



Public Health
England



Department
of Health

NHS
England

Flu Plan

Winter 2017/18

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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Foreword

Flu occurs every winter in the UK and is a key factor in NHS winter pressures. It impacts on those who become ill, the NHS services that provide direct care, and on the wider health and social care system that supports people in at-risk groups. This *Flu plan* aims to reduce the impact of flu in the population through a series of complementary measures.

The national flu immunisation programme is a key part of the plan and it is being extended to children in a phased roll-out. Vaccinating children each year means that not only are the children protected, but also that transmission across the population is reduced, lessening the overall burden of flu. Implementing this programme is therefore an important contribution to increasing resilience across the system through the winter period. Results from the implementation of the primary school childhood flu programme are encouraging, with reduced numbers of GP attendances for influenza-like illness and reduced emergency department respiratory attendances in all age groups.

We anticipate that the children's programme, once fully implemented, will avert many cases of severe flu and flu-related deaths in older adults and people in clinical risk groups. But we should continue to work hard to ensure that we are communicating the benefits of the vaccine among all recommended groups, making vaccination as easily accessible as possible, including for frontline health and social care workers.

In addition to immunisation, influenza antiviral medicines and a range of other measures aimed at reducing transmission of flu and other respiratory virus infections (in particular good hand and respiratory hygiene) are vital elements in reducing the impact of flu each year.

This is the seventh *Flu plan* to be published. It supports a co-ordinated and evidence-based approach to planning for the demands of flu across England. It has the support of the Chief Pharmaceutical Officer (CPhO), the Chief Nursing Officer and the PHE Chief Nurse.

We commend the *Flu plan* to you, and hope that you find it useful in preparing for this coming winter.



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Introduction

This *Flu plan* sets out a co-ordinated 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 co-ordination and the preparation for the flu season, and signposting to further guidance and information.

The *Flu plan* includes details about the extension of the flu vaccination programme to children, which is being implemented gradually due to the scale of the programme. The *Flu plan* is supported by the following:

- the Annual Flu Letter¹
- the influenza chapter in 'Immunisation against infectious disease' (the 'Green Book', chapter 19)² which is updated regularly, sometimes during a flu season
- the enhanced service specifications for seasonal flu and the childhood flu vaccination programmes³
- the public health Section 7A national service specifications for the seasonal flu programme and the seasonal flu programme for children⁴
- Immform survey user guide for GP practices and local NHS England teams⁵
- the service specification for the Community Pharmacy Seasonal Influenza Vaccination Advanced Service⁶
- the CMO/CPhO letter on antivirals issued to GPs and other prescribers working in primary care following advice from PHE that the influenza virus is circulating in the community

¹ www.gov.uk/government/collections/annual-flu-programme

² www.gov.uk/government/publications/influenza-the-green-book-chapter-19

³ www.england.nhs.uk/commissioning/gp-contract/

⁴ www.england.nhs.uk/commissioning/pub-hlth-res/

⁵ See under 'Seasonal flu vaccine uptake: data collection guidance' at www.gov.uk/government/collections/vaccine-uptake

⁶ www.PSNC.org.uk

Roles and responsibilities in the NHS and public health system

The Health and Social Care Act 2012 created 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 provided specific roles across the system. Each of the partners has its own responsibilities for which it is accountable.

In outline these are:

The **Department of Health** (DH) 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 agreements
- oversight of the supply of antiviral medicines and authorisation of their use
- authorising campaigns such as 'Catch it, Kill it, Bin it'

NHS England is responsible for:

- commissioning the flu vaccination programme under the terms of the Section 7A agreements
- assuring that the NHS is prepared for the forthcoming flu season
- monitoring the services that GP practices and community pharmacies provide for flu vaccination to ensure that services comply with the specifications
- 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
- procurement and distribution of flu vaccine for children
- oversight of central vaccine supply
- advising NHS England on the commissioning of the flu vaccination programme
- managing and co-ordinating the response to local incidents and outbreaks of flu
- public communications to promote uptake of flu vaccination and other aspects of combating flu such as hand hygiene

- 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 DsPH, have responsibility for:

- providing appropriate advocacy with key stakeholders and challenge to local arrangements to ensure access to flu vaccination and to improve its uptake by eligible populations
- providing leadership, together with local resilience partners to respond appropriately to local incidents and outbreaks of flu infection

Local authorities can also assist by:

- promoting uptake of flu vaccination among eligible groups, for example older people in residential or nursing care, either directly or through local providers
- promoting uptake of flu vaccination among those staff providing care for people in residential or nursing care, either directly or through local providers

Clinical commissioning groups (CCGs) are responsible for:

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

GP practices and community pharmacists are responsible for:

- educating patients, particularly those in at-risk groups, about the appropriate response to the occurrence of flu-like illness and other illness that might be precipitated by flu
- ordering the correct amount and type of vaccine for their eligible patients, taking into account new groups identified for vaccination and the ambition for uptake
- storing vaccines in accordance with national guidance
- ensuring vaccination is delivered by suitably trained, competent healthcare professionals who participate in recognised on-going training and development in line with national standards
- maintaining regular and accurate data collection using appropriate returns
- encouraging and facilitating flu vaccination of their own staff

In addition, GP practices are responsible for:

- ordering vaccine for children from PHE central supplies through the ImmForm website and ensuring that vaccine wastage is minimised
- ensuring that all those eligible for the flu vaccine are invited personally to receive their vaccine

- 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 as providers of NHS and social care services are responsible for:

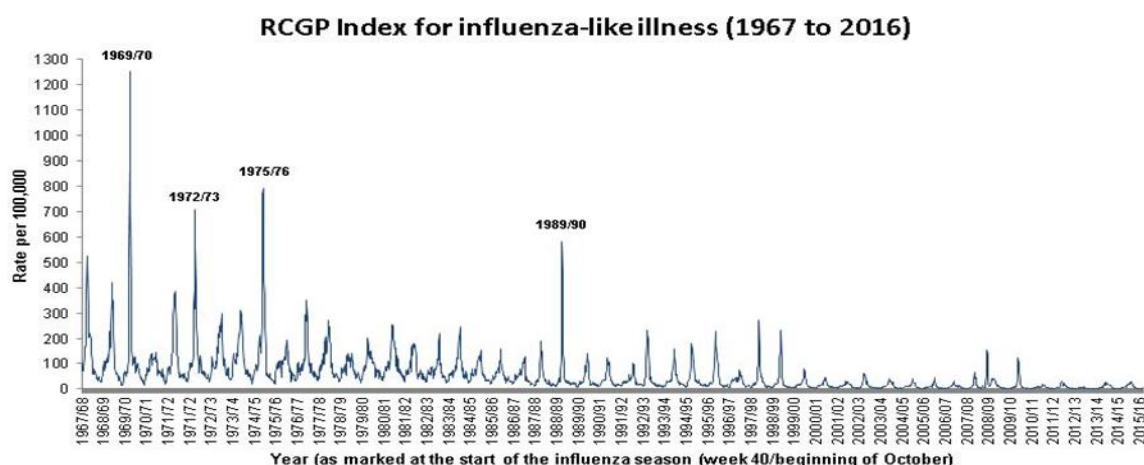
- management and oversight of the flu vaccination campaign or alternative infection control measures for their frontline staff
- support to providers to ensure access to flu vaccination and to maximise uptake among those eligible to receive it

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 among 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 clinical and epidemiological features 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 graph below shows the rate of influenza-like illness (ILI) per 100,000 consultations in primary care in the population of England and Wales from 1967 to 2016. The data show that flu viruses circulate each winter season, but the degree of activity varies substantially.⁷



⁷ Data courtesy of the Centre for Infectious Disease Surveillance and Control (CIDSC) at PHE and the Royal College of General Practitioners and Surveillance Centre. See: www.gov.uk/government/collections/seasonal-influenza-guidance-data-and-analysis

Strategic objectives

The aim of the national flu immunisation programme is to offer protection against the effects of flu to as many eligible people as possible, particularly those most at risk. All eligible groups should be given flu vaccination as soon as the vaccine is available to ensure that people are protected before the flu virus circulates.

