

Scotland's COVID-19 Vaccine Deployment Plan 2021

Update – March 2021

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1. Ministerial foreword

The COVID-19 pandemic continues to affect daily life for all of us in Scotland. The huge national effort to stay home, protect the NHS and save lives has been unprecedented in recent history. The vaccination programme is a significant milestone in our collective fight against the virus, and is one of three key ways we are working to control the virus, along with our expanded testing programme to identify cases and break chains of transmission and the important restrictions currently in place that everyone in Scotland must follow. We published Scotland's COVID-19 vaccine deployment plan in January, and I am publishing this update to reflect on how far we have come, and the next steps ahead.

We recently reached a significant landmark in our COVID-19 vaccination programme – the delivery of a first dose of vaccine to more than 2 million people in Scotland since the programme began in December 2020. That this has been achieved in little more than three months is an incredible achievement, and down to the enormous efforts of our vaccination teams. We are extremely grateful for the support of unpaid volunteers who continue to play an important role in the programme, and to the faith, third sector and community groups working alongside us and with Health Boards to ensure that no one who is eligible for a vaccine is left behind. I also want to say thank you to everyone across the country who has taken up their offer of a vaccine so far, and urge everyone who is offered a vaccine to take up their invitation.

We are witnessing in Scotland the delivery of a mass vaccination programme, the likes of which we have never seen before. This has required, and continues to require, massive mobilisation and collaboration across a wide range of partners. Thanks to everyone who is working tirelessly to make this programme a success, the vaccine roll-out continues to deliver at pace. We are making excellent progress through the 9 groups of people that the Joint Committee on Vaccination and Immunisation (JCVI) recommended be initially prioritised for COVID-19 vaccinations, which is estimated to represent approximately 99% of the preventable mortality from COVID-19. As at 24 March 2021, we have now given a first dose of COVID-19 vaccine to just under half (49.5%) of the adult population in Scotland and a second dose to 5.5% of the adult population.

On vaccine safety, we continue to be led by the Medicines and Healthcare products Regulatory Agency (MHRA), and in line with their findings from rigorous scientific review of all the available data, we remain confident on the safety of the COVID-19 vaccines approved for supply by the MHRA.

There has understandably been significant focus on the speed of the roll out in Scotland in comparison to elsewhere. In Scotland, we deliberately focused first on residents in care homes for older people to stand the chance of saving as many lives as possible with the vaccine, in line with the advice from the JCVI. We have seen excellent uptake of vaccination by both care home residents and staff, and while further evidence and analysis is needed there are promising findings which show reduced hospital admissions from COVID-19 and COVID-19 registered deaths of those in our care homes.

Promising real world data are emerging about the effectiveness of the COVID-19 vaccines. The rapid progress with vaccination and the positive and growing evidence of the benefits of the COVID-19 vaccines provides all of us with firmer grounds for hope about the weeks and months ahead. However, we are still learning about exactly how effective vaccination is against COVID-19 disease and transmission in the population, the duration of immunity it might provide, and the exact impact of the current vaccines in providing protection from emerging COVID-19 variants of concern.

It is therefore essential that all of us continue, for now, to follow the current rules and guidance to suppress transmission of the virus. The [latest information about current rules and guidance can be found on the Scottish Government website](#).

I know how difficult the current restrictions continue to be, but they are working. They are how we all keep the virus under control and continue to protect each other, while the vaccination programme continues, and we continue to emerge from the most severe restrictions we have had to put in place to protect the population.

Jeane Freeman
Cabinet Secretary for Health and Sport

2. Where we have got to so far

Our COVID-19 Vaccine Deployment Plan

The [COVID-19 Vaccine Deployment Plan](#) that we published in January 2021 set out our COVID-19 vaccination programme plans for how we will work as fast as supplies allow to vaccinate everyone in Scotland over the age of 18 and those aged 16 and 17 who are frontline health and social care workers, unpaid carers or have underlying health conditions. In total, this equates to just under 4.5 million people across the country.

Phase 1 of our programme focuses on vaccinating JCVI priority groups 1 to 9. This document reflects on progress against the plan published in January and sets out the next steps ahead. This includes phase 2 of the vaccination programme, during which we will be offering a vaccination to all remaining adults (those between the ages of 18 and 49) who haven't already been offered a vaccination in phase 1. The offer of a vaccination will remain open for all those who are eligible.

