



Public Health
England



Department
of Health

NHS
England

Flu plan Winter 2013/14

July 2013

About Public Health England

We work with national and local government, industry and the NHS to protect and improve the nation's health and support healthier choices. We address inequalities by focusing on removing barriers to good health.

We were established on 1 April 2013 to bring together public health specialists from more than 70 organisations into a single public health service.

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Any enquiries regarding this publication should be sent to us at immunisation@phe.gov.uk

You can download this publication from: www.gov.uk/government/organisations/public-health-england/series/immunisation

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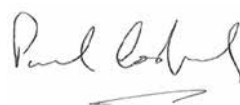
Foreword

Each year the NHS prepares for the unpredictability of flu. For most healthy people, flu is an unpleasant but usually self-limiting disease with recovery generally within a week. However, older people, the very young, pregnant women and those with underlying disease, particularly chronic respiratory or cardiac disease, or those who are immunosuppressed, are at particular risk of severe illness if they catch flu.

Flu is an unpredictable but recurring pressure that the NHS faces during the winter. Last season was a mild flu season but it is important that we do not become complacent and continue to be as prepared as possible for the next high incidence flu season, whenever that may be. There are still improvements we can make in the NHS, the Department of Health (DH) and Public Health England (PHE) for preventing and managing flu in the future. Some of these include increasing the uptake of vaccine especially among those in clinical risk groups, pregnant women and healthcare workers with direct patient contact and social care workers.

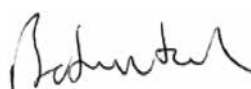
This is the third flu plan to be published. Previously issued by DH, this year's Flu plan is being published jointly on behalf of DH, NHS England, and PHE. It supports a coordinated and evidence-based approach to planning for the demands of flu across England. A separate letter containing details of the extension of the flu programme to children is being issued at the same time as the *Flu Plan*.

The Annual Flu Letter, which has already been issued, and this Flu plan have the support of the Chief Medical Officer (CMO), Chief Pharmaceutical Officer (CPhO) and Director of Nursing. We commend it to you, and hope that you find it useful in preparing for this winter.



Dr Paul Cosford

Public Health England, Medical Director and Director of Health Protection



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NHS England, Chief Operating Officer and Deputy Chief Executive



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Introduction

This *Flu plan* sets out a coordinated and evidence-based approach to planning for and responding to the demands of flu across England taking account of lessons learnt during previous flu seasons. It will aid the development of robust and flexible operational plans by local organisations and emergency planners within the NHS and local government. It provides the public and healthcare professionals with an overview of the coordination and the preparation for the flu season and signposting to further guidance and information.

The *Flu plan* is supported by the following:

- Annual Flu Letter from the DH, NHS England, and PHE issued on the 5 June¹
- Influenza chapter in *Immunisation against infectious disease* (the Green Book, chapter 19)² which is updated regularly, sometimes during a flu season

¹ www.gov.uk/government/organisations/public-health-england/series/immunisation

² www.gov.uk/government/organisations/public-health-england/series/immunisation-against-infectious-disease-the-green-book

Reform of the NHS and public health system

The Health and Social Care Act 2012 creates a new set of responsibilities for the delivery of public health services. In England, although the local leadership for improving and protecting the public's health sits with local government, the reforms provide specific roles for the NHS England and PHE for the commissioning and system leadership of the national immunisation programmes. NHS England has responsibility for commissioning the programme and GPs, midwives, other healthcare professionals and immunisation system leaders, managers and coordinators play a vital role in delivery. NHS England will ensure that robust plans are in place locally to identify all eligible patients, to ensure that sufficient vaccine has been ordered by practices to meet their needs, and that high vaccination uptake levels are reached in all the eligible groups. Local authorities, through the auspices of the Director of Public Health (DPH), will provide independent scrutiny and challenge of the arrangements of NHS England, PHE and providers.³

Each of the partners has its own responsibilities for which it is accountable. In outline these are:

The Department of Health is responsible for:

- policy decisions on the response to the flu season

- holding NHS England and PHE to account through their respective framework agreements, the Mandate, and the Section 7A agreement
- oversight of the supply of antiviral medicines

NHS England is responsible for:

- commissioning the flu vaccination programme under the terms of the Section 7A agreement
- assuring that the NHS is prepared for the forthcoming flu season
- building close working relationships with Directors of Public Health (DsPH) to ensure that local population needs are understood and addressed by providers of flu vaccination services

Public Health England is responsible for:

- planning and implementation of the national approach
- monitoring and reporting of key indicators related to flu, including flu activity and vaccine uptake
- oversight of vaccine supply and the strategic reserve
- advising NHS England on the commissioning of the flu vaccination programme

- supporting DsPH in local authorities in their role as local leaders of health and ensuring that they have all relevant expert input, surveillance and population data needed to carry out this role effectively

Local authorities, through their Director of Public Health, have responsibility for:

- providing appropriate challenge to local arrangements and advocacy with key stakeholders to ensure access to flu vaccination and to improve its uptake by eligible populations
- providing independent scrutiny and challenge to the arrangements of NHS England, PHE and local authority employers of frontline social care staff and other providers of health and social care
- providing leadership, together with local resilience partners to respond appropriately to local incidents and outbreaks of flu infection

Clinical Commissioning Groups (CCGs) are responsible for:

- a duty of quality assurance and improvement which extends to primary medical care services delivered by GP practices including flu vaccination and antiviral medicines

GP practices and other providers are responsible for:

- ordering the correct amount and type of vaccine for their eligible patients, taking into account year on year increases or new groups identified for vaccination and the ambition for uptake
- ensuring that all those eligible for the flu vaccine are invited personally to receive their vaccine
- encouraging and facilitating flu vaccination of their own staff
- ensuring that antiviral medicines are prescribed for appropriate patients, once the CMO/CPhO letter has been distributed alerting them that antiviral medicines can be prescribed

All employers of individuals working in the NHS are responsible for:

- management and oversight of the flu vaccination campaign for their frontline staff
- support to providers to ensure access to flu vaccination and to maximise uptake amongst those eligible to receive it

3 See "Immunisation and Screening National Delivery Framework & Local Operating Model" at www.england.nhs.uk/wp-content/uploads/2013/05/del-frame-local-op-model-130524.pdf