Protection can be achieved directly through individual immunisation, or indirectly through herd immunity, which is one of the major benefits of the childhood flu immunisation programme. Improving and extending the children's programme is a key focus in protecting the population from flu.

The strategic intentions are:

- to increase immunisation uptake rates, in accordance with the vaccine uptake ambitions set out in the annual flu letter, for all children aged 2 to 8 years, aiming to maximise uptake, raise the performance in the lowest performing areas, and ensure an even spread across these age cohorts
- that the programme will run either in general practice for pre-school children, or usually in schools for school-aged children. Immunisation of children in these cohorts will improve protection for them and the wider community
- to continue to offer flu immunisation to all who are eligible, and to seek to increase vaccine uptake among clinical risk groups, pregnant women and healthcare workers
- to maximise protection by immunising the eligible population as early in the season as possible
- to improve patient access (eg through the continued provision of flu immunisation via GP practices, schools, pharmacies, and other settings such as maternity settings)
- to promote recording of all activity data by all providers in a format such that accuracy of uptake data is improved

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

- actively offering flu vaccination to 100% of all those in eligible groups
- vaccination of at least 75% of those aged 65 years and over, in line with the World Health Organization (WHO) target
- vaccination of at least 75% of healthcare workers with direct patient contact. The trust-level ambition is to reach a minimum of 75% uptake and an improvement in every trust. It is supported by a two year CQUIN covering 2017/18 – 2018/19 (see Appendix D for details). It is expected that primary care providers aim to achieve this ambition as well.

- improving uptake for those in clinical risk groups, particularly for those who are at the highest risk of mortality from flu but have the lowest rates of vaccine uptake. The ambition for 2017/18 is to achieve at least a 55% uptake overall in these groups recognising that this figure is already exceeded in some groups, such as those with diabetes. Ultimately the aim is to achieve at least a 75% uptake in these groups
- for children, a minimum uptake of 40% has been shown to be achievable in both primary care and school based programmes and some have achieved much higher rates. As a minimum we would expect uptake levels between 40-65% to be attained by every provider
- providing direct protection to children by extending the annual flu immunisation programme and also cutting the transmission of flu across the population
- monitoring flu activity, severity of the disease, vaccine uptake and impact on the NHS
- prescribing of antiviral medicines in primary care for patients in at-risk groups and other eligible patients is governed by NHS regulations and in line with National Institute for Health and Care Excellence (NICE) guidance⁸. For details please see page 20 in the section on antiviral medicines. Antiviral medicines may be prescribed and supplied in primary care, once the CMO/CPhO letter has been sent to prescribers and community pharmacies informing them that they are now able to prescribe and supply antiviral medicines at NHS expense
- 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.

⁸ NICE guidance: www.nice.org.uk/TA168

Elements of the flu programme

National flu vaccination programme

The flu vaccination programme is based on an assessment of the cost effectiveness of the use of vaccine for people in specific risk groups. The Joint Committee on Vaccination and Immunisation (JCVI) keeps the available evidence under review and modifies their advice should evidence suggest that the programme could be more effective.

Those aged 65 and over, pregnant women and those in a clinical risk group have been offered vaccination annually for a number of years. Those living in long-stay residential care homes, people who are the main carer of someone whose welfare may be at risk if the carer falls ill, and all frontline health and social care workers should also be offered flu vaccination (see [Appendix C](#)).

Flu vaccination of frontline health and social care workers

Flu immunisation should be offered by NHS organisations to all employees directly involved in delivering care. Social care providers, nursing and residential homes, and independent providers such as GPs, dental and optometry practices, and community pharmacists, should also offer vaccination to staff.

Immunisation against flu should form part of an organisations' policy for the prevention of transmission of infection (influenza) to protect patients, service users, staff and visitors. In addition, frontline health and social care workers have a duty of care to protect their patients and service users from infection.

This is not an NHS service, but an occupational health responsibility provided by the staff's employers.

Vaccine uptake in healthcare workers has increased markedly in recent years. However, there continues to be considerable variation around the country and there remains scope for improvement.

NHS England has published a two year CQUIN covering 2017/18 and 2018/19 which includes an indicator to improve the uptake of flu vaccinations for frontline healthcare staff within providers⁹. See [Appendix D](#) for more information.

⁹ www.england.nhs.uk/nhs-standard-contract/cquin/cquin-17-19/

Extension of the programme to children

In July 2012, JCVI recommended that the flu vaccination programme should be extended to healthy children aged two to their seventeenth birthday. JCVI recognised that implementation of this programme would be challenging and due to the scale of the programme it is being phased in. Vaccinating children each year means that not only are the children protected, but the expectation is that transmission across the population will be cut, reducing levels of flu overall and reducing the burden of flu across the population. Implementing this programme is therefore an important contribution to increasing resilience across the system through the winter period.

Research into the first two years of the programme compared the differences between pilot areas, where the entire primary school age cohort was offered vaccination, to non-pilot areas. The results have shown a positive impact on flu transmission across a range of surveillance indicators from vaccinating children of primary school age. These include reductions in: GP consultations for influenza-like illness, swab positivity in primary care, laboratory confirmed hospitalisations and percentage of respiratory emergency department attendances.^{10 11}

The Green Book states that a live attenuated influenza vaccine (LAIV), administered as a nasal spray, is the vaccine of choice for children. The vaccine is licensed for those aged from 24 months to less than 18 years of age. JCVI recommended LAIV as it has:

- good efficacy in children, particularly after only a single dose
- the potential to provide protection against circulating strains that have drifted from those contained in the vaccine
- higher acceptability with children, their parents and carers due to intranasal administration
- it may offer important longer-term immunological advantages to children by replicating natural exposure/infection to induce potentially better immune memory to influenza that may not arise from the annual use of inactivated flu vaccines

¹⁰ Pebody, R *et al.* 5 June 2014. Uptake and impact of a new live attenuated influenza vaccine programme in England: early results of a pilot in primary school age children, 2013/14 influenza season. *Eurosurveillance*, **19**, Issue 22. www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20823

¹¹ Pebody, R *et al.* October 2015. Uptake and impact of vaccinating school age children against influenza during a season with circulation of drifted influenza A and B strains, England, 2014/15. *Eurosurveillance*, **20** (39). www.eurosurveillance.org/images/dynamic/EE/V20N39/art21256.pdf

LAIV is unsuitable for children with contraindications such as severe immunodeficiency, severe asthma or active wheeze. Following more evidence on the safety of LAIV in egg allergic children, JCVI have amended their advice on offering it to children with egg allergy. For the full list of contraindications please see the Green Book. Those children in clinical risk groups who are medically contraindicated to LAIV should be offered a suitable inactivated flu vaccine. Flu vaccines for children are purchased centrally by PHE – the Annual Flu Letter contains details about how to order these vaccines.

LAIV contains a highly processed form of gelatine (derived from pigs). Some faith groups do not accept the use of porcine gelatine in medical products. Current policy is that **only** those who are in clinical risk groups and have clinical contra-indications to LAIV are able to receive an inactivated injectable vaccine as an alternative. The implications of this for the programme will continue to be monitored.

Community Pharmacy Seasonal Influenza Vaccination Advanced Service

Since 2015 all community pharmacies may provide flu vaccination, if they satisfy the requirements of the Advanced Service, to eligible adult patients (that is those aged 18 years and over and within the identified risk groups). As this service is commissioned by NHS England as an Advanced Service, contractors have the choice as to whether they provide it. The service can be provided by any community pharmacist in any community pharmacy in England that satisfies the requirements of the Advanced Service within the Community Pharmacy Contractual Framework. This includes having a consultation room, being able to procure the vaccine and meet the data recording requirements, and have appropriately trained staff. Further details are available from the Pharmaceutical Services Negotiating Committee website: <http://psnc.org.uk/>

Flu vaccine effectiveness

Vaccines are produced each year, by a number of manufacturers, which provide protection against the three strains of influenza that the WHO considers may be most prevalent in the following winter. Since 2013, a quadrivalent vaccine has also been available.