How we have prioritised

The Joint Committee on Vaccination and Immunisation (JCVI) has advised that current evidence strongly indicates that the single greatest risk of death from COVID-19 is increasing age, and that the risk increases more rapidly with increasing age. Additionally, the JCVI considered frontline health and social care workers who provide care to vulnerable people a high priority for initial vaccination. More details about this are set out in the [JCVI's advice on who should be initially prioritised for vaccination](#).

In summary, the JCVI advised that 9 groups of people should be initially prioritised for vaccination. These are (in order of priority):

1. residents in care homes for older adults and their carers
2. all those 80 years of age and over and frontline health and social care workers
3. all those 75 years of age and over
4. all those 70 years of age and over and clinically extremely vulnerable individuals
5. all those 65 years of age and over
6. all individuals aged 16 years to 64 years with underlying health conditions which put them at higher risk of serious disease and mortality, and unpaid carers
7. all those 60 years of age and over
8. all those 55 years of age and over
9. all those 50 years of age and over

This approach to prioritisation in the first phase of the vaccination programme was supported by all 4 UK Nation Chief Medical Officers, in line with the advice from the JCVI, who agreed that this approach is most likely to achieve the initial aims of reducing mortality (death) from COVID-19 and maintaining our health and social care

systems. Following recent advice from the JCVI, group 6 has also been expanded to include people experiencing homelessness and rough sleeping.

Our COVID-19 vaccination programme has robust governance in place including a Programme Board which has ensured that we continue to be guided by expert clinical and policy advice. The JCVI provides advice on vaccination prioritisation and we are continuing the roll-out of the vaccination programme in line with that advice. When we receive advice from the JCVI, we then consider the impact of this in a Scottish policy and operational context.

As the JCVI states, their advice is not exhaustive and cannot cover every detail. That is why, for example, we provided further detail on the types of workers that were included in the frontline health and social care worker category (included in JCVI priority group 2). Another example was when the JCVI, having noted that many people experiencing homelessness and rough sleeping were likely to have underlying health conditions which would place them in JCVI priority group 6 and that these conditions were likely to be under-diagnosed or incompletely recorded in primary care records, [advised that local teams exercise operational judgment and consider a universal offer to people experiencing homelessness and rough sleeping, alongside delivery of the vaccination programme to priority group 6, where appropriate.](#)

In doing this, we seek to maintain a consistent approach across the four UK nations, and we expect our Health Boards to work within the nationally agreed prioritisation schedule to manage the distribution of vaccine supplies to those that fall into the priority groups.

Our progress

In our deployment plan, we said that we would aim to offer everyone in JCVI priority groups 1 to 9 a first dose of vaccine by early May 2021. Despite it currently being likely that we will have lower supply of vaccine during April than we expected, subject to supply we now expect to offer first doses to all 9 JCVI groups by mid-April.

Since the vaccination programme began on 8 December 2020, at the time of publishing this update (as at 7:30 am on 24 March 2021):

First doses

- in total, 2,249,612 people in Scotland have received the first dose of COVID-19 vaccine, covering 49.5% of those aged 16 and over. This includes:
 - 263,555 people aged 80 or over
 - 195,696 people aged 75 to 79
 - 280,234 people aged 70 to 74
 - 164,357 people who were advised to shield, part of the clinically extremely vulnerable group (part of priority group 4)
 - 292,790 people aged 65 to 69
 - 322,248 people aged 60 to 64
 - 614,898 people aged 16 to 64 with underlying health conditions
 - 85,692 unpaid carers

- these figures include care home residents and frontline health and social care workers
- in total, 26,231 residents in older adult care homes, 92,300 specified frontline healthcare workers and 91,325 frontline social care workers have received the first dose of vaccine

Second doses

- in total, 249,252 people in Scotland have now also received the second dose of COVID-19 vaccine, covering 5.5% of those aged 16 and over
- this includes 84% of residents in older adult care homes and 74% of care home staff who have now received both the first and second doses of vaccine

Figure 1 shows the cumulative doses of COVID-19 vaccine (both first and second doses) administered in Scotland as at 24 March 2021.

The currently available COVID-19 vaccines should be administered in a course of two doses, and it is important to receive the second dose of the vaccine within a certain time period for maximum and longer duration protection against COVID-19. Now that many people have received their first dose, second doses of vaccine are also being administered and will be an ongoing feature of the vaccination programme.

The [latest guidance in the Green Book](#) states the appropriate time between doses for the available COVID-19 vaccines. Health Boards are responsible for scheduling second vaccination appointments. Detailed modelling of first and second dose scheduling requirements means they are prepared and ready with vaccine supply for second doses. Health Boards will ensure that everyone who has received their first dose of vaccine will have an appointment to receive their second dose of the same vaccine within the appropriate timescale as advised by the JCVI.

