EXECUTIVE SUMMARY

OPERATIONAL ASPECTS OF INFLUENZA IMMUNISATION 2020/21

Key Messages:

- Planning of the 2020/21 flu immunisation campaign is dependent on the size of the eligible population needing to be immunised, the available practice infrastructure (including staff and clinic set-up), the opportunities for local collaborative working and Covid-19 specific elements at the time of vaccination.

- Vaccination strategy is dependent on these co-dependent factors within planning phase and include needs estimation, human resources and the vaccination timetable. It is these factors which determine the method(s) of vaccination delivery at practice and/or PCN level.

- There is not one "correct" delivery model as it is based on local factors. Outside clinics and additional estate have reduce transmission dynamics and allow less disruption to routine work but are logistically harder to deliver. Solutions need to be locally determined as they are locally delivered.

- Due to social distancing and infection control measures, practices need to be able to immunise consistently and efficiently throughout the vaccination window, maximising all contact with the health system to reduce practice footfall. There needs to be a greater control and co-ordination of patient streams (considering priority groups) and clinic infrastructure.

- The flu calculator is a tool to determine the eligible populations and infrastructure at a practice and PCN level to assist with planning of the flu campaign to determine the vaccination strategy.

Suggestions for Practices:

- Start considering the eligible populations, estate available and staff at a practice and scale level, using tools such as the flu-calculator to assist with planning.

- Expect increased uptake, additional cohorts and that the campaign will take longer to deliver than past seasons. The cost of delivery will be higher, especially if practices need to deliver a predominant out-of-hours approach or use additional estate to reduce disruption to routine services. Practices also need to factor ordering additional equipment e.g. PPE.

- Start considering the collaborative working opportunities with other GP practices and community teams (a focus should be domiciliary, Care Home and shielded populations, which need to interact with the health system differently).

Suggestions for CCG/Public Health Teams:

CCGs have an important role to support practices and GPs working at scale to deliver the flu immunisation campaign. Key areas in which CCGs can provide support could be:

Additional workload:

- Recognise that there may be additional cohorts added to the eligible populations and this is an increased ask from practices which may need locally determined solutions in discussion with the practices and PCNs.

- That CCGs should focus on expanded programs - e.g. Immunisation of non-eligible cohorts or bespoke services to capture peripheral populations in which uptake is low.

- Assistance maybe required with shielded/Care Home/domiciliary patients-e.g. if practices or PCNs are struggling to deliver services. Consideration of direct support and training to community teams to and nursing and Care Home staff to deliver immunisation and/or commissioning of shielded/domiciliary vaccination teams.

- That CCGs could assist practices by using some of the "Target" sessions to allow routine work to be transferred to out-of-hours providers, allowing flu afternoons to be performed in core hours.

Additional stock and financial implications:

- CCGs work with practices and PCNs on solutions which ensure practices do not lose out financially if additional stock is ordered to meet additional demand. This could be a consideration of CCG acquired floating stock and assistance with cold chain solutions at a scale level.

- Clarification of reimbursement for additional costs related to Covid-19 expenses would be useful, especially in response to additional estate solutions, additional staff-costs and temporary structures/adaptation of existing structure required to deliver flu immunisation safely and effectively

Workforce issues:

- If practices identify significant workforce issues meaning they are unable to deliver immunisation to eligible populations, that flexible local solutions are offered (e.g. the options for practices within PCNs, or neighboring PCNs to deliver to these cohorts)

- CCGs work with practices to identify additional staff members (might be within the CCG or temporary workers e.g. locums, primary care returners) who may be able to provide capacity to practices who are experiencing significant shielded/isolated staff members.

Estate issues:

- That CCGs work with practices to identify practice/PCN estates solutions and wider community spaces that would be effective for the immunisation campaign. This could also be allowing use of community hospital and other health facilities for practices to deliver vaccination clinics.

Using the lessons from flu vaccination:

- Capture where flu vaccination could be delivered effectively and assess additional estate options within the locality. This could then be used for more wide scale population based immunisation (e.g. in response to a Covid-19 exit strategy).

- Drive-through options are effective mass immunisation strategy, but require appropriate assessment of the eligible cohort, the infrastructure set-up and logistical support. Ideally this should be modelled based on the estimated population numbers to determine the size, and staff mix of the facility. Any delivery option develops needs to ensure equity of access (e.g. walk-in clinics as well as drive-through and geographical assessment to ensure access to facility).

- Co-location of immunisation site within a testing facility should be considered with caution, ensuring if this approach is adopted that there is clear site distinction and separation. This is because the testing population (with Covid-19 symptoms) are the least eligible to receive vaccination and there could be a potential for cross contamination of Covid-19 possible patients and high-risk individuals.

WESSEX

Local Medical Committees

OPERATIONAL ASPECTS OF INFLUENZA IMMUNISATION 2020/21:

Background:

Influenza (flu) vaccination is one of the most important public health interventions to reduce the pressure on the health and social care system this winter. Patients in the highest risk clinical groups for influenza are also the highest risk groups for COVID-19. We need to achieve high influenza vaccination rates between September and November (a narrow timeframe) to high risk groups with a potentially reduced workforce (due to staff risk factors, potential staff isolation). We also recognise that there may be an increased demand/requirement for vaccination, there may be vaccination supply delays and that it is clinically challenging to deliver this intervention due to concurrent COVID-19 in terms of PPE and infection control procedures.

Recommended Influenza Vaccinations:

In summary these are:

- for those aged 65 and over – the adjuvanted trivalent influenza vaccine (aTIV) (with the cell-based quadrivalent influenza vaccine (QIVc) only offered if aTIV is unavailable).
- for under-65s at risk, including pregnant women, offer QIVc or, as an alternative, the egg-grown quadrivalent influenza vaccine (QIVe).
- The live attenuated influenza vaccine (LAIV) for children should be ordered through ImmForm from centrally purchased supplies and QIVe will be available to order for children in at risk groups aged less than 9 years old who are contraindicated to receive LAIV. (See: www.immform.dh.gov.uk)

Current Situation:

This document is written in July 2020 and is a working document.

Delivering the flu immunisation programme is likely to be more challenging because of the impact of COVID-19 on our health and social care services. General practice has significant uncertainty regarding the Covid-19 transmission rate, available staff, additional demand for immunisation and capacity of community teams to provide flu vaccination in the 2020/21 flu campaign.

Local factors and disease transmission at the time of immunisations are likely to influence the delivery considerably and subsequently affect the approach and options available for practices.

With these factors in mind, this general guidance for practices is produced under UK Alert level 3, assuming sustained community transmission. This means it considers delivering the campaign with 2-meter social distancing, has shielded cohorts and requires PPE for each clinical contact. This is "worst case scenario planning" and hopefully will not reflect the measures required in September 2020. It is also produced prior to the delayed national government guidance for the influenza 2020/21.

We aim to update this document as new information comes forwards but is produced for practices to assist with some of the planning considerations as it is rapidly approaching.

Key Resources:

- Directed Enhanced Service (DES) specification for seasonal influenza and pneumococcal immunisation sets out all eligible groups for vaccination with the separate Enhanced Service (ES) specification for the childhood seasonal influenza vaccination programme, covering the vaccination of children aged two and three years on 31 August 2020.

- This joint letter, provides a summary of the requirements and considerations the 2020/21 flu campaign.

- Further national guidance is pending.

