)]; 43403 results.
4. CINAHL; exp INFLUENZA VACCINE/ OR exp INFLUENZA/ OR exp INFLUENZA A VIRUS/ OR exp INFLUENZA, HUMAN/ [Limit to: Publication Year 2005-2012 and (Language English)]; 8240 results.
5. CINAHL; (influenza OR flu).ti,ab [Limit to: Publication Year 2005-2012 and (Language English)]; 6396 results.
6. CINAHL; 4 OR 5 [Limit to: Publication Year 2005-2012 and (Language English) and (Language English)]; 9274 results.
7. CINAHL; 3 AND 6 [Limit to: Publication Year 2005-2012 and (Language English) and (Language English) and (Language English) and (Language English)]; 431 results.
8. CINAHL; Duplicate filtered: [3 AND 6 [Limit to: Publication Year 2005-2012 and (Language English) and (Language English) and (Language English)]]]; 431 results.

3. EMBASE
1. EMBASE; exp FIRST TRIMESTER PREGNANCY/ OR exp PREGNANCY/ OR exp SECOND TRIMESTER PREGNANCY/ OR exp THIRD TRIMESTER PREGNANCY/; 516989 results.
2. EMBASE; (pregnancy OR pregnant OR antenatal).ti,ab; 346146 results.
3. EMBASE; 1 OR 2; 625312 results.
4. EMBASE; exp 2009 H1N1 INFLUENZA/ OR exp INFLUENZA/ OR exp "INFLUENZA A (H1N1)"/ OR exp INFLUENZA A/ OR exp "INFLUENZA A (H2N2)"/ OR exp "INFLUENZA A (H3N2)"/ OR exp "INFLUENZA A (H5N1)"/ OR exp INFLUENZA B/ OR exp INFLUENZA C/ OR exp INFLUENZA VACCINATION/ OR exp INFLUENZA VIRUS/ OR exp INFLUENZA VACCINE/ OR exp INFLUENZA VIRUS A/ OR exp INFLUENZA VIRUS A H10N7/ OR exp INFLUENZA VIRUS A H1N1/ OR exp INFLUENZA VIRUS A H1N2/ OR exp INFLUENZA VIRUS A H2N2/ OR exp INFLUENZA VIRUS A H3N2/ OR exp INFLUENZA VIRUS A H3N8/ OR exp INFLUENZA VIRUS A H5N1/ OR exp INFLUENZA VIRUS A H5N2/ OR exp INFLUENZA VIRUS A H7N1/ OR exp INFLUENZA VIRUS A H7N2/ OR exp INFLUENZA VIRUS A H7N3/ OR exp INFLUENZA VIRUS A H7N7/ OR exp INFLUENZA VIRUS A H9N2/ OR exp INFLUENZA VIRUS B/ OR exp INFLUENZA VIRUS C/ OR exp SEASONAL INFLUENZA/ OR exp PANDEMIC INFLUENZA/ OR exp SWINE INFLUENZA/ OR exp SWINE INFLUENZA VIRUS/ OR exp SWINE INFLUENZA VACCINE/; 72780 results.
5. EMBASE; (influenza OR flu).ti,ab; 66481 results.
6. EMBASE; 4 OR 5; 85593 results.
7. EMBASE; exp IMMUNIZATION/; 177006 results.
8. EMBASE; exp VACCINATION/; 95923 results.
9. EMBASE; (vaccine* OR immunis* OR immuniz*).ti,ab; 270839 results.
10. EMBASE; 7 OR 8 OR 9; 321187 results.
11. EMBASE; 3 AND 6 AND 10; 965 results.
12. EMBASE; 11 [Limit to: Publication Year 2005-Current and Human and English Language]; 500 results.

4. MEDLINE
1. MEDLINE; exp PREGNANCY/ OR exp PREGNANCY TRIMESTER, FIRST/ OR exp PREGNANCY TRIMESTER, SECOND/ OR exp PREGNANCY TRIMESTER, THIRD/ OR exp PREGNANCY TRIMESTERS/; 656277 results.
2. MEDLINE; (pregnant OR pregnancy OR antenatal).ti,ab; 311080 results.
3. MEDLINE; 1 OR 2; 715707 results.
4. MEDLINE; exp INFLUENZA, HUMAN/; 28826 results.
5. MEDLINE; (Influenza OR flu).ti,ab; 60213 results.
6. MEDLINE; 4 OR 5; 64827 results.
7. MEDLINE; 3 AND 6; 1752 results.
8. MEDLINE; 7 [Limit to: Humans and English Language]; 1169 results.
9. MEDLINE; exp IMMUNIZATION/ OR exp VACCINATION/ OR exp IMMUNIZATION PROGRAMS/; 126711 results.
10. MEDLINE; (vaccin* OR immunis* OR immuniz*).ti,ab; 251149 results.
11. MEDLINE; 9 OR 10; 297516 results.
12. MEDLINE; 3 AND 6 AND 11; 607 results.
13. MEDLINE; 12 [Limit to: Humans and English Language]; 448 results.
14. MEDLINE; 13 [Limit to: Publication Year 2005-Current and Humans and English Language]; 281 results.
15. MEDLINE; 7 [Limit to: Publication Year 2005-Current]; 851 results.
Appendix 3