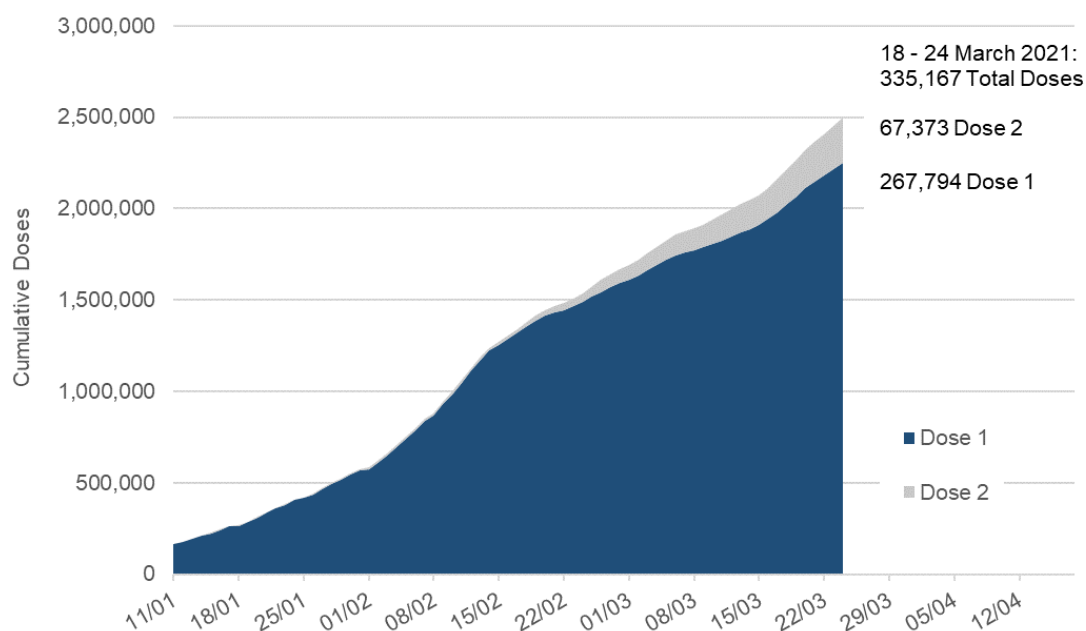


Figure 1 – Cumulative doses in Scotland by day, as at 24 March 2021

Going beyond our original plans

In our deployment plan, we said that we would aim for 80% vaccination take up by those in JCVI priority groups 1 to 9. This means we were planning for around 80% of people who were offered vaccination to take up the invitation. Since the vaccination programme started in December, we could not have hoped for a more positive uptake of the vaccines. Latest progress as at 24 March 2021 shows we have now provided first dose vaccinations for:

- 98% of people aged 80 and over
- 100% of people aged 75 to 79
- 100% of people aged 70 to 74
- 98% of people aged 65 to 69
- 93% of people aged 60 to 64
- 63% of people aged 55 to 59
- 41% of people aged 50 to 54

** These percentages are based on the latest available mid-2019 population estimates published by National Records of Scotland.*

And progress for the non-age based JCVI priority groups shows we have provided first dose vaccinations for:

- 96% of current residents of care homes for older adults
- 99% of staff working in all care homes
- 93% of those who were advised to shield, part of the clinically extremely vulnerable group
- 81% of people aged 16-64 with underlying health conditions
- 88% for those in specified frontline healthcare roles*
- 77% for those in specified frontline social care roles**

** This includes registered NHS staff within the job family nursing/midwifery, medical and dental, ambulance services, Allied Health Professions and registered GPs.*

*** This includes registered Scottish Social Services Council staff.*

These percentages include all people in the selected age group/JCVI priority group.

Figure 2 shows as at 24 March 2021 the percentage of people vaccinated in the age groups prioritised in phase 1, based on the latest available mid-2019 population estimates published by National Records of Scotland. The initial estimate of 80% vaccination take up by those in JCVI priority groups 1 to 9 is shown by a red line.