Challenges:

- How to safely operationalise mass influenza (flu) vaccination. This includes maintaining infection control and social distancing measures.[1]

- Meeting the demand for immunisation. This is could be impacted by factors such as staff absence (e.g. due to isolation, shielding or individual risk factors) and also a potential increased demand for immunisation due to more motivated patient cohorts and/or the addition of cohorts to eligible population.

- Meeting the needs of patients who need to interact with the health system differently (e.g. shielded patients and vulnerable patients).

- Deliver the requirements despite uncertainty. This uncertainty includes the capacity of providers who have delivered immunisations in the past (e.g. community pharmacy teams) and the impact of potential school closures. The uncertainty also extends to the unknown disease transmission, infection control and additional demand for vaccination at the time of the influenza campaign.

General Principles:

We have developed some general principles for the delivery of the 2020/21 influenza campaign, which help formulate the practice strategy.

1. Safely operationalise flu vaccination for patients and staff. Maintaining social distancing and infection control.

2. Maximise the opportunity to vaccinate eligible cohorts & meet a potential increased demand for flu vaccination.

3. Minimising the logistical challenges to deliver vaccination.

4. Minimise disruption to routine services. Reducing unneeded footfall in practices.

5. Effective & efficient delivery based on collaborative locally determined solutions at practice (or scale level). Reducing cost, workload demands and complex logistical set-up for practices.

[1] *It is recognised that this is dynamic based on the disease transmission at the time of the immunisation campaign. In this document we assume a level of protection required from mid-March e.g. "worst case scenario" with measures which attempt to minimise duration of face-to-face contact; maintain 2m social distancing and PPE use for the clinical encounter.*

Section One: Key Factors in Planning Flu Delivery

The following section is divided into these sub-headings, which are the key factors to planning flu delivery.

1. The size of the eligible population to vaccinate
2. Infrastructure at the practice level (and larger than practice level). This infrastructure includes available workforce and premises.
3. The opportunity for collaborative working. This includes relationships at scale (e.g. PCNs, with community providers and secondary care).
4. Covid-19 specific impact

It is important to recognise that these factors are very situation specific and there is no "one-size fits all" approach. These factors explored in the following sections, with potential suggestions for practices or GPs working at scale. Wessex LMCs have produced a tool called the flu calculator to assist with the planning and to address these key elements.

1. Size of the Eligible Population to Vaccinate

Identifying population numbers:

From past seasons, practices have identified eligible population groups and we have developed a system for call and recall and have noted the time and number of immunisations which can be given at the surgery. This means practices have a baseline data for patient flow and practice set-up.

- **It may be possible that additional cohorts (e.g. > 60 years rather than > 65 years) could be added to the eligible populations, pending the national guidance.**

- **Looking at immunisation rates in response to Covid-19 in other locations it appears that eligible populations might more motivated to have the vaccination (e.g. greater demand)**

Suggestions:

- If additional cohorts are announced, this could be an opportunity to deliver at scale (e.g. PCN) and may need collaborative solutions to delivery.

- LMCs suggest CCGs are responsive to practice needs for these additional cohorts including consideration of additional stock ordering and local solutions to ensure these additional population vaccination targets can be met.

- Practices could enter additional cohorts (e.g. 60-65 years) and/or higher vaccination targets into the flu calculator to start discussions at a practice and PCN level how this would impact delivery.

- The LMC will produce the online video and summary documents as soon as this national guidance is available for practices.

Eligible patient streams & target vaccination rates:

Table one below highlights eligible populations, with past national targets as the 2020/1 targets are pending. Practices could use past immunisation rates, or additional aspirational targets to assist with planning (whichever is higher).

On the flu calculator we have selected "operational streams" based predominantly on vaccine type and considerations on the delivery method.[2]

Table 1-Eligible populations for flu vaccination and targets	
Population	**Target *** [2] To be confirmed from national guidance. Figures below were 2019/20 Target.
Children (aged 2-10 years but not 11 years or older on 31 August 2020)[1]	Children (2-3 years) at least 50%. Primary School children 65% (overall by providers)
Clinically at Risk (Aged 6 months to 65 years)	At least 55% in all clinical groups (but aim was > 75% ultimately)
> 65 years	>75%
Pregnant Women	Practices could use past cohort numbers if higher.
Long stay patients in residential care homes	
Carers	Practices could also aim for even higher for planning (e.g. 75% of all cohorts)
Close contacts of immunocompromised individuals	
Health & social care staff (employed by registered residential care/nursing home/registered domiciliary care provider or voluntary managed hospice provider)[3]	
1-GP focus on 2 and 3-year old children unless clinically at risk and/or missed in school programmes *2-Or past immunisation rate whichever is higher. Further details awaited from national guidance.* *3-Universal vaccination of health and care worker guidance to follow*	

Review of the streams:

Generating an overview of the streams shows the time needed to administer the vaccination to the eligible populations and will be used to consider what can be delivered at a practice, GPs working at scale or larger (more population) level offer for immunisation. This can be demonstrated with the flu calculator, which allows a practice and a PCN level estimation of the eligible population, staff numbers and practice logistics (waiting area size and the number of exits/entrances). It also allows practices to allocate additional time to the domiciliary streams (e.g. home visiting and shielded patients).

Streaming could be achieved in two ways:

- Pre-booking patients into a streamed vaccine clinic
- Open streaming patients on arrival to the clinic into "zones" based on vaccine type

Table 2- Advantages and disadvantages of pre-booked or open streaming		
	Advantages	Disadvantages
Pre-Booked streaming	Correlate booking with vaccine availability (less turned away) Control patient flow into surgery	Potential for DNA and missed slots/opportunity to vaccinate
Open streaming (*e.g. turn up on the day*)	More dynamic system e.g. numbers can be altered dependent on flow Offers some flexibility for individuals and patient choice including the "opportunistic" immunisations which are important Potential to reduce "wasted time"	Needs patient flow management, could be more difficult to control in the context of social distancing Potential for over and under demand dependent on the day Longer administration time/detail checking

[2] We recognise that there is some overlap between categories (e.g. shielded are a selection of the clinically at risk population) but the interaction with the health system is different and could require a different solution for immunisation.

Suggestions:

Streaming Considerations:

- Practices should review their eligible population streams, looking particularly at shielded and domiciliary patients. Using the flu calculator determine what can be given at practice and potentially at a larger than practice scale. It may be that a mixed approach is used (e.g. > 65 years at the weekends at PCN level) and more focused clinics at practice level during the week.

- Streaming patients can help match the vaccine availability with delivery and assist practices (or practices at scale) to plan with the available workforce (e.g. allocation of staff members to adult streams as they do not immunise children).

- Streaming could mean one immuniser is only dealing and handling with one vaccine type. This reduces administration error and delay in vaccine delivery.

- A greater control of patients attending the practice will be needed to maintain social distancing. Patients could be pre-booked into clinic streams rather than "open clinics" at the practice to control number, flow and vaccine availability, though it is noted that often a mixed approach is needed, particularly in catch-up clinics.

- Additional consideration might be needed for child immunisation not to co-locate this with at risk populations given the LAIV vaccination used for children

2. Infrastructure - At Practice Level or Scale Level

The infrastructure at a practice (or scale level) impacts on the immunisation rate. The complexity of the Covid-19 pandemic is that we have more urgency to immunise a potentially larger number of eligible cohorts in short clinical window but have additional limitations of the rate in which patients can be processed for social distancing, the capacity of waiting areas and the impact of staff shortages due to risk factors or isolation or even staff absences due to non-Covid-19 related illness including influenza.