Improving flu vaccine uptake amongst pregnant women

GP Questionnaire

<table>
<thead>
<tr>
<th>Name of GP Practice</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of person completing form</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>PCT</td>
</tr>
</tbody>
</table>

**SECTION 1: GP Views about flu vaccination**

1a. Do you currently actively promote flu vaccination for pregnant women? [Y / N]

1b. If not, please explain briefly your reasons for this:

2a. Do you have any other concerns about giving flu vaccine in pregnancy? [Y / N]

2b. If so, please briefly describe any concerns that you have not already mentioned:

3. Whose responsibility is it to ensure pregnant women receive the flu vaccination? (Please tick one answer)

   - GP
   - Midwife

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### SECTION 2: Practice arrangement for identifying and contacting pregnant women

<table>
<thead>
<tr>
<th>Question</th>
<th>Y / N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Is there a system in your practice for informing GPs of patients who are pregnant?</td>
<td></td>
</tr>
<tr>
<td>1b. If so, please describe how you are informed about this information:</td>
<td></td>
</tr>
<tr>
<td>1c. If so, please describe how this information is recorded:</td>
<td></td>
</tr>
<tr>
<td>2a. Does your practice have a system for inviting all pregnant women for flu vaccination?</td>
<td></td>
</tr>
<tr>
<td>2b. If so, what system is used for this? (Please tick all that apply)</td>
<td></td>
</tr>
<tr>
<td>Letter</td>
<td></td>
</tr>
<tr>
<td>Phone call</td>
<td></td>
</tr>
<tr>
<td>Text</td>
<td></td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
</tr>
<tr>
<td>3a. Do you have a system for following up women who do not come forward or miss their appointment?</td>
<td></td>
</tr>
<tr>
<td>3b. If so, please describe this system:</td>
<td></td>
</tr>
</tbody>
</table>
4. How successful do you feel your practice is at vaccinating pregnant women?  
(Please tick one answer)

<table>
<thead>
<tr>
<th>Very successful</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful</td>
<td></td>
</tr>
<tr>
<td>Quite successful</td>
<td></td>
</tr>
<tr>
<td>You have concerns about the success</td>
<td></td>
</tr>
</tbody>
</table>

5. Are you aware of your flu vaccination rate for pregnant women?  
\[ \text{Y} / \text{N} \]

6. Do you think receiving updates on your flu vaccination rates for at risk groups from the PCT throughout the ‘flu campaign’ would be useful?  
\[ \text{Y} / \text{N} \]

7a. How aware of the need to vaccinate pregnant women do you believe the clinical staff are?  
(Please tick one answer)

<table>
<thead>
<tr>
<th>Very aware</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quite aware</td>
<td></td>
</tr>
<tr>
<td>Not very aware</td>
<td></td>
</tr>
<tr>
<td>Not at all aware</td>
<td></td>
</tr>
</tbody>
</table>

7b. How aware of the need to vaccinate pregnant women do you believe the admin staff are?  
(Please tick one answer)

<table>
<thead>
<tr>
<th>Very aware</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quite aware</td>
<td></td>
</tr>
<tr>
<td>Not very aware</td>
<td></td>
</tr>
<tr>
<td>Not at all aware</td>
<td></td>
</tr>
</tbody>
</table>
### SECTION 3: GP views about future / alternative arrangements for vaccinating pregnant women

1. Where do you feel it is appropriate for pregnant women to be vaccinated?
   - Antenatal clinics
   - GP Practices
   - Other (specify)

2a. If the pregnant woman was vaccinated outside of the GP practice, would you be happy for the information to be uploaded on to ImmForm by your practice?

2b. If so, would this incur a payment cost?

3. Would you be happy to display information in your practice encouraging pregnant women to access the flu vaccine in these formats:
   - Posters
   - Leaflets
   - Electronic message board
   - Other (specify)

4. Do you currently display information in your practice encouraging pregnant women to access the flu vaccine?

### SECTION 4: GENERAL

1. Have you any other comments or suggestions about how the uptake of flu vaccination in pregnant women or other risk groups can be improved?
Appendix 4

Influenza vaccination in pregnancy
Survey of general practice systems and processes

Background

A questionnaire was developed (Appendix 1) in order to investigate the views of General Practice teams regarding influenza vaccination in pregnancy and to investigate systems and processes in place. General Practices in each of the eight Primary Care Trusts (PCTs) covered by the two Health Protection Units (HPUs) (Surrey and Sussex HPU and Kent HPU) were included in the survey. The practices were initially approached by telephone and, if they agreed to take part in the survey, a questionnaire was emailed or faxed to the Practice. The questionnaire was piloted prior to implementation.

