

# How long till the pandemic ends in the UK?

## 1) Background & purpose of this article

I often get asked, "Brother, will this [referring to the pandemic] ever end?" Every time I hear this, it breaks my heart. Reflected in the eyes of those asking are our shared experiences of sadness, loss and worry. Human beings, as God has created us, are social beings, who need to socialise and form collective purpose with other fellow human beings. In my paper published in April 2020 (*Covid-19 comprehensive explainer: Science, response, lessons and God*), I mentioned that one of the only ways we will exit the pandemic is through successful vaccination. We are fortunate, thanks to human ingenuity and God's favour, many vaccines are now available, and three of them have been approved in the UK so far (Pfizer/AstraZeneca/Moderna), and others such as the Janssen vaccine are likely to be approved soon.

Given this, we can now predict with greater confidence when the pandemic will be brought under control, God willing. Of course everything happens by God's decree, and we seek God's help to make our vaccine efforts fruitful and be a source of benefit for us.

## 2) Understanding how long it will take for the vaccine to be rolled out

The answer to this depends on 5 factors:

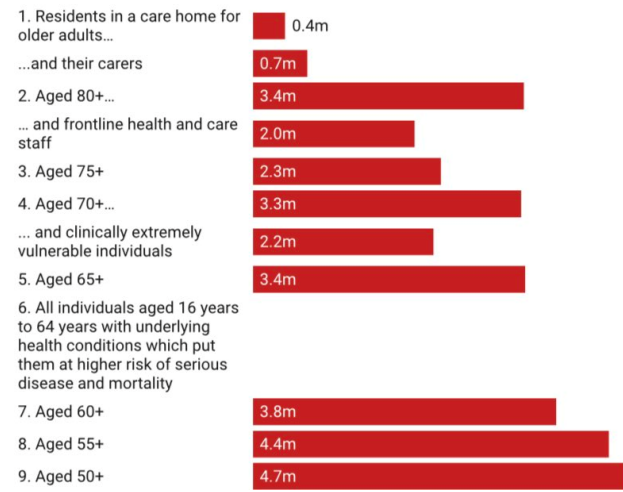
1. Supply of vaccines by producers.
2. Efficiency of validating vaccine batches for use.
3. Time taken by the NHS to setup centres to vaccinate people.
4. Vaccine efficacy (including protection against mutations).
5. Number of people who take up the vaccine (particularly by the under 50s).

### The UK has purchased plenty of vaccines:

- Pfizer/BioNTech: 95% effective; 40 million doses ordered
- Oxford/AstraZeneca: 70% - 90% effective; 100 million doses ordered
- Moderna: 94% effective; 17 million doses pre-ordered (available from April)
- Janssen: 30 million doses ordered
- GSK: 60 million doses ordered