PHE undertakes estimations of the protective effect of the flu vaccines in use during the flu season. The following should be noted:

- epidemiological estimation is carried out using data from consultations in general practice and standardised methodology. In order to obtain sufficiently robust estimates, only mid-season and end of season estimates are made

- In order to provide an indication of how well the vaccines are protecting against the currently circulating strains of flu, these data are combined with virological characterization data of circulating flu viruses
- Significant mismatch between circulating strains and the vaccine strains occur infrequently. Detailed virological characterization of the circulating viruses which is carried out throughout the season might give an early indication of the existence of a significant mismatch so that clinicians can be made aware.

In recent years, we have typically seen around 50% (ranging from 25 to 70%) effectiveness for the flu vaccine in the UK, with generally a good match between the strains of flu in the vaccine and those that subsequently circulate. While it is not possible to fully predict the strains that will circulate in any given season, flu vaccination remains the best protection we have against an unpredictable virus which can cause severe illness and deaths each year, particularly among at-risk groups.

In August 2016 JCVI reviewed all the UK and other international evidence after data from the US found their LAIV childhood flu vaccination programme to be ineffective in 2015/16¹². The 58% vaccine efficacy found in the UK in 2015/16 is within the normal range for this vaccine¹³. Other countries which have introduced LAIV, such as Finland, have also found similar results to the UK. The reasons for the poor efficacy of the vaccine in the US are not fully understood and remain under investigation, but the clear recommendation of JCVI was to continue with the LAIV vaccination programme, together with on-going intensive monitoring of the programme performance.

Since 2014/15 the child flu programme has offered a quadrivalent live attenuated influenza vaccine (LAIV) rather than a trivalent vaccine. This should provide better protection against circulating influenza B strains because it contains two influenza B viruses (compared to one in trivalent vaccines). Vaccine effectiveness data for LAIV in 2016/17 are not yet available.

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

¹² The JCVI statement can be found at:

www.gov.uk/government/uploads/system/uploads/attachment_data/file/548515/JCVI_statement.pdf

¹³ Pebody, R et al. 15 July 2016. Effectiveness of seasonal influenza vaccine for adults and children in preventing laboratory-confirmed influenza in primary care on the United Kingdom: 2015/16 end-of-season results. *Eurosurveillance*, **21**, Issue 38. www.eurosurveillance.org/ViewArticle.aspx?ArticleId=22592

following winter. The 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 winter¹⁴.

It is recommended that trivalent vaccines for use in the 2017/18 influenza season (northern hemisphere winter) contain the following:

- an A/Michigan/45/2015 (H1N1)pdm09-like virus;
- an A/Hong Kong/4801/2014 (H3N2)-like virus; and
- a B/Brisbane/60/2008-like virus.

It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Phuket/3073/2013-like virus.

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 [Appendix B](#).

For all eligible populations apart from children, providers remain responsible for ordering vaccines directly from manufacturers. It is recommended that immunisers ensure they:

- order vaccine from more than one supplier
- order sufficient vaccine before the start of the season at least to cover the uptake aspirations for all their registered eligible patients
- pay attention to ordering the most appropriate type of vaccine such as enough low ovalbumin content vaccine for those patients who may require it

PHE liaises closely with manufacturers and the vaccines group within the Association of the British Pharmaceutical Industry (ABPI). This helps promote optimal communication between GP practices, community pharmacies, and manufacturers.

PHE provides 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 across the UK or the dates of delivery.

¹⁴www.who.int/influenza/vaccines/virus/recommendations/2017_18_north/en/

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 and pharmacists to prioritise particular clinical risk groups over other eligible groups.

All flu vaccines for children are purchased centrally by PHE. This includes vaccine for the national offer to all children aged 2 to 8 years old and for children in risk groups aged six months to under 18 years.

For children in risk groups under 18 years of age where LAIV is contraindicated, suitable inactivated influenza vaccines will be provided centrally and should be offered. LAIV and inactivated injectable vaccines can be ordered through the ImmForm website:

www.immform.dh.gov.uk.

In 2016/17 ordering controls were introduced on centrally purchased flu vaccines. These were put in place to reduce the amount of excess vaccine, in particular LAIV, ordered by General Practice but not administered to children. It is envisaged that controls will also be in place in 2017/18. The latest information on these controls will be available in Vaccine Update both prior to, and during the flu vaccination period.

Flu surveillance

PHE has responsibility for flu surveillance and publishes a report weekly during the flu season which includes a range of indicators on flu that is in circulation including:

- the amount of influenza-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 and ICU admissions
- the relative impact of flu on different groups of people, by age (including data on deaths where flu is the confirmed cause) based on data from intensive care units
- excess mortality monitoring
- the international situation

Flu vaccine uptake data

Vaccine uptake information in 2017/18 will be reported by PHE for the following groups:

- people aged 65 and over
- people aged under 65 with specific clinical conditions
- all pregnant women
- all two and three year-olds
- healthcare workers with direct patient contact
- carers
- children in reception class and school years 1, 2, 3 and 4

Flu vaccine uptake will be collected via the web-based ImmForm system for vaccinations given from the 1 September 2017 until the 31 January 2018. The GP patient weekly and monthly vaccine uptake data will be extracted automatically onto ImmForm from over 90% of GP practices¹⁵.

The weekly GP patient vaccine uptake collection will start the first week of September and will continue until early February. Weekly data provide representative estimates of national uptake by GP patient groups.

The monthly GP patient vaccine uptake collection will start in November and continue until early February. The monthly collections provide national and local level estimates of vaccine uptake by GPs' patients for each CCG and NHS England teams. The final end of flu season data on GP patients will also be presented by local authority (aggregated by practices located in each local authority) to inform Public Health Outcomes Framework indicators 3.03xiv and 3.03xv¹⁶.

Uptake data for healthcare workers will collect information on immunisations given from September 2017 to the end of February 2018 (final data collected in March 2018). An ImmForm survey user guide will be made available to access from the 'Immunisation and Vaccine Uptake Guidance' web pages of the GOV.UK website closer to the start of survey¹⁷.

¹⁵ Vaccine uptake data is based on registered GP practice population. Data source: ImmForm reporting website www.immform.dh.gov.uk

¹⁶ For more information on the Public Health Outcomes Framework see: www.phoutcomes.info

¹⁷ 'Immunisation and Vaccine Uptake Guidance' web pages of the GOV.UK website can be found at: www.gov.uk/government/collections/vaccine-uptake

Assurance of general practice and community pharmacists

NHS England teams will monitor the services that GP practices and community pharmacists provide for flu vaccination to ensure that services comply with the specifications¹⁸. NHS England teams will need assurance that providers have robust implementation plans in place to meet or exceed the vaccine uptake aspirations for 2017/18 and that they have the ability to identify eligible 'at-risk' patients and two-, and three- year-olds.

To support this process, a checklist is attached at **Appendix F** of the steps that GP practices can reasonably be expected to take to improve uptake of flu vaccine among their eligible patients.

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. Local authorities will provide independent 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-groups of the health and wellbeing boards. They can also assist by promoting flu vaccination among frontline social care workers, offering flu vaccination through occupational health services for those staff who are directly employed and encouraging external providers to also offer flu vaccination for staff. 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 DPH 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. The DPH also needs to work with NHS England teams to ensure strategic commissioning.

Antiviral medicines

Influenza antiviral medicines form part of the programme for protection of people who are at increased risk of severe illness due to flu. NICE has reviewed its guidance on the use of flu antivirals in seasonal influenza and it remains unchanged¹⁹. Influenza antivirals may only be prescribed in primary care when influenza is circulating in the community and the

¹⁸ www.england.nhs.uk/commissioning/gp-contract/

¹⁹ NICE guidance: www.nice.org.uk/TA168

Chief Medical Officer (CMO) and Chief Pharmaceutical Officer (CPhO) letter has been sent out. Prescribing in secondary care and in the event of outbreaks of flu is described separately.

Prescribing of antiviral medicines on the NHS is restricted through statutory prescribing restrictions set out in 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), published monthly in Part XVIII B of the Drug Tariff.

