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A Blueprint for Accelerated Vaccine Rollout

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Foreword by Tony Blair

No one doubts the monumental scale of the Covid-19 challenge we face in general, nor the specific task of rolling out mass vaccinations. The NHS has done an extraordinary job to get this many people vaccinated so far. But the reality is, because of the new variants of the virus, to get out of severe lockdown and save our economy and our NHS we need to go onto an entirely new footing and accelerate this programme dramatically.

Public confidence would also be greatly boosted by being fully transparent about the plan to achieve this, setting out planned timetables, vaccines given, produced and delivered, settings for vaccination and categories of vaccinators who have been brought into the programme. Daily updates from next week are welcome, but the government must go further and give the fullest possible information, covering the categories of information I set out in this document.

The basic principle should be – subject obviously to supply availability – every vaccine we can get should be immediately able to be used. In other words, there are two issues: supply of vaccines, and the capacity of the system to absorb and use them. The first is to a large degree outside of the government's hands, but the second is literally a matter of organisation and logistics. The point is, there should be no absorption barrier.

Let me deal first with what I believe to be the case about supply. I accept there may be information the government has which I don't have. But this is my understanding based on published material and discussions with those in the industry and experts.

1. The Pfizer vaccine: There were several million vaccines given to the UK in December, of which around 1 million have been used. We have booked in a total of 40 million.
2. The Oxford University/AstraZeneca vaccine: This is our best vaccine bet because it was invented here, is simple to administer (like a normal flu jab), does not require an observation period for allergic reactions, is cheaper and will be available in a much larger quantity. At present, AstraZeneca is constrained by the production process but they're ramping up fast. By the week after next, there should be 2 million vaccines a week available. In February this could be pushed up further, and 3 million vaccines or more from then over time is possible. Provided that they know that amount can be absorbed.
3. The Johnson & Johnson vaccine: This is – at present a single-shot vaccine – very similar to the AstraZeneca one (i.e., a flu jab-type vaccine), simple to administer and cheap. We have booked 30 million doses with an option for a further 22 million. The company is going through final data examination and should be filing for FDA approval in the USA and from European and UK regulatory authorities in early February. The moment it gets approval, Johnson & Johnson is ready to ship vaccines from European production – so it could be an additional supplier in February. In March,

it could ramp up further production and have similar output to AstraZeneca.

4. The Moderna vaccine: This is an mRNA vaccine similar to Pfizer. Israel's regulatory authority has now granted approval. The company is waiting for approval from other regulatory bodies but this should be available soon. However, it is a smaller company, and probably the capacity it can add is more limited. We have booked 7 million doses.

Other vaccines like Novavax will probably only be available after the first quarter of the year.

So based on these estimates, then subject to supply proceeding as planned (and of course it is always possible for there to be unforeseen problems), we should be able to get to the following:

- End of January: 3 million a week
- End of February: 4 million a week
- End of March: 5 million a week

This would allow us to ease restrictions significantly in February and have a majority of the population vaccinated by the end of the third week of March.

The two workhorse vaccines to achieve this will be AstraZeneca and Johnson & Johnson.

I accept that the mRNA vaccines are more complicated and may require a higher standard of expertise, but these flu jab-type ones should be deliverable at scale if we organise ourselves properly.

In the second part of this document, a follow up to the recent paper [*A Plan for Vaccine Acceleration*](#), my Institute sets out what could be done to improve availability of settings for vaccination and numbers of staff.

Tony Blair

Executive Chairman

Supply

What the Government Is Doing

At present around 300,000 vaccines are being provided per week. Speaking on Monday night, the prime minister indicated the government aimed to vaccinate the top four highest priority groups by mid-February (amounting to 13.9 million people). This would require more than 2 million vaccines per week.

What the Government Should Do

Deliver 3 million vaccines per week by the end of January: We believe this is achievable as fresh supplies of the vaccines are received, growing then to around 5 million per week by the end of March.

