

Monday, 20 January 2025

1
2 (10.29 am)
3 **LADY HALLETT:** Mr Mansell?
4 **MR MANSELL:** My Lady, the first witness today is
5 Alexandra Jones.
6 **MS ALEXANDRA JONES (affirmed)**
7 **Questions from COUNSEL TO THE INQUIRY**
8 **MR MANSELL:** Please could you give the Inquiry your full
9 name.
10 **A.** Alexandra Jones.
11 **Q.** Thank you very much for attending today to assist the
12 Inquiry, Ms Jones. You have provided a witness
13 statement for this module of the Inquiry. It is
14 INQ000474338. And this is the corporate witness
15 statement provided in response to a Rule 9 request sent
16 to the Department for Science, Innovation and
17 Technology, or DSIT; is that right?
18 **A.** That's correct.
19 **Q.** And are the contents of that statement true to the best
20 of your knowledge and belief?
21 **A.** They are.
22 **Q.** I'd like to start, please, by asking you some questions
23 about your professional background. You are the
24 Director General of Science, Innovation and Growth at
25 DSIT?

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1 will focus on future preparedness and lessons learned.
2 Does that make sense?
3 **A.** Yes.
4 **Q.** First, though, to deal briefly with the way in which the
5 responsibilities of the VTF were transferred to BEIS and
6 then DSIT. So the VTF was first formally proposed in
7 March 2020.
8 **A.** Yes.
9 **Q.** And was a temporary unit established within BEIS?
10 **A.** Yes.
11 **Q.** In June 2022, it was announced that the VTF would cease
12 to operate and its functions would be transitioned into
13 bodies across government including BEIS?
14 **A.** That's correct.
15 **Q.** DSIT was then formed in February 2023 and took over some
16 of the functions and responsibilities of BEIS?
17 **A.** That's correct -- I think, yes, that's correct.
18 **Q.** And that included VTF legacy responsibilities which are
19 now shared between the UK Health Security Agency
20 (UKHSA), DHSC, and DSIT?
21 **A.** That's correct.
22 **Q.** Okay. Now, you explain in your statement that most of
23 the VTF's functions were transferred to UKHSA, but the
24 onshoring directorate's work transferred to the Office
25 for Life Sciences, and DSIT is the Office for Life

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1 **A.** Yes.
2 **Q.** Prior to that you were the Director of Science, Research
3 and Innovation at the Department for Business, Energy &
4 Industrial Strategy, or BEIS?
5 **A.** That's right.
6 **Q.** That was from April 2019 to May 2023?
7 **A.** Yes.
8 **Q.** In that position, and we'll come back to this, you had
9 a significant role in the creation of the Vaccine
10 Taskforce, or VTF?
11 **A.** That's correct.
12 **Q.** Before that position, you were the Director of
13 Industrial Strategy at BEIS from 2017 to 2019?
14 **A.** Yes.
15 **Q.** And before that, you held a range of senior positions at
16 different organisations working on areas including
17 economic development, labour markets and public service
18 reform?
19 **A.** That's correct.
20 **Q.** Now you've helpfully provided a detailed and lengthy
21 statement with 198 exhibits, and that is invaluable to
22 the Inquiry for understanding the structures and
23 processes and providing a narrative background.
24 However, there's no need to go through all of that
25 today. Instead, I want the focus of my -- my questions

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1 Sciences's parent department; is that right?
2 **A.** We are one of the joint parent departments so we share
3 the Office for Life Sciences with the Department for
4 Health and Social Care, it's joint between the two of us
5 so yes, it does sit with DSIT and also DHSC.
6 **Q.** And the VTF's workstreams of manufacturing and supply
7 and industrial legacy are most relevant to your evidence
8 today?
9 **A.** That's correct.
10 **Q.** Well, let's turn then, please, to manufacturing and
11 domestic manufacturing capabilities. And you may have
12 seen the evidence of Matt Hancock last week. When he
13 was giving evidence to the Inquiry he stressed the
14 importance of having a strong domestic manufacturing
15 capability, which is sometimes referred to as
16 "onshoring"; is that right?
17 **A.** Yes.
18 **Q.** Let's look first, please, at domestic vaccine
19 manufacturing capability before the pandemic. You
20 explain in your statement that despite a strong research
21 and development base in the UK, there was limited
22 manufacturing capacity and no mRNA vaccine manufacturing
23 capability prior to the pandemic; is that right?
24 **A.** That's correct.
25 **Q.** That is perhaps illustrated, please, by a document we

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1 can have on the screen now, INQ000421312.
 2 This is the document, it's "Vaccines and
 3 Therapeutics - Cabinet Secretary Deep Dive [from]
 4 Thursday, 16th April". We can look, please, at page 5.
 5 **LADY HALLETT:** Sorry, I missed it, 16 April of which year?
 6 **MR MANSELL:** 2020, my Lady.
 7 See page 5 there? Heading of this slide of the deep
 8 dive:
 9 "We do not have sufficient vaccine manufacturing
 10 capacity."
 11 It explains there that:
 12 "Most vaccines in the UK have historically been
 13 developed by academic institutions and SMEs [small and
 14 medium sized enterprise], who lack capability and
 15 capacity to manufacture at speed and scale. The need to
 16 manufacture future vaccines at greater speed and scale
 17 is why we are looking to secure the £70-93 million
 18 needed to fund the accelerated development of VMIC."
 19 That's the Vaccines Manufacturing and Innovation
 20 Centre.
 21 **A.** That's right.
 22 **Q.** Now we'll come back to that.
 23 You also explain in your statement that "fill and
 24 finish" capacity was also very limited in the UK. That
 25 refers to the final process of producing a vial of

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1 a site in Harwell in Oxfordshire?
 2 **A.** That's right.
 3 **Q.** And in essence, I'll just run through this to give it
 4 a bit of context but in 2018, £65 million was allocated
 5 by Innovate UK, part of UK Research & Innovation, to
 6 create the UK's first dedicated vaccine manufacturing
 7 innovation centre to develop new vaccine technologies?
 8 **A.** Yes.
 9 **Q.** In the same year, VMIC (UK) Limited was established as
 10 a private company to run the site?
 11 **A.** Yes.
 12 **Q.** VMIC was then established as an innovation centre but it
 13 also had an emergency response capability which would be
 14 able to produce around one million to three million
 15 doses of vaccine within three months?
 16 **A.** That's correct.
 17 **Q.** And it was still under construction at the time of the
 18 pandemic?
 19 **A.** Yes.
 20 **Q.** Now, Professor Sir John Bell led the 2017 Life Sciences
 21 Strategy from which VMIC had emerged as a concept, and
 22 in his Module 4 statement he makes some observations
 23 about the fact it wasn't ready at the time of the
 24 pandemic.
 25 Can we have, please, INQ000499442, please, and

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1 vaccine ready for use; is that right?
 2 **A.** That's correct.
 3 **Q.** Now, why was this lack of capacity a problem? What is
 4 the issue, please, with relying on international supply
 5 chains?
 6 **A.** There are number of issues, particularly during
 7 a pandemic. So if you're trying on international supply
 8 chains, there's the risk of trade barriers, there's
 9 a risk that countries will wish to keep some of those
 10 supplies for themselves, and there's a resilience issue
 11 in having some of that manufacturing capacity in the UK
 12 so we're able to manufacture it, particularly given the
 13 promising nature of the Oxford vaccine that was
 14 emerging.
 15 **Q.** So, to address this domestic manufacturing issue, the
 16 VTF had an objective to strengthen the UK's onshore
 17 capacity and capability in vaccine development,
 18 manufacturing and supply chain for both the pandemic and
 19 for the longer term?
 20 **A.** That's correct.
 21 **Q.** And we've seen reference to it already, but a key part
 22 of that was the Vaccines Manufacturing and Innovation
 23 Centre (VMIC).
 24 And let's turn to that now. Because in your
 25 statement you explain the history of VMIC -- this was in

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1 that's page 16.
 2 So this is Professor Sir John Bell's statement and
 3 he says there:
 4 "Unfortunately, two-and-a-half years later, after a
 5 very considerable amount of dithering about the exact
 6 funding contributions from this variety of partners and
 7 multiple issues about where the centre would be able to
 8 and how it would be led and managed, there were not even
 9 stakes in the ground when the pandemic hit in 2020.
 10 This was recognised to have been a major mistake."
 11 Do you agree that there was dithering and a major
 12 mistake in that the site was not open at the time of the
 13 pandemic? Is that something you can help us with?
 14 **A.** I can't comment on the dithering. Certainly we would
 15 have hoped that it would be further along two years
 16 later. This was part of a wider industrial strategy,
 17 Challenge Fund programme, one of the priorities, so we
 18 would have wanted it to be further along.
 19 **Q.** Do you know why it wasn't?
 20 **A.** I don't have the details on that stage. Certainly some
 21 of the later lessons learned suggest that some of the
 22 ways in which the programme was being run could have
 23 been improved.
 24 **Q.** As the pandemic progressed, additional funding was
 25 provided to VMIC (UK) Limited to accelerate the

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1 completion of the facility and the total funding, you
2 explain, that was allocated was around £205 million.
3 And we can see, during the life of the pandemic, the
4 emphasis being placed on VMIC by the Treasury in this
5 document, please, INQ000421276.