Practice Resources:

Practice resource includes the number of staff and the availability in hours they can provide for immunisation as well and the staff mix (e.g. administration and as well as clinical staff). The flu calculator uses immunisation (e.g. clinical staff as the rate generating and limiting factor).

Practice logistics

Procedural Time

Procedural time is co-dependent on practice resource and logistics. Given the complexity of additional screening questions, social distancing and PPE use from the southern hemisphere a patient flow rate of 2 minutes per patient per vaccinator could be achieved, though is dependent on practice infrastructure. Practices should review the flow from the initial sessions ran and adjust accordingly. The flu calculator provides different flow rates (best- and worst-case timings).

The waiting time is short and is based on a consensus status produced in New Zealand which noted that the chances of an adverse reaction with the influenza vaccination were small, especially if the patient met these criteria:

1) do not have a history of severe allergic reactions

2) have been assessed for any immediate post vaccination adverse reactions (5 minutes)

3) are aware of when they need to and how to seek post-vaccination advice

4) will have another adolescent or adult with them for the first 20 minutes post vaccination

5) have the ability to contact emergency services if required.

The UK green book and the RCN state there is also no requirement to have observation times after vaccination.

The example of the outlined stages of the immunisation and estimated times are highlighted in the table below.

Table 3-Flu immunisation and estimated times

Estimated Time	*Activity Stage*	*Activity Description*
1 Min	**Covid patient screening & Queue allocation**	On arrival are screened for potential COVID-19 symptoms in the proceeding 14 days, or any new (acute) COVID-19 symptoms meeting the case definition. Non-touch thermometer could be used. Reminded of social distancing (following marked areas on the floor). Placed in queue (or zoned dependent on practice set-up). Encouraged to wear face coverings. Prepared for vaccination (e.g. remove outer layers)
	Influenza screening checks	Allergies, reactions to past vaccines. Verbal consent.
1 Min	**Administration Time**	Patient, DOB checked. Vaccine side. Details entered with a macro entry with expiry date, vaccine details.
2 Mins	**Vaccine Administration**	Age appropriate vaccine administered. Sharps disposal Gloves changed between patients; hand hygiene performed. Mask and visor wore per session. Next vaccine prepared.

5 Mins	**Patient waiting/recovery**	Exit area, advised to wait holding area for 5-10 mins after vaccination

Please note that this is an estimation for procedure time. A suggestion could be to add "buffer" time between the sessions to allow re-stocking and staff breaks from PPE. This could also be used as catch-up time to limit the number of individuals waiting for immunisation. The time taken will also depend on the site set-up and walking distances between clinical areas.

External Factors

Vaccine availability and distribution will have a significant impact on the ability and timeframe for immunisation. The ability to share stock between practices within a PCN may be helpful to address this issue if the distribution is a restrictive factor on administration.

Sudden changes in staff numbers might be experienced. This could be due to staff risk factors changing, the need to self-isolate based on contact with affected individual or staff becoming ill with COVID-19 and non-COVID-19 related conditions. Practices may consider additional factors of contingency into the listed staff numbers, using the best and worst case of patient flow.

Table four summaries these key considerations relating to practice infrastructure

Table 4-Key practice infrastructure considerations related to flu immunisation

Consideration	Questions	Solutions/Additional Factors
Practice Resources	Who are the available staff (e.g. what are the risk profiles of your staff, who can deliver patient facing care)? How many staff delivered the past campaign? Are there some staff who will not immunise certain groups (e.g. children)? What are the time commitments needed for your staff based on the identified hours? What other core work do they need to complete?	Consider some elements might be delivered on a PCN scale? Are there additional staff e.g. community pharmacy teams/community staff/students? Can you provide training which will increase your ability to deliver immunisations? Can you utilise your PPG or NHS volunteers to provide logistical support (e.g. direction of streaming or flow at the practice?)
Practice Logistics	How many entrances/exits does the site have? Can you map out a patient flow through the practice? Where would people wait maintaining social distancing? Can you mark the social distance lines within the outside/inside space? What are your parking facilities, outdoor space?	Would the practice be "zoned" into age groups (e.g. > 65 years, less than 65 years)? Can different population groups use different entrances and exits? Could immunisations be delivered in patient cars?
Procedural Time	Based on the past years when was the uptake the best? What else is happening in the building at the same time and how will the flu clinic impact on this? Based on the number of immunisations needed, staff mix, and premises requirements is this more clinics or more staff? Did you offer appointment slots for target age groups? (booked clinic, vaccine specific) or was this turn up and be immunised (open clinics any age?)	Do weekend clinics work the best? Were patients offered a time to attend or was this a first-come-first served clinic? If so, how to we manage potential overwhelming demand on the day? Are patients streamed at the facility (e.g. a general open clinic) or are clinics set-up for population groups (e.g. timed clinics) Think about "mop-up" clinics e.g. capturing those not able to attend initial sessions (or if there are vaccine delays)
External Factors	Do we have mechanisms to share vaccinations and claiming across the PCN? What is the storage capacity at a practice and PCN level? How could we move vaccines between sites? How could we compare and keep to date stock at the administration site? How would we claim for the vaccines provided? How did we handle the cancelled clinics, when vaccines were not available in the past season? How many additional vaccines have we ordered? What is the contingency if staff need to isolate or are off sick?	Development of a PCN claiming process Consider planning to run different streams on the same day, therefore some individuals are still immunised even if the vaccine for certain age groups is not available.

3. Collaborative Working:

PCN or practice level?

Consider if some population groups could be served more efficiently at PCN level v's a practice immunisation level. The flu calculator can help with this, as it has some pre-set thresholds which highlight areas where it could take a prolonged time to immunise that cohort. Compare numbers across the PCN (PCN tab on the flu calculator) and see if this could be an offer to practices. This may also address some of the workforce/infrastructure elements at the practice/PCN level. If a PCN level approach is adopted, discuss how this revenue will be recorded and claims will be processed.

Other Providers?

The capacity of community providers to deliver elements of the flu programme particularly community pharmacies, midwifery and Care Home teams is unclear, especially given the reduction in face-to-face services. It is reasonable to assume that secondary care may play a smaller role than previous years in seasonal flu immunisation given the reduction in out-patient clinics.

Suggestions:

Potential Actions for Practices and PCNs:

- Enter your eligible populations, staff numbers and basic practice logistics (waiting area size and number of exits) into the flu calculator. It then collates information at a practice and PCN level.

- Use this as a discussion at a practice and PCNs level to determine which streams are most concerning from a delivery level.

- Start open discussions with community teams, including Care Home staff and local pharmacies.

Consider:

- Infrastructure (staff, premises and subsequently procedural time) at a practice and PCN level and use this information to consider how to deliver to the eligible patient streams.

- Consider staff and infrastructure issues at a practice and a scale level to see if this generates a more sustainable and effective option for immunisation delivery.

- Methods of recording immunisation across the PCN to assist with practices with claiming could be booked practice lists or paper administration slips which are collected and claimed after the clinic.

- LMCs suggest the CCG to support the training of Care Home/nursing staff to administer vaccination to eligible cohorts and encourage community teams to deliver flu vaccination to populations of patients they are already engaged with on their caseload.

- CCG could consider if it could facilitate a floating stock of staff based on GP and nurse returners and additional staff in CCG roles (e.g. pharmacists) to assist practices and PCNs with staff issues/shortages.