Influenza and the flu virus

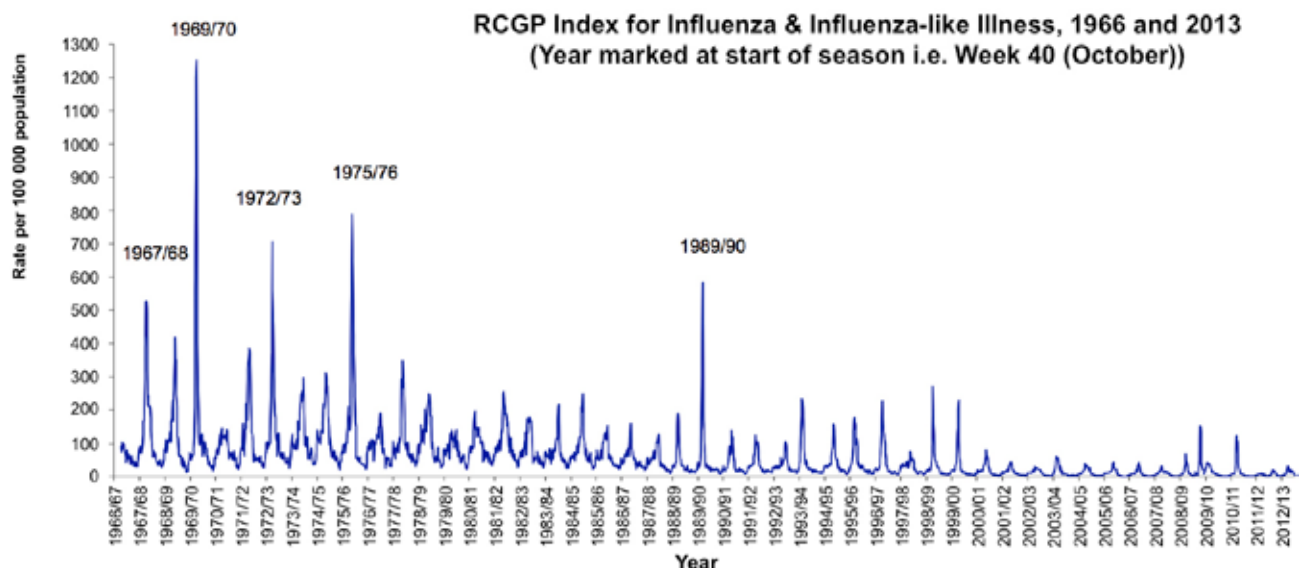
Influenza (often referred to as flu) is an acute viral infection of the respiratory tract (nose, mouth, throat, bronchial tubes and lungs) characterised by a fever, chills, headache, muscle and joint pain and fatigue. For otherwise healthy individuals, flu is an unpleasant but usually self-limiting disease with recovery within two to seven days. Flu is easily transmitted and even people with mild or no symptoms can still infect others. The risk of serious illness from influenza is higher amongst children under six months of age, older people and those with underlying health conditions such as respiratory disease, cardiac disease or immunosuppression, as well as pregnant women. These groups are at greater risk of complications from flu such as bronchitis or pneumonia or in some rare cases, cardiac

problems, meningitis and/or encephalitis. The influenza chapter in the green book contains more details of the epidemiology of flu.

Impact of flu each winter on the population

The impact of flu on the population varies from year to year and is influenced by changes in the virus that, in turn, influence the proportion of the population that may be susceptible to infection and the severity of the illness.

The table below shows the rate of influenza-like illness (ILI) per 100,000 consultations in primary care in the population of England and Wales from 1966 to 2012/13. The data show that flu viruses circulate each winter season, but the degree of activity varies substantially.⁴



⁴ Data courtesy of influenza surveillance, CIDSC, PHE. See www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Seasonalinfluenza

Strategic objectives

The objective of the flu programme is to minimise the health impact of flu through effective monitoring, prevention and treatment, including:

- actively offering the flu vaccination to 100% of all those in the eligible groups, including health and social care workers, and vaccinating at least 75% of those 65 years and over and those under 65 in a risk group
- monitoring flu activity, severity of the disease, vaccine uptake and impact on the NHS
- offering antiviral medicines to patients in at-risk groups as well as those patients who the prescriber believes may suffer serious complications if not treated, in line with NICE guidance and Schedule 2 to the National Health Service (General Medical Services Contracts) (Prescription of drugs etc) Regulations 2004), commonly known as the Grey List or Selected List Scheme (SLS). These may only be prescribed once the CMO/CPhO letter has been sent to prescribers informing them that they are now able to prescribe antiviral medicines at NHS expense⁵
- providing public health information to prevent and protect against flu
- managing and implementing the public health response to incidents and outbreaks of flu
- ensuring the NHS is well prepared and has appropriate surge and resilience arrangements in place during the flu season

Elements of the flu programme

Flu surveillance

The previous flu surveillance responsibilities of the Health Protection Agency (HPA) have transferred to PHE. A weekly report will be published which will include a range of indicators on flu that is in circulation including:

- the amount of flu-like illness (ILI) in the community
- the prevalent strain(s) of flu circulating
- the proportions of clinical samples that are positive for flu or other specified viruses
- the number of flu-related hospital admissions
- the relative impact of flu on different groups of people, by age and by clinical condition (including data on deaths where flu is the confirmed cause) based on data from intensive care units
- excess mortality monitoring
- the international situation

Flu vaccination

The flu vaccination programme is based on an assessment of the cost effectiveness of the use of vaccine for people in specific risk groups. Those over the age of 65, pregnant women and those in a clinical risk group (Annex C) are currently offered vaccination annually.

The Joint Committee on Vaccination and Immunisation (JCVI) keeps the available evidence under review and modifies its advice should evidence suggest that the programme could be more effective. In July 2012, the JCVI recommended that the flu vaccination programme should be extended to healthy children aged 2-16 years. JCVI recognised that implementation of this ambitious programme would be challenging and advised that its introduction would require careful planning. Further details about the phased introduction of this programme are being issued in a letter alongside the *Flu Plan*.

Vaccine uptake information is reported by PHE for the following groups:

- people aged 65 and over
- people aged under 65 with specific clinical conditions
- all pregnant women
- healthcare workers with direct patient contact

The information is collected via the web-based ImmForm system that collates weekly data extracted automatically from a large national sample of GP practices (over 80%)⁶. Monthly collections start in early November for all GP practices and from all local areas (for healthcare workers with direct patient contact) and continue to early February. Weekly data provide representative estimates

of national uptake by GP patient groups and monthly collections provide national and local level estimates of vaccine uptake by GPs' patients and healthcare workers with direct patient contact. The weekly and monthly data are published with the monthly data on GP patients available for each CCG and NHS England area team. The final end of flu season data on GP patients are also presented by local authority (aggregated by practices located in each local authority) to inform Public Health Outcomes Framework indicators 3.03xiv and 3.03xv.

Vaccine supply

The flu virus is constantly mutating and so it is necessary to formulate each season's flu vaccine for the flu vaccination programme to match the strains likely to be circulating the following winter. The World Health Organization (WHO) therefore monitors the epidemiology of flu viruses throughout the world in order to make recommendations about the strains to be included in flu vaccines for the coming winter.⁷ Vaccine strains recommended for the 2013/14 flu season are:

- an A/California/7/2009 (H1N1)pdm09-like virus
- an A(H3N2) virus antigenically like the cell-propagated prototype virus A/Victoria/361/2011
- a B/Massachusetts/2/2012-like virus

This year for the first time a quadrivalent vaccine will be available – this contains an Influenza B/Brisbane/3/2007 (Yamagata) in addition.

Manufacturers begin vaccine production once the WHO issues recommendations in

February as to which strains to include. As manufacture of flu vaccine is complex and constrained by the length of time available between the WHO recommendations and the opportunity to vaccinate before the flu season, manufacturers may not be able to respond to unexpected demands for vaccine at short notice, or to allow for changes/mutations to the strains that may be identified later in the year. More detail on the vaccine manufacturing process is in Annex B.