6 This is a Treasury email regarding VMIC, dated
7 16 February 2021. If we can move further down the page,
8 please, and see reference there in bold:

9 "In 2017, HMG invested in a new facility, the
10 Vaccines Manufacturing Innovation Centre ..."

11 And then the next bullet point down:

12 "In April last year we reviewed with BEIS how this
13 facility could be expanded and accelerated."

14 And the final bullet point on that page, and over to
15 the next page -- that's it:

16 "We have pushed the VTF to accelerate VMIC
17 further -- but they have told us this is the quickest
18 they can deliver the facility. Delivery has also
19 slipped from mid-2021 to the end of this year, meaning
20 we will not be able to use it to deliver a response in
21 this phase of this pandemic, although we will be able to
22 use it from the start of next year if ongoing
23 population-level vaccination is necessary."

24 Then the point is made that:

25 "It will however have a long life span and will be
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1 shots on goal, and it was one, though, that BEIS at the
2 time was leading on working with UKRI, trying to bring
3 in other partners, but the funders that Sir John Bell
4 was referring to were more in the private sector rather
5 than, as I understand it, in the public sector.

6 **LADY HALLETT:** Thank you.

7 Sorry to interrupt, Mr Mansell.

8 **MR MANSELL:** That's quite all right, my Lady.

9 We can see, in fact, that lessons learned document.
10 It's INQ000330729, please.

11 This is a paper from DSIT, Vaccines Onshoring
12 Programme Monitoring Report 2022 to 23. And page 14,
13 please. We can see the reference to VMIC at the top of
14 that page and then towards the end of the page, "Top six
15 tips for other projects".

16 "Act quickly if you think there's an issue with the
17 project or its management ... clear leadership of the
18 parties is fundamental to success".

19 And number 3 there:

20 "Require quality management information ... allowing
21 you to make informed decisions -- quality, reliability
22 and timeliness. The VTF should be more prescriptive."

23 What did that mean?

24 **A.** My understanding of that is that the VTF should have
25 been more specific about precisely the information it

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1 a critical piece of vaccine sovereign capability and HMG
2 will have step-in rights for vaccine manufacturing
3 during epidemics."

4 So despite the further investment that was being
5 spoken about there, there were further delays to the
6 project and VMIC was never completed, and did not
7 manufacture any Covid-19 vaccines; is that right?

8 **A.** That's correct.

9 **Q.** And --

10 **LADY HALLETT:** I'm sorry to interrupt. Just hold your
11 thought, Mr Mansell.

12 You said there earlier that ways in which the
13 programme could have been run could have been improved.
14 Is that because too many different departments and
15 people were involved? Were there too many fingers in
16 the pie?

17 **A.** That wasn't what I was referring to in that instance,
18 actually. There was a set of lessons learned that
19 UK Research and Innovation did. Some of those were
20 about the way in which the programme was run in terms of
21 senior responsible officer, some of the issues that were
22 raised during the project, supply chain delays weren't
23 managed in the right way, so it was more -- I was
24 referring to more how the programme was run rather than
25 multiple departments. I think this was one of many

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1 was acquiring to understand was it on track or was it
2 not on track?

3 **Q.** By October 2021, the facility was still not open and
4 there were cost overruns.

5 **A.** That's correct.

6 **Q.** And the board of directors of VMIC (UK) Limited decided
7 that further funding would not be sought from the
8 government. They sent an email dated 3 October 2021,
9 the board of directors, to UK Research and Innovation.
10 We can see that, please, at INQ000330658. This is an
11 email, as I say, from the board of directors to UKRI,
12 and page 2, please, first paragraph. We can see they
13 are writing:

14 "I am writing to you on behalf of the board of
15 directors to request permission for the VMIC board to
16 explore various strategic options to secure the
17 sustainable future of the VMIC facility."

18 And one of those options was the sale of the site.
19 Is that right?

20 **A.** That's correct.

21 **Q.** That can come down, thank you.

22 And that's in fact what happened in April 2022: the
23 site was sold to a private company. Why was that?

24 **A.** The view of the board of directors, it was set up as
25 a private company, partly to allow it to be more

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1 flexible and agile, and the view of the board of
2 directors was that was the best way to secure
3 a sustainable future for VMIC. When we looked at that
4 within government, the view was taken that clearly we
5 had not achieved the objectives we desired from VMIC,
6 but also, that in these circumstances, that was the best
7 outcome, that it was sold to Catalent, which is
8 a contract management and development organisation that
9 had committed to turn it into a manufacturing facility
10 and create up to 400 jobs in that area.

11 **Q.** That was the plan.

12 **A.** Indeed.

13 **Q.** You will have seen, and the Inquiry has seen, a number
14 of criticisms and concerns being raised about the sale
15 of VMIC in the decision to sell the site.

16 Professor Sir John Bell, we've already looked at his
17 statement, we know he played a key role in VMIC as
18 a concept initially, one of the concerns he raises is
19 that even though the full amount of capital was
20 recovered by the government when the site was sold, none
21 of the money found its way back into the life sciences
22 pot and the opportunities were lost to either create
23 another VMIC or to use the money to further substantiate
24 the UK's capabilities in vaccine manufacturing or
25 development. Is that right, that the money was recouped

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1 This is the statement provided by
2 Dame Sarah Gilbert, who was of course pivotal in
3 developing the Oxford-AstraZeneca vaccine, and she, in
4 her Module 4 statement, expresses her concerns about the
5 sale of VMIC. This is page 13, paragraph 57.

6 She says this:

7 "The UK has no national capability in vaccine
8 manufacturing, which VMIC would have provided. The CBF
9 [Clinical BioManufacturing Facility] at the University
10 of Oxford can concurrently only work on one vaccine
11 manufacture at a time, and does not have space to take
12 on all the requests for work that are received. VMIC
13 would have provided much more capability and could have
14 produced much large numbers of doses of vaccines ..."

15 She goes on to explain that the site:

16 "... was set up to manufacture multiple types of
17 vaccines (including viral vectored vaccines, recombinant
18 protein and virus-like particles as well as mRNA) ..."

19 And then paragraph 58, still on the screen at the
20 bottom there:

21 "Without VMIC, the only option is to use contract
22 manufacturing organisations. Transferring all of the
23 necessary expertise for the manufacture of a novel
24 vaccine can be a lengthy process, (months or sometimes
25 years) and most academic groups don't have the expertise

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1 but not redirected into an equivalent project?

2 **A.** No. In fact we recouped 80 million that went into
3 projects for manufacturing and investing in onshoring.

4 **Q.** And that was dedicated funding that was funnelled for
5 that purpose?

6 **A.** That went to the Office for Life Sciences to invest in
7 manufacturing for life sciences.

8 **Q.** Another issue that Sir John Bell raises is that it's his
9 understanding that the VMIC site has now been
10 mothballed. Is that right? Is it closed?

11 **A.** It's been mothballed, that's correct.

12 **Q.** And Dame Kate Bingham says that she is concerned that
13 the sale of VMIC without some form of right or assurance
14 for the government to use the site in the event of
15 a future pandemic has reduced our resilience and
16 capability to be prepared for a future pandemic. Do we
17 have step-in rights in relation to that site? And if we
18 did, would it be any use, given that it's been
19 mothballed?

20 **A.** We do not have step-in rights for that particular site.
21 We do have a number of other sites which I'd be happy to
22 talk about but for this site we do not.

23 **Q.** We'll just finish this with VMIC because it will open up
24 and we'll talk about the other sites in a moment.

25 Could we have on the screen, please, INQ000474278.

14

1 to do this."

2 So what is your take, please, on these criticisms?
3 Is it right that without VMIC the UK has no national
4 capability in vaccine manufacturing?

5 **A.** So I don't think that's quite right. We do have other
6 capabilities in vaccine manufacturing. There's
7 a question about whether that's enough. But if you look
8 at what we've done, when we -- when we made the
9 additional investment in VMIC, indeed when we set it up,
10 we did not have investments in vaccine innovation, we
11 did not have sufficient vaccine manufacturing in the UK.
12 Since then, we have made a number of investments to try
13 to do something about that.

14 So, on the innovation side, there is a Transforming
15 Medicines Manufacturing programme, and a transforming
16 medicines manufacturing centre of excellence that's been
17 set up. We've got an Oligonucleotide Manufacturing
18 Innovation Centre of Excellence, we have got a centre of
19 excellence in Darlington, we've got an innovation centre
20 in Braintree.

21 So we've got number of investments on the innovation
22 side, which was VMIC's original purpose, and then we've
23 got some investments on the commercial manufacturing
24 side, not just a partnership with Moderna, but also
25 partnerships with a number of other life sciences

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1 companies, and we've got innovations across a number of
2 different vaccine technologies, which we can come on to
3 talk about.

4 So VMIC clearly did not achieve what we wanted it to
5 achieve. It was not the option we wanted. It was one
6 of many shots on goal for the Vaccine Taskforce. This
7 one did not work, but because we were taking some other
8 shots, and have continued to do so, I think we are in
9 a different position to the one that we were in. We
10 still want to look at the gaps that we've got and where
11 we need to do more on both manufacturing capacity but
12 also the innovation side, and so one of the actions
13 being taken building on all the work of the VTF, the
14 work of the Office for Life Sciences since, is we're
15 doing a review of that, Department of Health is, at the
16 moment, to look at what we have and where the gaps are.

