

**Objective: The UK must be in a position to vaccinate the right proportion of the population as soon as possible after a vaccine is available.** To the extent it is complementary to that primary objective, we must ensure longer-term UK vaccine capability and capacity for clinical and industrial benefit.

## Context

Vaccines are a critical component of responding to coronavirus and the UK must be in the forefront of development and manufacture of a vaccine.

To do this, we need to accelerate development of vaccines as quickly as possible, recognising that most will fail somewhere along the way, and support scale up so a vaccine can be mass produced and then distributed in the UK.

We need to support manufacturing facilities that reflect the latest developments in vaccine technologies focusing on newer technologies, including mRNA and viral vector approaches, rather than the traditional process usually taken that relies on large infrastructure and is very complex. That will require close work with industry as well as sourcing inward investment.

We also need to act fast to make the most of emerging vaccine possibilities – notably ████████, which is already in phase one studies and looking to ramp up shortly to phase two, as well as two domestic vaccines, one close to clinical trial from Oxford (chimpanzee adenovirus) and one at an earlier stage in Imperial (self-amplifying mRNA).

Given the likely high failure rate, the manufacturing technology we put in place in the short, medium and long term must be capable of supporting whatever technology (cell culture or chemical synthesis) produces an eventual 'winner'.

Our manufacturing offering must be 'end to end' and incorporate, pilot production, bulk scale up, formulation and 'fill and finish' – the latter two stages are all too often critical bottlenecks.

## What is the taskforce for?

Currently there is work going on across government but it is not sufficiently coordinated. **The taskforce will bring together government, industry, academics, funding agencies, regulators, logistics and finance to make rapid decisions to put the UK in a position to accelerate vaccine development and vaccinate the right proportion of the population as soon as possible after a vaccine is available.**

## How do we achieve this? (Taskforce Workstreams)

We need to:

### **1. Support the discovery, scale up and clinical testing in the UK.**

#### 1.1 Discovery:

- Rapidly mobilise funding for candidate vaccines and other preventative approaches, working with the public and private sector.
- Explore and fund alternatives to vaccines that might be faster and support those unable to take live vaccine – including neutralising antibodies, passive immunity, siRNA approaches.

## 1.2 Scale-up:

- Where discoveries are progressing, identify which can be fast tracked through to clinical testing and how can we make that happen (regulation, science funding, manufacturing, trial design).
- Support the two leading UK academic groups at present (Oxford and Imperial) to allow them to progress to scale up as quickly and effectively as possible. Scope entire vaccines landscape and make connections with key companies (offering UK science support and facilities) to ensure we can access vaccines wherever they emerge.
- Create adequate capacity in formulation, fill and finish.

## 1.3 Clinical testing:

- Prepare the UK to offer itself as an expert clinical testing site, proactively approaching companies such as ██████ which are at the forefront of vaccine development.

## 2. Prepare the UK to offer itself as possible manufacturing site:

### 2.1 Secure ██████ as the company furthest forward on developing a vaccine, to develop a manufacturing base in the UK:

- Short term technical work to set up manufacturing in existing facilities (Active Substance, Formulation and Fill Finish).
- Establishing a ██████ owned and run manufacturing facility.

### 2.2 For other leading providers: build manufacturing capability and capacity for new vaccines (especially mRNA and other new technology vaccines because they provide a rapid platform to develop new vaccines) or facilitate access to manufacturing facilities in the UK.

## 3. Review regulations: to facilitate rapid, well supervised trials.

- Regulatory amends/support based on discussions with research community to facilitate rapid but safe trials and highly expedited licensure.

## 4. Develop funding and operational plan for procurement and delivery of vaccines

## 5. Build on the UK's R&D expertise to support the international effort.

- Support the international effort to discover new vaccines (through Coalition for Epidemic Preparedness Innovations and articulation of the UK expertise offer).
- Decide whether a central articulation of the UK offer to the international vaccine development community, including CEPI and other leading vaccine efforts, may help to encourage international developers to recognise the opportunities/benefits for collaboration with UK science. This collaboration is already happening informally through research networks, the question is whether a centrally articulated offer would help.

## Ensuring a joined-up approach

We will ensure government coordinates, internally and with external stakeholders, to put the UK in the best position to vaccinate as soon as possible. While the cost benefit analysis means that we will fund initiatives at a far lower stage of certainty than normal, there will still be choices to be made about spend, use of physical resources and balance of effort. We need to find out what is happening, what is working, what is not working, where the gaps are, how to fill them, and ensure it all adds up to a plan that meets the overarching aim.