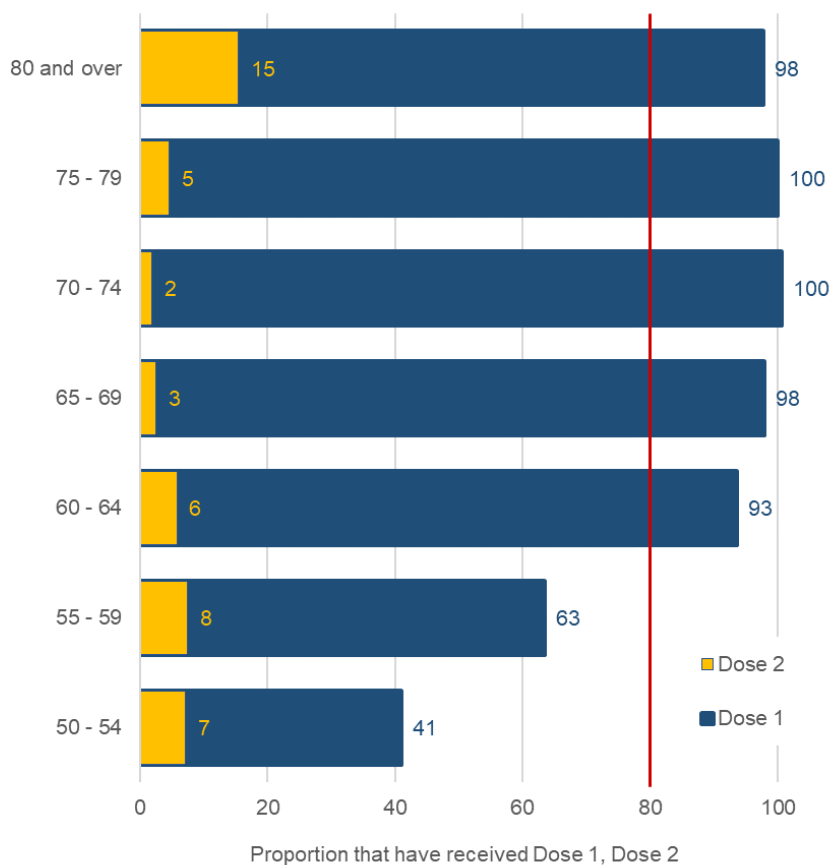


Figure 2 – Coverage by age group as at 24 March 2021 (percentage vaccinated)

We have also vaccinated more people in some of the JCVI priority groups 1 to 9 than we set out in the deployment plan as a result of further detail on the populations to be included in each group. It is highly encouraging that the additional vaccinations have been delivered successfully in those cohorts where numbers have exceeded initial planning estimates.

There are a number of different reasons why we have been able to move more quickly through the programme than we had originally planned. This includes having increased supply of vaccines at certain points. However, it is also down to excellent working practices by Health Boards to make good use of the vaccine we have received, to maximum benefit of the Scottish people.

For example, we have had far less wastage than we estimated for planning purposes and we have been able to get more doses out of vials than originally planned. The increased pace of the vaccination programme is in no small way thanks to the monumental effort of every single person involved.

We are committed to being open and transparent about our progress with the vaccination programme. Public Health Scotland (PHS) now include vaccinations data in their [COVID-19 dashboard](#) which is updated every day with the latest available figures on COVID-19 in Scotland, including those related to the vaccination programme. This includes daily vaccination figures by sex, age, location (NHS Health Board and local authority) and JCVI priority group. This includes both first

dose and second dose vaccinations. We also publish [daily data on COVID-19 on the Scottish Government website](#), including on vaccine supply.

Our infrastructure and workforce

Achieving the significant success of the vaccination programme to date has been a collaborative effort involving a wide range of partners, with innovation and massive mobilisation and coordination across Scotland at its core.

We have been clear that the COVID-19 vaccination programme in Scotland is a national programme, delivered by local Health Boards. Experts in immunisation at a national and local level have supported the programme at every stage. Public Health Scotland experts are part of the programme, for instance leading clinical governance, developing national communications and training materials. Health Boards also play a critical role in shaping our approach and using local knowledge and expertise to adapt plans and communications materials to meet local need.

Working closely with our Health Boards, Public Health Scotland and NHS National Services Scotland, we have:

- built our vaccination infrastructure across Scotland to deploy vaccines in multiple locations, ranging from small local GP practices to larger community and mass vaccination settings.
- in some Health Board areas, deployed mobile vaccination units to help reach some of our most rural and fragile areas.
- vaccinated people who are housebound at home and developed tailored communication to the most vulnerable who were shielding.
- built an agile and flexible workforce for vaccinations, drawing on the wider primary care workforce and beyond and engaging with third sector partners to support all elements of the vaccination process.
- achieved capacity to deliver up to 400,000 vaccinations a week in Scotland.
- mobilised our public, private and third sectors to support delivering the vaccines.
- developed a national digital solution to capture vaccine administration data.
- developed an innovative digital online appointment system within a matter of months.
- launched a self-registration service for unpaid carers.
- showcased the role of coloured appointment envelopes to enable the fast-tracking of delivery through the Royal Mail.