4. Covid-19 Specific Elements:

Shielded populations:

Shielded populations are accessing health services differently. The shielded group is not homogenous. Practices could review shielded patient stream to determine who may be eligible to attend a practice for immunisation (e.g. using a cold site at a different time to the general flu clinic) or generating spatial distance by immunisation of patients in their own cars outside the surgery. Some shielded populations may require home visit for vaccination which could be performed by teams already involved in their care or a dedicated service provided at scale. It may be that the practice response to this cohort is mixed dependent on the patient and practice resources.

Infection control procedures:

Infection control procedures are dependent on the transmission rate at the time of the immunisation campaign. For the purpose of this document, it is assumed that we are at UK level 4, with sustained community transmission. Personal Protective Equipment (PPE), hand hygiene and environmental cleaning are only some elements of risk mitigation. Below in table five are additional elements which may assist practices in planning clinics which reduce risks for staff and patients. Wessex LMCs is working with GP surgeries locally to produce some patient/practice facing information.

Table 5-Considerations for practices to maintain infection control procedures whilst immunising		
Patient Information	Practice Set-up:	Staff Procedures:
Covid-19 Symptoms:		
-Not to attend the surgery if meets case definition (or had any symptoms in the 2 weeks prior) -Not to attend if household has any symptoms. -Not to attend if has been asked to self-isolate (but feels well)	-Patients are screened and reminded of the symptoms (posters/NHS volunteers/staff) on arrival. -Consider non-touch temperature screening on entry.	-Pre-screened by time reach immuniser, only "clarifying" at point of immunisation -Risk assessment performed for staff as any other patient facing role. -Staff screened as per normal working day.
Personal Protective Equipment:		
-Bring own face covering for immunisation	-All staff and volunteers have a sessional mask. -Consider the ordering based on eligible population numbers (e.g. gloves)	-Immunisation staff have a sessional mask and visor. -Hand gel and glove change between patients. -Factor in breaks for staff due to PPE and working pace.
Clinic Logistics:		
-Attend at specified time -Do not bring additional individuals (unless identified need e.g. carer/parental guardian needs to be present) -Follow social distancing and non-contact inside the surgery.	-Signs for patient streams. -Marked 2m distance areas. -Windows open allowing ventilation -Doors automatic opening or held open to reduce contact -One-way flow in building -Reduce environmental clutter (e.g. waiting areas standing only)	-Administration is key. At a PCN level if practices do not have a shared IT system could consider practice lists were patients are checked in or administration slips which capture the encounter then are later entered onto system. -"Live" entry of vaccination is more accurate and time efficient, but could be a rate limiting step in the procedure if not enough administration support provided for the clinic

Immunisation considerations:

Appendix two highlights some frequently asked questions related to immunisation with flu in the context of Covid-19. Though we expect national resources to be produced specific to the UK population, this gives practices some ideas about recall, screening and immunisation of patient populations. The main point is related to WHO advice to defer immunisation until 14 days after Covid-19 symptom resolution.

Suggestions:

- Shielded patients are a new and untested element of influenza vaccination for all practices and could be a complex additional workload for mass vaccine immunisation.

- Practices should review the shielded population list to determine which members would attend a specific surgery session, which should be separated in time and also zone to the other flu sessions and which patients require

home vaccination. Shielded patients may also be able to attend “drive-through” or “car-park” sessions, reducing their contact with the surgery and surroundings to achieve immunisation.

- The CCG could consider a bespoke commissioned service for shielded patient home immunisation, which could be delivered at the PCN or GPs working at scale level.

- Infection control is only one element of reducing risk to patients and staff. Additional information will be needed for patients to advise them on how the clinic will run, to bring face coverings and also to avoid attending if unwell with Covid-19 symptoms at the point of immunisation, or in the 2 weeks prior. The LMC hope to assist you with this, with additional patient and practice facing resources.

- Practice logistics can also assist with infection control through generating one-way flow systems through the practice, social distancing markers, reducing environmental contamination by reducing clutter in practices and having doors and windows open during the session.

- Practice and GPs working at scale may need to consider the PPE equipment supplies and stock they have available to meet the demands of the flu campaign.

Section Two: Vaccination Strategy:

This section moves from the key aspects of planning flu delivery, into the strategy and delivery models.

The vaccination strategy is summarised in table six below, which shows 4 elements and is underpinned by collaborative working.

There is not "one size fits all" approach as it is dependent on local logistics, resources and collaborative arrangements. It is hoped that this will allow practices and GPs working at scale to consider the key components of delivery, noting that often a mixed delivery is used to ensure equity in access.

A. Needs Estimation &
B. Human Resources (HR)

It is noted that we the planning sections determine the needs estimation and the human resources approaches for the strategy. Practices may also want to consider other factors in the assessment of need, for example is there a key population which you struggle to deliver flu vaccinations to? Could your approach be individualised or adapted to address this population need?

The process highlighted clinical staff, but administration team are vital to ensure the clinic runs effectively. Practices may consider use of NHS volunteers to provide support for social distancing and flow management of the clinic. For practices with significant staff shortages, consider the GP and nurse returners who have already been DBS checked and are available through the CCG and LMC lists.

Table 6- Vaccination Strategy components

Vaccination Strategy			
A. Needs Estimation	B. Human Resources (HR)	C. Vaccination Timetable	D. Delivery Models
Collaborative Working			

C. Vaccination Timetable

Vaccine availability:

Last year the campaign for immunisation was affected by vaccine availability, there could be similar issues this year. It might be worth considering if practices can share stock across sites and also booking in different vaccine specific streams into the clinics, to ensure some individuals are still being immunised early in the campaign. It is unclear regarding the impact of school closures if this will place additional pressure on practices in catch-up clinics.

The requirement of General Practice is:

- To encourage individuals to receive vaccination and to start vaccination as soon as possible in the season, prior to flu circulating in the community.

- To match vaccination, with the available supply, aiming for vaccination between September and the end of November for eligible adult populations and school aged children, by the 15th of December at the latest.

Immunisation Priorities:

Given the short timeframe to deliver immunisation, it may be reasonable to plan the vaccination timetable to match clinical need which is both risk factors for Covid-19 and influenza susceptibility. This could be for example:

1. Health-care workers, practice staff and those key workers in community and social care
2. Shielded populations
3. Those at clinically risk groups (adults, followed by children in a separate cohort clinic)
4. More than 65 years
5. Pre-school children
6. Catch-up child clinics

In hours or out of hours:

Linking to the core principles which were to reduce footfall to practices, reduce the disruption to routine work as well as provide efficient and effective models to deliver immunisation yet consider not only financial costs, but also the staff costs e.g. limited time off etc. the decision to move out of hours for immunisation is challenging.

Moving to weekend or evening delivery can address the disruption to routine care delivery and improve patient flow as the clinic can utilise all practice resources and space (making it logistically easier to provide), but this is also at additional cost for practices and GPs working at scale. Given the change in eligible patient numbers, the additional time to perform immunisation in a socially distance methods, practices are likely to need to run more clinics (or longer clinics) to provide the services to immunise the required populations.

The following factors may help in this discussion, though it is based on the "normal" immunisation campaign not within Covid-19 times. A survey of 795 General Practice flu immunisation campaigns[3] found:

- More than 95% of practices held the main vaccination sessions at their usual surgery premises and 75% held the main sessions during normal surgery hours.
- Most practices reported using a variety of appointment types and timings to provide flu vaccination.
- Surprisingly, in the data, offering vaccinations at weekends, or before 8:00 or after 18:00, was not associated with a significant difference in the vaccination uptake rates achieved.