Details of eligible and at risk patients and the circumstances when antiviral medicines can be prescribed are contained in the Drug Tariff. Antiviral medicines can only be prescribed in primary care at NHS expense when DH sends out an annual letter from CMO/CPhO, notifying prescribers and community pharmacies that the surveillance indicators are at a level that indicate that influenza is circulating in the community and that prescribers may now prescribe and community pharmacies may supply antiviral medicines for eligible patients.

The exceptions to this are outbreaks of suspected influenza in settings such as care/nursing homes which may occur out of season. Arrangements are being put in place to enable the supply of antiviral medicine for care home outbreaks out of the flu season.

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 are at risk of developing medical complications from flu, if not treated. The early use of antiviral medicines to treat and help prevent serious cases of flu in vulnerable patients is particularly important if the flu vaccine effectiveness is low, and remains so every flu season.

In order to minimise the development of antiviral resistance, it is important that prescribers use antiviral medicines prudently, taking into account national guidance and prescribe 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.

Prescribing in secondary care

The statutory prescribing that apply to primary care do not apply in secondary care. This means that if hospital clinicians believe that a person's symptoms are indicative that the person has influenza 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. A letter from the

CMO/CPhO is not required to provide the trigger for prescribing antiviral medicines in the hospital setting.

Prescribing in outbreaks

PHE has published recommendations for the antiviral treatment and prophylaxis of influenza drawing on guidance already issued by NICE, the DH and WHO²⁰. This guidance should be used in secondary care for any patient where influenza is suspected or confirmed at any time, in primary care it should only be used once the DH issues notice that influenza is circulating in the community and that antiviral medicines can be prescribed and supplied. However, antiviral medicines may be used in primary care outside the periods where national surveillance indicates that influenza virus is circulating in the community, in certain situations, for example, for the treatment of laboratory confirmed influenza outbreaks in 'at-risk' people who live in long-term care homes. Arrangements are being put in place to enable the supply of antiviral medicine for care home outbreaks out of the flu season.

Liaison with manufacturers and pharmacy organisations

DH will notify the manufacturers of antiviral medicines and wholesalers when the notification has been issued to prescribers and community pharmacies that antiviral medicines can be prescribed and supplied for those eligible for antiviral medicines, to ensure that they are prepared for an increase in demand. Manufacturers will in turn need 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 and wholesalers are able to replenish supplies in a timely manner. 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, so community pharmacies can be pre-warned that they may receive prescriptions for antiviral medicines in the near future, and regularly thereafter. This will ensure that community pharmacies are able to access and supply antiviral medicines when they are presented with prescriptions, in a timely manner.

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.

²⁰www.gov.uk/government/uploads/system/uploads/attachment_data/file/400392/PHE_guidance_antivirals_influenza_2014-15_5_1.pdf

Winter planning

Flu is one of the factors that the health and social care system considers as part of winter preparedness. Each year the system plans for and responds to surges in demand, called winter pressures. Pressures associated with winter include:

- the impact of adverse weather, including cold temperatures which increase emergency hospital admissions for diseases such as cardiovascular and respiratory disease, and snow and ice which result in increased numbers of accidents and can significantly disrupt services
- flu, which has a variable impact, depending on the severity of the season
- the impact of norovirus on the acute sector, including the closure of beds in accordance with infection control processes

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.

The Cold Weather Plan recommends a series of steps to reduce the risks to health from cold weather for the NHS, local authorities, and professionals working with people at risk, individuals, local communities and voluntary groups²¹. The cold weather alert service comprises five levels (levels 0-4), from long-term planning for cold weather, through winter and severe cold weather action, to a major national emergency. Each alert level aims to trigger a series of appropriate actions for different organisations such as flu vaccination, public health communications, and health and social care demand management. Local areas should tailor the suggested actions to their situation and ensure that they have the best fit with wider local arrangements.

²¹ The Cold Weather Plan: www.gov.uk/government/publications/cold-weather-plan-cwp-for-england

Communications

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. Flu awareness and communications are an important element of the government's overarching Stay Well This Winter campaign.

A communications strategy will be developed to support this *Flu plan* and to provide communications colleagues in partner organisations with information and resources ahead of the 2017/18 winter flu season for use at national and local level.

While communications will take place within an overarching flu communications strategy, some elements of the communications campaign will be dictated by the severity of the flu season and subsequent impact on at-risk groups. Therefore, it will be important to maintain a flexible approach so that appropriate channels are used to maximise impact and ensure that messages are clear, consistent and relevant to the target audiences.

Communications will also aim to raise awareness of the new elements and recently introduced elements of the flu programme, including the continued rollout to new child cohorts of primary school age. This will mean effective communications at national and local level with education partners and schools (eg local authorities and academy chains) and schools (eg head teachers and governors).

The following communication mechanisms and resources 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 regularly, sometimes during a flu season. It is important that all those involved in the flu programme are familiar with this chapter. Alongside the Annual Flu Letter and this *Flu plan*, this comprises all the essential information needed by healthcare professionals in the implementation of the flu programme.

Annual Flu Letter

Every year an Annual Flu Letter²² sets out information about the forthcoming annual seasonal flu vaccination programme. The information in the letter includes:

- groups to be immunised (including which children should be offered the vaccine)
- available vaccines and ordering vaccines for children
- data collection arrangements
- advice on increasing vaccine uptake
- the enhanced service specification and assurance arrangements
- a GP practice checklist
- information about prescribing and supply of antiviral medicines
- a table of links to key source information

PHE weekly national 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 in the flu surveillance section. The reports can be found at:

www.gov.uk/government/publications/weekly-national-flu-reports

NICE guidance on influenza antivirals

The NICE guidelines “Amantadine, oseltamivir and zanamivir for the treatment of influenza” published in 2009 set out the circumstances under which Oseltamivir and zanamivir are recommended for the treatment and prophylaxis of flu in adults and children. Amantadine is not recommended for the treatment of flu.

PHE guidance on the use of influenza antiviral medicines for outbreaks

PHE has published recommendations for the antiviral treatment and prophylaxis of influenza drawing on guidance already issued by NICE, DH and WHO²³.

²² www.gov.uk/government/collections/annual-flu-programme

²³ www.gov.uk/government/uploads/system/uploads/attachment_data/file/400392/PHE_guidance_antivirals_influenza_2014-15_5_1.pdf

Press briefings

The CMO and representatives from DH, NHS England and PHE as appropriate will lead press conferences, as and when it is necessary. 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, and/or PHE and NHS England representatives to issue a specific public health message
- the media to have access to those dealing with the programme and for the media to obtain more detailed information to inform their reporting

Invitations and information for patients

Proactive and personalised invitations from GPs and other health professionals to patients have a key role to play. 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). Template letters will be available for GP practices to use to invite at risk patients and those aged two to three years for flu vaccination.

Ahead of the flu season, NHS branded patient information leaflets will be reviewed and developed, tailored for different eligible groups. These materials, along with the template letters, will be available at: www.gov.uk/government/collections/annual-flu-programme and free copies of the leaflets will be available to order through the DH health and social care order line: www.orderline.dh.gov.uk/ecom_dh/public/home.jsf.

Any centrally produced communications materials such as leaflets will also be made available on NHS Choices and PHE websites. Any additional resources for NHS communicators will be made available via NHS Comms Link for regional and local use²⁴. We will also be working very closely with partners including NHS Employers, the Local Government Association, the Department for Education, professional health bodies and the network of health charities to ensure that key messages are transmitted effectively through their networks.

²⁴ Information about any centrally-driven approach and resources will be available via the NHS Comms Link website, available to NHS communicators. See: <http://nhscommslink.ning.com>

The 'flu fighters' campaign

NHS Employers runs a 'flu fighters' campaign to support flu vaccination of healthcare workers and their resources are available to order from their website at:

www.nhsemployers.org/campaigns/flu-fighter There are a range of printable and adaptable resources for use in the NHS and care sector.

National marketing campaign

The 2016/17 marketing campaign, which formed part of the wider Stay Well This Winter campaign, is being evaluated and the lessons will inform any campaign plans for 2017/18. Further information will be issued in due course.