17 **Q.** Let's broaden this out then, beyond VMIC, we'll look at
18 some other sites, and you can tell us about -- a bit
19 more detail about some of these other innovations you've
20 just spoken about.

21 Oxford Biomedica was utilised during the pandemic.
22 It provided most of the supply of the Oxford-AstraZeneca
23 vaccine deployed in the UK. What is the current state
24 of that site, please, and how, if at all, could that be
25 used in the event of a future pandemic?

17

1 **Q.** And what is the current state of that site, please, and
2 how could that be used if there is another pandemic,
3 when there is another pandemic?

4 **A.** That's currently an innovation centre, and one where
5 we've got some agreements in place about being able to
6 step up manufacturing should we need to do so. That is
7 an ongoing conversation. We've had an agreement with
8 them for the past several years, so we're in ongoing
9 conversations about what happens next.

10 **Q.** You make the point in your statement that it strengthens
11 the UK's onshore capacity in viral vector and protein
12 sub-unit vaccines?

13 **A.** That's correct.

14 **Q.** The Centre for Process Innovation (CPI) in Darlington,
15 you've mentioned that. Again, investment in that site
16 during the pandemic through the VTF. Although, again,
17 is it right that no need for it to manufacture vaccines
18 during the pandemic?

19 **A.** No need for it to manufacture them in the end, that's
20 correct.

21 **Q.** And the current status of that site, please?

22 **A.** That's an ongoing innovation centre. So one of the big
23 weaknesses that we had was we didn't have some of the
24 innovation in multiple modalities of vaccine, which is
25 one of the important things for resilience, mRNA in

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1 **A.** So that's still an operational site. I would need to
2 check what we would do in a future pandemic.

3 The benefit of that site is it was able to operate
4 at a sufficient scale, with -- one of the investments we
5 made was there, while VMIC was being built, so it could
6 generate the vaccine. That's one of a number of sites
7 that we have in the UK but I would need to check what it
8 can do in the future.

9 **LADY HALLETT:** So is Oxford Biomedica a government site?

10 **A.** No, it's an investment we made, so it's an -- it's
11 government-made investments so that it was able to
12 manufacture the Oxford-AstraZeneca vaccine.

13 **MR MANSELL:** Could we step in, in the event of a future
14 pandemic, or do you not know?

15 **A.** I'm afraid I don't know if we could step in. What I do
16 know is we've got a number of arrangements with
17 organisations across the country. We've clearly worked
18 with them in the past so they would be part of plans for
19 the future.

20 **Q.** The Cell and Gene Therapy Catapult in Braintree, there
21 was a great deal of investment in that site during the
22 pandemic, through the VTF, although is it right that it
23 was ultimately not required to manufacture any Covid-19
24 vaccines?

25 **A.** That's correct.

18

1 particular. This is a centre for innovation, and the
2 only UK-based site that can develop and manufacture
3 lipid nanoparticles, which is a big part of mRNA
4 vaccines. So that is ongoing and a thriving site.

5 **Q.** And the focus of that site then is mRNA?

6 **A.** It is.

7 **Q.** Exclusively?

8 **A.** It's on mRNA and on innovation -- you know, mRNA, and
9 it's -- yes, it's got the capability to develop and
10 manufacture those nanoparticles should we need it for
11 early phase clinical trials.

12 **Q.** There was also a manufacturing site in Livingston in
13 Scotland, the Valneva site. We know the contract was
14 terminated in September 2021, and you explain in your
15 statement that UKHSA is best placed to address the
16 termination of that contract; is that right?

17 **A.** That's correct.

18 **Q.** But are you able to help us with what happened to the
19 site, whether it's possible that that could be utilised
20 in the event of a future pandemic?

21 **A.** That's one of the options we would need to look at as
22 we're looking at what capacity we have now but I don't
23 have further information on that specific site.

24 **Q.** You've touched upon the Moderna partnership.

25 **A.** Yes.

20

1 **Q.** This was announced in December 2022, a ten-year
2 partnership with Moderna, and you say this will provide
3 the UK with mRNA vaccine development and manufacturing
4 capacity.

5 **A.** That's right.

6 **Q.** Could you tell us some more about that, please.

7 **A.** Of course. They're creating a new innovation and
8 technology centre in the UK, so the aim is they're
9 creating more than 150 highly skilled jobs, but also
10 they'll have the capacity to produce up to 250 million
11 vaccines per year in -- if there was a pandemic. And
12 again, that addresses one of the biggest gaps that we
13 had previously, which was no mRNA manufacturing.

14 **Q.** On mRNA -- and before we get there, what status is it at
15 at the moment? Has the site been built?

16 **A.** The partnership was established in December 2022, so
17 it's ongoing. Work is continuing.

18 **Q.** Do you know the time --

19 **A.** I don't believe so the site has been built. I don't
20 know the timescales. They would be happy to come back
21 with those if that would be useful.

22 **Q.** Dame Kate Bingham identifies in her Module 4 statement
23 that a central feature of the VTF's approach was to
24 build a portfolio of different vaccine types, and you've
25 spoken about this yourself, the greater resilience in

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1 manufacturing fund, and that is designed to invest
2 across a number of modalities to try to get some of that
3 resilience.

4 So, it's an important challenge but one I think
5 we're really working to make sure we've closed that gap,
6 we still have investments across different technologies.
7 We need to check that we've got the right mix.

8 **Q.** Antibody manufacturing, please. Dame Kate Bingham
9 observes in her statement that "bulk antibody
10 manufacturing capacity in the UK was and remains
11 non-existent". What is being done to strengthen the
12 UK's resilience in that regard?

13 **A.** So again, that's part of the work we're doing through
14 the life sciences innovative manufacturing fund, that
15 followed on from a previous biomanufacturing fund which,
16 in fact, used some of the proceeds from VMIC. So that
17 explicitly aims to manufacture across a whole range of
18 areas, antivirals, antibodies, different types of
19 vaccine technology, because that was very clearly one of
20 the weaknesses we had, so being able to be ready for
21 a pandemic because we don't know what kind of pandemic
22 it might be. So that's one of the explicit aims.

23 **Q.** You've mentioned antiviral manufacturing as well. Are
24 there specific dedicated sites for antibody and
25 antiviral manufacturing in the UK that you can point

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1 having a range of different modalities of vaccine, and
2 she says that there seems to be now "no appetite to
3 secure a broader vaccine format capability" beyond mRNA,
4 and that "this lack of diversity in formats is
5 a potential public health weakness".

6 Are we now over-reliant on mRNA? Are we preparing
7 for the next pandemic on the basis that it will be the
8 same as the last one?

9 **A.** That's an important challenge because we cannot assume
10 the next pandemic will be the same as the last one. We
11 do have diversity in the kind of investments we're
12 making in innovation and in sites. So the Future
13 Vaccines Manufacturing Hub, for example, is looking at
14 a range of vaccine technologies and the innovations we
15 need for that. We've got Braintree, which is not just
16 looking at mRNA. So there are a number of investments
17 going -- the strategy is to be ready, to be able to
18 rapidly develop and deploy vaccine technologies
19 recognising we do not know what comes next.

20 The biggest gap we had was mRNA, and so it's fair to
21 say we have focused a lot on building up that capacity
22 and capability. It's not the only area we've focused
23 on, though, and there have been investments in other
24 areas as well. Again, I think the work that we're doing
25 through -- we have a new life sciences innovative

22

1 us to?

2 **A.** I can't point you to specific sites although I can talk
3 to colleagues to get you that specific information.
4 What I can tell you is that's very much part of the
5 portfolio thinking we're doing about what do you need
6 for a future pandemic, and the UK -- the DHSC are, as
7 I say, looking now, at where are gaps and what do we
8 need to do about them?

9 **Q.** Before we move away from manufacturing, in March 2024,
10 AstraZeneca announced a planned investment of
11 650 million in research, development and manufacture of
12 vaccines in the UK. Is that something you can help us
13 with in terms of how is that investment going to assist
14 with resilience in manufacturing capability?

15 **A.** Those are conversations that are ongoing but if all of
16 that comes through that would absolutely help. They're
17 looking to invest in a site in Speke which would
18 absolutely help with some of that diversity of
19 manufacturing capability.

20 **Q.** So that site is not open yet?

21 **A.** Not as yet, no.

22 **Q.** Not a final agreement that there will be such a site; is
23 that right?

24 **A.** We're in advanced stages but you'll understand I can't
25 talk about the details of it.

24

1 Q. Of course.

2 A. But some very positive conversations.

3 Q. Next topic --

4 **LADY HALLETT:** Sorry, before you move on.

5 So in your opinion, Ms Jones, what state are we in

6 if a pandemic hit us this winter?

7 A. In terms of manufacturing?

8 **LADY HALLETT:** Yes. Because we're moving on ...

9 A. Of course. We're in a much better position than we were

10 because we've invested in some of this innovation, some

11 of this manufacturing capability. As you can tell from

12 my evidence, not all of it is there yet. We have

13 learned a lot of lessons about how might you scale up.