### FACTS TO BE AWARE OF

### The vaccine will be given by the NHS based on a defined priority list first:



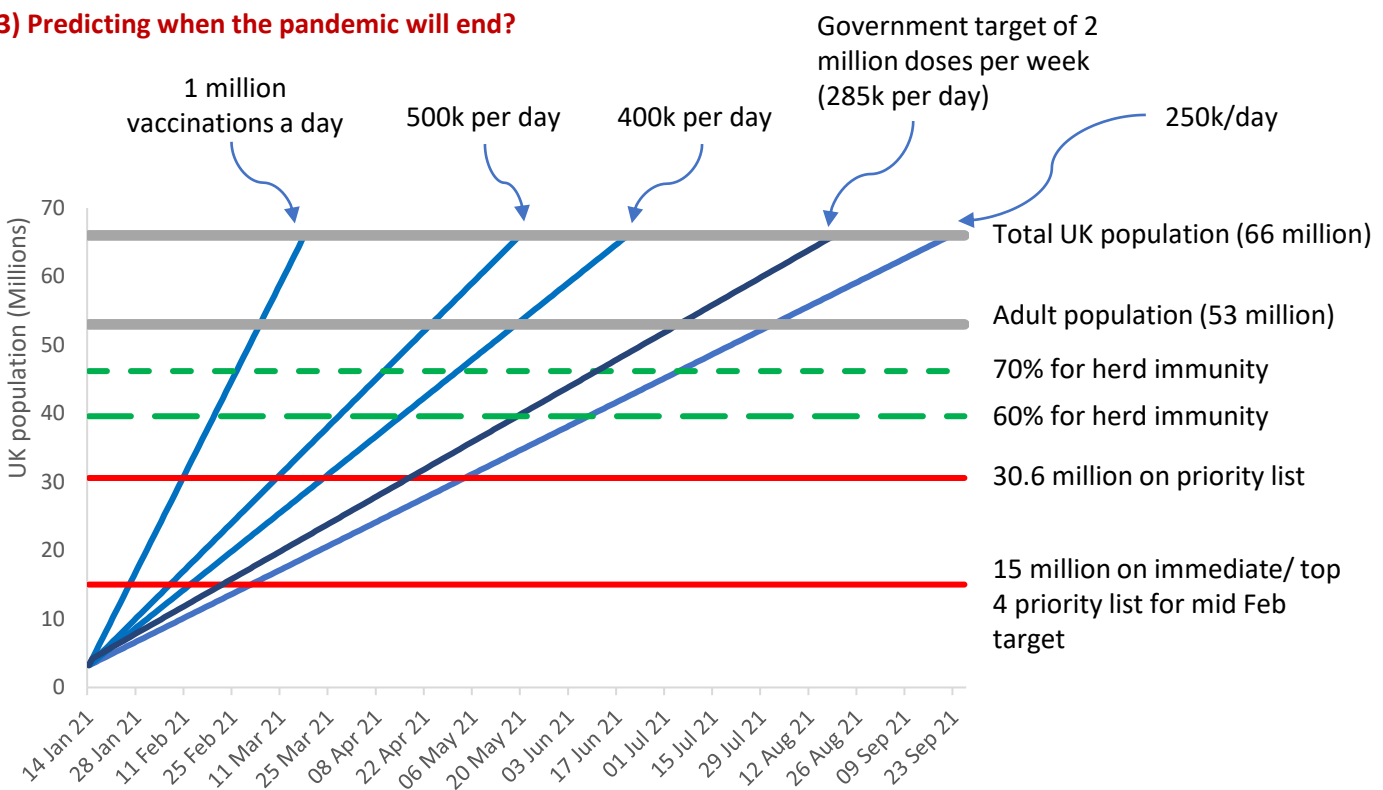
Source: BBC

### Immunity to covid-19 is acquired 10-14 days after vaccination.

- For all four vaccines, immunity (protection rate) improves with the 2<sup>nd</sup> dose. And it is likely that a 2<sup>nd</sup> dose will improve longer-term protection.
- Despite getting vaccinated people must still maintain precautions (wearing face mask, washing hands, keeping distance, avoid going out unless absolutely necessary etc.). The law still requires us to comply with protection measures.
- As more people are immunised, protection measures will likely be relaxed, as infections rates, hospitalisations rates and deaths are expected to fall significantly.

**Herd immunity**, also known as *population immunity*, is the indirect protection from an infectious disease that happens when a population is immune either through vaccination or immunity developed through previous infection. Infected people increasingly come into contact with immune people rather than those who are still susceptible. At the point of reaching herd immunity, the epidemic stops growing and starts to decline. Infections have different levels of protection for herd immunity, depending on how infectious the virus (or other pathogen) is and whether there is materially impacting mutations of the virus. For Covid-19 it is thought that herd immunity could be achieved if we vaccinate 60% (lower projection) or 70% (higher projection) of the population. People naturally infected will also gain immunity which will add to herd immunity.

## 3) Predicting when the pandemic will end?



Note: herd immunity is against the total UK population (not limited to adults); this graph does not factor in the number of 2<sup>nd</sup> doses of the vaccine which is essential for optimal protection from the vaccines.

To maximise protection for the wider population, the government is giving the first dose to as many adults as possible before offering a second dose, with people receiving their follow-up jab within 12 weeks. And, only those aged over 18 are included in the programme as the risk of disease is considered to be very low for non-adults.

As the graph above shows, the faster we can vaccinate the quicker we will achieve herd immunity. The Government has a target of 2 million vaccinations a week, which is a rate of 285k vaccinations per day. At this rate the dates we will hit some of the major the milestones are as follows:

Target	Date we will achieve target
15 million people on immediate priority list	22 February 2021
30 million people on full priority list	16 April 2021
60% population for herd immunity	20 May 2021
70% population for herd immunity	3 June 2021

Note: these dates assume the current priority list, but it may change if for example the Government decides to prioritise immunisation for school teachers or another group.

## 4) Will the pandemic be over until vast parts of the world have been vaccinated?

Until vast parts of the world have been vaccinated there will need to remain in place some form of restriction on travel or requirements for vaccine for entry clearance. We also have a moral obligation to help vaccinate people in countries that cannot afford it.