The annual cycle of the flu programme

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

Preparations

- **November – March:** Vaccine orders placed with suppliers for eligible patients aged 18 and over
- **December:** Section 7A service specifications for delivery of the flu immunisation programme published
- **February – September:** Manufacture of vaccine
- **February:** Enhanced service specifications for flu immunisation programme published
- **February:** WHO announces the virus strains selected for the next season's flu vaccine for the northern hemisphere
- **March/April:** Annual flu letter is sent to the NHS and local government setting out key information for the autumn's immunisation programme
- **April – June:** Liaison with manufacturers to assure the availability of vaccine
- **April – June:** Assurance that primary care providers have the ability to identify all eligible patients
- **June:** Revised flu information leaflets and GP template letters made available
- **August/September:** Communications and guidance about vaccine uptake data collections issued
- **August/September:** NHS England teams, NHS Employers, local government health and wellbeing 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. Weekly updates of stock levels at manufacturers and wholesalers are supplied by the manufacturers

Flu vaccination campaign

- **September/October:** Flu vaccine for children available to order through ImmForm. Note: It is not possible to give a precise date for the availability as vaccine production involves complex biological and regulatory processes
- **September/October:** Children in eligible school age cohorts start to be offered flu vaccination
- **October:** PHE flu marketing campaign launched (if applicable)

- **September – February:** Suppliers deliver vaccines to GP practices, community pharmacies, and PHE central stock. GPs, community pharmacists and other providers begin vaccinating eligible patients and staff against flu as soon as vaccine is available
- **September – February:** Weekly GP patients and monthly vaccination uptake 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 co-ordination arrangements
- **October – February:** A respiratory and hand hygiene campaign may be considered
- **November – February:** Monthly GP patient flu uptake and the healthcare worker flu uptake collection commence for data submissions and closes early February.
- **March – May:** The CPhO and CMO may issue letter asking prescribers to stop prescribing antiviral medicines and community pharmacies to stop supplying 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 proportionate 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 ([Appendix H](#) identifies some potential scenarios). For this reason, the *Flu plan* operates according to a series of levels, which enable individual elements of the DH, NHS England, and PHE's response to be escalated as appropriate:

Level	Level of flu-like illness	Description of flu season
1	Community, primary and/or secondary care indicators starting to show that flu and flu-like illness are being detected	Beginning of the flu season – flu has now started to circulate in the community
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 peak norms	Epidemic levels of flu – rare for a flu season

[Appendix G](#) lays out in greater detail the levels 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.

Plans to improve vaccine uptake

Children

Vaccine uptake rates for 2-4 year olds in 2016/17 was higher than previous years. Reaching these pre-school cohorts continues to be extremely important, not only for their own protection and to help to prevent the spread of flu, but also to introduce flu vaccination as part of routine care for children every autumn. Uptake was higher in the school based programmes, providing a firm foundation for future growth.

As with all parts of the flu programme there should be a 100% active offer of immunisation to eligible children. Providers and commissioners will be required, if asked, to demonstrate that such an offer has been made. A minimum uptake of 40% has been shown to be achievable in both primary care and school based programmes and some have achieved much higher rates. As a minimum, we would expect vaccine uptake rates of between 40-65% to be attained by every provider. A limited number of sessions for children who missed out on vaccination during the first routine planned session should be considered towards the end of the season. Precise arrangements for achieving this are for local determination.

Children in at-risk groups

Vaccine uptake is particularly low in children under 16 years of age with clinical conditions that put them at most risk of complications or hospitalisation from flu. It is therefore important that children and parents of children in clinical risk groups understand the importance of these children being vaccinated against flu and the protection it offers them, particularly children with neurological disease including learning disabilities, where uptake is especially low. 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).

Some children in clinical risk groups may be offered LAIV alongside their peers as part of local provision for children in eligible school age cohorts or in the primary school-aged geographic pilots. If a child in an at-risk group does not receive flu vaccination through this route, then they should be offered it in general practice. For instance, a child may miss out due to being absent from school on the day the vaccination was offered, or because the child is contraindicated to LAIV and the local service provider does not offer inactivated flu vaccines. At-risk children may be offered immunisation at school, however

if school visits are late in the season parents should be reminded that they can have their children immunised by their GP.

Where a child is vaccinated but not by their GP, it is important that the vaccination information is provided to the practice for the timely update of clinical records and that the data is entered on the system.

Pregnant women

Pregnant women are particularly vulnerable to severe complications of flu. During the period 2009 to 2012, one in eleven maternal deaths was due to influenza infection²⁵. All pregnant women are recommended to receive the inactivated flu vaccine irrespective of their stage of pregnancy. If a woman becomes pregnant after the ideal vaccinating period of September to December, it is still worth considering offering the vaccine. Clinicians should apply clinical judgement to assess the needs of an individual patient, taking into account the level of if flu-like illness circulating in the community. Women should be offered the vaccine every time they are pregnant as the flu virus constantly mutates and therefore the strains included in the vaccine are reviewed annually.

Flu vaccination for pregnant women may be offered in general practice, through maternity services, or through community pharmacies. Maternity services are encouraged to provide the vaccine as part of routine care for all pregnant women. It is recognised that offering immunisation at the health venue women attend most when pregnant, and it being offered by their midwife, is the ideal route to improve access to, and uptake of, this vital protection for pregnant women. See [Appendix E](#) for more information.

People aged under 65 in clinical risk groups

People in clinical risk groups are at particular risk of becoming very unwell from flu and flu related illness. The table below shows flu mortality by clinical risk group and demonstrates the increased risk of death.

²⁵ Knight M et al (2014) MBRRACE Saving Lives, Improving Mothers' Care: National Perinatal Epidemiology. www.npeu.ox.ac.uk/mbrance-uk/reports

Table 3²⁶: Influenza related mortality ratios and population rates among those aged six months to 64 years of age by risk group in England, September 2010-May 2011

	Number of fatal flu cases (%)	Mortality rate per 100,000 population	Age-adjusted relative risk*	Lower RR 95% CI	Upper RR 95% CI
In a risk group	213 (59.8)	4.0	11.3	9.1	14.0
Not in any risk group	143 (40.2)	0.4	Baseline	Baseline	Baseline
Chronic renal disease	19 (5.3)	4.8	18.5	11.5	29.7
Chronic heart disease	32 (9.0)	3.7	10.7	7.3	15.7
Chronic respiratory disease	59 (16.6)	2.4	7.4	5.5	10.0
Chronic liver disease	32 (9.0)	15.8	48.2	32.8	70.6
Diabetes	26 (7.3)	2.2	5.8	3.8	8.9
Immunosuppression	71 (19.9)	20.0	47.3	35.5	63.1
Chronic neurological disease (exc. stroke/TIA)	42 (11.8)	14.7	40.4	28.7	56.8
Total*	378	0.8			

* Including 22 cases with no information on risk factors.

Mantel-Haenszel age-adjusted rate ratio (RR), with corresponding exact 95% CI calculated for each risk group using the two available age groups (from six months up to 15 years and from 16 to 64 years)

Despite continued efforts, for a number of years around only half of patients in clinical risk groups have been vaccinated. For 2017/18, the ambition for this cohort is to achieve at least a 55% uptake overall in these groups recognising that this figure is already exceeded in some of the groups, such as those with diabetes. Ultimately the aim is to achieve at least a 75% uptake in these groups.

The Community Pharmacy Seasonal Influenza Vaccination Advanced Service provides an excellent opportunity to inform and vaccinate people in these groups as the majority of these people visit their community pharmacies regularly to collect repeat prescriptions. There is also a role for doctors and specialist nurses in secondary care, health visitors, pharmacists and other caregivers to raise awareness of flu vaccine as part of the care pathway for people in clinical risk groups.

²⁶ Table reproduced from *Surveillance of influenza and other respiratory viruses in the UK 2011-12 report* by kind permission of PHE.

People aged 65 and over

For a number of years the vaccine uptake rates for those aged 65 and over have been close to the WHO target of 75%. This represents a tremendous achievement especially given that the numbers in this group are growing due to an ageing population. Therefore, GP practices and other providers have vaccinated larger absolute numbers even though the uptake rate has remained similar or slightly fallen. Given the increased risk for older people of severe complications from flu, they remain an important target group.