Response rate

30 questionnaires were sent to General Practices in Kent, Surrey and Sussex between 14th March 2012 and 6th April 2012. At least three questionnaires were sent to each of the eight PCTs in the area. 14 responses had been received by 13th March 2012; at least one response was received from each of the eight PCTs. This represents an overall response rate of just under 50%. Questionnaires were completed by General Practitioners, Practice Managers or a variety of other staff.

Responses to the questionnaires are shown in detail in Appendix 2 and a summary is provided below.

Section 1: Views about vaccination

The vast majority of Practices were happy to advocate the influenza vaccination in pregnancy and did not have particular concerns. A small number of practices expressed concerns, such as lack of information for pregnant women (Figure 1).
The opinion of Practices about which staff group is viewed as responsible for ensuring that pregnant women are vaccinated was not available for five Practices. Of the other Practices, five responded that they feel it is the GPs responsibility and four that it is the midwives responsibility (Figure 2).

Section 2: Practice arrangements for identifying and contacting pregnant women

Most Practices (13/14) had some kind of system for informing GPs about women who are pregnant, but a number of Practices (5/14) explained that the women would first present to the GP. A majority of Practices stated that the fact that a woman is pregnant would be added to her clinical record.

Figure 3 shows that 50% of Practices invite women by letter, 14% by phone and 50% using other systems (some Practices identified more than one method). These other systems were described as verbal and personal invitations or referrals.
Around half of Practices had a specific follow up system for influenza vaccination for pregnant women. Practices that responded to a question about the details of these systems all reported that this was done by letter.

Around half of the Practices who responded said that they had concerns about the uptake of influenza vaccination in pregnant women in their Practice. One Practice said that they were "very successful" and one that they were "successful" (Figure 4).

The majority of Practices were aware of their influenza vaccination rates for pregnant women (10/14) and just over half of Practices (8/14) who responded stated that it would be helpful to receive feedback about their rate (Figure 5).

Almost all respondents stated that their clinical staff were "very aware" or "quite aware" of the need to vaccinate pregnant women. The picture was slightly different
for administrative staff. Fewer respondents stated that administrative staff were “very aware” of the need to vaccinate pregnant women and three respondents that administrative staff were “not very aware”.

Section 3: Views about future and alternatives for vaccinating pregnant women

All respondents stated that antenatal clinics, GP Practices or both were appropriate settings for influenza vaccination for pregnant women. One Practice suggested that other settings at which pregnant women may present should also be considered (Figure 6).

The vast majority of Practices responded that they would be happy for the Practice to upload information onto ImmForm if pregnant women were vaccinated elsewhere. No Practice stated that this would be unacceptable, although a small number stated that this may incur a cost.

Figure 7 shows the formats in which respondents would be happy to display information about influenza vaccination and pregnant women. All Practices would be happy to display leaflets and most Practices would be happy to display posters. Practices with electronic message boards were generally happy to display information in this format. Four respondents suggested displaying information on their website and three in their newsletter.
Around three quarters (7/9) of Practices who responded to the question about currently displaying information about influenza vaccination in pregnancy said that they do so.

**Section 4: General**

12 comments were received in the “general comments” section of the questionnaire.

The most common theme related to the key role of midwives. This was commented on seven times; twice suggesting that midwives are best placed to administer the vaccination, twice specifically mentioning or implying that training would be beneficial and three times in relation to the importance of midwives being proactive. Communication was mentioned three times; twice with regard to the need for a media campaign and once related to the need for information leaflets for pregnant women. The final theme was concern about the vaccination; once relating to vaccine safety and once to concern that pregnant women would decline the offer.

**Conclusions**

- Many Practices have some concerns about their uptake rate
- Some Practices have ad hoc arrangements for alerting GPs about pregnant women and inviting them for vaccination
- Many Practices have no follow up system
- Not all staff are as aware of the need for influenza vaccination in pregnant women as they could be, especially administrative staff
- Virtually all Practices would be happy to upload information on to ImmForm, but this may incur a cost for a small number
- It would be acceptable if vaccination were administered in antenatal clinics, GP Practices or combinations of these settings
- Practices would consider displaying information in a wide variety of formats
- The role of the midwife is considered pivotal.
Recommendations

1. Training should be available to all primary care staff, including GPs and other clinical staff and administrative staff.
2. Resources should be provided about good practice for systems for alerting GPs to pregnancy and inviting women for vaccination and follow up.
3. Practices should receive feedback on their uptake rates.
4. Models for administering influenza vaccination for pregnant women should include antenatal clinics and GP practices and combined settings.
5. Resources should be provided to support the reimbursement of GPs for inputting information onto ImmForm if necessary.
6. Information about influenza vaccination in pregnancy should be provided in a variety of formats, including posters, leaflets, messages for electronic message boards and material that can be used on websites or in newsletters.
7. A training pack for midwives should be developed.
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