Suggestions:

- CCG could support practices by using the "Target" fund (where practices attend for clinical learning and diversion of care is provided by the out-of hours providers) to deliver "flu-afternoons".
- CCG can review estate solutions, particularly health facilities (e.g. community hospitals) to make this available for practices or PCNs with estate issues for immunisation (e.g. loss of estate due to hot site etc.)

Maximising opportunistic vaccination:

Every contact when providing routine care is an opportunity to deliver flu to the eligible population, reducing the need to bring that individual back for a dedicated clinic session. Prompts on clinical systems, discussion by administration and practice staff when providing care are vital to capture these cohorts.

Practices have in the past, had a dedicated HCA, who can provide "walk-in" immunisations on the day, which is still an opportunity if patients can be screened appropriately and patient flow, attendance and social distancing can be maintained.

Maximising uptake:

- It has been shown in this cross-sectional questionnaire of 795 General Practice clinics[3] that these seven following factors (shown in bold) increased uptake in General Practice:
- Having a lead staff member for planning the flu campaign and producing a written report of practice performance predicted an 8% higher vaccination rate for at-risk patients aged <65 years (OR 1.37, 95% CI 1.10 to 1.71).

- Sending a personal invitation to all eligible patients and only stopping vaccination when Quality and Outcomes Framework targets are reached, predicted a 7% higher vaccination rate (OR 1.45, 95% CI 1.10 to 1.92) in patients aged ≥65 years.

- Using a lead member of staff for identifying eligible patients, with either a modified manufacturer's or in-house search programme for interrogating the practice IT system, independently predicted a 4% higher vaccination rate in patients aged ≥65 years (OR 1.22, 95% CI 1.06 to 1.41/OR 1.20, 95% CI 1.03 to 1.40).

- The provision of flu vaccine by midwives was associated with a 4% higher vaccination rate in pregnant women (OR 1.19, 95% CI 1.02 to 1.40).

- With the call and recall methods, using both letters and telephone calls was not associated with significantly different vaccination rates than using either letters or phone calls alone (p=0.721 for patients aged 65+; p=0.852 for patients aged <65).[3]

D. Delivery Models

The delivery model is based on the key factors already discussed as well as the needs, staff and practice resources as well as the timetable needed for vaccine delivery, as a consequence there is not "one correct" model and often mixed methods are used, especially to ensure equity (e.g. not all patients have a car and therefore can attend a drive-through clinic, so a walk-through must also be accommodated).

The following models are summarised below in table seven which also highlights the key positive and negatives. They are grouped into "inside" and "outside" vaccination delivery and also further divided as to the patient or the immuniser being inside or outside.

[3]Dexter LJ, Teare MD, Dexter M, *et al*. Strategies to increase influenza vaccination rates: outcomes of a nationwide cross-sectional survey of UK general practice. *BMJ Open* 2012;**2**:e000851. doi:10.1136/bmjopen-2011-000851

Table 7-Benefits and limitations of different delivery models for vaccination			
Vaccination Delivery Models & Description		**Benefits**	**Limitations**
Indoor Models	Practice Flu clinics various configurations – room allocation, zoning by streams	Use of existing clinical / admin / PPE / cold chain management/ vaccine admin is easier	Potential disruption if running concurrently with due to social distancing. Care to ensure footfall/IPC within practice
	Flu Clinic at alternative site e.g. Community Centres, could be practice or PCN level	Delivery at scale No contamination of practice environment	Increase admin burden if IT not suitable . Additional logistical costs – Cold chain, IPC measures needed, emergency equipment
	"McDonalds" model – healthcare worker indoors, patient reports to 'admin window' on arrival, then moves onto 'vaccination' window. (Operating in reverse, the HCW is on outside of facility and administer vaccine to patient at the door or threshold immunisation)	Protection / comfort of staff Less logistics than full outdoor model Reduces contamination of practice	Patient outside (could wait in cars)
Outdoor Models	Domiciliary visiting e.g. delivered in collaboration with community partners for Shielded / Home bound patient – optimising the health encounter	Opportunity to optimise the health care encounter	Potential to be time / resource intensive (travel/ PPE)
	Walk –through clinic in car park (space permitting) with or without temporary structures to protect staff / pts.	Reduced virus exposure for staff and patients and contamination Less disruptive to routine work Better suited for small cohorts of patients Social distancing	Additional accommodation costs and logistical resources incurred through cold chain, PPE, admin etc. Autumn weather may impact on efficiency of clinic and patient experience (less volumes, more staff to support rota, DNA).
	Drive Through - Patient / households cohorts within cars, admin via premises window and staff	Social distanced maintained Suited to 'at scale' immunisations	Dependent upon premises Sufficient estate for vehicle flows Staffing heavy

Outside options:

Positives: This has the benefit of reduced risk for patient and staff members to virus exposure (due to air circulation) and also reduced environmental contamination within the practice. It also allows less disruption to routine work which is being conducted at the practice level.

Negatives: Logistically this is harder to deliver (need a strategy for cold chain, PPE and hand hygiene) and additional systems for administration and recording of vaccination. This method needs also contingency plans as is affected by weather elements, meaning that the vaccination clinics need to be shorter and staff rotated more regularly due to weather exposure.

The patient cohorts need to be considered carefully, to also reduce their weather exposure time as can be a negative influence on obtaining an immunisation (if a prolonged waiting time). This method can lead to DNAs on colder clinic days and also surges in people trying to obtain vaccination on other days (which impacts can impact on the vaccine availability, staff availability and also social distancing maintained). Should also consider patient dignity factors (e.g. fainting in the carpark) and how this would be managed.

Examples:

- **Walk-through clinic.** Held in the practice carpark (or other locality), both clinical staff and patients are outside. This was the method of delivery in case study one (appendix). This method might be most appropriate for small cohorts of patients/vaccines to be delivered.

- **Modified walk-through clinic**, staff contained within temporary booths/structures. This could also be large tents or temporary buildings e.g. portacabins which provide staff with some protection. Here the clinic is still conducted outside, but staff are protected from patient and elements by temporary structures. This has been both "telephone boxes", shields/barriers where patients put their arms through for immunisation as well as temporary buildings (e.g. portacabins and also tents). Please note that portacabins would need to ensure large ventilation flow, as they are enclosed (not offering the same ventilation rate as fully outdoor models) though might be easier to patient create flow in these structures and be less disruptive to the practice and will reduce internal footfall.

- **Drive-through model.** In this model, patients are cohorted in their households within cars, therefore maintaining social distancing and protected from the elements. Clinical staff are outside and deliver the immunisations through windows. This has been used in other H1N1 immunisation programs and was shown to have a greater throughput, than walk-in clinics, though does require an estate which allows cars and flow through the practice and is often better performed at larger scale. This still has the issue of staff being outside and moving around vehicles to deliver immunisations, therefore needs a rotation of staff members (*see below section on drive through immunisation*).

Inside options:

Positives: Logistically easier to deliver and clinics can be run for more prolonged periods of time and not weather affected. At the practice level, the set-up is already present for hand hygiene, PPE changes, cold chain and also administration and recording of vaccine delivery. Working on patient flow through the practice, if route is planned, waves of patients managed and windows and doors opened, we can minimise the environmental exposure for both patients and staff.

