

1. Home (<https://www.gov.uk/>)
 2. Coronavirus (COVID-19) (<https://www.gov.uk/coronavirus-taxon>)
 3. Health and wellbeing during coronavirus (<https://www.gov.uk/coronavirus-taxon/health-and-wellbeing>)
 4. Priority groups for coronavirus (COVID-19) vaccination: advice from the JCVI, 25 September 2020 (<https://www.gov.uk/government/publications/priority-groups-for-coronavirus-covid-19-vaccination-advice-from-the-jcvi-25-september-2020>)
- Department of Health & Social Care (<https://www.gov.uk/government/organisations/department-of-health-and-social-care>)

Independent report

JCVI: updated interim advice on priority groups for COVID-19 vaccination

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Introduction

This update to the interim advice has been developed to facilitate planning for the deployment of any safe and effective vaccine(s) as soon as they are authorised for use in the UK. The underlying principles of the advice are to reduce mortality, improve population health by reducing serious disease, and to protect the NHS and social care system. This document forms a preliminary framework for future advice for the basis of a national COVID-19 vaccination strategy. Evidence regarding vaccine safety will of pivotal importance in finalising advice on whether and how any vaccine(s) should be used in the UK.

The committee has not considered cost-effectiveness in development of this advice. The government has already invested in the development and acquisition of vaccines for the UK population and standard approaches to cost-effectiveness are not considered a requirement at this time due to the nature of the pandemic and its impact on society.

This updated interim advice has been developed based on a review of UK epidemiological data on the impact of the COVID-19 pandemic so far (see reference 1), early Phase I and II data on developmental COVID-19 vaccines (see references 2 to 7), and mathematical modelling on the potential impact of different vaccination programmes. No data is currently available on the efficacy of COVID-19 vaccines, and initial data from smaller early trials provides only limited information on safety. This is the start of a longer process, and the advice provided at this stage is subject to change.

There are a number of unknown factors about any potential vaccines, and there are still important gaps in our understanding of COVID-19. The committee will be keeping its advice under review and as more information becomes available will update its advice as and when deemed appropriate.

Specifically, this advice will be updated as more information becomes available on:

- vaccine efficacy and/or immunogenicity in different age and risk groups
- the safety of administration in different age and risk groups
- the effect of the vaccine on acquisition of infection and transmission
- the transmission dynamics of the SARS-CoV-2 virus in the UK population
- the epidemiological, microbiological, and clinical characteristics of COVID-19

Considerations

Current evidence strongly indicates that the risk of serious disease and death increases exponentially with age and is also increased in those with a number of underlying health conditions (reference 8). Mathematical modelling indicates that as long as an available vaccine is both safe and effective in older adults, they should be a high priority for vaccination. Simple age-based programmes are usually easier to deliver and therefore achieve higher vaccine uptake. An age-based programme is also likely to increase uptake in those with clinical risk factors as the prevalence of these increases with age. Given all this, the committee's updated interim advice largely prioritises based on age.

Frontline health and social care workers are at increased personal risk of exposure to infection with COVID-19 and of transmitting that infection to susceptible and vulnerable patients in health and social care settings. It is also recognised that vaccination of frontline health and social care workers will help to maintain resilience in the NHS and for health and social care providers. The committee therefore consider health and social care workers a high priority for vaccination. There is evidence that infection rates are higher in residential care home staff (see references 9 to 13), than in those providing

domiciliary care or in healthcare workers. Care home workers are therefore considered a very high priority for vaccination. The final prioritisation of health and social care workers will be dependent of evidence regarding vaccine safety by age, vaccine efficacy and the epidemiology of COVID-19 in the UK at start of any vaccination programme.

There is clear evidence that older adults living in residential care homes have been disproportionately affected by COVID-19 (see references 9 to 13) as they had a high risk of exposure to infection and are at higher clinical risk of severe disease. Given the increased risk of outbreaks, morbidity and mortality in these closed settings, these adults are considered to be at very high risk. The committee's interim advice is that this group should be one of the highest priorities for vaccination.

Vaccine priority groups: interim advice

Based on the information provided, the committee agreed that it was not possible to come to a firm position on priority groups at this time. This provisional prioritisation for COVID-19 vaccines is based on preliminary information on the vaccines in development, and provisional timelines for vaccine availability, and is subject to change. This advice assumes availability of a vaccine which is safe and effective in all age groups and has a moderate impact on transmission.

The committee strongly agree that a simple age-based programme will likely result in faster delivery and better uptake in those at the highest risk.

Whether health and social care workers should be prioritised above, alongside, or below, persons at highest risk from COVID-19 would depend on the characteristics of the vaccines when they become available and the epidemiology of disease at the time of delivery.