Flu vaccine is procured directly by the provider from the manufacturer. In some areas, community pharmacists have also previously been commissioned to provide flu vaccination services. It is recommended that immunisers ensure they have ordered from more than one supplier and have adequate supplies for the 2013/14 season, allowing for greater uptake than in previous years (see 'Plans to improve' section). They are also asked to pay attention to ordering the most appropriate type of vaccine such as Fluenz[®] for children in clinical risk groups and enough egg-free or low ovalbumin content vaccine for those patients who may require it.

Further details about the extension of the flu vaccination programme to children for 2013/14 are covered in a separate joint DH, NHS England and PHE letter. At this stage we recommend that providers purchase vaccine for at risk groups as usual, including for at risk children. Vaccine for the extension of the programme to healthy children will be purchased and supplied centrally.

PHE will provide some oversight to help facilitate a constant supply of vaccine, liaising with vaccine manufacturers to ascertain whether there are any manufacturing problems that might affect either the number of doses available or the dates of delivery.

If there are factors that are sufficiently serious to significantly affect the vaccination programme, PHE will issue guidance to the NHS suggesting arrangements to minimise the impact, for example advising GPs to prioritise particular clinical risk groups over other eligible groups.

Central strategic reserve

PHE has purchased a small central strategic reserve of flu vaccine to use if necessary to mitigate the impact of shortages. This stock has been purchased from more than one manufacturer to reduce any risk of reliance on a single supplier, and to conform to European directives on government procurement. The stockpile is intended only as an 'insurance policy' and will only be issued when PHE and DH determine that it is required to fill national shortages that cannot be managed locally. A guidance document outlines the circumstances under which the reserve will be made available to the NHS by placing orders through ImmForm⁸.

NHS England assurance process

Assurance of the planning and delivery of the flu vaccination programme is vital to its success. Area Teams will provide assurance before the flu season that all GP practices are prepared for the upcoming season. Area Team leads will assure themselves that:

- the necessary structures are in place to assess the performance of providers against flu vaccination plans for 2012/13 in order to help planning for 2013/14
- robust flu vaccination plans are in place to meet or exceed the vaccine uptake ambitions for 2013/14. To support this process, a checklist is attached at Annex E of the steps that GP practices can reasonably be expected to take to

improve uptake of flu vaccine among their eligible patients

- adequate amounts of vaccine have been ordered, noting that extra vaccine will be needed for higher levels of coverage, and anticipating that the target population will be greater
- sufficient supplies of certain flu vaccines have been ordered for patients who require particular flu vaccines due to their age or because of contraindications
- arrangements are in place to ensure the collection and provision of data on vaccinations to support the local and national monitoring of the delivery of the programme and flu vaccine uptake

Area Teams will be expected to report on the performance and outcome of the programme as part of the responsibilities that NHS England has agreed for the flu vaccination programme under a Section 7A agreement with the Secretary of State for Health.

NHS England through its Head of Public Health commissioning and Screening and Immunisation Team should provide regular reports to local authority DsPH on performance of local screening and immunisation programmes as described through public health outcome indicators, key performance indicators and use of outcome indicators where available.

Local authority scrutiny

Local authorities have a responsibility to provide information and advice to relevant bodies within their areas to protect the population's health.⁹ Although not included in the regulations this can reasonably be assumed to include immunisation.

Local authorities will provide independent scrutiny and challenge of the arrangements of NHS England, PHE and providers. This function may be carried out through agreed local mechanisms such as local programme boards for screening and immunisation programmes or using established health protection sub-committees of the health and wellbeing boards. They also have a duty to ensure that frontline social care workers are offered flu vaccination and are encouraged to take this up. They may also wish to offer an extended provision of flu vaccination to frontline staff working in institutions with vulnerable populations, such as special schools.

The Director of Public Health in the local authority is expected to provide appropriate challenge to arrangements and also to advocate within the local authority and with key stakeholders to improve access and uptake of flu vaccination.

Antiviral medicines

Following the then National Institute for Health and Clinical Excellence (NICE) guidance and Schedule 2 to the National Health Service (General Medical Services Contracts) (Prescription of drugs etc) Regulations 2004), commonly known as the Grey List or Selected List Scheme (SLS), antiviral medicines should usually only be prescribed in primary care once DH has notified GPs and other prescribers that it is clinically appropriate to do so. The exceptions to this are outbreaks of suspected influenza in care/nursing homes which may occur out of season and possible cases of influenza in the hospital setting. The Grey List restrictions do not apply to hospitals. If a clinician within a hospital setting sees a patient who they believe is suffering symptoms of flu and would suffer complications if not treated,

they are able to prescribe antiviral medicines. Hospital pharmacies should ensure that in such situations they are able to access antiviral medicines in a timely manner. GPs and other prescribers will be notified through a letter from the CMO/CPhO and based on advice from PHE regarding the levels of flu circulating in the community and other indicators such as the number of flu-related hospital admissions or confirmed outbreaks. Once the CMO/CPhO letter has been sent to primary care, antiviral medicines can be prescribed for patients in the at-risk groups and for patients who are not in one of the identified clinical risk groups but who it is considered may be at risk of developing serious complications from flu if not treated. In order to minimise the development of antiviral resistance, it is important that prescribers use antiviral medicines prudently, taking into account national guidance and prescribing in accordance with the marketing authorisations of the antiviral medicines. GPs should continue to monitor their use, especially in immunosuppressed individuals where resistance is more likely to be seen.

DH will notify the manufacturers of antiviral medicines and wholesalers when the notification has been issued to prescribers, so they are prepared for an increase in demand to ensure that there are enough antiviral medicines in the supply chain so that pharmacists are able to supply them when patients present to pharmacies with prescriptions. Prior to this and during the flu season, DH will be in regular contact with manufacturers and wholesalers to ensure that there are enough antiviral medicines in the supply chain to meet demand. DH will also communicate with pharmacy organisations immediately before the letter is issued and regularly thereafter if necessary to ensure that community pharmacies are able to access

and supply antiviral medicines when they are presented with prescriptions.

The government holds large stocks of antiviral medicines in case of a flu pandemic. In the event of the commercial sector supply chain for antiviral medicines running low, antiviral medicines from the national pandemic flu stockpile may be made available to suppliers as a contingency subject to arrangements about replenishment.

Local planning allows the NHS to manage winter pressures effectively by implementing local escalation plans where necessary, in response to local circumstances and needs. An example of local management of pressure could include, for instance, the cancellation of routine surgery to create additional capacity in critical care for those suffering from flu. Daily monitoring arrangements allow the NHS to monitor key indicators of pressure across the acute sector.

NHS winter planning

Flu is one of the factors that the NHS considers as part of winter preparedness. Each year the NHS plans for and responds to winter pressures. This year, as in previous years, the NHS had plans in place that enabled it to cope well with winter pressures. Pressures associated with winter include:

- the impact of adverse weather, including snow and ice causing increased numbers of accidents
- flu, which has a variable impact, depending on the severity of the season, and
- the impact of norovirus on the acute sector, including the closure of beds in accordance with infection control processes

6 Vaccine uptake data is based on registered GP practice population. Data source: ImmForm reporting website www.immform.dh.gov.uk/SignIn.aspx?ReturnURL=%2f

7 www.who.int/influenza/vaccines/virus/recommendations/2013_14_north/en/index.html

8 <http://webarchive.nationalarchives.gov.uk/20130105001007/http://www.dh.gov.uk/health/2011/10/accessing-the-flu-vaccine-strategic-reserve-in-england/>

9 Draft regulations laid before Parliament under section 272(6) of the National Health Service Act 2006 and section 240(6) of the Local Government and Public Involvement in Health Act 2007, for approval by resolution of each House of Parliament.