Availability

- **AstraZeneca**

530,000 doses of the AstraZeneca vaccine became available from 4 January, with *The Times* reporting that an AstraZeneca spokesperson said 1 million doses will be available by the second week of January, reaching goal of 2 million per week by the end of January. In February this could be increased, with 3 million or more available in time.

- **Pfizer**

Pfizer says it has sent the UK millions of doses with reports this week that 5 million are already in the country.

- **Moderna**

According to [the government's website](#), in November Moderna was scaling up its European supply chain, indicating that doses would become available in spring 2021 in the UK at the earliest. The UK has ordered 7 million doses of Moderna's two-dose vaccine. The Moderna vaccine has already been approved by the Israeli government, with 6 million doses secured.

- **Johnson & Johnson**

We understand that Johnson & Johnson is finalising the data on its trials over the next couple of weeks. It then aims to go straight for approval in the US, the UK and Europe. Once this is secured Johnson & Johnson can begin supplying straight away. By February supply should be ready to roll out, given doses have already been manufactured and are ready to ship. The UK should see supply arriving in February,

with doses ramping up to around AstraZeneca levels of supply in March. The UK has ordered 30 million doses of the Johnson & Johnson vaccine so far with the option to buy 22 million more.

Expedite approval: With reports of delays, it is important the Medicines and Healthcare products Regulatory Agency (MHRA) review process is as streamlined as possible to ensure vaccines are made available for use as soon as they arrive.

Secure supply lines: There are reports of potential “fill and finish” shortages that may constrict the vaccine rollout, including the production of glass vials. The UK trade body British Glass has said the UK needs to strengthen and improve the supply chain of medical glass and vials and that the industry is ready to help.

Settings

What the Government Is Doing

According to the prime minister, 595 GP-run vaccination sites are in operation in England. 180 further surgeries are coming on stream later this week.

There are 107 hospital sites across the UK administering vaccines, with 100 more expected to follow this week.

The prime minister said he expects there to be 1,000 vaccination sites operating across the country.

Military personnel have been ordered to transform ten sites into vaccine hubs, including:

- Nightingale Hospital, London
- Epsom Racecourse, Surrey
- Ashton Gate football stadium, Bristol
- Robertson House conference facility, Stevenage
- Derby Arena

Other facilities under consideration include:

- The Black Country Living Museum, Dudley
- Millennium Point, Birmingham
- Malvern's Three Counties' Showground, Worcestershire
- Villa Park, home of Aston Villa FC
- Leicester Racecourse

The AstraZeneca jab will be administered at six hospitals for the first few days this week for surveillance purposes before the bulk of supplies are sent to hundreds of GP-led services to be rolled out.

Care homes will receive the AstraZeneca vaccine starting 4 January. Up until 20 December, seven care homes had received doses of the Pfizer vaccine, [according to an Express article](#). Larger care homes with 50 to 70 beds will be prioritised first, with around 2,900 care homes of this size in England.¹

An in-depth [analysis by the Sunday Times](#) that looked at the distribution of vaccination centres found that nearly one in four people in England live in an area with no vaccination centre; 13 million people live in a constituency with no hospital, GP practice or community building for administering vaccines.

According to the *Times*' analysis of 697 vaccine centres in England, 8 million people face a round trip of more than ten miles to get to a site, with 1.7 million people required to travel 20 miles.²

Reports this weekend indicated 118 areas of England have so far been left without a Covid-19 vaccine hub, although more sites are coming online soon.

What the Government Should Do

Vaccination stations: Introduce “vaccination stations” across the UK using polling stations as a blueprint. The 650 constituencies across England, Wales, Scotland and Northern Ireland offer around 50,000 or so polling stations, [according to the BBC](#) in 2015.

Maximise potential health-care settings: Ensure all possible hospital and health-care space is used. This includes investigating the potential for drive-through vaccination sites, pop-up locations and hosting mobile vaccination units.

Use all possible GP surgeries: Ensure GP surgeries receive all support necessary to allow as many as possible to form part of the vaccination process, operating for longer hours.