Our national Vaccination Management Tool

NHS Education for Scotland in collaboration with NHS Greater Glasgow and Clyde, NHS National Services Scotland and Public Health Scotland, have developed an innovative tool to help ensure the smooth running of the vaccination programme.

Turas Vaccination Management is a web-based tool that enables front line Health & Social Care staff to capture and create real-time patient vaccination records, and for information to be shared safely and accurately.

Two key benefits of the tool are:

- enhances the safe delivery of the vaccine through providing the vaccinator with a real-time digital vaccination history of the person being vaccinated.
- reduces the overall administrative data burden and makes both local and national data analysis and reporting easier, as the vaccination record is captured in a digital format at source.

As at 24 March 2021, more than 13,400 vaccinators have accessed the Vaccination Management Tool in anticipation and execution of their role in the programme and more than 10,600 have administered vaccinations. These numbers do not include additional capacity provided by GP practices, the majority of which use their own IT system. Work is ongoing with partners including Health Boards, Health and Social Care Partnerships and NHS Education for Scotland to continue to build the vaccination workforce. This is to ensure the programme is sustainable once activity increases, and continues, across the health and social care sector.

The NHS Inform website is regularly updated with [reliable information on the vaccination programme](#). Key information is available in 21 community languages, audio, British Sign Language (BSL), large print and easy read formats. Vaccination invitation letters are also regularly reviewed to improve people's experience.

Roll Up Your Sleeves

The Roll Up Your Sleeves campaign was developed to motivate and encourage Scottish adults to get vaccinated against COVID-19. As the vaccine programme was launched we wanted to encourage adults to roll up their sleeves when it was their turn to be offered the vaccine. The multi-channel campaign runs across TV, radio, digital, press, social, partnerships and PR. This campaign will reach 97% of all adults in Scotland (around 4.1 million people) and on average will be seen by people 15.8 times.

3. Making sure the vaccination programme is inclusive

We must ensure that all eligible adults in Scotland are included in this COVID-19 vaccination programme. Uptake has so far been exceptionally high, and the dedication of faith, third sector and community groups working alongside Scottish Government, and locally with Health Boards, has been essential in achieving this. The challenge now is to continue to vaccinate as many people as possible as quickly as possible, and at the same time ensure that we make vaccination accessible to people who are less likely to consider it, in particular those who are most at risk.

We know there are various reasons why people may have difficulty in accessing the larger vaccination centres or may be less likely to participate in the vaccination programme in general. These include practical and physical barriers such as access to transport, access to digital technology, and insecure postal addresses, but also psychological and social reasons such as culture, unfamiliar surroundings and people.

Together with Health Boards, we are further increasing focus and resource on ensuring the programme is inclusive of all adults in Scotland who want to take up the offer of a vaccination. It is important to understand who is and is not taking up the vaccination so we can adjust our delivery and communications models. More outreach work is planned in the coming weeks and months as we continue to adapt our approach to feedback we are receiving from individuals and partner organisations.

We have a steering group of different organisations to co-produce outreach and specific approaches where required. These are organisations which work closely with groups such as homeless people and asylum seekers. We are also always looking at how we can improve our understanding of vaccine uptake through better data collection, adapted delivery outreach models and targeted communications.

So far, we have worked with the following organisations to ensure marketing messages are more powerful and resonate with all of our communities:

- BEMIS (Umbrella organisation for the Ethnic Minority Voluntary Sector in Scotland)
- CEMVO (National intermediary partner and strategic partner of the Scottish Government Equality Unit)
- MEHIS (Minority Ethnic Health Inclusion Service)
- MECOPP (Minority Ethnic Carers of People Project)
- the Scottish Public Health Network (Gypsy/Traveller Community)

NHS Forth Valley in partnership with the Scottish Ambulance Service and local authority teams have effectively targeted people experiencing homelessness who are in emergency accommodation, Gypsy/Traveller and asylum seeker and refugee communities with a person-centred vaccination provision. The work succeeded in vaccinating 105 people who reported that they would not have attended for vaccination if they were expected to attend more general community or GP services. During the interactions, the teams were able to provide health promoting messages on a number of topics including Take-home-Naloxone, mental health and foodbanks and maximising finance services.

Moving forward the learning from this initiative will be applied by more Health Boards and other communities including those with enduring and debilitating mental health conditions and addictions. Statistics on vaccination uptake by index of multiple deprivation and ethnicity published from 24 March will also inform our inclusive programme.