Communication

Clear and timely communication is vital to ensure that all parties involved in managing flu understand their roles and are equipped with the necessary information.

There will be different types of communication depending on the severity of the flu season and the nature of the audience. For instance, research suggests that national campaigns have little impact on flu vaccine uptake rates in the absence of a flu outbreak. Therefore it will be important to maintain a flexible approach so that appropriate channels are chosen to maximise impact.

The following communication mechanisms are likely to play an important role in the coming flu season.

Green Book

The Green Book, *Immunisation against infectious disease*, provides guidance for health professionals on administering the flu vaccine. The influenza chapter (chapter 19) is updated each year following review by JCVI and published ahead of the vaccination programme. It is important that all those involved in the flu programme are familiar with this chapter. Alongside the Annual Flu Letter, this comprises all the essential information needed by healthcare professionals in the implementation of the flu programme.

Annual Flu Letter (previously known as "CMO annual flu letter")

In the past a letter was sent before the start of the flu season from the CMO to all involved in planning and implementing the flu programme. This letter is now a joint letter on behalf of the DH, NHS England, and PHE, which has the support of the CMO, CPhO and Director of Nursing. The information in the letter includes:

- the groups to be immunised
- a GP practice checklist
- advice on increasing vaccine uptake among pregnant women and healthcare and social care workers
- the available vaccines and data collection arrangements
- the assurance arrangements
- information about prescribing and supply of antiviral medicines

Press briefings

CMO and representatives from DH, NHS England and PHE as appropriate will lead press conferences as and when it is necessary. This could be if the extent of flu is unexpected – more people than usual are ill, more people than usual are in hospital or more people are dying than would be expected. If media coverage is particularly

intense and/or misinformed, press briefings may be held to provide the facts and get appropriate messages to the public including how they can protect themselves and their families. If held, they will occur on Thursday afternoons to coincide with the release of the weekly influenza reports from PHE.

The briefings are an opportunity for:

- the CMO, the Director of Immunisation and/or PHE and NHS England representatives to issue a specific public health message
- for the media to have access to those dealing with the programme and for the media to obtain more detailed information to inform their reporting

PHE weekly influenza reports

These reports represent the most comprehensive and detailed assessment of the current situation. They will be of relevance to health and social care professionals, health planners, journalists and interested members of the public. The contents of the reports are listed above in the flu surveillance section.

Previous reports can be viewed at:

<http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/EpidemiologicalData/05influsWeeklyinfluenzareportsarchive/>

The respiratory and hand hygiene campaign

A respiratory and hand hygiene campaign may be launched to improve respiratory and hand hygiene behaviours with the aim of reducing the spread of flu and other respiratory or winter viruses. The triggers for this campaign will vary from year to year and the decision to launch this campaign is likely

to be made in the course of the flu season.

It is important to time the launch of any such campaign so as to have an optimal impact on public behaviour and further work will be undertaken to improve our understanding of this.

While existing learning suggests that respiratory and hand hygiene messaging is most effective during an outbreak, when the public sees a clear need and value in behaviour change, we encourage GPs, other providers and healthcare professionals to use their own channels to convey respiratory and hand hygiene messages throughout the flu season. This could be done by adding an respiratory and hand hygiene footnote to all patient letters, emails, electronic booking systems and so forth.

Vaccine advertising campaign

Evidence suggests that while a national campaign might play a role in raising awareness of the vaccine, it has limited impact on behaviour change and uptake of the vaccination. Such a campaign cannot therefore replace proactive and personalised invitations from GPs to patients. GP practices therefore need to plan carefully to ensure that they are making every effort to identify and contact eligible patients before the flu season starts, and use any available 'free' communications channels to promote the vaccination message (such as the electronic booking system or patient newsletters).

Any centrally produced communications materials such as leaflets will be made available via NHS Choices, DH, PHE and NHS Comms Link websites for use by local areas. GP practices may wish to use these materials as part of their campaigns to raise awareness of the availability of flu vaccination.

The annual cycle of the flu programme

The cycle for preparing for and responding to flu is set out below.

- **November – March:** Vaccine orders placed with suppliers
- **February:** WHO announces the virus strains selected for the next season's flu vaccine for the northern hemisphere
- **April – May:** Annual Flu Letter from the DH, NHS England, and PHE (previously referred to as the CMO 'Annual Flu Letter') is sent to the NHS and local government setting out key information for the autumn's immunisation programme
- **April – June:** Communications preparation:
 - planning national and/or local communications campaigns¹⁰
 - updating the Green Book chapter
- **April – June:** Liaison with manufacturers to assure the availability of vaccine
- **April – June:** Assurance that all patients eligible for the vaccine are included on the list of patients to contact
- **July:** Letter from DH, NHS England, and PHE with any updates or final arrangements
- **July:** Centrally produced communications materials made available
- **July – August:** Publication of the revised influenza chapter of the Green Book
- **August:** Communications and guidance about vaccine uptake data collections issued
- **August:** NHS England Area Teams, trusts, GP practices, pharmacies and local authorities begin communications activities to promote early uptake of the vaccine among eligible groups including health and social care staff
- **August – March:** DH in regular contact with manufacturers of antiviral medicines and wholesalers to ensure enough antiviral medicines in the supply chain
- **September – February:** Suppliers deliver vaccines to GP practices. GPs and other providers begin vaccinating eligible patients and staff against flu as soon as vaccine is available
- **September:** GP practices contact their eligible patients and invite them to attend for vaccination
- **September:** Occupational health providers make flu vaccination available to eligible health and social care staff
- **September:** Weekly and monthly vaccination data collections from primary care, and monthly data collections from secondary care begin

- **October:** From week 40 (early October) PHE publishes weekly reports on flu incidence, vaccine uptake, morbidity and mortality
- **October – February:** The CPhO and CMO may issue advice on the use of antiviral medicines, based on advice from PHE in light of flu surveillance data. Antiviral medicines from the national pandemic flu stockpile may be made available
- **October – February:** The NHS implements winter pressures coordination arrangements
- **October – February:** A respiratory and hand hygiene campaign may be considered
- **March – May:** The CPhO and CMO may issue letter asking GPs and other prescribers to stop prescribing antiviral medicines, once PHE informs DH that surveillance data are indicating very little flu circulating in the community and other indicators such as the number of flu-related hospital admissions

Flexibility: a staged flu response

The impact of the virus on the population each year is variable – it is influenced by changes that may have taken place in the virus, the number of people susceptible to infection and the severity of the illness caused by a particular strain. These factors in turn affect the pressures the NHS experiences and where they are felt most.