595 GP-led vaccine administration sites are now online, with 180 more expected later this week. There is usually one site per primary-care network, each of which is made up of five or six surgeries. This means that of the 7,000 GP surgeries in England around half are still yet to join the vaccine programme but could be if they are given the right support. More surgeries are expected to sign up during January, but we do not anticipate all taking part.

Every pharmacy: Expand vaccines distribution to all pharmacies regardless of their size by removing the NHS's “1,000 dose” per week threshold with an aim of bringing 5,500 community pharmacies online (there are more than 11,000 community pharmacies in England).

Pharmacies accepted to form part of the vaccination programme were contacted by NHS England this week, with the aim of them going live next week. The overall number of pharmacies accepted is not yet known, although Boots has said it has immediate plans to open three vaccination sites across the country.³

Office space: Utilise currently unoccupied office space as settings from which to administer the vaccine. Estimates suggest there is 57.6 million square feet of unused office space in the UK (50 times larger than the O2 Arena).⁴

Mobile vaccination units: We suggest the government also makes use of deployable mobile vaccination units in cases where they are more viable and faster than a centralised vaccination centre. This would allow for a localised, targeted approach, to create a hub-and-spoke model.

The private sector: The government should consider harnessing private-sector businesses to expedite vaccine rollout where they have appropriate facilities. For example, BrewDog, the pub chain that has more than 80 locations across the UK, has offered its closed locations to be used to administer vaccines, free of charge. Each location has large refrigerators, waiting areas, rooms for vaccines to be administered and staff that are willing to assist.

In addition, the vaccines should be able to be administered at Tesco pharmacies, as they are already authorised to administer yearly flu jabs.⁵ In addition to this capacity, Tesco has reportedly offered its distribution arm, Best Food Logistics, to aid in the deployment of the Oxford University/AstraZeneca vaccine. This could include the use of its refrigerated lorries and warehouses to deliver the vaccine around the UK.⁶

Staffing

What the Government Is Doing

The NHS is recruiting a workforce of 10,000 to deliver the Oxford University/AstraZeneca vaccine, which has come online this week.

The government has set out clear training criteria and has established an e-learning platform that should be drawn upon.⁷

The NHS has identified three categories of staff available to fill immuniser roles, examples of which can be found in the chart below.

Figure 1 – Pools of staffs available to fill immuniser roles, with examples

	Experienced vaccinators	Can vaccinate with training	
RHCP	<ul style="list-style-type: none"> Practice nurses (NMC)* School nurses (NMC)* Donor nurses (B&T) * Midwives (NMC)* Occupational Health Providers (NHS)* Community Pharmacists* St Johns* (clinical staff) Dentists GP returners (emergency registration) Paramedics (HCPC)* Nursing Associates (require supervision) 	<ul style="list-style-type: none"> Physiotherapists (HCPC)* Radiographers (HCPC)* Pharmacists (Primary Care & Hospital setting) * Pharmacy technicians Chiropodists and podiatrists* Dental hygienist* Dental therapist* Dietitian* Occupational therapist* Optometrist* Orthotist* Orthotist and Prosthetist* 	
HCSW (not registered)	<ul style="list-style-type: none"> Gp Practice HCAs 	<ul style="list-style-type: none"> Physicians associates Phlebotomists Blood & Transfusion Donor carers HCA's Medical students 	<p>Legislative change</p> <ul style="list-style-type: none"> Students Those with some first aid training (e.g. St John's non-clinical staff) Airline staff Lifeguards Community Fire officers
		Not HC Workers	

Source: <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/12/C0917-COVID-19-vaccination-programme-2020-21-next-steps-1-December-2020.pdf>

What the Government Should Do

To accelerate the vaccination programme, the NHS needs to identify and deploy more staff as soon as possible, and train those identified in the chart above as quickly as possible.

The AstraZeneca and Johnson & Johnson vaccines are easier to administer than the Pfizer jab. They are comparable to delivering the flu vaccine, which can be given by GPs and in local pharmacies.