Negatives: Large and disruptive footfall at the practice level (for longer periods of time compared to past campaigns due to social distancing, PPE & infection control). Needs to be carefully managed to reduce overcrowding. This may impact on the other routine care which can be performed on this site.

Examples:

- **"Normal" Flu Clinic.** Held within the practice (but modifications made for social distancing). Different models are based on clinic lay-out-size and set-up. This includes "church hall" (see logistic references) set-up; or an "allocated room" set-up (case study 2). All "normal" flu clinics aim to reduce the amount of time patients spend within the facility and reduce staff contact with patients. It is noted that physical barriers could also be adopted within this model.

- **Domiciliary Visits.** This is at a facility level (Care Home, specialist facility) or an individual level (homebound patients and also shielded patients), not able to attend in a specialist session at the clinic. The expectation here would be that community providers and those already visiting patients would be able to add this to their existing workstream, reducing additional contact.

- **"McDonalds" Model**. This is named after the drive-through model provided at the restaurant. In this model the health-care worker is inside the building providing the immunisation through an open door or window. They are therefore protected and can immunise for a longer period of time. Patients, form queues outside the practice (initial administration and screening window e.g. like the "order" window), then move around to the immunisation window. In this model the comfort of the staff takes paramount over patients, meaning they can then continue duties for a longer period of time then a fully outside model, it reduces some of the logistical challenges of the full outdoor model and could be adopted for temporary structures e.g. portacabins on practice sites.

- **"Reverse McDonalds Model"**. This is the reverse and might be suited for home visiting, or facility visiting. In this situation the health-care worker is on the outside of the facility and immunises patients inside the facility (e.g. on the threshold). This might be useful for shielded patients, reducing the contamination of their homes with health-care workers and improving the speed for vaccine delivery.

Drive Through Immunisation:

Where has this been used?

- Mainly in the US, in response to 2009 H1N1 pandemic but also in the UK (routine child immunisations), New Zealand, Australia and UAE. Though noted a much greater use of drive through facilities in everyday life and large estate for vaccination administration was used in some of these localities.

- The University of Louisville hospital has had experience with drive-through vaccination since 1995, with a drive-through is implemented to vaccinate students and faculty against seasonal flu. The set-up uses walk-up tents and ten drive-through PODs with 4 nurses at each POD. In November 2009, the staff immunised more than 19,000 patients served, over two-thirds via ten drive-through lanes.[4]

Positive of drive-through immunisation:

- Reduced infection risk for staff and patients, easier for social distancing as individuals are "cohorted" in households and are socially distanced. The spread of disease can be minimised because infected patients are not exposed to uninfected patients[5]
- Reduce potential for environmental exposure, seen on frequent indoor walk-in clinics[6]
- Seen to have a greater throughput than walk-through clinics (depending on set-up)[5 &7] and concluded that drive-through mass vaccination is an efficient method for delivering vaccinations to the masses safely and quickly.
- Reduced staff exposure to potential infection
- Reduced practice/health-setting contamination
- Patients are warm and protected from elements whilst waiting
- Useful for those with mobility issues
- *Could be possible method for shielding patients?*

Negative factors:

- Staff still exposed to elements, weather conditions which can reduce the immunisation rates
- Logistical set-up was discussed by Carrico et al.[8] The scale of drive-through vaccinations can vary based upon operational scope and the physical locations available for dispensing. Drive through seems to be best for mass and scale immunisation (*e.g. how suited is this to your practice numbers and your practice infrastructure?*)

[4] Carrico, R. Drive-thru influenza immunisation: fifteen years of experience (2012). Journal of emergency management. 2012; 10(3)

[5] Gupta, A. Evans, G. W., & Heragu, S. S. Simulation and Optimization Modelling for Drive-Through Mass Vaccination – A Generalized Approach. Simulation Modelling Practice and Theory. 2013; 37.

[6] Greene J, Moline K. The Bird Flu Pandemic: Can It Happen? Will It Happen? New York, NY: Thomas Dunne Books, 2006 p.156.

[7] Simmons, M. Reid D. E. Stanwood-Camano H1N1 mass vaccination clinics: After action report.

[8] Carrico, R. Drive-thru flu shots - A model for mass immunization. Louisville: Chicago Spectrum Press. (2002).

- To develop drive-through clinics they are often modelled to determine the population needing to be served Points of Dispense (POD) lanes, number and length of the lanes for consent hand outs and fill in, staff needed at the consent handout stations and PODs, and average user waiting time in the system.[5]
- Concerns about adverse outcomes including fainting in cars (*see below*)
- Concern about traffic management. The clinics all involved a traffic management plan and additional security resources spread over a wider area. Most are held on the outskirts of main urban centres. [7]
- Needed some radio-transmitters to facilitate flow and communication
- Difficult to get information out of people from cars.
- Concern about staff being exposed to carbon monoxide/fumes, though this was not seen when testing was performed. [7]
- Clarify insurance situation for delivery in this model

Are drive through clinics safe?

- No adverse events due to a drive-through mass immunization event were identified in any of the sources queried (personal experience of over 50, 000 immunisations and also literature review for syncope). The forecasted probability of one adverse event was 0.8 percent for a 2-day event (20,000 immunizations) was noted in conclusions. [4]

- Most have a waiting section for recovery after immunisation before drivers head away.

Other considerations:

Additional estate:

A method to ensure minimal disruption to routine services and reduce footfall in practices, would be to use alternative buildings or locations to provide flu vaccination. These decisions need to be weighed against the cost and logistical set-up required to deliver the immunisation programme as it can be considerable.

Moving off-site means that elements such as administration and recording of cohorts, IT infrastructure and most importantly cold chain needs to be considered as well as PPE and emergency equipment in case of the unlikely event of an adverse reaction. Staff facilities also need to be provided (e.g. hand washing and toilet facilities).

If practices are considering using additional estate, this might be because they have lost their usual site e.g. due to it being utilised as a "hot site" it may be worth considering health facilities locally (e.g. community hospitals) which have some infrastructure already).

This MSF resource , the clinic description of mass vaccination in Toronto and this planning resource might be a useful starting point for practices considering delivery off usual health site (or coordinating supplies to be provided at scale within a PCN). They contain:

- Consideration of the timetable, staff and roles and responsibilities (which can assist in the clinic plans)
- Assistance in needs estimation and also human resource estimation.
- Examples of administration documents and recording of vaccination (which can be adapted)
- The size of cold-chain needed (*e.g.* cool boxes) dependent on the number of vaccinations to administer
- Checklists for clinic set-up, also another resource list here.
- Proposed clinic lay-outs depending on the space/size.

Case studies, additional resources:

Included within the appendix are some case studies from delivery of flu vaccination in the context of Covid-19 from the Southern hemisphere. We hope to add to this resource on the Wessex LMCs flu page as more case studies become available.

The appendix also includes an example of a clinic process and additional resources on key elements of flu immunisation.

Conclusions:

Suggestions for practices and also CCGs/public health teams are given in the executive summary.

- Planning of flu immunisation is dependent on the population needing to be immunised, the available practice infrastructure (including staff and clinic set-up), the opportunities for local collaborative working and Covid-19 specific elements at the time of vaccination.

- The vaccination strategy is dependent on these co-dependent factors planning and include needs estimation, human resources, the vaccination timetable which determines the methods of delivery.

- There is not one "correct" delivery model as it is based on local factors. Outside clinics and additional estate have reduce transmission dynamics and allow less disruption to routine work but are logistically harder to deliver. Solutions need to be locally determined as they are locally delivered.