Planning for the flu season therefore needs to prepare for a range of possibilities including the need to respond quickly to modify the plans (Annex G identifies some potential scenarios). For this reason, the *Flu Plan* operates according to a series of stages, which enable individual elements of the DH, NHS England, and PHE's response to be escalated as appropriate:

Annex F lays out in greater detail the stages of activity that would take place depending on various factors, including the levels of flu that are circulating, pressure on NHS services, and epidemiological evidence on the nature and severity of illness the virus is causing, and among which population.

Levels of circulating flu may vary between regions and local areas, requiring different approaches in different places. Local plans, therefore, need to be flexible to adapt as the flu season progresses. While the DH, NHS England, and PHE lead the strategic response to flu each winter, the system needs to be sufficiently flexible to allow local adaptation of responses to take account of local variations in the spread and type of infection and impacts on local health services.

Stage	Level of flu-like illness	Description of flu season
1	Community and primary care indicators starting to show that flu and flu-like illness are being detected	Beginning of the flu season – low levels of flu and/or low severity of illness associated with the virus
2	Flu indicators starting to show that activity is rising	Normal levels of flu and/or normal to high severity of illness associated with the virus
3	Flu indicators exceeding historical norms	Epidemic levels of flu – rare for a flu season

Plans to improve vaccine uptake

Evaluation of the 2012/13 flu season has highlighted a number of key areas which need to be focused on for 2013/14.

Improving vaccine uptake among people aged under 65 in clinical risk groups

By the end of the 2012/13 flu vaccination season, just over 50% of people under 65 years in clinical risk groups had been vaccinated against flu. Despite continued efforts, this is well below the 70% target laid out in the 2012/13 flu plan.

Increasing uptake is important because of the increased risk that people in clinical risk groups are at from the effects of flu. For the 2013/14 season, the planning assumption for vaccine uptake for this group is 75%, in accordance with European Union recommendations. Achieving this level of uptake will be challenging and will require fresh thinking and new approaches to deliver a step change in outcomes. The performance of some GP practices and PCTs has demonstrated that it is possible to achieve uptake significantly higher than last year's national average of 51.3%. Over 100 GP practices achieved coverage rates over 75% and a few achieved 100% uptake among under 65s in clinical risk groups.

NHS England Area Teams will ensure that local plans are in place for GPs to order sufficient vaccine and use robust call and reminder systems to contact and make flu vaccination available to 100% of all eligible patients.

The NHS England Area Teams and DsPH should build close working relationships to ensure that local population needs are understood and addressed by those providing flu vaccination. When requested, the NHS England Area Teams should provide reports to the health and wellbeing boards. The DPH is expected to provide appropriate challenge to local arrangements to improve flu vaccine uptake rates.

Community pharmacists are increasingly providing both NHS and non-NHS flu vaccination services. Pharmacists could also alert patients who are in at-risk groups who probably visit pharmacies regularly to collect their medicines of the importance of being vaccinated, where they do not administer the vaccines themselves. Commissioners may wish to consider the continuation of local innovative services, such as vaccination by pharmacists and in high risk settings such as care homes and special schools, where there is clear evidence of improved easy access and beneficial outcomes. It is important to ensure that the administration of the flu vaccine is recorded in all cases and the information is returned promptly to the GP and/or CCG so that vaccinations given by other providers are included in the uptake figures.

In order to be confident that robust planning is in place, Area Teams will be expected to report on the performance and outcome of the programme as part of the responsibilities that NHS England has agreed for the flu vaccination programme under a Section 7A agreement with the Secretary of State for Health.

Pregnant women

Vaccine uptake in pregnant women has significantly increased this year as compared to last: 40.3% of pregnant women received the flu vaccine in 2012/13 (compared to 27.4% 2011/12). One of the reasons for this improvement may be because flu vaccination was offered to women at the same time as the pertussis vaccination which was introduced in October 2012. The best route for maximising flu vaccination uptake amongst pregnant women is through midwives. Maternity services are encouraged to provide flu vaccine as part of routine care for all pregnant women. It is important that these vaccinations are recorded in the patient's GP record.

Children at-risk

Vaccine uptake is particularly low in those under 16 with clinical conditions that put them at most risk of complications or hospitalisation from flu. The new programme to provide flu vaccine to all children will take time to implement. In the meantime, it is important that children and parents of children in clinical risk groups understand the importance of children being vaccinated against flu and the protection it offers them. There is a role for paediatricians and specialist nurses in secondary care, school nurses, health visitors, pharmacists

and other caregivers to raise awareness of flu vaccine as part of the care pathway for children in at risk groups (it may be useful to consider reminder systems in hospital notes and child health records). GPs and practice staff managing the flu programme should make sure that all at-risk children have the opportunity to receive flu vaccine and order adequate supplies of appropriate vaccine ("flu spray", LAIV Fluenz® is the vaccine of choice for children who don't have contraindications to the use of this vaccine - see the Green Book for further detail). GPs will need to ensure appropriate arrangements are made for children who have difficulty attending their GP surgery. It may be more effective to arrange vaccination in other settings, such as at home or where appropriate within the special school services.

Increasing vaccination rates for healthcare workers with direct patient contact and social care workers

Patients may expect health and social care workers to be vaccinated against flu. This protects these professionals and it reduces the risk of them transmitting the flu virus to their vulnerable patients. Uptake of the flu vaccine in healthcare workers in 2012/13 was 45.6%. This level of uptake is still below expectations and it is important that we see an increase this year. National and international experience shows that considerably higher coverage can be achieved and more work needs to be directed towards better protection of this group.

NHS organisations and local authorities need to ensure that appropriate measures are in place for offering flu vaccination to their health and social care workers with direct patient contact. These programmes are organised

locally by these employers, often through the occupational health service. GPs will only be involved in providing this part of the vaccination programme where this has been agreed locally. However, GP practices need to encourage and facilitate flu vaccination of their own staff through occupational health or if this is not possible from the staff member's own GP.

NHS Employers run a national communications campaign to encourage healthcare workers to get vaccinated. The campaign is designed to support local teams, ensure consistency of message, share best practice and harness clinical and professional leadership at both national and local levels.

Ensuring a constant supply of flu vaccine

Disruption in the supply of vaccine from one manufacturer in the previous flu season meant that some practices had to delay and re-arrange clinics. In order to maximise uptake of the flu vaccine it is important that a constant and reliable supply of vaccine from manufacturers is maintained. PHE's strategic reserve is to be used as a last resort solution when all other vaccine sources have been

exhausted. It is therefore vital that all GP practices:

- order vaccine from more than one supplier
- order sufficient vaccine before the start of the season to cover the 75% uptake aspiration of all their registered eligible patients

Following the dissolution of the UK Vaccine Industry Group (UVIG), PHE will have close liaison with manufacturers and a new vaccines group which has been formed within the Association of the British Pharmaceutical Industry (ABPI). This will help promote optimal communication between GP practices and manufacturers.