We believe the government should aim to recruit a minimum of 30,000 additional vaccinators. The following categories of people could be drawn upon:

- 750,000 NHS volunteers
- 7,750 volunteers have signed up via *The Sun's* vaccine volunteer campaign
- 1,200,000 workers are currently furloughed.
- St John Ambulance have 1,494 staff and 24,938 volunteers
- Estimated 5,000 occupational-health workers

In addition, the government should ensure all possible support is given to ensure those categories of potential vaccinators it has identified are able to form part of the vaccination programme.

Systematisation

As we set out in our paper, [A Plan for Vaccine Acceleration](#), the final, critical piece of this jigsaw is data. A key element of this is bringing together and publishing the fullest possible picture on the vaccine programme.

What the Government Is Doing

As this document has set out, the government has given various indications of its vaccination target in recent days. Piecemeal data is available on supply which can lead to expectation mismanagement – the exact numbers of the Pfizer vaccine, for instance, are unclear.

What the Government Should Do

We welcome Boris Johnson’s commitment to daily updates from next week but call on the government to take the following steps:

1. Publish its plan for vaccination, broken down by week and with estimates of vaccine quantity. We attempted a basic model for bringing together all available data on vaccine availability in this table from our last paper (Figure 2, below).
2. Vaccine data should also be collated in a publicly available dashboard, updated in real time as vaccinations are completed against a national target.

Figure 2 – Template table on vaccine candidates ordered by the UK government

Company	Complexity of storage and distribution	When will it be available?	Total doses ordered by UK	Estimated to be available in January	Estimated to be available in February	Estimated to be available in March
Pfizer	Challenging. Must be stored at	Approved 2 December 2020	40 million			

	-70°C. Can be refrigerated for maximum of five days.					
Oxford University/ AstraZeneca (AZD1222)	Conventional	Approved 30 December	100 million	15 million (estimated)	30 million (estimated)	40 million by March ⁸ (estimated)
Moderna	Conventional	Approval pending (Initial results 94.5% effectiveness)	7 million			Available in spring, <u>earliest</u>
Johnson & Johnson/ Janssen (Ad26.COV2.S) One-dose regimen	Conventional	<u>Expected</u> early 2021	30 million doses, with an option for an additional 22 million doses			
Johnson & Johnson/ Janssen (Ad26.COV2.S) Two-dose regimen	Conventional	Phase III trials to conclude the recruitment of participants				

		by <u>March 2021</u>	
Novavax (NVX-CoV2373)	Conventional	Phase III trial results <u>expected Q1 of 2021</u>	60 million doses
Valneva (VLA2001)	Conventional	<u>Expected</u> second half of 2021	60 million doses; two further options for additional doses – one for 40 million and the other, between 30 million and 90 million – by 2025
Sanofi-GlaxoSmithKline	Conventional	<u>Expected</u> by end of 2021 pending new studies	60 million doses

Footnotes

1. ^ <https://www.gov.uk/government/news/over-600000-people-get-first-dose-of-pfizerbiontech-vaccine>
 2. ^ <https://www.thetimes.co.uk/article/postcode-lottery-for-life-saving-covid-vaccination-k9hld6zt3>
 3. ^ <https://www.pharmaceutical-journal.com/news-and-analysis/news/community-pharmacy-led-vaccination-sites-to-start-administering-covid-19-vaccines-from-11-january-2021/20208701.article>
 4. ^ <https://www.fmj.co.uk/unused-office-space-in-the-uk-almost-50-times-larger-than-londons-o2-arena/>
 5. ^ <https://tesco-pharmacy.qudini.com/>
 6. ^ <https://www.dailymail.co.uk/news/article-9108665/Tesco-offers-help-aid-Covid-jab-rollout-providing-use-distribution-arm.html>
 7. ^ <https://www.gov.uk/government/collections/covid-19-vaccination-programme>
 8. ^ Based on conversations with experts.
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