- Due to social distancing and infection control, practices need to be able to immunise consistently and efficiently throughout the vaccination window, maximising all contact with the health system to reduce practice footfall. There needs to be a greater control and co-ordination of patient streams (considering priority groups) and the clinic infrastructure.

- The flu calculator is a tool for practices to determine the eligible populations and infrastructure at a practice and PCN level to assist with planning of the flu campaign.

- This is a constantly changing environment and Wessex LMCs will be building resources as national guidance becomes available to assist practices and PCNs with flu delivery on the Wessex LMCs flu page.

APPENDIX

OPERATIONAL ASPECTS OF INFLUENZA IMMUNISATION 2020/21

1.Case Studies from the Southern Hemisphere:

(Thank you to my colleagues for sharing their experiences to assist colleagues in the UK)

1. **"Walk through" Outdoor Flu Clinic**

To serve an eligible flu population of 1500 this city suburb clinic developed a walk-through clinic.

Set-up:

Fifteen patients were pre-booked into the clinic at 1-minute appointment (with a 1-minute gap between patients in a 30-minute session, with one clinical staff members immunising (rate 2 minutes/ per clinical staff member/per patient). This has meant delivering about 200 vaccines per week, over 6-week period.

Clinic staff were rotated onto this duty, completing a maximum of 1 session in a day. Clinics ran for 30 minutes in the morning, 30 minutes at lunch time and 30 minutes at the end of the day, with the AM and lunch session the most utilised.

Staff had a table, cool box (vaccines), sharps box, hand sanitiser and gloves and the printed patient list and encounter forms.

The walk-through clinic was developed on the side of the practice (away from the main entrance, but on the side where the road was, therefore was visible).

Patients were not "streamed" other than being pre-booked any patient could attend any session.

The practice marked areas on along the outside pavement areas marking the social distancing areas. There was a sign which asked patients to form a queue and stand and move forwards along the markers. The patients managed themselves into queues with no additional support from the practice.

Clinical process:

As it was a pre-booked clinic patient details were checked on arrival and ticked off on a list. They were screened for COVID-19 symptoms and vaccine administered. This was recorded on a patient encounter form.

Patients were then asked to wait in their cars for 5-10 minutes after the vaccination.

The clinic required the clinical staff to use a paper encounter form to record which side the vaccine had been administered in. After the session these paper records were then entered by the administration team at the practice.

Learning points:

The practice had a bad weather contingency plan to use a side entrance to the practice, but this was not needed over the sessions. Keeping the sessions short reduced staff and patient waiting times (as was the winter season). This has caused minimal disruption to the practice and staff other work roles. The clinics were shared amongst the team.

As the clinic numbers reduced, it was possible that patients could drive by the outside area for immunisation and vaccines could be administered in the cars. This was initially not used as the space for cars was limited and more people could be accommodated using the walkways leading to the practice and there was less disruption to the routine care which was being provided at the practice. At times, patients with mobility issues were booked at the end of the session and told they could drive to the area and be immunised.

The staff reported that the booking meant that there was a steady stream of patients and they managed themselves with social distancing. This was a good way to deliver the vaccination to the populations.

New Zealand has a different case numbers compared to the UK. All staff were in PPE and patients were encouraged and provided with masks. Clinical staff used alcohol gel on gloves between patients rather than changing their gloves. Aprons were not worn (as were complex to use outside). Staff changed when re-entered the practice.

WESSEX

Local Medical Committees

2. Allocated Room Approach

To serve an eligible flu population of 15, 000 (4, 000 flu eligible) this rural Australian clinic developed an approach using 5 clinical rooms.

(*Please note that this approach was based upon the fact this is an isolated clinic, which is more than 200 kms from secondary care services, main concerns about reactions and patients driving/leaving the isolated clinic).*

Set-up:

Five clinical rooms were used. Rooms were labelled A-D (with a spare room for reactions, overspill). Patients were booked in at 5-minute intervals. There were two immunisers and one administration staff member who checked details and logged the immunisation in the clinical system.

Clinical Process:

When first patient arrived, they were sent to room A. Clinical details were checked, and vaccine was administered. The patient then waits in this room for 15 minutes (in case of an adverse reaction). The rooms were stripped with no content inside.

The second patient arrives 5 minutes after the first and is sent to room B, etc. (with the same process) for third and fourth patients into room C and D respectively. Twenty minutes later, the cycle of rooms is complete and the initial patient leaves to be replaced by the 5th patient into room A.

Vaccines were kept outside each clinical room and replaced by the staff from stock in the overspill room.

All patients when had the vaccine administered left through another exit.

At the time this clinic was performed there was only 3 cases of COVID-19 in the region. All patients/clinicians wore masks, and gloves as PPE (no additional apron/visor).

Learning points:

This was a rural community therefore concerns about individuals having reactions etc. outside/driving home and not being noticed/located. The modality was chosen as they have a large premise but minimal staff who can administer the vaccinations.

2.Covid and Influenza FAQs:

(These answers are taken from the National Immunisation and Advice)

Does influenzae immunisation increase your susceptibility to COVID-19?

The best and most up-to-date data show no increased susceptibility to COVID-19 after having an influenza immunisation. Recent Canadian research using a large number of participants, found there was no difference in the chances of getting COVID-19 between people who had received an influenza immunisation in the most recent influenza season and those that had not been immunised.

Can you/should you have influenza immunisation post having COVID?

Based on first principles of immunisation there is no reason why people who have recovered from COVID-19 should not be immunised against influenza. There is no evidence that you reactivate or relapse with COVID-19 due to vaccine response.

Can having COVID-19 reduce the effectiveness of an influenza immunisation?

There is no evidence to date. In general, we do not see reduced effectiveness to a vaccine when someone is recovering from another respiratory virus. However, it is not known at this stage with COVID-19. If there is a reduced response to the influenza vaccine from someone who is recovering from COVID-19 it is still advised it is better to have the vaccine than be left at risk of catching influenza.

After recovering from COVID-19, how long before it is safe to receive an influenza immunisation?

If a person with confirmed or suspected COVID-19 is not in a health care facility (e.g. recovering at home), immunisation should be deferred until symptoms resolve, preferably following two consecutive tests negative for COVID-19 (conducted 24 hours apart). **If testing is not feasible, WHO recommends deferring immunisation for 14 days after symptom resolution.** This should therefore be part of the screening process prior to flu immunisation.

If a person with confirmed or suspected COVID-19 is under care in a health care facility (e.g. inpatient) this individual can have an influenza immunisation upon recovery and prior to discharge, assuming appropriate infection prevention and control measures are respected.

Why should I vaccinate for influenza as it should be a mild influenza season because there is less influenza in the community at present?

Influenza virus is always circulating in our community. It is at much lower rates outside of the winter peaks but is still present. We cannot predict how mild or severe a winter flu season will be any year. Because of the lockdown and reduced community contact for April and much of May the rates of respiratory illness are very low currently. However, as people start mixing more, we are expecting rates to start to rise. We cannot predict how mild or severe the winter flu season will be, but there will continue to be flu in our community. Immunisation remains important.

Why should I vaccinate for influenza when I am not eligible?

Those who are eligible for an influenza immunisation are at highest risk of severe disease. However, everyone in our community is at risk of influenza and sometimes have severe disease even in healthy well people.

