

COVID-19 vaccination programme:

a central role for primary care

The COVID-19 pandemic seems relentless. People are frightened and demoralised with their loss of freedoms, jobs, education, and leisure. Health inequalities are being exacerbated. Most know someone who has been hospitalised or died. Primary care teams and staff have risen to the challenges but are fatigued. The second wave has been especially hard hitting with the new B.1.1.7 variant of the virus being much more transmissible and cases rapidly rising.¹ COVID-19 vaccines offer a route back to normality, but who should be prioritised and what is the role of primary care?

The Joint Committee on Vaccination and Immunisation (JCVI) has set out key priority groups for the first phase of the COVID-19 vaccination programme.² These priority groups are primarily age based, as the risk of mortality from COVID-19 increases rapidly with age. The first four priority groups identified for vaccination include all the over 70-year-olds and clinically extremely vulnerable, and should target 88% of potentially preventable deaths from COVID-19. The first nine priority groups should target 99% of preventable deaths.

Frontline health and social care workers are essential to keep the health and social care systems functioning at a time of enormous pressure. This together with a large exposure risk and potential to transmit infection to clinically vulnerable patients led JCVI to recommend that they are prioritised in the early phase of the vaccination programme. It is important that a large proportion of these professionals are immunised as quickly as possible — and that includes all those working in patient facing roles in primary care. Vaccinators should be offered early vaccination.

Evidence is currently limited on protection against infection and onward transmission. Although it seems probable that vaccines will prevent transmission, the first phase of the programme predominantly focuses on protecting the most vulnerable in society from disease, because there is clinical trial evidence that the COVID-19

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vaccines approved in the UK offer direct protection from symptomatic infections and hospitalisations.^{3,4} Transmission studies are ongoing.

Primary care is playing a key role in an ambitious programme to offer COVID-19 vaccines to almost half of the population by spring 2021. Primary care teams have a long history of successfully delivering immunisation programmes; the high levels of national coverage of the childhood programme and the successful delivery of millions of influenza immunisations every year make primary care uniquely placed to successfully deliver a high proportion of the COVID-19 vaccines. For the Pfizer–BioNTech vaccine the handling requirements and decision by the Medicines and Healthcare products Regulatory Agency (MHRA) of the necessity for a 15-minute post-vaccination observation period have caused logistical difficulties in primary care. The recent authorisation of the AstraZeneca vaccine should lessen these problems and enable vaccination of elderly housebound and care home residents.^{5,6}

Knowledge of the local population and GPs' relationships with patients will allow for timely vaccination with good uptake. One of the most important additional roles for primary care will be to reach out to groups disproportionately affected by the pandemic. Data indicate a higher risk of mortality in certain black, Asian and minority ethnic (BAME) groups, and in people living in the most deprived neighbourhoods. JCVI has advised that the offer of COVID-19 vaccination to ethnic minority groups, socially disadvantaged, and hard to reach communities should be locally tailored to promote high vaccine uptake.⁷ Primary care is well placed to minimise inequalities in vaccine uptake and therefore mitigate some of the inequalities arising from

COVID-19 in delivery of the programme.

The recent increase in COVID-19 cases has led to another national lockdown. There is an immediate need to protect as many of the most vulnerable as quickly as possible. There is good evidence that the Pfizer–BioNTech and AstraZeneca vaccines offer high protection against disease after the first dose,^{6,8} and JCVI has advised that the interval between the two doses of both vaccines may be extended to 12 weeks, with priority given to delivery of the first dose.

The Academy of Royal Colleges,⁹ The Royal College of General Practitioners,¹⁰ and the Royal College of Surgeons of England¹¹ are in support of this strategy, which is grounded in public health principles and will save lives. Based on the mortality estimates from the first wave, it is estimated that one death could be prevented for every 260–330 first doses of the vaccine given to those >80 years of age, assuming an efficacy from the first dose of 70%–90%. One million additional first dose vaccines may therefore prevent around 3000–4000 deaths in this age group. Every second dose of the vaccine delivered is one less dose to give to someone who has no protection.

An exploratory analysis by Oxford/AstraZeneca indicates that from 22 days after the first standard dose, vaccine efficacy is 73%.⁶ Protective immunity is likely to last at least 12 weeks from the first dose and a delayed second dose may offer better long-term protection. For the Pfizer–BioNTech vaccine, the published trial reported vaccine efficacy of 52% after the first dose,³ including cases occurring from day 1 until the second dose. In separate analyses, Public Health England (PHE) calculated an efficacy of 89% after the first dose, based on cases observed from day 15 up to day 21.⁸ Protection in the first 10–14 days after the first dose is not immunologically plausible, and so JCVI believe this is a much better indication of first dose efficacy. For a similar mRNA vaccine developed by Moderna, efficacy from 15 days after the first dose was an estimated 92% after a median follow-up of 28 days (range: 1 to 108 days).¹²

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JCVI have advised that delivery of the second dose is still important in providing more durable protection. Every effort should be made to complete a vaccine course with the same vaccine. If the same vaccine is not available, or if the initial vaccine is unknown, it is reasonable to offer the locally available product as a second dose to complete the schedule.¹³ It is better in these exceptional circumstances to have a second dose of an alternative vaccine, than to have no second dose at all. This option is essential if the individual is likely to be at immediate high risk or is considered unlikely to attend again. Current studies will determine whether immune responses to mixed vaccine schedules are acceptable, and their findings will be reviewed by JCVI at the earliest opportunity.

JCVI will continue to provide advice on the optimal vaccine strategy, ensuring the programme is evidence based and practicable. The evolving epidemiology will be considered alongside vaccine coverage, particularly in underserved communities, given the increased risk in certain BAME populations. Safety monitoring is being undertaken by the MHRA and PHE in near real time, which will allow us to assess the long-term safety of the vaccines.

JCVI is currently considering options for

the second phase of the programme. We are hopeful that evidence on the impact of the vaccines on transmission will become available in the near future, and this evidence will allow JCVI to consider a range of options. The second phase could include vaccination to reduce transmission, to further reduce hospitalisations, and to protect key workers and those whose jobs limit their ability to social distance.

At this point in the pandemic, we must do all we can to provide protection to the most vulnerable in society. Vaccine supply and NHS capacity are key factors in delivery of the programme and prioritising the first dose is a pragmatic and scientifically justifiable approach. Patients trust their GPs. Increased delivery through primary care will provide the programme with a more personalised touch and be more effective in vaccinating all of the most vulnerable communities across the country.

This is the largest mass vaccination programme in a generation. Primary care will play a central and key role. We do not underestimate the challenge, but unparalleled experience in delivery of the routine immunisation programme places primary care in a strong position to overcome these challenges and make the programme a success.

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Provenance

Commissioned; externally peer reviewed.

Competing interests

All authors have declared no competing interests.

DOI: <https://doi.org/10.3399/bjgp21X714929>

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