Annex A

Prevention and treatment of flu

Treatment at home

People with suspected flu who are not in the at-risks groups should:

- stay at home
- rest
- drink plenty of fluids while they are recovering
- consider taking the appropriate dose of paracetamol/ibuprofen-based painkillers or cold remedies to lower their temperature and relieve their symptoms
- avoid visiting GP surgeries and hospitals where they may infect other more vulnerable people

of 59% (95% confidence interval 51-67) in adults aged 18 to 65 years.¹¹ In the elderly, protection produced by the vaccine may be lower¹², although immunisation has been shown to reduce the incidence of severe disease including bronchopneumonia, hospital admissions and mortality.^{13 14}

Trivalent live attenuated influenza vaccine has been shown to provide a higher level of protection for children than trivalent inactivated influenza vaccine¹⁵; a recent meta-analysis suggested an efficacy against confirmed disease of 83% (95% confidence interval 69-91).^{16 17 18}

Vaccination

The purpose of the flu vaccination programme is to offer protection to those who are most at risk of serious illness or death should they develop influenza. It is, therefore, important that eligible individuals are offered the flu vaccination as early as possible in the autumn. Vaccines are produced each year, by a number of manufacturers, that provide protection against the three strains of influenza that the WHO considers may be most prevalent in the following winter. This year for the first time a quadrivalent vaccine will be available.

A recent meta-analysis, which included studies when the influenza virus strains in the vaccine were drifted or mismatched with those in circulation, suggested an overall efficacy against confirmed disease

Antiviral medicines

Antiviral medicines prevent the influenza virus from replicating inside the body. They can lessen symptoms by a couple of days and reduce their severity, and help to reduce the likelihood of complications.

Antiviral medicines are available on the NHS for certain groups of patients, including those in one of the identified at-risk categories as outlined in Annex C.

Once the CMO/CPhO letter has been disseminated to prescribers that enables them to prescribe antiviral medicines in accordance with NICE guidance, prescribers are able to prescribe antiviral medicines for patients in the at-risk groups. The law now allows prescribers to use their discretion to prescribe antiviral medicines for patients who

are not in one of the identified clinical risk groups, but who they consider may be at risk of developing serious complications from flu if not treated. It is expected that GPs will be guided by the CMO in the use of this discretion.

It should be noted that NICE guidance states that during localised outbreaks of influenza-like illness (outside the periods when national surveillance indicates that influenza virus is circulating generally in the community), antiviral medicines may be given to at-risk people living in long-term residential or nursing homes, whether or not they are vaccinated. However, this should be done only if there is a high level of certainty that the causative agent in a localised outbreak is influenza.

Treatment in secondary care

In certain groups and individuals, flu can progress from a mild flu-like illness manifesting as fever, cough, sore throat, headache, malaise, and muscle and joint pains to one in which there is shortness of breath, chest pain or confusion, indicative of pneumonia, and/or a significant exacerbation of an underlying medical condition (such as heart, liver, lung or renal Insufficiency or diabetes mellitus). Patients presenting with these symptoms will usually need assessment and treatment in hospital.

If the infection is thought to be due to a bacterial infection secondary to flu, then as well as using

antiviral medicines, intravenous antibiotics will be used. The Grey List restrictions for prescribing antiviral medicines in primary care do not apply to hospitals. Depending on the severity of the disease and any other co-morbidities, then some form of ventilation in a level 2 or level 3 critical care facility may be required.

A pneumonia that is caused directly by the flu virus (as was the case in a number of hospitalised cases of H1N1 (2009) flu) is usually considered more serious, requiring a prolonged admission to a level 3 critical care facility where specialist ventilatory techniques may be needed.

For a few critically ill patients, a more invasive and complex intervention called Extra-Corporeal Membrane Oxygenation (ECMO) is required. ECMO involves removing blood from the patient, adding oxygen to the blood and then pumping it back into the patient in order allow the lungs to heal. This is a complex procedure which is only carried in certain specialist centres using highly trained specialist teams. It is high risk and is, therefore, only used as a matter of last resort in exceptional cases.

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Annex B

Vaccine manufacture and supply

Flu vaccine manufacture and supply is undertaken on a global basis. Eight international companies manufacture flu vaccines for the UK. They all also supply other European countries and some manufacture vaccine for North America as well.

Manufacturers make an overall decision on their flu vaccine production quantities based on expected demand from all the countries that they supply. Such estimates will be based on a number of factors, such as current quantities supplied; anticipated changes in vaccine recommendations in different countries; and other commercial decisions regarding market share. Based on this information, the manufacturers start their planning cycle, which includes reviewing existing production capacity and possible need for expansion; ordering sufficient pathogen-free eggs to meet production needs; and filling, packaging and labelling needs. This planning cycle starts 18 months before a flu vaccination programme.

The flu vaccine production "window" is limited. WHO makes recommendations on the composition of the northern hemisphere flu vaccine in February. Their recommendations are based on the flu virus strains that they judge to be the most likely to circulate the following winter, and take into account data from the southern hemisphere flu season. Production of the vaccine usually runs from March to August/September, and packaging and labelling can continue

until October. Once vaccine composition is agreed, then the manufacturers have to grow the vaccine viruses, formulate the vaccine, test, license, and package and supply the vaccine within six months in order to ensure stocks are available for the beginning of the vaccination programme.

Following a thorough clean down of the production facility, most manufacturers then switch to flu vaccine production for the next southern hemisphere season. Hence, the flu vaccine production period is limited and complex, with little room for slippage in the process.

The UK arm of a vaccine manufacturer will take orders for flu vaccine from its customers (primarily GPs) from November to January for the following season, with the majority of orders being placed by December. The UK company, along with their sister companies in other countries, will then 'bid' for a share of vaccine supplies from their international headquarters. The process to finalise volume requirements for each country is completed at a national and European level between December and February/March. This completes a process on vaccine volumes that started with initial estimates made in the preceding May – that is 18 months prior to supply of vaccine.

Some manufacturers may plan to produce slightly greater quantities of vaccine than they have orders for. This allows for a number of eventualities such as: lower than anticipated

vaccine yield; the potential of some vaccine batches to fail their release testing; late additional orders for vaccine. The quantity of surplus stock will vary year on year, and the manufacturers will sell what stock they have to the countries where there is demand. It should be noted that flexibility is limited if the vaccine has already been packaged and labelled. The vaccine will only be available for use in those countries where it complies with the licence; so for example, vaccine labelled in a foreign language would need a licence variation to be granted by the MHRA in order for the vaccine to be licensed for use in the UK. Licence conditions vary between countries and the MHRA may not necessarily agree to a licence variation.

GPs can place orders with manufacturers after March. However, it is likely that they will have a limited choice of vaccine and there is a risk that there will be no further vaccine available to order.

Annex C

Groups eligible for the flu vaccination

Flu vaccinations are currently offered free of charge to the following at-risk groups:

- people aged 65 years or over (including those becoming age 65 years by 31 March 2014)
- all pregnant women (including those women who become pregnant during the flu season)
- people with a serious medical condition such as:
 - chronic (long-term) respiratory disease, such as severe asthma, chronic obstructive pulmonary disease (COPD) or bronchitis
 - chronic heart disease, such as heart failure
 - chronic kidney disease at stage 3, 4 or 5
 - chronic liver disease
 - chronic neurological disease, such as Parkinson's disease or motor neurone disease
 - diabetes
 - a weakened immune system due to disease (such as HIV/AIDS) or treatment (such as cancer treatment)
- people 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, for instance, prisons, young offender institutions, or university halls of residence
- people who are in receipt of a carer's allowance, or those who are the main carer of an older or disabled person whose welfare may be at risk if the carer falls ill

The list above is not exhaustive and decisions should be based on a practitioner's clinical judgement. Consideration should also be given to the vaccination of household contacts of immunocompromised individuals, specifically individuals who expect to share living accommodation on most days over the winter and therefore for whom continuing close contact is unavoidable.