Healthcare workers with direct patient contact and social care workers

Frontline health and social care workers have a duty of care to protect their patients and service users from infection. This includes getting vaccinated against flu. The impact of flu on frail and vulnerable people in communities, care homes, and in hospitals can be fatal. In addition, immunisation against influenza should form part of the organisations' policy for the prevention of transmission of influenza to protect patients, residents, service users, staff and visitors.²⁷

NHS organisations, local authorities, and independent care sector providers need to ensure that appropriate measures are in place for offering flu vaccination to their health and social care workers with direct patient/service user contact. This service is organised locally by these employers, often through the occupational health service for those organisations with one. 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. Where staff are not vaccinated for any reason, employers should consider what alternative infection control measures should be put in place, for example wearing face masks.

NHS Employers run a national staff-facing campaign to encourage healthcare workers to get vaccinated. The campaign provides support to NHS Trusts in England running their local staff flu vaccinations campaigns, ensures consistency of message, shares good practice and harnesses clinical and professional leadership at both national and local levels. Further information and contact details can be found on the NHS Employers flu fighter website²⁸.

There are a range of printable and adaptable resources for use in the NHS and care sector.

²⁷ www.gov.uk/government/uploads/system/uploads/attachment_data/file/449049/Code_of_practice_280715_acc.pdf

²⁸ www.nhsemployers.org/flu

NHS England has published a two year CQUIN covering 2017/18 and 2018/19 which includes an indicator to improve the uptake of flu vaccinations for frontline healthcare staff within providers²⁹. See Appendix D for more information.

Carers

People in receipt of a carer's allowance, or who are the main carer of an older or disabled person whose welfare may be at risk if the carer falls ill, should be offered flu vaccination. This includes carers who are children. Practices should remind at-risk patients that if they have someone who cares for them, this person is also eligible for the flu vaccine. For more information including posters that can be downloaded and displayed in general practices, community pharmacies, and other locations visit the Carers Trust website for professionals³⁰.

Commissioning services for those with particular needs

In addition to those patients who can attend a surgery or clinic to receive a vaccination, NHS England teams need to plan to offer vaccination to those who require home visits; those who are in long-term care; those who are not registered with a general practice; those children that do not attend the main stream private and state schools and those adults and children that do not readily engage with the health system. 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.

²⁹ www.england.nhs.uk/nhs-standard-contract/cquin/cquin-17-19/

³⁰ <https://professionals.carers.org/flu-vaccinations-carers-campaign-useful-resources>

Appendix A: 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
- seek advice from a pharmacist about the best remedy for their symptoms
- consider taking the appropriate dose of paracetamol/ibuprofen-based painkillers or cold remedies to lower their temperature and relieve their symptoms. Some cold remedies already contain paracetamol or ibuprofen, so some care needs to be taken to ensure that people do not receive a double dose of either paracetamol or ibuprofen.
- avoid visiting GP surgeries and hospitals where they may infect other more vulnerable people and use community pharmacists as first port of call for early symptoms

Antiviral medicines

Antiviral medicines can 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 [Appendix C](#).

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. The CMO/CPhO letter, when published, will provide more details.

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 statutory 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 to allow the lungs to heal. This is a complex procedure which is only carried out 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.

Appendix B: Vaccine manufacture and supply

Flu vaccine manufacture and supply are undertaken on a global basis. Six 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 a decision on their overall 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. Its 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, 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 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.

Customers 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.

Appendix C: Groups included in the national flu immunisation programme

1. In 2017/18, flu vaccinations will be offered under the NHS flu vaccination programme to the following groups:

- people aged 65 years or over (including those becoming age 65 years by 31 March 2018)
- people aged from 6 months to less than 65 years of age 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 three, four or five
 - chronic liver disease
 - chronic neurological disease, such as Parkinson's disease or motor neurone disease, or learning disability
 - diabetes
 - splenic dysfunction
 - a weakened immune system due to disease (such as HIV/AIDS) or treatment (such as cancer treatment)
 - morbidly obese (defined as BMI of 40 and above)
- all pregnant women (including those women who become pregnant during the flu season)
- all those aged two and three (but not four years or older) on 31 August 2017 (ie date of birth on or after 1 September 2013 and on or before 31 August 2015)
- all children in reception class and school years 1, 2, 3, and 4³¹
- primary school-aged children in former primary school pilots areas
- 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

³¹Reception Year is defined as four rising to five year olds (ie date of birth between 1 September 2012 and on or before 31 August 2013)

Year 1 is defined as five rising to six year olds (ie date of birth between 1 September 2011 and on or before 31 August 2012)

Year 2 is defined as six rising to seven-year-olds (ie date of birth between 1 September 2010 and on or before 31 August 2011)

Year 3 is defined as seven rising to eight-year-olds (ie date of birth between 1 September 2009 and on or before 31 August 2010)

Year 4 is defined as eight rising to nine-year-olds (ie date of birth between 1 September 2008 and on or before 31 August 2009)

Some children in Reception year and years 1, 2, 3 and 4 might be outside of these date ranges (e.g. if a child has been accelerated or held back a year). It is acceptable to offer and deliver immunisations to these children with their class peers.

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
 - 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.
2. The list above is not exhaustive, and the healthcare practitioner should apply clinical judgement 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. Flu vaccine should be offered in such cases even if the individual is not in the clinical risk groups specified above.
 3. It is also important that health and social care workers with direct patient/service user contact should be vaccinated as part of an employer's occupational health obligation.

Healthcare practitioners should refer to the Green Book influenza chapter for further detail about clinical risk groups included in the national flu immunisation programme. This is regularly updated, sometimes during the flu season, and can be found at:

www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book

Further information on the Section 7A service specifications for delivery of the seasonal influenza immunisation programme and the seasonal influenza programme for children can be found at: www.england.nhs.uk/commissioning/pub-hlth-res/

Appendix D: Health and social care worker vaccination programme

Importance of vaccinating health and social care workers with direct patient/service user contact

Flu immunisation should be offered by NHS organisations to all employees directly involved in delivering care. Immunisation against influenza should form part of healthcare organisations' policy for the prevention of transmission of infection (influenza) to protect patients, staff and visitors³². In addition, frontline healthcare workers (ie staff involved in direct patient care) have a duty of care to protect their patients from infection. This is not an NHS service, but an occupational health responsibility provided to NHS staff by employers.

Social care providers, nursing and residential homes, and independent providers such as GPs, dental and optometry practices, and community pharmacists, should also offer vaccination to staff. Staff in the residential and care home sector and those providing care to people in their own homes are working with some of the most vulnerable people in our communities, so it is important that they help protect themselves and service users against flu.

Doctors are reminded of the General Medical Council's (GMC) guidance on Good Medical Practice (2013), which advises immunisation 'against common serious communicable diseases (unless otherwise contraindicated)' in order to protect both patients and colleagues³³.

Nurses, midwives and health visitors are reminded that the NMC Code requires registrants to "take all reasonable personal precautions necessary to avoid any potential health risks to colleagues, people receiving care and the public".³⁴

Pharmacists are reminded by the General Pharmaceutical Council to consider getting vaccinated and to encourage their staff to get vaccinated as well.

The General Pharmaceutical Council advises pharmacy professionals providing key healthcare services, and often dealing with patients directly, to consider getting vaccinated and to encourage their staff to get vaccinated as well.

³²www.gov.uk/government/uploads/system/uploads/attachment_data/file/449049/Code_of_practice_280715_acc.pdf

³³ See paragraph 29 at: www.gmc-uk.org/guidance/good_medical_practice/your_health.asp

³⁴ www.nmc.org.uk/globalassets/sitedocuments/nmc-publications/nmc-code.pdf

Health professionals such as physiotherapists, radiographers and paramedics registered with the Health and Care Professionals Council, are reminded of the requirement: “You must take all reasonable steps to reduce the risk of harm to service users, carers and colleagues as far as possible.”³⁵

Chapter 12 of the Green Book provides information on which groups of staff can be considered as involved in direct patient care³⁶.