This interim ranking of priorities is a combination of clinical risk stratification and an age-based approach, which should optimise both targeting and deliverability. A provisional ranking of prioritisation for persons at-risk is set out below:

1. older adults' resident in a care home and care home workers¹
2. all those 80 years of age and over and health and social care workers¹
3. all those 75 years of age and over
4. all those 70 years of age and over
5. all those 65 years of age and over
6. high-risk adults under 65 years of age
7. moderate-risk adults under 65 years of age
8. all those 60 years of age and over
9. all those 55 years of age and over
10. all those 50 years of age and over
11. rest of the population (priority to be determined)²

The prioritisation could change substantially if the first available vaccines were not considered suitable for, or effective in, older adults.

Risk groups

There's ongoing work within the UK to refine the identification of persons at risk of serious disease and mortality from COVID-19 infection. As well as age and underlying co-morbid conditions, the committee notes that early signals have been identified of other potential risk factors, including deprivation and ethnicity. As more evidence on at-risk groups emerges, this work will inform the review of the composition, and order of priority, of groups for vaccination. Any programme will need to ensure every effort is made to get good coverage in black, Asian and minority ethnic (BAME) groups, in areas of higher socio-economic deprivation, and in areas with outbreaks or high levels of community transmission.

Background

JCVI has now met to consider COVID-19 vaccination on 7 May, 3 June, 6 July and 1 September 2020. JCVI has considered epidemiological, microbiological and clinical information on the impact of COVID-19 in the UK so far, including data on disease incidence, hospitalisation and mortality associated with COVID-19, early data from COVID-19 vaccine clinical trials, and mathematical modelling on the impact of different vaccination programmes. The advice provided is to support the government in development of a vaccine strategy for the procurement and delivery of a vaccination programme to the population.

Currently available data from the UK indicates that those at greatest risk of severe illness and mortality from COVID-19 are adults over the age of 50 years, with the risk increasing markedly over the age of 70 years.

Certain underlying health conditions may result in a higher risk of serious disease and mortality. Such conditions may include:

- solid organ transplant recipients
- haematological cancers
- certain neurological conditions
- chronic kidney disease
- immunosuppression
- dementia
- stroke
- poorly controlled diabetes
- chronic pulmonary disease
- obesity (BMI greater than 40)
- malignancy
- liver disease

The committee is mindful that work is ongoing to more clearly define those at greatest risk of morbidity and mortality from COVID-19 and so at this stage the list as to what conditions constitute a high-risk or moderate-risk group is not considered definitive. As more information and granular data become available, this list will be updated to better capture those most at risk of serious disease and death.

Frontline health and social care workers are also at increased personal risk of infection and of transmitting that infection to susceptible patients and vulnerable populations such as the elderly in care homes. Vaccination of these key workers will protect at-risk populations and help maintain resilience in the NHS and social care sector.

Limitations of the advice

There are still important gaps in our understanding of COVID-19 and about a potential vaccine, which may modify the committee's advice. The committee will keep these issues under review.

Natural immunity

Available data is insufficient to conclude on whether infection with SARS-CoV-2 generates immunity against re-infection, and the durability of any such immunity.

Transmission dynamics

Data on the transmission dynamics of the virus in the UK population and the contribution of children to transmission are currently limited. When more data become available, the committee will consider whether a transmission-based vaccination strategy (vaccinating those most likely to spread the virus in the population) can also play a part in controlling the pandemic.

Ethnicity and gender

There is some emerging data, which the committee reviewed, indicating potentially increased risk of serious disease and mortality in certain black and minority ethnic groups. The reasons behind this are complex, are not well understood and are undergoing further investigation. Male gender also appears to be associated with increased mortality from COVID-19.

Geographic variation

Increased population density in urban conurbations may increase the risk of infection. Further data is required.

Vaccines

On a potential vaccine or vaccines some of the current uncertainties are outlined below (many of these will be resolved before the vaccine is approved for use in the UK by the Medicines and Healthcare products Regulatory Agency (MHRA)):

- whether a safe and effective vaccine can be developed against this disease
- when a safe and effective vaccine will become available
- the levels of population immunity when a vaccine becomes available
- what age groups a vaccine will be licensed for (it's currently assumed that early licensure will be in adults)
- the safety of the vaccine, potential side effects and contraindications
- the dosing schedule (one, two or more doses)
- the number of doses that will initially be available, and the number of doses subsequently available
- the time period over which sufficient doses will become available
- the effectiveness of a vaccine across different age groups, especially older age groups and the effect of immunosenescence, and for different risk conditions
- the effectiveness against infection/serious disease/acquisition/transmission

- the duration of protection

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1. The final decision on the prioritisation for health and social care workers will be dependent on vaccine characteristics and the epidemiology at the start of any programme. ↩ ↩²
 2. A risk-benefit assessment would likely be undertaken in advising on vaccination in group 11. ↩