Also recommended to be vaccinated as part of occupational health:

- health and social care workers with direct patient/client contact

Healthcare practitioners should refer to the Green Book influenza chapter for further guidance.¹⁹

Annex D

Health and social care worker vaccination programme

Importance of vaccinating healthcare and social care workers with direct patient/client contact

Influenza outbreaks can arise in health and social care settings with both staff and their patients/clients being affected when influenza is circulating in the community. It is important that health professionals protect themselves against flu by being vaccinated. As well as protecting themselves, it reduces the risk of them passing the virus to vulnerable patients, staff and to family members. Vaccination of healthcare workers with direct patient contact against influenza has been shown to significantly lower rates of influenza-like illness, hospitalisation and mortality in the elderly in healthcare settings.^{20 21 22 23}

Vaccination of staff in social care settings may provide similar benefits. Influenza vaccination of frontline health and social care staff may reduce the transmission of infection to vulnerable patients, some of whom may have impaired immunity increasing their risks of flu and who may not respond well to vaccination.

Vaccination of these essential health and social care workers also helps reduce the level of sickness absenteeism that can jeopardise the NHS and care services. This is essential in the winter when pressures on these services increase.

Healthcare workers are a very influential group. Patients trust their nurses, doctors and other healthcare professionals and their opinions can affect the way patients act.

A healthcare worker who opts to be vaccinated can talk from first hand experience with patients and reassure them of the benefits of being vaccinated. Healthcare workers need to understand the benefits of the vaccine and dispel the myths that may have developed about the vaccine.

A range of interventions can be employed to increase uptake.²⁴ Senior clinical staff can be influential in increasing staff awareness and understanding of the importance of staff vaccination against flu, and can lead by example to drive up rates of vaccination among frontline staff.

NHS Employers produce guidance and material to support Trusts in delivering their own healthcare worker flu vaccination campaigns and provide advice to those running vaccination campaigns at local level. These materials can be accessed via the internet.²⁵

Provision of the vaccine for health and social care workers

The updated *Code of practice on the prevention and control of infections and related guidance*²⁶ reminds both NHS and social care bodies of their responsibilities. These are to ensure, so far as is reasonably practicable, that health and social care workers are free of, and are protected from exposure to infections that can be caught at work, and that all staff are suitably educated in the prevention and control of infections.

This includes ensuring that occupational health policies and procedures in relation to the prevention and management of communicable diseases in healthcare workers, including immunisation, are in place.

Decisions on offering immunisation should be made on the basis of a local risk assessment as described in Immunisation against infectious disease (the Green Book).²⁷ Employers should make vaccines available free of charge to employees if a risk assessment indicates that they are needed.²⁸

The flu vaccination given to healthcare staff directly involved in patient care, and social care workers who are employed to provide personal care, acts as an adjunct to good infection prevention and control procedures. As well as reducing the risk to the patient/client of infection, the reduction of flu infection among staff, and reduced staff absenteeism, have also been documented. The importance of immunising healthcare workers was highlighted by the outbreak at the Royal Liverpool University Hospital where flu spread rapidly through several wards infecting both patients and staff in 2008. The HPA confirmed that the infection was mainly spread by healthcare workers.

Trusts/employers will wish to ensure that health and social care staff directly involved in delivering care are encouraged to be immunised and that processes are in place to facilitate this.

Examples of staff who may be directly involved in delivering care include:

- clinicians, midwives and nurses, paramedics and ambulance drivers
- occupational therapists, physiotherapists and radiographers
- primary care providers such as GPs, practice nurses, district nurses and health visitors
- social care staff working in care settings
- pharmacists, both those working in the community and in clinical settings

Students and trainees in these disciplines and volunteers who are working with patients should also be included. This is not an exhaustive list and decisions to provide immunisation should be based on local assessment of likely risk and exposure to flu.

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- 25 <http://www.nhsemployers.org/HealthyWorkplaces/StaffFluVaccination/Pages/seasonal-flu-campaign.aspx>
- 26 www.gov.uk/government/publications/the-health-and-social-care-act-2008-code-of-practice-on-the-prevention-and-control-of-infections-and-related-guidance
- 27 www.gov.uk/government/organisations/public-health-england/series/immunisation-against-infectious-disease-the-green-book
- 28 www.hse.gov.uk/coshh/basics/assessment.htm

Annex E

Increasing vaccine uptake among clinical risk groups – GP practice checklist

The checklist below is based upon the findings from a study examining the factors associated with higher vaccine uptake in general practice.²⁹ The checklist highlights what works effectively and should be regarded as good practice. GP practices are encouraged to look at their own practice and review their systems in the light of the checklist below, which suggests that the following should be in place:

General

1. The GP practice has a named individual within the practice who is responsible for the flu vaccination programme.

Registers and information

2. The GP practice has a register that can identify all pregnant women, patients in the under 65 years at risk groups and those aged 65 years and over.³⁰
3. The GP practice will update the patient registers throughout the flu season paying particular attention to the inclusion of women who become pregnant during the flu season.
4. The GP practice will submit accurate data on the number of its patients eligible to receive flu vaccine and the flu vaccinations given to its patients on ImmForm (www.immform.dh.gov.uk).

Meeting any public health targets in respect of such immunisations

5. The GP practice will/has ordered sufficient flu vaccine taking into account past and planned performance, expected demographic increase, and to ensure that everyone at risk is offered the flu vaccine. It is recommended that vaccine is ordered from more than one supplier.

Robust call and recall arrangements

6. Patients recommended to receive the flu vaccine will be directly contacted (through letter, e-mail, phone call, text or otherwise although such strategies are for GP practices to determine) inviting them to a flu vaccination clinic or to make an appointment.
7. The GP practice will follow up with patients who do not respond or fail to attend scheduled clinics or appointments.

Maximising uptake in the interests of at-risk patients

8. Flu vaccination will start as soon as practicable after receipt of the vaccine so that the maximum number of patients are vaccinated as early as possible prior to the flu season (ie by the end of October), to ensure they are protected before flu starts to circulate.

9. The GP practice will collaborate with midwives to offer and provide flu vaccination to pregnant women and to identify, offer and provide to newly pregnant women as the flu season progresses.
10. The GP practice will offer flu vaccination in clinics and opportunistically.

29 Dexter, L. et al. (2012) Strategies to increase influenza vaccination rates: outcomes of a nationwide cross-sectional survey of UK general practice. <http://bmjopen.bmj.com/content/2/3/e000851.full>

30 Immunisation of carers and pregnant women are not covered by the national Directed Enhanced Services and will be subject to local agreement.