Influenza outbreaks can arise in health and social care settings with both staff and their patients/service users being affected when flu is circulating in the community. It is important that staff get vaccinated to help protect themselves against flu as well as other staff and family members. Vaccination also reduces the risk of them passing the virus to vulnerable patients, residents, and service users, some of whom may have impaired immunity increasing their risks of flu and who may not respond well to vaccination.

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 long term healthcare settings^{37,38,39, 40}.

Vaccination of essential frontline workers 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.

Health and social care workers are a very influential group. Patients and service users trust their nurses, doctors, pharmacists and other health and care professionals and their opinions can affect the way they act. A vaccinated member of staff can talk from first-hand experience and reassure them of the benefits of being vaccinated. Staff need to understand the benefits of the vaccine and dispel the myths that may have developed about the vaccine.

³⁵ www.hcpc-uk.org/assets/documents/10004EDFStandardssofconduct,performanceandethics.pdf

³⁶ www.gov.uk/government/publications/immunisation-of-healthcare-and-laboratory-staff-the-green-book-chapter-12

³⁷ Potter, J, Stott, DJ, Roberts, MA *et al.* (1997). The influenza vaccination of health care workers in long-term-care hospitals reduces the mortality of elderly patients. *Journal of Infectious Diseases*; **175**:1-6.

³⁸ Carman, WF, Elder, AG, Wallace, LA *et al.* (2000) Effects of influenza vaccination of healthcare workers on mortality of elderly people in long term care: a randomised control trial. *The Lancet*; **355**:93-7.

³⁹ Hayward, AC, Harling, R, Wetten, S *et al.* (2006) Effectiveness of an influenza vaccine programme for care home staff to prevent death, morbidity, and health service use among residents: cluster randomised controlled trial. *British Medical Journal*; doi:10.1136/bmj.39010.581354.55 (published 1 December 2006).

⁴⁰ Lemaitre, M, Meret, T, Rothan-Tondeur, M *et al.* (2009) Effect of influenza vaccination of nursing home staff on mortality of residents: a cluster randomised trial. *Journal of American Geriatric Society*; **57**:1580-6.

A range of interventions can be employed to increase uptake⁴¹. 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.

The Secretary of State for Health and CMO and other senior professionals take a keen interest in seeing increased flu vaccine uptake in healthcare and social care workers.

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 internet⁴². There are a range of printable and adaptable resources for use in the NHS and care sector.

Additionally, DH will continue to work with PHE, NHS England, and NHS Improvement to agree action to ensure trusts take the necessary action to increase uptake rates.

Infection control

Immunisation against influenza should be an important part of healthcare organisations policy and strategy for the prevention of transmission of influenza and is an adjunct to other measures such as isolation of patients with respiratory infections. If a staff member is not vaccinated then consideration should be given to alternative approaches to reducing the spread of flu such as the wearing of face masks. Measures such as this are intended to provide a demonstrable commitment to infection prevention, building public confidence.

The code of practice on the prevention and control of infections and related guidance⁴³ 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.

⁴¹Can we achieve high uptakes of influenza vaccination of healthcare workers in hospitals? A cross-sectional survey of acute NHS trusts in England. *Epidemiol Infect.* 2013 May 15:1-10. http://journals.cambridge.org/abstract_S095026881300112X

⁴²www.nhsemployers.org/flu

⁴³ <https://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>

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.

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/service user of infection, the reduction of flu infection among staff, and reduced staff absenteeism, have also been documented.

Commissioning for Quality and Innovation (CQUIN) guidance

NHS England has published a two year CQUIN covering 2017/18 and 2018/19 which includes an indicator to improve the uptake of flu vaccinations for frontline healthcare staff within providers⁴⁴. As in previous years, the national ambition is that a minimum of 75% of staff in trusts are vaccinated against flu. However, in recognition of the fact that for some trusts this represents a significant amount of work, the CQUIN indicator (1c) for the first year is for providers to achieve an uptake of flu vaccinations by frontline healthcare staff of 70%, rising to 75% in the second year. Providers commissioned under the NHS Standard Contract will be eligible for CQUIN payments, e.g. acute, mental health, community and ambulance trusts.

Who should be vaccinated?

Trusts/employers must 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, and ambulance crew
- 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
- social care staff providing domiciliary care
- pharmacists, both those working in the community and in clinical settings
- staff working in direct support of clinical staff, often with direct patient care

⁴⁴ www.england.nhs.uk/nhs-standard-contract/cquin/cquin-17-19/

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.

For further information on data collection of vaccine uptake in healthcare workers see the ImmForm user guidance under 'Seasonal flu vaccine uptake: data collection guidance' at www.gov.uk/government/collections/vaccine-uptake

Appendix E: Pregnant women

Rationale and target groups

There is good evidence that pregnant women are at increased risk from complications if they contract flu^{45,46,47}. In addition, there is evidence that having flu during pregnancy may be associated with premature birth and smaller birth size and weight^{48,49} and that flu vaccination may reduce the likelihood of prematurity and smaller infant size at birth associated with an influenza infection during pregnancy⁵⁰. Furthermore, a number of studies shows that flu vaccination during pregnancy provides passive immunity against flu to infants in the first few months of life^{51,52,53,54,55}.

A review of studies on the safety of flu vaccine in pregnancy concluded that inactivated flu vaccine can be safely and effectively administered during any trimester of pregnancy and that no study to date has demonstrated an increased risk of either maternal complications or adverse fetal outcomes associated with inactivated influenza vaccine⁵⁶.

All pregnant women are recommended to receive the inactivated flu vaccine irrespective of their stage of pregnancy.

When to offer the vaccine to pregnant women

The ideal time for flu vaccination is before flu starts circulating. However, even after flu is in circulation vaccine should continue to be offered to groups such as newly pregnant women. Clinicians should apply clinical judgement to assess the needs of an individual woman,

45 Knight M et al (2014) MBRACE Saving Lives, Improving Mothers' Care : National Perinatal Epidemiology

46 Neuzil KM, Reed GW, Mitchel EF et al. (1998) Impact of influenza on acute cardiopulmonary hospitalizations in pregnant women. *Am J Epidemiol.* 148:1094-102.

47 Pebody R et al. (2010) Pandemic influenza A (H1N1) 2009 and mortality in the United Kingdom: risk factors for death, April 2009 to March 2010. *Eurosurveillance* 15(20):19571.

48 Pierce M, Kurinczuk JJ, Spark P et al. (2011) Perinatal outcomes after maternal 2009/H1N1 infection: national cohort study. *BMJ.* 342:d3214.

49 McNeil SA, Dodds LA, Fell DB et al. (2011) Effect of respiratory hospitalization during pregnancy on infant outcomes. *Am J Obstet Gynecol.* 204:(6 Suppl 1) S54-7.

50 Omer SB, Goodman D, Steinhoff MC et al. (2011) Maternal influenza immunization and reduced likelihood of prematurity and small for gestational age births: a retrospective cohort study. *PLoS Med.* 8:(5) e1000441.

51 Benowitz I, Esposito DB, Gracey KD et al. (2010) Influenza vaccine given to pregnant women reduces hospitalization due to influenza in their infants. *Clin Infect Dis.* 51:1355-61.

52 Eick AA, Uyeki TM, Klimov A et al. (2010) Maternal influenza vaccination and effect on influenza virus infection in young infants. *Arch Pediatr Adolesc Med.* 165:104-11.

53 Zaman K, Roy E, Arifeen SE et al. (2008) Effectiveness of maternal influenza immunisation in mothers and infants. *N Engl J Med.* 359:1555-64.

54 Poehling KA, Szilagyi PG, Staat MA et al.(2011) Impact of maternal immunization on influenza hospitalizations in infants. *Am J Obstet Gynecol.* 204:(6 Suppl 1)S141-8.

55 Dabrera G, Zhao H, Andrews N et al. (2014) Effectiveness of seasonal influenza vaccination during pregnancy in preventing influenza infection in infants, England, 2013/14. *Eurosurveill.* Nov 13:19. www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20959

56 Tamma PD, Ault KA, del Rio C et al. (2009) Safety of influenza vaccination during pregnancy. *Am. J. Obstet. Gynecol.* 201(6):547-52.

taking into account the level of flu-like illness in their community and the fact that the immune response following flu vaccination takes about two weeks to develop fully.