14 We've got Braintree, for example. We've managed to work

15 with Oxford Biomedica, we've got some of the facilities

16 in Darlington. So it's difficult to say. We are in

17 a better position than we were. We will be in a better

18 position than we are. I think we've got a number of

19 things to call on but we're not exactly where we need to

20 be as yet.

21 **LADY HALLETT:** Are you confident the commitment is there to

22 continue this work? Sometimes what happens is people

23 respond to an emergency and put in -- and then think,

24 well, yes, we probably ought to do things better, but

25 then some other priority comes along and planning for

25

1 at scale. It would depend on the kind of pandemic. We

2 don't know what kind of pandemic it would be and

3 therefore what vaccine might be most effective. So we

4 do have the ability to call on a number of sites. It is

5 really difficult to answer that question because I don't

6 know what kind of pandemic it might be.

7 Q. What about sites that operate across a range of

8 modalities, platform sites that can produce vaccines at

9 scale? Do we have that capability?

10 A. We have got some capability there, yes. We've got some

11 capability in a number of areas. Could we scale it up

12 fast enough to population scale? We're looking at some

13 of those issues now but it's really difficult to know --

14 to be able to answer that question, given where we are

15 at the moment.

16 Q. Okay. Moving on, the role of the Government Chief

17 Scientific Adviser at the outset of the pandemic. You

18 explain in your statement that the GCSA, Sir Patrick

19 Vallance as he was then, now Lord Vallance, played

20 a pivotal role in that regard. He took a series of

21 important actions and made important recommendations.

22 I just want to run through some of those with you now.

23 In January 2020 he convened the first of a series of

24 meetings of research funders, and that led to the rapid

25 funding of research programmes into vaccines and

27

1 the future isn't always a priority for politicians, dare

2 I say it.

3 A. I recognise that concern. We've got this innovative

4 life sciences manufacturing -- sorry, life sciences

5 innovative manufacturing fund that was announced in the

6 autumn, building on a whole range of work. It is --

7 we're doing a life sciences sector plan. Sir John Bell

8 is very involved in that and I'm sure will be making the

9 point, as will the sector, of the importance of this.

10 It matters to life sciences investing in the UK. So I

11 am confident that for a whole number of reasons, very

12 much including the importance of being ready for

13 a future pandemic, but also because if you look at UKRI,

14 for example, they're doing work on tackling infections

15 as one of their five major themes. This is well

16 embedded and has been recommitted to by this government.

17 So yes, we are not there yet, but I do feel this is seen

18 as a priority to invest in, as I say, for growth for the

19 future, for any future pandemic.

20 **LADY HALLETT:** Thank you.

21 **MR MANSELL:** Just to pick up on the questions there from the

22 Chair. If there was a population-level pandemic that

23 hit next year, are there operational sites in the UK to

24 manufacture vaccines at scale?

25 A. There are some sites available to manufacture vaccines

26

1 therapeutics?

2 A. That's correct.

3 Q. He identified, very early on, the potential use of

4 self-amplifying mRNA vaccine approach to tackling the

5 pandemic?

6 A. Yes.

7 Q. The VTF was Lord Vallance's idea and he played a central

8 role in establishing it?

9 A. Yes.

10 Q. And he was also instrumental in establishing the

11 Therapeutics Taskforce and the Antivirals Taskforce?

12 A. That's correct.

13 Q. And establishing bodies like that wouldn't normally be

14 part of the GCSA's role, would it?

15 A. That's correct.

16 Q. You explain in your statement that previous GCSAs have

17 had a range of scientific backgrounds but Lord Vallance

18 had particularly relevant experience because he brought

19 his experience as a clinician and experience of working

20 in the pharmaceutical industry to the role?

21 A. That's correct.

22 Q. You go on to say that in the future, the GCSA may not

23 come from a biomedical background at all, and future

24 planning will need to take this into account.

25 On one view, we were very lucky to have

28

1 Lord Vallance in the position that he was at the time of
 2 the pandemic.

3 **A.** Yes.

4 **Q.** But if a similar figure with the same sort experience
 5 can't be guaranteed in the future, how do we prepare for
 6 that to make sure that we do have the right expertise in
 7 place?

8 **A.** We definitely cannot assume that a future GCSA,
 9 Government Chief Scientific Adviser, would have that
 10 expertise. Having the advisory body that Government
 11 Office for Science has, SAGE, is a good way to have
 12 a built-in set of advice about issues ongoing and they
 13 will advise on issues like monkeypox, for example, and
 14 where we should be taking issues more or less seriously.
 15 I think one of the lessons from the pandemic was the
 16 importance of bringing in expertise early, but we've got
 17 that build in through SAGE so we've got regular external
 18 expertise, and then, when there are concerns, those are
 19 escalated through government and we can get people to
 20 look at them in a bit more detail.

21 We'd need to bring in some of that expertise,
 22 I think, or make sure we understood where it was in
 23 government in future.

24 **Q.** We've touched upon the rapid funding of research
 25 programmes, including in genomics and vaccines that

29

1 various rules and guidance on those.

2 **Q.** In your statement you explain the structures that were
 3 created in the initial version or incarnation of the
 4 VTF. It had a programme board, an external advisory
 5 board.

6 If we can just look at your statement, please,
 7 INQ000474338 page 19.

8 This is the structure as it then eventually became.
 9 We can see there the Vaccine Taskforce Steering Group,
 10 the Vaccine Taskforce Programme Board, chair Kate
 11 Bingham reporting to the Prime Minister and the
 12 Secretary of State for BEIS, and the various workstreams
 13 in the red boxes that the VTF was focusing on.

14 That can come down, thank you.

15 But the question is: why was it necessary to create
 16 these structures at the time of the pandemic? Why
 17 weren't systems already in place for a body like the VTF
 18 to spring into action?

19 **A.** This was a body that pulled together some of the people
 20 across government, pulled in external expertise, which
 21 we needed, but in a very focused way. So one of the
 22 characteristics of the Vaccine Taskforce was it had
 23 a very clear objective to secure a vaccine as quickly as
 24 possible in a way that would benefit the UK, benefit
 25 globally, leave a legacy. And so that focus meant

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1 Lord Vallance identified. That included investment in
 2 clinical trials at an early stage, and a concern raised
 3 by some Core Participant groups, including the
 4 Federation of Ethnic Minority Healthcare Organisations,
 5 is the lack of ethnic diversity in clinical trials.

6 Could you help us with DSIT's position on what could and
 7 should be done in order to ensure greater diversity in
 8 the future?

9 **A.** So clinical trials does sit with the Department of
 10 Health and Social Care and then with the academics who
 11 run them, and there are groups that contribute to that.
 12 One issue that did come up during the pandemic was the
 13 ACCORD studies which, as you will have seen from the
 14 evidence, were delayed. There were a number of reasons
 15 for that. One of the issues was actually the focus on
 16 ensuring a diversity of participants and the struggle
 17 that they had to do that. Exactly the right thing to
 18 do. One of the lessons was getting some specialist
 19 communication -- some communication specialists who
 20 could help reach out to some of those groups, seemed to
 21 improve later recruitment.

22 So that was one, I thought, useful insight but the
 23 best people to comment are those leading some of those
 24 studies. So Department of Health and Social Care, but
 25 also the academics leading those studies, and they have

30

1 that -- and the need for very rapid action, given what
 2 was happening, was why we set that up, so they could
 3 really focus on specifically what was required.

4 So there were various workstreams across government.
 5 They weren't pulling together to get a vaccine for
 6 Covid.

7 **Q.** It takes some time to establish structures like that.
 8 If a pandemic hit next year, is there a plan as to where
 9 a body like the VTF would sit, which department it would
 10 sit within?

11 **A.** So the UK Health and Security Agency is the lead on much
 12 of what the VTF formerly did, as you noted earlier, and
 13 my understanding is they would take the lead on pulling
 14 in people and pulling people together from across
 15 government.

16 **Q.** One of the recommendations that the Inquiry is
 17 considering is, as emanated from Dame Kate Bingham and
 18 Dr Clive Dix, and it's for a national vaccines agency,
 19 a body that is kept warm in peacetime, if you like,
 20 scanning the horizon, looking for the types of threats
 21 that may emerge, making sure that the UK has a broad
 22 platform, a diverse platform in terms of vaccines, and
 23 also bringing in the external expertise that seemed
 24 crucial during the pandemic. What is your view on
 25 whether such a body should be established?