The other reason for getting immunised is to protect others. If you are immunised you are less likely to carry and spread the virus to others who are at risk. Some people, particularly very elderly and those with significant medical problems, do not respond well to the vaccine and they are reliant on the rest of us not spreading disease.

There will be a large-scale vaccination of key workers and frontline health staff, and we expected given the current pandemic, that there will be a greater uptake of vaccination in these cohorts.

3. Example of Working at a Practice Level

Plan:

- Practices review the eligible flu numbers at a practice and at a PCN level.
- Using the flu calculator, a plan is determined on the streams and where/how this will be performed at the practice or PCN level (see examples).
- This involves planning at a site level (including review of the flow through the practice and marking 2m distance sites on the floor).
- If internal site is chosen, windows and doors should be opened (reduce contact with surfaces) and all areas cleared of unneeded furniture (e.g. only if needed do patients sit down). Then would need to be a hard surface, which can be cleaned between patients (might be needed for pregnant women and those with small children)
- These clinics are booked as "waves" based on the number of patients who can be seen at time. Between the waves are buffering blocks to allow restock and catch-up time.
- A reasonable example for booking might be 15 people every 30 minutes per immuniser (2 minutes/per patient/per immuniser) (*noting that this might need to be adjusted dependent on flow and logistics at a practice level*)
- Suggested streams could be:
    - **Over 65 years**
    - **Under 65 years** with risk factors (*eligible pregnant and Health Care Workers, could be seen in this stream*)
    - **Shielded patients** identified as individuals who can attend surgery (NB. This needs to be spatially different to the general clinic and also performed at different times, this may be an option for drive-by clinic, for this smaller cohort of patients)
    - **Family groups (children)** not co-ran with risk groups
    - **Pregnant (***encourage midwife to immunise if possible, could be incorporated with the under 65 years and risk factors)*
    - **Domiciliary** (e.g. those needed to be delivered at home). This includes Care Home patients, facility level patients and shielded patients not able to attend the surgery setting. (*Possibility of community staff engaged with the patient care being able to administer on other visits?*)

Call:

- Patients are invited to attend age specific clinics. Patients are sent SMS text reminders.
- Patients are reminded of these key elements:
    - They cannot attend if they **OR** their household has any symptoms of coronavirus (with SMS reminder on the morning of the appointment)
    - The need to be 14 days clear from any coronavirus symptoms to have the vaccination
    - They need to observe social distancing, have clothing which allows arm to be easily accessible and bring a homemade face covering if possible

Logistics:

- Patients arrive at the practice. Targeted sessions are offered e.g. shielded patients are seen as the initial session of the day, or potentially as an in car immunisation (see drive-through section)
- Those without face coverings are provided with a mask/visor (dependent on resources).
- Patients are screened by volunteers, checking they (or household) does not have symptoms for coronavirus and they are 14/7 without symptoms, prior to immunisation.
- A non-touch thermometer check is performed by volunteers. Those who are febrile are asked **not** to wait for immunisation and are told to return home and follow online 111 advice.
- Patients are given an information sheet regarding flu consent, which includes the screening questions for coronavirus symptoms.
- Dependent on clinic set-up patients could be streamed by volunteers into vaccine specific queues (dependent on age) if an open clinic. If a targeted clinic is performed, patients are streamed into appropriate queues.
- Patients are spaced at social distance in the waiting area. If a slower progress is faced, additional patients are asked to wait in cars until the next wave.
- Patients are asked to prepare the side in which the immunisation will be given in advance.
- Patient consent form is reviewed, including additional question about COVID-19 symptoms.

Within the Clinic:

- Patient provides name/DOB to administration staff. Immunisation is entered on patient record, using a macro input
- Patient directed to an available immuniser
- Patient immunised by clinical staff.
- Patient leaves the practice, through different exit point
- An area is identified if patient becomes unwell during the immunisation (waiting area)
- Staff member who has immunised the patient changes gloves and hands are sanitised. Visor and mask can be used per session.

4. **Additional Resources:**

Flu and COVID-19

https://www.influenza.org.nz/sites/default/files/2020/QA%20COVID-19%20and%20influenza%20immunisation%2020200514.pdf

LPC input:

https://psnc.org.uk/wp-content/uploads/2020/03/Flu-Vaccination-Data-2019-20-accurate-31.03.2020.xlsx

Logistical Factors:

This is a mass campaign vaccination toolkit. https://medicalguidelines.msf.org/viewport/mme/english/chapter-6-mass-vaccination-campaign-32408084.html

This is a mass vaccination checklist considering key factors of the logistical set-up (might need to be adapted):

https://vaccine-safety-training.org/tl_files/vs/pdf/campaigns.pdf

https://www.naccho.org/uploads/downloadable-resources/Mass-Vaccination-Clinics-2.pdf

Clinic Layout

http://www.simcoemuskokahealth.org/docs/default-source/topic-infectiousdisease/appendix_a-11-2_mass_immunization_plan

Drive Through Clinics:

https://pubmed.ncbi.nlm.nih.gov/24618169/

Drive Through Modelling:

https://commons.erau.edu/cgi/viewcontent.cgi?article=1000&context=ww-management-science

Recall Methods:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6494593/

Ways to Increase Uptake NICE Review:

https://www.nice.org.uk/guidance/ng103/resources/flu-vaccination-increasing-uptake-pdf-66141536272837

Reference paper for the social distancing factor (used in the flu calculator):

https://poseidon01.ssrn.com/delivery.php?ID=727098123007095071091065113120030072052025093049028051091112065078022025070108078018029005000115006016107028016110095020101078019007013060013107123070026027003093075025087028006098088067104087022085066007097011021067072002101094114021096027071066096110&EXT=pdf

Safety:

https://reader.elsevier.com/reader/sd/pii/B9780323357616000821?token=D71A8B3F7B55F75ECA3A715D44F6B30BA85B4756B1E457ECC14E3CFE47A371E3C8CE1E22AD45180363F5D5D85D4A4E09

Safety and FAQs for H1N1 vaccination:

https://www.who.int/csr/disease/swineflu/frequently_asked_questions/vaccine_preparedness/safety_approval/en/

Osterholm MT, Kelley NS, Sommer A, Belonga EA. Efficacy and effectiveness of influenza vaccines: a systematic review and meta-analysis. *Lancet Infectious Diseases*2012;12:36-44. www.thelancet.com/journals/laninf/article/PIIS1473-3099(11)70295-X/abstract.

Cost:

Cost-effectiveness of vaccination (systematic review)

http://old.iss.it/binary/publ/cont/ANN_18_01_10.pdf

Personal Attitudes:

Systematic review, which is the uptake of vaccination in pandemic (personal attitudes)

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3215344/

Population Groups:

Care-Homes:

Thomas RE, Jefferson T, Lasserson TJ. Influenza vaccination for healthcare workers who care for people aged 60 or older living in long term care institutions (review.) *Cochrane Database Syst Rev*2013;7:CD005187. http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD005187.pub4/pdf.

Children:

Jefferson T, Rivetti A, Di Pietrantonj C, Demicheli V, Ferroni E. Vaccines for preventing influenza in healthy children (review). *Cochrane Database Syst Rev*2012;2:CD004879. http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004879.pub4/pdf.

Adults:

Jefferson T, Pietrantonj C, Al-Ansary L, Ferroni E, Thorning S, Thomas RE. Vaccines for preventing influenza in the elderly. *Cochrane Database Syst Rev*2010;2:CD004876. http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004876.pub3/abstract

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