Examples of specific communication and delivery approaches

Scottish Refugee Council have worked with local people to film accurate vaccine messages in different languages.

NHS Forth Valley are working with Scottish Ambulance Service to run outreach vaccination with local communities.

NHS Borders have filmed obstetricians promoting the vaccines.

NHS Greater Glasgow and Clyde have worked closely with different Black and Minority Ethnic groups to develop accurate vaccine messages.

4. Next steps

The success and pace of the programme to date, and the collective effort, provide us with a strong platform as we move into the next steps of the programme. We are now also able to identify people in the remaining JCVI priority groups who have already been vaccinated because they also fall into another priority group (e.g. someone who is 60 but also a frontline health and social care worker). This means that the size of some of the remaining priority groups is smaller than we had initially estimated in our deployment plan in January.

At the time of publishing this update, we are making excellent progress towards the final stages of offering first doses to those in the initial 9 JCVI priority groups. The vaccination programme is currently moving through group 6 on the priority list which includes those with particular underlying health conditions, unpaid carers, and people experiencing homelessness and rough sleeping. The self-registration service for unpaid carers purposefully does not have a short cut-off date to ensure it is inclusive. Therefore, vaccinations for this group will continue as more unpaid carers register through the self-registration service. In order to ensure that all vaccine supply that is available to us is being used, first dose vaccinations are also underway for group 7 (people aged 60-64), group 8 (people aged 55-59) and group 9 (people aged 50-54), with people being invited for vaccinations in that order.

We are making sure there continues to be sufficient appointment capacity for those unpaid carers in group 6 who have yet to self-register, for outreach to people experiencing homelessness, and also any outstanding or new individuals who weren't previously identified in groups 1 to 5, as vaccinations for groups 7, 8 and 9 proceed. This is to ensure that no one in the 9 JCVI priority groups is left behind in receiving their invite for vaccination. As part of our programme governance, this approach is reviewed and monitored on a weekly basis.

We are also making sure that there is sufficient appointment capacity to ensure that everyone who has had the first dose of vaccine receives the second dose of the same vaccine within the necessary time frame.

We continue to vaccinate as quickly as supply allows. This means that the speed at which we can invite people for vaccination depends on the availability of vaccine

supply. Uncertainty and some variability with supply continue, and in response we are matching vaccination appointment numbers to the amount of vaccine we expect to have available. Our plans remain responsive so that we can rapidly flex the number of people called for vaccination, matched to our vaccine supply.

Given that our ability to invite people for vaccination is dependent on us receiving sufficient supply and there is the potential for this to fluctuate, NHS Inform continues to be [the source of information about who is being invited to vaccination and when](#). NHS Inform is regularly updated to show the latest information. We are also continually communicating with Health Boards so that they have the latest information and can schedule appointments and carry out local communications and engagement accordingly.

Phase 2

Once we have offered vaccination to the 9 priority groups, we will move forward to begin offering vaccination appointments to adults aged under 50 who haven't already been included in phase 1. This will be phase 2 of our vaccination programme.

Subject to supply, we are on track to have offered first doses to the remainder of the adult population who were not included in the 9 JCVI priority groups by the end of July, rather than September as we previously planned.

How we will prioritise in phase 2

The JCVI recently published their [interim advice on how prioritisation in the next stage of the COVID-19 vaccination programme should happen](#). The JCVI has said that age remains the greatest risk factor in terms of serious outcomes from COVID-19, and that vaccinating as many people as possible as quickly as possible is the most important way to maximise public health benefits. The JCVI interim advice also provides that unvaccinated individuals who are at increased risk of severe outcomes from COVID-19 on account of their occupation, male sex, obesity or ethnic background are likely to be vaccinated most rapidly by an operationally simple vaccine strategy. They have said that operationally simple and easy-to-deliver programmes are necessary to achieve rapid deployment and high vaccine uptake and that an age based delivery model will facilitate rapid deployment.

The JCVI has therefore advised that phase 2 of the programme should be age-based, starting with the oldest adults first and continuing in the following order:

- all those aged 40 to 49 years
- all those aged 30 to 39 years
- all those aged 18 to 29 years

The JCVI's advice is supported by evidence that the risk of hospitalisation and critical care admission with COVID-19 increases with age. Those at highest risk of hospitalisation outside of the JCVI priority 1 to 9 are those aged 40 to 49 years, and the risk reduces with reducing age.

We have considered this interim advice, and in phase 2 will continue prioritising people for vaccinations by age, in line with the JCVI advice.