Annex F

Stages of activity

	Activity that would be undertaken
Stage 1	<ul style="list-style-type: none"> • Review data on flu activity and severity from the southern hemisphere • GPs invite their eligible patients to be vaccinated, using call and reminder systems • GPs make arrangements to vaccinate patients who cannot attend the surgery because of frailty, severe chronic illness or disability • GPs encourage and facilitate their own frontline staff to be vaccinated • Other NHS, local authority and care home employers arrange for their frontline staff to be vaccinated • Data on flu incidence and vaccine uptake rates in England issued at a national and, if available, regional/local levels • Data on ILIs, virological surveillance, vaccine uptake and NHS operational data published • PHE publishes weekly reports on flu incidence, vaccine uptake, morbidity and mortality • Director of Immunisation writes to the NHS if vaccine uptake is low • PHE in contact with vaccine manufacturers on production and delivery schedules • DH in contact with antiviral medicine manufacturers on their preparedness plans • The respiratory and hand hygiene campaign may be launched

	Activity that would be undertaken
Stage 2	<ul style="list-style-type: none"> • GPs and other non-medical prescribers will be alerted through a CMO/CPhO letter, to start prescribing antiviral medicines in line with the NICE guidance and Schedule 2 to the National Health Service (General Medical Services Contracts) (Prescription of drugs etc) Regulations 2004), commonly known as the Grey List or Selected List Scheme (SLS) and following expert advice that the flu virus is circulating • If evidence emerges that a particular age group or people with certain clinical conditions are being disproportionately affected by the flu virus, a joint letter on behalf of DH, NHS England, and PHE may issue specific advice to both the public and health professionals to increase efforts to vaccinate that particular group, if practicable and seeking expert advice from JCVI if necessary • Local NHS responds to local circumstances according to local plans and needs • Review daily NHS operational data, e.g. critical care • CMO or representatives of PHE or NHS England may provide a media briefing to provide clear, factual information on flu. This may include information for the public about what to do if they become unwell and advice on accessing services • If countrywide vaccine shortages are considered likely, PHE will alert GPs to the availability of the central strategic reserve and set out how they should access it. It is likely this will be through the on-line ImmForm system. Depending on the level of shortages, restrictions may be placed on the number of doses a GP can order • Vaccine manufacturers contacted regarding the availability of additional supplies if needed • In the event of shortages of antiviral medicines, and an evident public health need, PHE would take steps to support arrangements for supplies by using its pandemic flu stocks as buffers in the supply chain. In this system, government stocks of antiviral medicines would be supplied to the manufacturers who would distribute to community and hospital pharmacies using their normal supply chain mechanisms • DH will work closely with antiviral medicines manufacturers, wholesalers and pharmacies to minimise disruptions of supply to patients • DH will work closely with antibiotic manufacturers, wholesalers and pharmacies to minimise disruptions of supply to patients

	Activity that would be undertaken
Stage 3	<ul style="list-style-type: none"> • A national flu epidemic is declared • GPs alerted that a late surge in demand for the vaccine may occur and that there may be greater use of antiviral medicines • Vaccine manufacturers contacted regarding availability of additional supplies • Antiviral medicines manufacturers contacted regarding availability of additional supplies • JCVI will review the available data and amend guidance on vaccination if necessary and if sufficient supplies of vaccine are available and can be delivered and administered in time • PHE may extend the vaccine uptake collections for additional weeks/months if vaccine uptake rates are still rising • Weekly press briefings will be considered. These will be led by CMO or representatives of PHE or NHS England • Maintain or boost the respiratory and hand hygiene campaign • Proactive work with media to allay any public concerns • Reiterate advice on signs and symptoms, and treatment at home • Communicate regularly with clinical and professional networks and stakeholder groups for patients at risk of severe illness • Regular liaison with pharmacy organisations to keep abreast of any supply problems associated with antiviral medicines • Continue to review daily NHS operational data, for example critical care • Alert the NHS when the flu season has peaked, to aid local planning

Annex G

Potential scenarios

The table below gives examples of factors affecting the DH, PHE and NHS flu response during the flu season, and describes the actions they could take in response. It should

be noted that this table is indicative - it cannot cover all potential eventualities and the consequential actions.

	Event	Action
Vaccination	Delay in vaccine released from manufacturer	PHE communicates with NHS, via NHS England, informing them of delay so GP practices and other providers can reschedule vaccination clinics
	Production problems mean insufficient doses of vaccine are available nationally	PHE communicated with NHS, via NHS England, informing them of shortage and advising which risk groups to prioritise, following JCVI advice as appropriate
	Vaccine uptake remains below expected rate for the time of year. Virus adversely affects groups outside those recommended for vaccination	Joint letter issued on behalf of DH, PHE, and NHS England to NHS recommending appropriate action to increase uptake
	The vaccine does not protect against the predominant circulating strain	<p>PHE, via NHS England, communicates the issue to GPs and the public. The flu vaccination programme is maintained to ensure that older people and those in clinical risk groups are protected against the two other strains of flu covered by the vaccine</p> <p>PHE alerts the NHS, via NHS England, that they may have higher numbers of flu cases to manage, and reminds prescribers that the regulations have been broadened to give them some discretion to prescribe antiviral medicines for patients who are not in one of the identified clinical at- risk groups, but who they consider may be at risk of developing serious complications from flu and could benefit from receiving treatment. It is expected that prescribers will be guided by the CMO in the use of this discretion</p> <p>DH contacts manufacturers of antiviral medicines to check levels of antiviral medicines available from manufacturers and discusses arrangements to get additional supplies should the need arise</p> <p>PHE considers launching the respiratory and hand hygiene campaign</p>

	Event	Action
Vaccination Continued	Issue over safety of vaccine emerges	The Medicines and Healthcare products Regulatory Agency (MHRA) considers the available evidence and recommends course of action. Depending on balance of risks and benefits, MHRA may amend prescribing advice to minimise any risks. Action may be taken by the European Medicines Agency (EMA). PHE and/or MHRA will give advice on implications of safety issue PHE communicates with the NHS, via NHS England, informing it of the consequences of the safety issue if it impacts on supplies and advising which risk groups to target, following JCVI advice as appropriate
	Production failure towards the end of the vaccination programme leads to localised vaccine shortages	Central strategic reserve is released
	Vaccine shortage	Central strategic reserve is released
Treatment	Antiviral medicines not available from pharmacies	DH discusses stock levels with manufacturers and wholesalers to determine whether they can meet the increased demand CPhO has regular contact with pharmacy organisations to determine any problems that community pharmacies may be encountering obtaining supplies of antiviral medicines to inform discussions with manufacturers of antiviral medicines and wholesalers. PHE considers releasing the national stockpile to ease shortages, if appropriate
NHS operations	Extra cases put increased pressure on care locally	Local action in line with local plans, under existing contractual arrangements
	Extra cases put excessive pressure on care regionally or nationally	NHS England Area Teams, PHE, DH and the NHS Chief Executive keep under review the need to trigger 'Strategic command arrangements for the NHS during major incident', as per the guidance ³¹
Media coverage	Increased media interest on particular issues	CMO and/ or representatives of PHE and NHS England hold press briefing to communicate the facts and latest data to the media

31 http://webarchive.nationalarchives.gov.uk/20120503221322/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_081507

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July 2013

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