32

1 **A.** The objectives you've set out of making sure we're
 2 scanning the horizon, bringing in external expertise, of
 3 coordinating the work we do across government, I think,
 4 are incredibly important. There are questions about the
 5 best way to do that. At the moment the UKHSA are the
 6 lead in government on doing this work, and can pull in
 7 external groups and you'd be well placed to speak to
 8 them -- I believe, you're speaking to them later.
 9 I think the challenges of a separate agency are that
 10 it would still need to pull in everybody in government
 11 to get us all working together so it creates an
 12 additional structure alongside, perhaps, the UKHSA. So
 13 I think the challenge would be how do you get the best,
 14 most streamlined structure to achieve those objectives?
 15 Wherever it sits, it needs to pull in external
 16 expertise, expertise from across government, Government
 17 Office for Science, the manufacturing work we do. So I
 18 think as long as the outcomes are clear, there is
 19 a simplicity to it staying within UKHSA but I do
 20 understand the arguments being made for the agency.
 21 **Q.** I suppose the point is that you don't want to be pulling
 22 in these experts when the pandemic is already here. You
 23 want these systems and processes to be kept warm and to
 24 be running in the background and making sure that
 25 they're looking at the capability of the UK, at what may

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1 we were making the most of those as we were thinking
 2 about what we do on vaccines specifically.
 3 **Q.** Next topic, the remit of the VTF insofar as it related
 4 to therapeutics and antibodies. The Inquiry has seen
 5 some correspondence, some debate, about whether
 6 therapeutics would fall within the scope of the VTF's
 7 work, and it didn't end up falling within the ambit of
 8 the VTF.
 9 Can you help us with why therapeutics were not
 10 involved in the remit of the VTF?
 11 **A.** So my understanding was there was a discussion about
 12 ensuring the focus of the Vaccine Taskforce and you'll
 13 have seen the various email exchanges. With hindsight,
 14 one of the benefits of the VTF was it was very focused
 15 on a vaccine. I think the concern at the time and the
 16 conversation at the time was: how do we ensure we
 17 achieve the outcomes best and what's the best set up to
 18 make sure we do that? And ultimately, the view was
 19 therapeutics would sit better with the Department of
 20 Health and Social Care, partly also because of some of
 21 the nature of the work there sat better with that
 22 department.
 23 **Q.** Vaccines won't be effective for everyone,
 24 immunosuppressed people and clinically vulnerable
 25 people, for example, and we're going to come on to

35

1 be the next threat.

2 You'll have heard the evidence that Lord Sharma gave
 3 last week. The idea of a national vaccines agency was
 4 put to him and he suggested the creation of an vaccine
 5 expert advisory panel, not as formal as a national
 6 vaccines agency, but a body which comprises industry
 7 experts, ministers and civil servants meeting regularly,
 8 horizon scanning, and making recommendations for
 9 investment.

10 Do you have any thoughts on that?

11 **A.** Again, I can see the benefits. I would want to, in the
 12 interests of making sure government is pulling together
 13 all the existing groups, we have some excellent external
 14 advisory groups for life sciences investments, at the
 15 moment. So I'd want to make sure, if we set something
 16 up, and I can see the benefits, we are complementing,
 17 not duplicating, particularly where we're using
 18 incredibly business people's time. Clearly, ensuring
 19 the horizon scanning has huge benefits, so I think
 20 that -- I do agree with the objectives, I think pulling
 21 in external people is always useful, UKHSA will have
 22 their views, but I think I would note we have some very
 23 good relationships, including a life sciences council,
 24 with the life sciences industry. Now, I know that's not
 25 specifically on the vaccines, but I'd want to make sure

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1 antibodies and Evusheld in a moment, but on the issue of
 2 therapeutics more generally, was the exclusion from the
 3 remit of the VTF reflective of a lower priority being
 4 given to them?

5 **A.** That's certainly not my understanding. I think it was
 6 much more -- from my understanding of the conversations
 7 I was involved in, or heard about, how do we make sure
 8 we set this up for success and ensure that both get the
 9 focus that they need rather than perhaps being diluted
 10 by being put together.

11 **Q.** Antibodies did remain in scope for the VTF, and that
 12 included work on the prophylactic antibody therapy
 13 Evusheld, and that was intended for around 500,000
 14 immunocompromised individuals who would not obtain much
 15 benefit from vaccination. Evusheld was not purchased
 16 and last week the Inquiry heard evidence from the
 17 Clinically Vulnerable Families' witness Lara Wong who
 18 explained that immunosuppressed people were left locked
 19 inside their houses while a large proportion of the
 20 population were freed by virtue of the vaccine rollout.
 21 Was sufficient priority given to ensuring protection for
 22 immunosuppressed people, in your view, and what should
 23 we do to prepare for the next pandemic to ensure that
 24 such people are looked after?

25 **A.** So the inclusion of antibodies in the Vaccine Taskforce

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1 partly reflected that sense from the beginning that it
2 would be important for immunocompromised people,
3 vulnerable people, for whom the vaccine might be less
4 effective, to make sure that was part of the thinking on
5 vaccines, and of course lots of links for therapeutics.
6 Others will be better placed to talk about whether the
7 focus was sufficient, but certainly in the conception
8 of it, it was there at the start. Clearly the impact
9 and the way that it worked in practice for many people
10 was not what we would have wanted it to be.

11 **Q.** And what are we doing now to ensure that when the next
12 pandemic hits, those people are sufficiently
13 prioritised?

14 **A.** So others will be better placed to say, as they're
15 putting together those plans. Certainly from the work
16 that I'm doing, because we've got that portfolio of
17 investments in manufacturing, for example, including
18 thinking about antibodies, that is part of it. There
19 are clearly some lessons from what worked well and what
20 worked less well. Others will be better placed to tell
21 you more about what that would look like for the future.

22 **Q.** I've almost finished my questions, Ms Jones. The last
23 thing I want to ask you about is the Advanced Research
24 and Invention Agency (ARIA), which is an executive
25 non-departmental public body sponsored by DSIT?

37

1 not our role to direct them. UK Research and
2 Innovation, we do, and we do with the National Institute
3 for Health Research, and they are both working on these
4 issues.

5 **MR MANSELL:** My Lady, those are all my questions, thank you.

6 **LADY HALLETT:** Thank you very much, Mr Mansell.

7 Mr Wilcock.

8 Questions from MR WILCOCK KC

9 **MR WILCOCK:** Good morning, Ms Jones. I ask questions on
10 behalf of the Northern Ireland Covid Bereaved Families
11 for Justice, and accordingly I want to ask you some
12 questions about the involvement of the devolved
13 administrations in the Vaccine Taskforce.

14 Now, at paragraph 57 of your statement, you say:

15 "Having reviewed the papers from this early period,
16 it appears that [devolved administration] involvement in
17 the genesis of the [Vaccine Taskforce] was limited, most
18 likely because of the pace required to set up the
19 [Vaccine Taskforce] and to start its work, as well as
20 the initially very limited resources available."

21 So can you tell us what involvement there actually
22 was from the devolved administrations in the Vaccine
23 Taskforce in the early phase that you were referring to?

24 **A.** There was very limited involvement.

25 We did talk to colleagues from across the UK, UKRI

39

1 **A.** That's correct.

2 **Q.** And could you tell us, please, with how DSIT is working
3 with ARIA, if it is at all, on ensuring pandemic
4 preparedness in relation to vaccines and therapeutics?

5 **A.** ARIA was set up in recognition that it is difficult to
6 take big risks with government funding for research,
7 because inevitably, when people do take risks and
8 projects fail, we ask them why they failed. ARIA was
9 set up with an Act of Parliament to be able to take
10 risks, let things fail fast, and determine its own
11 research agenda.

12 So, at the moment, its work, which is determined by
13 the chief executive and the programme directors they've
14 recruited, is focusing on a number of areas --
15 programmable plants, robotics -- none of those are
16 directly relevant to the pandemic or to vaccines. There
17 may be areas of work that emerge but they're explicitly
18 set up to explore areas which they think have real
19 potential and are not currently being explored, riskier
20 areas.

21 UK Research and Innovation are the area which we do
22 direct far more as government. And as I've said,
23 they've got -- one of their five strategic themes is
24 tackling infections. They're doing a lot of work on
25 this. So ARIA might help, we don't know, because that's

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1 is a cross-UK organisation, but we didn't work
2 specifically with colleagues from the devolved
3 administrations.

4 **Q.** Can you tell us what UKRI is, certainly tell me what it
5 is.

6 **A.** I'm sorry, it's the UK Research and Innovation. So it's
7 the organisation that works on research right across
8 the UK.

9 **Q.** Right. But there was no specific contact with the
10 devolved administrations?

11 **A.** No, there wasn't.

12 **Q.** It may be obvious but could you tell us a bit more about
13 why it was that the pace of the work and the limited
14 available resources restricted the involvement of the
15 devolved at administrations in the genesis of the
16 taskforce?

17 **A.** Initially there were two of us working on the Vaccine
18 Taskforce, and it expanded rapidly but with a number of
19 demands on time. I think this is one of the lessons
20 that I would say we should learn: about making sure, as
21 we're setting something up, who do we talk to.

22 I know there were conversations that were happening
23 within the devolved administrations, we didn't join them
24 up, we were so focused on moving rapidly to get an
25 advisory board set up, get a programme board. So

40

1 I think that was something I would want to learn for the
 2 future. But it was very much two of us in the first
 3 week getting the team built and trying to deliver as
 4 fast as possible.

5 **MR WILCOCK:** Well, that's very clear, and thank you for your
 6 recommendation as well. I'm sure the chair will
 7 consider that. Thank you.

8 **LADY HALLETT:** Thank you, Mr Wilcock.
 9 Thank you very much indeed, Ms Jones. I'm extremely
 10 grateful, obviously, for the work you did in helping to
 11 get the Vaccine Taskforce going and also for your help
 12 in this Inquiry. Thank you very much indeed.

13 **THE WITNESS:** Thank you.
 14 **(The witness withdrew)**

15 **MR KEITH:** My Lady, the next witness is
 16 Professor Sir Chris Whitty.