This means that in phase 2, subject to the final advice given by the JCVI, we will be inviting adults under 50 who have not yet received the vaccine in age cohorts, as follows:

- all those aged 40 to 49 years
- all those aged 30 to 39 years
- all those aged 18 to 29 years

All 4 parts of the UK have said they will follow the recommended approach for phase 2 of the vaccine roll out, subject to the final advice given by the JCVI.

More details of the [JCVI's advice and the evidence they have considered can be found on the UK Government website](#).

A key priority for us as we continue through the programme is that we make every effort to ensure that younger people who may be at less risk themselves of severe outcomes from COVID-19 are encouraged and supported to take up the offer of vaccination – both the first and second doses.

5. Looking ahead

Vaccines are a critical part of suppressing the virus to the lowest possible level, both in order to save lives and also to allow us to gradually ease restrictions and return to a more normal life. The rapid progress with the vaccination programme provides all of us with firmer grounds for hope about the weeks and months ahead. It is not just the scale of the vaccination programme that is positive. What we are learning about its impact is also hugely encouraging.

Given the progress we have made in our vaccination programme, and the people of Scotland sticking to the wider protective measures we have in place, fewer people are contracting the virus and therefore fewer people are requiring hospital treatment. For example, [one study \(part of the EAVE II project\)](#)¹ showed that, four weeks after receiving an initial vaccine dose, the Pfizer and Oxford-AstraZeneca vaccines reduced the risk of hospitalisation from COVID-19 by up to 85% and 94% of people respectively.

¹ Vasileiou, Eleftheria and Simpson, Colin R. and Robertson, Chris and Shi, Ting and Kerr, Steven and Agrawal, Utkarsh and Akbari, Ashley and Bedston, Stuart and Beggs, Jillian and Bradley, Declan and Chuter, Antony and de Lusignan, Simon and Docherty, Annemarie and Ford, David and Hobbs, Richard and Joy, Mark and Katikireddi, Srinivasa Vittal and Marple, James and McCowan, Colin and McGagh, Dylan and McMenamin, Jim and Moore, Emily and Murray, Josephine-L.K and Pan, Jiafeng and Ritchie, Lewis and Shah, Syed Ahmar and Stock, Sarah and Torabi, Fatemeh and Tsang, Ruby S. M. and Wood, Rachael and Woolhouse, Mark and Sheikh, Aziz, Effectiveness of First Dose of COVID-19 Vaccines Against Hospital Admissions in Scotland: National Prospective Cohort Study of 5.4 Million People. Available at SSRN: <https://ssrn.com/abstract=3789264> or <http://dx.doi.org/10.2139/ssrn.3789264>

According to National Records of Scotland, at the time of publishing this update, the latest statistics show that for the eighth consecutive week there has been a reduction in the number of deaths involving COVID-19 (as at 21 March).

In addition, a [recently published study by Public Health Scotland and the University of Glasgow](#)² shows promising findings that vaccination helps prevent people from passing on the COVID-19 virus (transmission). The study found that the rate of COVID-19 for people that live with healthcare workers is at least 30% lower when that healthcare worker has been vaccinated.

Despite this good news, we are still learning about exactly how effective vaccination is against COVID-19 disease and transmission, and the duration of immunity it might provide. The Public Health Scotland/University of Glasgow study on the reduction in the risk of transmission is extremely promising, but additional data on transmission impact are needed.

We know that the COVID-19 variant first identified in the UK is much more transmissible than the original variant. We also need to take careful note of other emerging variants of the COVID-19 virus and, in particular, how transmissible they are and to what extent the currently available vaccines are effective against them.

Vaccine developers and other stakeholders continue to work on understanding more about variants and the efficacy of the vaccines. It is also important that there is a regulatory approach ready to be implemented should virus mutations at any time mean that an update of already authorised vaccines is needed.

The Medicines and Healthcare products Regulatory Agency (MHRA) is the regulator in the UK that approves vaccines for supply and monitors their safety on a UK wide basis. The MHRA [published guidance on 4 March 2021 which sets out what information the medicines regulators would need to approve any modifications to authorised COVID-19 vaccines, should mutations of the virus make them less effective](#).

The vaccination programme is one of three key ways we are working to control the virus, along with our expanded testing programme to identify cases and break chains of transmission and the important restrictions everyone in Scotland must follow. All these measures work to greatest effect when they work together.

It is therefore essential that, as our understanding of the effectiveness of vaccination against COVID-19 disease and transmission is developing, for now all of us continue to follow our current rules and guidance to suppress transmission of the virus. The [latest information about current rules and guidance can be found on the Scottish Government website](#), which is updated regularly to make sure that the people of Scotland have the most up to date advice about what we all need to do to suppress transmission of the virus.

