

LOCAL HERO

It's not often that someone from Sarratt becomes a national figure, but this is what our very own **Clive Dix** has achieved through his phenomenally successful activities on the UK's Vaccine Taskforce for Covid-19. Clive was Deputy Chair from its foundation in May 2020 and became Chair in Dec 2020. From selecting the vaccines for investment in mid-2020, to the first roll-out of vaccines in December 2020, and now the present situation with over half of the UK's population having received at least one dose, it's been an amazing journey. Clive and his Taskforce have been working 18 hour days on the grounds that 'The virus doesn't sleep so why should we?' to fulfil its mantra 'Nothing is impossible'.

Clive has kindly agreed to be interviewed by Sarratt Spotlight to share some insights into what made the UK's Taskforce the envy of the world.

Sarratt Spotlight How did you first get involved in the Taskforce?

Clive Dix I have a background in pharmacology and many years of industrial drug research, including new vaccine development. I was chairman of the Bioindustry Association and also helped the government set up the Office of Life Sciences. When I heard that Kate Bingham, whom I have known for many years, had been appointed head of the Taskforce I called her to offer my services and she accepted. Sadly, one of the strongest motivations for joining and working so hard was the loss of one of my closest friends to Covid. He caught Covid early on in the pandemic and died in the third week of the first lockdown and this drove me on.

SS Who else was in the Taskforce?

CD The core team of the Taskforce was just six people: us, a Director General, and three experts in drug development. We eventually built a team of 250 more people to cover all aspects of getting the country vaccinated, from vaccine selection to deployment. We had 8 experts in vaccine development and manufacturing who chose which vaccines to invest in, and a team working to coordinate vaccine delivery with the deployment taskforce. The keys to our success were having an integrated team with strong industrial experience and working with great thoroughness to make sure we did everything right.

SS How did you choose the vaccines that we are now receiving?

CD Our approach was to have several eggs in our basket. We never expected all the vaccines we bought to work as well as they do and we wanted to have choices. When we started our search, we found 200 potential vaccines in development and our first step was to select a smaller group of 30 of the most promising. We approached companies developing all 30 of them and asked them for access to their data. We then narrowed down to the 10 best vaccines and asked them how we could support them so that they would supply the UK first.

SS What did you offer them as incentives?

CD It was different for every company, depending on what they most needed. We persuaded Pfizer that the MHRA (which checks that vaccines work and are safe) would be the best regulator to approve their vaccine and our first deal was with them. With AstraZeneca, we worked to get the manufacturing capabilities in place. Valneva, a French-Austrian company, needed special facilities to manufacture their vaccine at their site in Scotland and we paid for this facility and achieved a good price for the vaccines in exchange. For Novavax, we organised their clinical trial of 15,000 people and set up the transfer of manufacturing know-how to a site in Billingham, again for a good price on the vaccines. The UK has also set up standard assays for vaccines (tests to make sure each batch is up to standard) and offered 'Fill & Finish' facilities (where large volumes of vaccine are put into individual vials and labelled before being sent to vaccination centres).

SS There has been some concern that the speed with which the vaccines were developed and deployed means corners were cut. What can you say about that?

CD I can absolutely assure everyone that no corners were cut at all. Everything has been done **very** professionally and the speed has been a result of **very** hard work by the team. The vaccines were developed and approved so fast because of the urgency of the need but all the necessary investigations were carried out to the required standards. For example, one vaccine was rejected; it had been pre-selected by the government before the formal founding of the Taskforce, but we were not convinced by the technology. The companies involved have gathered a phenomenal amount of data about the efficacy and safety of every vaccine that is being used in the UK and everything that should be done was done. Our aim was to knock down barriers, not to cut corners.

SS Which barrier are you most proud of overcoming?

CD Getting the government to pay in 6 weeks instead of 6 months! When we started we asked government how long it would take to pay for the deals we would do and they replied 6 months. We said we needed it to be a maximum of 6 weeks, so they set up a bespoke investment committee and ministerial panel with members of the Treasury on it. This meant that companies knew that we could pay them promptly and we didn't lose any deals because of government red tape.

SS What were your expectations about how well the vaccines would work?

CD We've been completely blown away by the level of protection provided by all the vaccines. Before we saw the data we hoped for 50% protection, which is better than the flu vaccine. So to have efficacy in the 70%, 80%, 90% level is phenomenal and this has reduced the number of deaths from Covid. Meanwhile lockdown has been reducing the spread of the virus and in a few months, if everyone who can be vaccinated is vaccinated, there will be almost no Covid-19

circulating in the UK. However we expect the virus to continue circulating at some level in the UK and also around the world for a long, long time so we can't be complacent and must keep monitoring the level of infections in the country.

SS It's not just the choosing and buying the vaccines that has been such a success, but also the delivery into people's arms. How did the Taskforce achieve this?

CD Our Taskforce is not responsible for delivery of vaccines but we worked with the separate deployment taskforce right from the start. The most important aspect was that we were able to give them six months warning about what quantities we would have available for injections. That way they could have the mass vaccination sites, staff, training and all the logistics for the delivery of vaccines in place at the same time as the vaccines became available.

SS The official instruction for the vaccines is that the two doses should be given at an interval of 3 weeks but the UK decided to give them 12 weeks apart. Why?

CD AstraZeneca had a huge amount of data showing that the 12 week interval gives much better protection than three weeks. Both the MHRA and the Joint Committee on Vaccination and Immunisation (JCVI) looked very carefully at the AZ data as well as data from other vaccines which show that a 12 week interval is generally superior. This strategy also meant that many more people could be given partial protection as double the number of people could be vaccinated in the first 12 weeks before we began giving second injections and the outcome has further justified this approach.

SS There's a lot of concern about new variants emerging around the world. Will the vaccines work against them or will we need to be vaccinated again?

CD The vaccines we have today work very well against the Kent, Brazil, South Africa and India variants. The choice of the 'spike' protein as the antigen to use for vaccines has been critical and it was a brilliant choice by the scientists. Nevertheless we have been preparing for new vaccines with even better protection against new variants and have been working with Curevac to build a library of potential variants for vaccine development. Because all the data on safety has already been collected, it would just take a short study of three weeks to demonstrate that a version of this vaccine gives people protection against any particular new variant. So the UK is well prepared if necessary.

SS What were your feelings when the first vaccine was given?

CD Relief!

SS Have you been vaccinated?

CD Yes, I've just had my second dose of the AstraZeneca vaccine. I did get side effects – I spent 24 hours feeling shivery, but now I'm fine.

SS Thank you Clive.