17 **PROFESSOR SIR CHRIS WHITTY (sworn)**
 18 **Questions from LEAD COUNSEL TO THE INQUIRY for MODULE 4**

19 **LADY HALLETT:** Professor Whitty, we continue our demands
 20 upon your time, but I gather that you've got even
 21 greater demands on your time now, acting as interim
 22 Permanent Secretary.

23 **A.** I think today I'm answering only as Chief Medical
 24 Officer.

25 **LADY HALLETT:** You are.

41

1 attention on the part of a very substantial number of
 2 government bodies, entities, advisory committees,
 3 scientists, epidemiologists, researchers, academics, and
 4 the like. Is that a fair summary?

5 **A.** It's a very fair summary and I think we should all pay
 6 huge tribute in fact to not only the scientists in the
 7 UK and internationally, and prior to the pandemic, who
 8 worked on this, many people, as you say, who came in to
 9 advise government from academia, from industry, and
 10 elsewhere, but I think, above all, to the people who
 11 volunteered. Over a million people in the UK
 12 volunteered for clinical trials and other studies, and
 13 that was really what drove this and it's that volunteer
 14 spirit which I think underlies many of the successes
 15 that you outline.

16 **Q.** And of course credit must also go to the manufacturers
 17 and to the bodies and organisations, the National
 18 Health, social care bodies, Public Health Agencies,
 19 local, charitable and military organisations which
 20 helped with the delivery of the vaccine?

21 **A.** It was an extraordinary logistical effort by the NHS and
 22 many others, yes.

23 **Q.** You remain the Chief Medical Officer for England?

24 **A.** Yes.

25 **Q.** And you were appointed on 1st October 2019. And the CMO

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1 **MR KEITH:** You know the ropes, Professor. Could you
 2 commence please, by giving us your full name.

3 **A.** Christopher Whitty.

4 **Q.** Thank you very much.
 5 Professor, this is of course the fourth time you
 6 will have given evidence in this Inquiry. We're also
 7 extremely conscious of the burden on you, especially
 8 given your many other commitments, so our thanks, of
 9 course, for your assistance.

10 And you've produced a further witness statement for
 11 the Inquiry, INQ000474401, dated October 24, some
 12 88 pages.

13 Professor, it was not a foregone conclusion that the
 14 United Kingdom or any country would find and develop an
 15 acceptably safe vaccine, let alone deliver it at
 16 population level. And the therapeutics programme,
 17 whilst it didn't lead to a general prophylactic
 18 treatment being made available -- a prophylactic
 19 therapeutic or treatment being made available, led to
 20 a number of repurposed medicines being authorised, in
 21 particular the life-saving dexamethasone, as well as two
 22 important new treatment drugs.

23 So on, I think, a fairly sensible view, there was
 24 very considerable success in both programmes. That was
 25 the product of a vast amount of work, dedication and

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1 is the UK Government's principal medical adviser and
 2 professional head of the public health profession and,
 3 indeed, the medical profession in England.

4 We heard a bit about the extent of the role of the
 5 Chief Medical Officer and of the Office of the Chief
 6 Medical Officer in Module 2 and 3 but essentially, you
 7 provided public health and clinical advice to ministers,
 8 including the Prime Minister, to the DHSC, and officials
 9 across government. You were, however, are, however, the
 10 Chief Medical Officer for England. Are there chief
 11 medical officers for the devolved administrations?

12 **A.** There are, and for most of the functions of the Chief
 13 Medical Officer, they are devolved entirely to Scotland,
 14 Northern Ireland and Wales.

15 There are a few exceptions, of which the most
 16 important is international issues, which remain a UK
 17 competence.

18 **Q.** In very brief outline, did you, as the CMO, remain in
 19 lockstep with the other UK CMOs throughout the course of
 20 the pandemic?

21 **A.** I think -- we did and I think most people would
 22 recognise that that was the case. We were in very close
 23 contact, often daily, to ensure that -- I think it had
 24 two advantages: it ensured that we could give advice
 25 that was similar technically to ministers from different

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1 nations who could then take their own policy approaches.
 2 It also, actually, allowed us to test one another's
 3 thinking, because they're all very experienced public
 4 health and clinical experts.

5 **Q.** And did you and your fellow CMOs advise repeatedly on
 6 many aspects of the pandemic, in particular the clinical
 7 aspects from issues such as writing to clinicians about
 8 treatment and vaccines, issuing therapeutic alerts,
 9 highlighting the discovery of new -- repurposed, or new
 10 treatments. We'll see, in due course, frequently you
 11 were asked to give advice on areas such as the
 12 prioritisation of particular cohorts, from a clinical
 13 perspective, you gave advice on whether or not children
 14 and young persons should be vaccinated, the dosage
 15 intervals, the definition of frontline health and
 16 careworkers. The list appears endless. You had a very
 17 wide remit, in truth?

18 **A.** Yes, I mean, many people working had a very wide remit
 19 but I think that we felt it was very important that the
 20 public, the medical profession and political leaders
 21 were hearing similar technical and clinical advice. We
 22 also thought that on a few occasions it was important to
 23 demonstrate that by doing joint statements and, for
 24 particularly difficult issues, we were joined by the
 25 excellent Deputy Chief Medical Officers who brought

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1 in this area, but I'd like to highlight three because
 2 I think they are important for the future. The first is
 3 that having a single provider of almost all medical
 4 services -- there is obviously a private sector but it's
 5 almost all medical services -- and then alongside that,
 6 having a very central national research funding capacity
 7 provided a kind of, you know, a core function which was
 8 joined up across the whole system.

9 I think the second is that it was possible to set up
 10 trials extremely rapidly across the whole of the NHS.
 11 And to be clear, much of the recruitment, in fact most
 12 of the recruitment, was in peripheral hospitals,
 13 district general hospitals, rather than just in the big
 14 teaching hospitals, as I think is often the case. And
 15 as we moved in to a work in general practice, there were
 16 general practitioners involved in that as well. And
 17 that I think is possible to do because of the central
 18 arrangement.

19 The third is there is a very strong tradition, both
 20 on the part of clinicians and on the part of the public,
 21 of taking part in clinical trials. And we were able to
 22 say, and I said with -- and you'll probably have seen
 23 this -- with many of my colleagues on several occasions:
 24 look, we do not think it is sensible to be using drugs
 25 that are unknown in terms of their effects on this

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1 a range of additional skills and experiences. You'll be
 2 hearing, obviously, from two today.

3 So I think the body of Chief Medical Officers and
 4 Deputy Chief Medical Officers, alongside in England, the
 5 NHS medical director, so Sir Steve Powis, and as you've
 6 heard, we were exceptionally fortunate to have
 7 Sir Patrick Vallance, who is also a clinical leader of
 8 great expertise, in addition.

9 So there was a group of people who were collectively
 10 trying to wrestle with the difficult problems and come
 11 to collective decisions.

12 **Q.** It is self-evident that a major piece in the pandemic
 13 jigsaw was and remains the National Health Service. And
 14 you refer in your statement to the great important
 15 feature of the NHS, or one of its features is that it
 16 provides a centralised health delivery system. So
 17 obviously in the context of delivering vaccines, having
 18 a centralised NHS system is of great import.

19 The NHS played a critical role in other areas, did
 20 it not, as well? Firstly, by having patients in NHS
 21 hospitals and also attending GPs and in other places
 22 where they might receive therapeutics, those patients
 23 were able to be the subject of very extensive trialling
 24 of therapeutics; is that right?

25 **A.** That is right and I think the UK had several advantages

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1 disease, outwith clinical trials. If you want to know
 2 about a drug, put people into clinical trials. And
 3 people did that overwhelmingly. Clinicians in the UK
 4 did that, which allowed us to do this.

5 So this combination of the volunteer spirit of the
 6 public, strong tradition of research in the periphery
 7 and central direction which, I think, the UK is very
 8 fortunate in.

9 **Q.** Could you say something also, please, about another
 10 aspect of the NHS and having a centralised health
 11 system, which is the provision of data. From your
 12 witness statement, it's obvious that there are a number
 13 of observational studies set up to do with the NHS.
 14 SIREN was a study of NHS workers; CO-CIN was a clinical
 15 information network based around hospitals. There were
 16 a number of other surveys. And it is obvious from the
 17 written documents before the Inquiry that it was
 18 essential that persons carrying out research and
 19 development and trials could have an accurate
 20 understanding of NHS data and what the response to the
 21 trials was, but also that NHS systems correctly recorded
 22 and evidenced the take-up of vaccines and therapeutics,
 23 so who was receiving vaccines and therapeutics and who
 24 wasn't, who was registered with GPs for learning
 25 disabilities, for example, or registered as a migrant,

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1 so that we would know where they were and whether they
2 were available to be offered a vaccine.

3 In what general state do you assess the data
4 systems, based upon the NHS, are in?

5 **A.** I think we entered the pandemic with a very large amount
6 of data in a very fragmented state. And part of the
7 problems we had in the first three to four months was
8 that corralling the data, so you can link different bits
9 of data together, was extremely difficult.