² Anoop S V Shah, Ciara Gribben, Jennifer Bishop, Peter Hanlon, David Caldwell, Rachael Wood, Martin Reid, Jim McMenamin, David Goldberg, Diane Stockton, Sharon Hutchinson, Chris Robertson, Paul M McKeigue, Helen M Colhoun, David A McAllister, Effect of vaccination on transmission of COVID-19: an observational study in healthcare workers and their households. Available at [hcw/vaccine_manuscript.pdf at master · ChronicDiseaseEpi/hcw · GitHub](#)

Will children under 16 ever receive the vaccines?

The JCVI has started to consider evidence on the risk of serious disease in children, the role children may play in transmission, and the safety and efficacy of COVID-19 vaccines in children. Following infection, almost all children will have asymptomatic infection or mild disease. There are limited data on vaccination in adolescents, with no data on vaccination in younger children at this time. As evidence becomes available it will be reviewed and advice offered as appropriate.

Currently the JCVI advises that only those children at very high risk of exposure and serious outcomes, such as older children with severe neuro-disabilities that require residential care, should be offered vaccination with either the Pfizer-BioNTech or the Oxford University/AstraZeneca vaccine. We look forward to considering any future JCVI advice and will continue to be guided by expert clinical advice as we move forwards.

6. Minimising waste

When we started out with the COVID-19 vaccination programme, our planning assumption was that there would be around 5% vaccine wastage. This is a precautionary approach for worst case scenarios and in line with global best planning practice. To date, our latest management information indicates a wastage rate of around only 1.8%, which is well below this. This is a significant achievement and means Health Boards are maximising the vaccines available to us for the benefit of people in Scotland and minimising wastage.

Guidance to Health Boards on waste management sets out that Boards should wherever possible use 'leftover' doses at risk of being wasted to vaccinate others in JCVI priority groups first before using it to vaccinate those who are not currently in priority groups.

Some vaccine wastage is unavoidable for a variety of reasons based on the characteristics of the vaccine, such as logistical issues with cold chain supply or storage failure.

A waste management tool is in place to learn why waste arises so that solutions can be put in place to further minimise waste.

7. Keeping up to date on the vaccination programme

Since the COVID-19 vaccination programme started in December 2020, we are now providing information about the programme and its progress on a wider number of platforms. As the programme is moving quickly, and the numbers of people vaccinated and overall situation changes daily, these sources of information are the best way to keep up to date with the vaccination programme.

- Scottish Government [COVID-19 daily data for Scotland webpages](#). This is updated each day to provide the latest available data on COVID-19 in Scotland, includes progress on first dose and second dose vaccinations.
- Public Health Scotland (PHS) [COVID-19 dashboard](#). This includes daily vaccination figures by sex, age, location (NHS Health Board and local authority) and JCVI priority group. This includes both first dose and second dose vaccinations.
- [UK coronavirus dashboard](#). This includes headline vaccinations data for Scotland and the other UK Nations.
- [Up to date information on the vaccination programme on the NHS Inform website](#). For example, who is being offered the vaccine and in what order, what to do at the vaccination appointment, and more about the vaccines themselves including the ingredients in the vaccines.
- [Information and guidance on the COVID-19 vaccination programme on the Scottish Government website](#). This includes regular letters from the Cabinet Secretary for Health and Sport to the Presiding Officer of the Scottish Parliament and Members of the Scottish Parliament (MSPs) providing updates on the vaccination programme.
- [Letters from the Chief Medical Officer for Scotland to Health Boards](#).
- [Statements given by Scottish Ministers in the Scottish Parliament and at Scottish Government media briefings](#).

8. Questions about your vaccination

The NHS Inform website has [up to date information on the vaccination programme](#), for example when you will be vaccinated, what to do at your vaccination appointment, and the ingredients in the vaccines.

It is also the place to go if you:

- think you are eligible for vaccination but have not received an appointment letter
- have lost your letter
- have changed your mind about being vaccinated, for example if you have previously turned down an appointment but would now like to be vaccinated.

If you are aged 16 or over and provide face-to-face care and support for family or friends who need extra support, and haven't already been offered an appointment, you can [register for a COVID-19 vaccination on the NHS Inform website](#). The website also has information about who is eligible to use this service. All eligible carers who haven't already received their first COVID-19 vaccine or a vaccine invitation letter should use the registration system.

All of the above is also available from the Coronavirus Vaccination Helpline on 0800 030 8013. The Helpline is open 8am – 8pm, 7 days a week.