Data review and data recording

Uptake of vaccine by pregnant women, along with other groups, will be monitored. GPs will need to check their patient database throughout the flu season in order to identify women who are not pregnant at the start of the immunisation programme but become pregnant during the winter. GPs should also review their records of pregnant women before the start of the vaccination programme to ensure that women who are no longer pregnant are not called for vaccination (unless they are in other clinical risk groups) and so that they can measure the uptake of flu vaccine by pregnant women accurately.

Maternity services

Midwives need to be able to explain the benefits of flu vaccination to pregnant women and either refer them back to their GP practice or a community pharmacy for the vaccine or offer the vaccine in the maternity service itself. A number of different models exist including running flu vaccination clinics alongside the maternity service, where cold storage facilities exist. NHS England teams will explore ways of commissioning maternity services to provide flu vaccination or linking maternity services with GP practices or community pharmacies where relevant. If arrangements are put in place where midwives or community pharmacies administer the flu vaccine, it is important that the patient's GP practice is informed in a timely manner, ideally by the end of the next working day, so their records can be updated accordingly, and included in vaccine uptake data collections. Maternity providers should ensure they inform GPs when a woman is pregnant or no longer pregnant.

Appendix F: GP practice checklist

Practices are encouraged to implement the guidelines below which are based on evidence about factors associated with higher flu vaccine uptake⁵⁷. For guidance on improving uptake among children in general see 'Increasing influenza immunisation uptake among children' on the GOV.UK website⁵⁸.

Named lead

1. Identify a named lead individual within the practice who is responsible for the flu vaccination programme and liaises regularly with all staff involved in the programme.

Registers and information

2. Hold a register that can identify all pregnant women and patients in the under 65 years at risk groups, those aged 65 years and over, and those aged two and three years.
3. Update the patient register throughout the flu season paying particular attention to the inclusion of women who become pregnant and patients who enter at risk groups during the flu season.
4. 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), ideally using the automated function. Submit data on uptake among healthcare workers in primary care using the ImmForm data collection tool.

Meeting any public health ambitions in respect of such immunisations

5. Order sufficient flu vaccine taking into account past and planned improved 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 and in respect of children from PHE central supplies through the ImmForm website.

⁵⁷ 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>

⁵⁸ www.gov.uk/government/collections/annual-flu-programme

Robust call and recall arrangements

6. Invite patients recommended to receive the flu vaccine to a flu vaccination clinic or to make an appointment (eg by letter, e-mail, phone call, text)⁵⁹. This is a requirement of the enhanced service specification.
7. Follow-up patients, especially those in at risk groups, who do not respond or fail to attend scheduled clinics or appointments.

Maximising uptake in the interests of at-risk patients

8. Start flu vaccination as soon as practicable after receipt of the vaccine. This will help ensure the maximum number of patients are vaccinated as early as possible and are protected before flu starts to circulate. Aim to complete immunisation of all eligible patients before flu starts to circulate and ideally by end of December.
9. Collaborate with maternity services 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. Offer flu vaccination in clinics and opportunistically.
11. Where the patient has indicated they wish to receive the vaccination but is physically unable to attend the practice (for example is housebound) the practice must make all reasonable effort to ensure the patient is vaccinated. The GP practice and/or CCG will collaborate with other providers such as community or health and social care trusts to identify and offer flu vaccination to residents in care homes, nursing homes and house-bound patients, and to ensure that mechanisms are in place to update the patient record when flu vaccinations are given by other providers.

⁵⁹ Template letters will be available from: www.gov.uk/government/collections/annual-flu-programme

Appendix G: Levels of activity

Levels	Level of flu-like illness	Description of flu season
1	Community, primary and/or secondary care indicators starting to show that flu and flu-like illness are being detected	Beginning of the flu season – flu has now started to circulate in the community
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 peak norms	Epidemic levels of flu – rare for a flu season

Activity that would be undertaken at Level 1

Level 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 • Community pharmacies offering flu vaccination through the advanced service offer vaccine to those eligible • 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, care home employers and community pharmacies 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 • If vaccine uptake is low NHS England Directors of Commissioning Operations and local public health teams work with providers to improve uptake in season. • 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
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Activity that would be undertaken in Level 2

Level 2

- Prescribers and community pharmacies will be alerted through a CMO/CPhO letter, to start prescribing and supplying 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, eg 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
- vaccine manufacturers contacted by PHE 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. Plans will be in place with the manufacturers to replenish stocks that were used from the national stockpile.
- DH will work closely with antiviral medicines manufacturers, wholesalers and pharmacies to minimise disruptions of supply of antiviral medicines to patients
- DH will work closely with antibiotic manufacturers, wholesalers and pharmacies to minimise disruptions of supply to patients
- DH will receive at least weekly reports of levels of antiviral medicines in the supply chain

Activity that would be undertaken in Level 3

Level 3

- 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 by PHE regarding availability of additional supplies
- antiviral medicines manufacturers contacted regarding availability of additional supplies, with more regular updates on levels of antiviral medicines in the supply chain, eg daily reporting
- 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
- vigilance required with manufacturers of antiviral medicines to ensure they have plans in place to obtain additional stocks if necessary
- continue to review daily NHS operational data, for example, critical care
- alert the NHS when the flu season has peaked, to aid local planning

Appendix H: Potential scenarios

The table below gives examples of factors affecting the DH, PHE, NHS England and the 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, community pharmacists and other providers can reschedule vaccination clinics
	Production problems mean insufficient doses of vaccine are available nationally	PHE communicates 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	PHE, via NHS England, communicates the issue to GPs, community pharmacists 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 or three other strains of flu covered by the vaccine 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

	Event	Action
		<p>the CMO in the use of this discretion 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 PHE considers launching the respiratory and hand hygiene campaign</p>
	<p>Issue over safety of vaccine emerges</p>	<p>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</p>
Treatment	<p>Antiviral medicines not available from pharmacies</p>	<p>DH discusses stock levels with manufacturers and wholesalers to determine whether they can meet the increased demand DH 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</p>

	Event	Action
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 teams, PHE, DH and the NHS Chief Executive keep under review the need to trigger strategic command arrangements for the NHS, as per 'The NHS England Emergency Preparedness, Resilience and Response Framework' ⁶⁰
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

⁶⁰ www.england.nhs.uk/wp-content/uploads/2015/11/eprr-framework.pdf

Useful links

Document	Web link
National Flu plan	www.gov.uk/government/collections/annual-flu-programme
Green Book Influenza Chapter	www.gov.uk/government/publications/influenza-the-green-book-chapter-19
NHS England Public Health Functions Agreement 2017/18 (known as Section 7A agreement)	www.england.nhs.uk/commissioning/pub-hlth-res/
NHS England enhanced service specification (For GP providers)	www.england.nhs.uk/commissioning/gp-contract/
Immform Survey User guide for GP practices, local NHS England teams, and NHS Trusts	www.gov.uk/government/collections/vaccine-uptake
Flu vaccine uptake figures	
ImmForm website for ordering child flu vaccines	www.immform.dh.gov.uk
Flu immunisation PGD templates (Note: These templates require authorisation before use)	www.gov.uk/government/collections/immunisation-patient-group-direction-pgd
National Q&As / training slide sets/ e-learning programme	www.gov.uk/government/collections/annual-flu-programme www.e-lfh.org.uk/programmes/flu-immunisation/
Seasonal flu/influenza GP practice vaccination programmes supporting documents	www.nhsemployers.org/vandi201718
NHS England Commissioning for Quality and Innovation (CQUIN) Guidance for 2017/18 & 2018/19	www.england.nhs.uk/nhs-standard-contract/cquin/cquin-17-19/
Vaccine Update	www.gov.uk/government/collections/vaccine-update
To register to receive the monthly newsletter by email please go to:	https://public.govdelivery.com/accounts/UKH/PA/subscribers/new?preferences=true
NHS Employers Flu Fighter campaign	www.nhsemployers.org/flu

PHE Immunisation home page	www.gov.uk/government/collections/immunisation
PHE Flu Immunisation Programme home page	www.gov.uk/government/collections/annual-flu-programme