10 There were legal mechanisms to do so, which overrode
11 previous mechanisms that you use in -- with an
12 emergency, and they were brought into force. But
13 I think all of us would agree that this fragmentation of
14 data was a weakness in our system that caused us
15 problems, really, in several domains, not just in
16 research, but including in research.

17 Once that had come together, once we had the data
18 linked up much more thoroughly, we -- that was very
19 central to our ability to do both observational studies
20 and, indeed, do, sort of, passive follow-up of people
21 who'd been in clinical trials. And, as you say, to
22 identify people who might be at risk and might need
23 particular treatments.

24 So, bringing together data more effectively is
25 absolutely essential.

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1 care data, general practice data, with secondary care
2 data. This is not good for patient treatment on an
3 individual basis, and you can end up with someone going
4 to several different settings and data that is held in
5 one place is not held in another. That's potentially
6 dangerous. Certainly a problem.

7 It's not good for the organisation of the NHS
8 because it means that we have a much ineffective
9 structure. And it's not good for research, which of
10 course is central here.

11 So my view is that one of the things we absolutely
12 should be trying to do is routinely join up data across
13 the system.

14 And then, of course, if any emergency hits, not just
15 a pandemic, but any other emergency, that allows for
16 a much more quick and effective understanding.

17 But at its peak, from about three to four months
18 into the pandemic until about two-and-a-half years in,
19 I would say it was an extraordinary demonstration of the
20 power of the system, both to run more effectively and to
21 conduct research very, very fast, if those data are
22 integrated. So I would hope that this is something the
23 Inquiry might want to explore as a recommendation.

24 **LADY HALLETT:** You described the fragmentation as
25 a weakness. Some would argue it's also the opposite --

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1 I regret to say I think we have slipped backwards
2 since our time in the pandemic in terms of bringing data
3 together. So I think if -- we are now in a less good
4 and more fragmented place than we were in the middle of
5 the pandemic. Probably better --

6 **Q.** Could you expand upon that. Is that because the
7 structural systems have not been put in place to
8 maintain that flow of data or is it because it just so
9 happens there are now fewer observational studies being
10 carried out, fewer trials, and therefore less recourse
11 or less need to have recourse to the data?

12 **A.** I think that what happened during the pandemic is people
13 overcame both a set of procedural and functional
14 barriers, and also the legal structure which allowed
15 data to be shared changed because there was a direction
16 because there was an emergency from government.

17 And we've now gone back to a non-emergency setting.
18 So, firstly, the legal framework is back to where we
19 were previously. And I consider that's actually
20 regrettable. I think it is much more sensible that we
21 share data across the NHS. I could go into the details
22 of that but I suspect that's probably a little bit too
23 small print, but the general principle is right.

24 And then I think that the -- there is -- has always
25 been a difficulty in, for example, linking up primary

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1 the other side of the coin is: and we're missing a trick
2 because it could be one of the great strengths.

3 **A.** Completely agree, my Lady.

4 If I could just -- I mean, if people are interested
5 in this, Professor Cathie Sudlow did a review of this
6 which I think summarises many of the things I think
7 should need to be done. That came out this year. And
8 she --

9 **MR KEITH:** She carried out a review in fact on the subject
10 of health data --

11 **A.** Yes.

12 **Q.** -- and the systems for their provision.

13 **A.** And I think if many of those recommendations were taken
14 forward that would put us in a much better place, not
15 just in emergencies but including emergencies.

16 **MR KEITH:** My Lady, that's an issue which shall be raised
17 with your experts.

18 Just two final angles on the question of data. From
19 the witness statements from the MHRA and the JCVI, it's
20 clear that accurate data is also of great importance
21 when it comes to the issue of safety, because when side
22 effects may emerge and are reported, it's absolutely
23 vital to be able to dig down at speed into the nature of
24 the medical condition which has been encountered, in
25 order to be able to see what treatment has been given,

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1 also what symptoms are apparent, both at GP level and by
2 way of secondary care.

3 So having an accurate comprehensive data system is
4 also very relevant to safety.

5 **A.** That is absolutely right. And in particular that is
6 important for rare but important side effects.

7 **Q.** Yes.

8 **A.** Because the danger is otherwise, a doctor in York will
9 see it one day and a doctor in Shrewsbury will see it
10 the next day, and each one of them only sees one case
11 and doesn't put the pattern together. The faster you
12 can actually put all these pieces of information
13 together, the faster you will pick up something which is
14 important but rare.

15 **Q.** And health data is also vital, is it not, to the issue
16 of delivery and vaccine hesitancy, because the more you
17 know about everybody's medical conditions and why they
18 might have a level of distrust in government or be
19 hesitant or lack confidence in terms of taking up
20 vaccines, the better?

21 **A.** That is absolutely right.

22 I think that does, though, raise -- and it's an
23 important issue, really -- that the one, I think,
24 legitimate counter argument -- I think there are many
25 less legitimate counter arguments -- and that is that

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1 By way of example, was it the NIHR that funded
2 pre-pandemic research into the work being carried on at,
3 I think Oxford, and also at Imperial under Robin
4 Shattock; is that right?

5 **A.** Well, they are two slightly separate things, although
6 I was in fact responsible for both of them. That
7 funding was different, and that came from something
8 called the UK Vaccine Network.

9 **Q.** The UKVN?

10 **A.** Yes.

11 **Q.** All right, we will come back to that in a moment. It
12 may be that I've got the example wrong --

13 **A.** Yes, but the general principle is absolutely right that
14 the great majority of, in a sense, the more practical
15 research, more clinical end of research is done by NIHR.

16 It is probably just worth me pausing on the difference
17 between the NIHR and the Medical Research Council,
18 unless you're coming to it later.

19 **Q.** I am going to come to that.

20 **A.** Fine.

21 **Q.** Another important body is the UKRI, and we heard about
22 that from the previous witness. It is
23 a non-departmental public body sponsored, I think, by
24 DSIT and it's a public research funder, so not just
25 health and social care, and it has a very significant

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1 people are very nervous about their data being shared
2 for reasons that they don't know and don't agree with.
3 And you do have to get that balance right. You have to
4 both be able to absolutely guarantee the security of the
5 data but you also have to make sure that this is being
6 used for purposes that people would want it to be used
7 for.

8 But if you have -- all the surveys, the data, all
9 the time people are asked these questions, people are
10 overwhelmingly in favour of data being used for their
11 own health benefit, for the NHS to be more effective,
12 and for the benefit of the future patients in the NHS
13 through research. All of these are, I think, things
14 where the public is overwhelmingly supportive.

15 **Q.** Funding. From October 2019 to August 2021, you were
16 also the Chief Scientific Adviser at the DHSC, and that
17 meant that you were also the head, the CEO equivalent of
18 the National Institute for Health Research, now called
19 the National Institute for Health and Care Research,
20 NIHR.

21 That is the main government funder of applied
22 research in health and social care, and in your
23 statement you say, it's one of the largest government
24 funders of medical public health and care research in
25 Europe.

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1 budget, around about £9 billion a year, and that brings
2 together, you've just mentioned it, the Medical Research
3 Council, seven of them and I think another couple of
4 bodies including Research England.

5 Before I put my question, there was also the
6 UK Vaccine Network, which you charity from its inception
7 in 2015, which is designed to support the development of
8 vaccines and vaccine technology.

9 There appear, therefore, to be a number of very
10 significant players in the funding field. Is it your
11 assessment, however, that, having a number of disparate
12 bodies and different funding flows in no way held up
13 what appears to be the very generous and rapid provision
14 of funding in the face of the pandemic?

15 **A.** The -- well, the first thing to say is that UKRI for
16 almost all other areas apart from health, would cover
17 all the research, from the most basic, the most
18 fundamental research in the laboratory and so on,
19 through to the most applied.

20 Health happens to be split in two, so the
21 fundamental research, the basic research, is funded
22 principally through the Medical Research Council, and
23 the applied research is funded principally through NIHR.
24 That's a bit of an accident of history, but it seems to
25 work pretty well. And the reason for that is there are

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1 co-ordination mechanisms between the two, and they
 2 existed prior to the pandemic, but it allowed us then to
 3 move, essentially, as one during the pandemic, and
 4 almost all the calls that were put out were jointly put
 5 out by NIHR and UKRI mainly, but not exclusively, the
 6 Medical Research Council and also Innovate UK. It
 7 allowed us to put these out as joint calls. That has
 8 two advantages. It means that the sums of available are
 9 larger because we are pulling from two budgets, but also
 10 this also attracts different academics who tend to look
 11 to the Medical Research Council or NIHR as their
 12 principal funder.

13 So I think it had some -- overall, the system
 14 worked. It could have not, but it did. So I think
 15 I would chalk that down as a relative success in the
 16 funding sphere.

17 **Q.** Right, that's very clear, so we needn't, I think, focus
 18 any more attention on that.

19 **LADY HALLETT:** Are you moving on, Mr Keith?

20 **MR KEITH:** Yes, my Lady.

21 **LADY HALLETT:** In which case, would that be --

22 **MR KEITH:** Yes, that would be very convenient.

23 **LADY HALLETT:** Very well. In that case we will break for
 24 15 minutes. Back at 12.

25 **(11.46 am)**

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1 clinical lessons and public health lessons that allowed
 2 us to improve the response overall.

3 If you look around the world at people citing
 4 observational studies, the UK studies I think were very
 5 central to the thinking of very many other countries
 6 which were unable to mount this kind of comprehensive
 7 observational response.

8 **Q.** Give us some understanding, if you'd be so kind, of the
 9 scale of these studies. SIREN, for example, roughly how
 10 many hospital sites were engaged in that survey, how
 11 many tens of thousands of participants?

12 **A.** I would have to -- I wouldn't --

13 **Q.** Very roughly.

14 **A.** Very roughly, we're talking about many thousands of
 15 people overall were involved in these -- each of these
 16 studies. Different sizes depending on which ones they
 17 were involved. But I'd need to check the exact numbers.

18 **Q.** There were a very significant number of advisory
 19 committees constituted -- well, perhaps some were
 20 already in existence, certainly some were constituted --
 21 to advise in particular in relation to what therapeutics
 22 should be researched, trialled and, if appropriate,
 23 procured by, initially, the Therapeutics Taskforce,
 24 latterly, the Antivirals Taskforce, and then the
 25 combined Antivirals and Therapeutics Taskforce.

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(A short break)

1 (12.00 noon)

2 **LADY HALLETT:** Mr Keith.

3 **MR KEITH:** Professor, we've been discussing in a very broad
 4 sense the issue of the trials that were carried out, and
 5 I referred also, you'll recall, to the different issue
 6 of observational studies. And I mentioned, I think,
 7 Vivaldi, SIREN and CO-CIN.

8 You've given very helpful evidence about the nature
 9 of the funding that was available for trials. Was there
 10 also generous funding or appropriate funding available
 11 for the observational studies that were carried out, of
 12 which there were very many?

13 **A.** I mean, I think that the UK contributed hugely,
 14 actually, in the context of observational studies. And
 15 as you say, these covered a very wide range. So just to
 16 take the three which you've mentioned, the SIREN study
 17 was following up healthcare workers repeatedly over
 18 time, and that allowed us to look at healthy younger
 19 people. The Vivaldi study, by contrast, was working in
 20 care homes and was looking at what happens to older
 21 people and people who are disabled and -- in particular.
 22 And the CO-CIN was looking in particular at people who
 23 had severe disease, in hospitals, and it was observing
 24 what happened over time. And from that, you could learn

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1 There was a NERVTAG committee, there's a -- the DHS
 2 standing committee, there was a Covid-19 therapeutic
 3 subcommittee, a Covid-19 therapeutic advisory panel,
 4 a clinical review panel. There was a group specialising
 5 in neutralising monoclonal antibodies and antivirals.
 6 That was the access independent advisory group.
 7 A prophylaxis oversight group, and the very important
 8 committee, the RAPID C-19 committee, which was also
 9 concerned with therapeutics.

10 Is it your overall assessment that the committee
 11 structure, the advisory structure, the administrative
 12 structures which were formed to be able to badge the
 13 correct trials and studies to give authority for them to
 14 be funded, for decisions to be made as to what would be
 15 trialled and studied, and of course, ultimately, what
 16 should then move forward for procurement, do you think
 17 the structure is right in terms of the sheer number of
 18 bodies, or is there room for some rationalisation here?

19 **A.** I think that, in a sense, the test is always how well
 20 did the system work against realistic expectations? And
 21 I think, I would divide it into three different broad
 22 areas, and two of them I think it worked really well,
 23 one I think it worked less well.

24 The first area where I think it worked extremely
 25 well was in both observational study and repurposing

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1 drugs that were already existing for trials. I think we
2 got off the ground in the UK extraordinarily quickly,
3 and picked up the majority of the drugs which, when
4 repurposed, actually lead to a better outcome.

5 Others around the world also did so but I think
6 that's --

7 **Q.** May I just pause you there and will you just explain for
8 us, please, the -- what is a repurposed drug?

9 **A.** Apologies. That's a very important point.

10 So when we were looking -- at the start of the
11 pandemic, what has usually happened in most infections
12 is you find that some drugs which we already have used
13 for another reason can also produce a positive benefit
14 for patients.

15 Now, that could be because they actually attack the
16 underlying infection, so they have an effect on the
17 virus, but it could also be they have an effect on the
18 way the body responds to the virus. And in Covid, the
19 most important of those was what's called
20 immunomodulatory drugs, so these are ones that dampen
21 down bits of the immune system. And several of the
22 drugs -- dexamethasone has already been raised but there
23 were several others that we found worked were from those
24 classes of drugs. So they weren't actually affecting
25 the infection directly, what they were doing was

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1 I think they would say the UK was probably the leading
2 or one of the leading countries in doing these studies
3 of repurposed drugs, yes.

4 **Q.** You were then going to identify other areas which
5 perhaps, when --

6 **A.** Well, the second one where I think it worked fine, was
7 on the -- actually procuring and getting hold of drugs
8 for use and, you know, we were pretty confident for most
9 of the drugs that were repurposed, that we had
10 a reasonably good supply all the way through the
11 pandemic, despite the fact there was international
12 competition for them, so although it looks a slightly
13 byzantine system, the fact is it did the job it was
14 supposed to do.

15 I think the area where, legitimately, I think we
16 need to look again at getting it right, was how we chose
17 drugs for what's called phase I and phase II studies.
18 These are ones which are new drugs going into clinic --
19 into patients for the first time. And that system, I
20 think, got off to a slightly shaky start, if I'm honest.
21 I don't think it made any difference in the long run for
22 reasons I can go into if it would be helpful, but
23 I think if we were to rerun the whole response again, in
24 the great majority of the research and drug and vaccine
25 areas, I would say we did probably as well as we

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1 essentially detecting the body from, essentially, its
2 own response to that.

3 **Q.** But they weren't new drugs; they were drugs which were
4 already in use, had been authorised by the MHRA, and
5 which had been made available by clinicians and
6 obviously through the NHS, but which were then
7 reauthorised for a different purpose when their benefits
8 became apparent?

9 **A.** Yes, and in fact, I mean, you can use -- so, it is much
10 better to use a drug within its licence -- what's called
11 within its licence -- which MHRA has said you should use
12 it for, but it is perfectly reasonable medical practice
13 to use a drug that is licensed, so you know that it's
14 well manufactured, you know its side effects and have
15 a lot of other information about it, but for a slightly
16 different purpose. That's quite --

17 **Q.** That's off-label use?

18 **A.** That's what's called off-label use.

19 **Q.** Right.

20 **A.** But that is -- it is important they've had a licence
21 somewhere, so you have that basic information.

22 **Q.** All right. So that's repurposed drugs. And that's an
23 area which, in your assessment, the system worked very
24 well?

25 **A.** I think, you know, if you ask anyone internationally,

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1 reasonably could have against realistic expectations;
2 I think in this area it was less strong. And I think we
3 recognise that, for example in the technical report
4 which I know you've read and have referred to.

5 **Q.** Yes. So your technical report was a report prepared by
6 yourself and your fellow CMOs and DCMOs?

7 **A.** And Sir Patrick Vallance.

8 **Q.** And Sir Patrick Vallance, and I think an element of the
9 NHS, perhaps --

10 **A.** Correct, yes, so that's Steve Powis.

11 **Q.** And you set out your particularly expert views on
12 various aspects of the pandemic and the response, and
13 there was a chapter on vaccines and therapeutics, and
14 you make a number of recommendations as to how the
15 system, perhaps, could be better run in the future. But
16 one of the most important points you make is that
17 overall, the phase I and II trial processes were perhaps
18 better -- were less well managed and coordinated than
19 the III and IV phases.

20 **A.** I think they settled down to actually be quite well
21 coordinated. Patrick Chinnery, who was in the Medical
22 Research Council, and who now runs the Medical Research
23 Council, ended up leading that process and I think did
24 it very well with many colleagues supporting him from
25 across science. But I think it was a less assured start

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1 than we had in the vaccines and in the repurposed drugs,
2 for sure.

3 That said, and I think this is a very important
4 caveat, and I hope you will allow me just to digress
5 because it's an important digression, the reason that,
6 in my view, we were less successful internationally on
7 this area was that there simply wasn't the science to
8 underpin drugs going into treatment for coronaviruses in
9 the way that we were able to identify ways to get
10 vaccines moving, and we were able to get a repurposing
11 of drugs moving.

12 **Q.** So it was a much more difficult field in which to make
13 progress?

14 **A.** It was a much more difficult -- exactly. And I think
15 that, you know, therefore in my view the fundamental
16 problem was actually the fact that the pre-pandemic
17 science was weaker in this area, rather than the
18 particular operations although I think the operations
19 could have been improved in the first couple of months.
20 They then, as I say, settled down.

21 **Q.** One might say, of course, that there was a complete
22 absence of scientific foundation for the successful
23 development of vaccines. So that would have posed
24 problems that were no less --

25 **A.** That was a very different situation because you had some
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1 the small modules, which are the things that aren't
2 antibodies, for the sake of argument, we have many fewer
3 good classes of antiviral than we do, for example,
4 antibiotics and we do in many other areas in medicine.

5 So it's a relative area of scientific weakness. There
6 are some diseases, HIV and Hepatitis C, for example,
7 where we do have a good group of drugs, but for many
8 viruses we do not, and since we've never had a major
9 coronavirus outbreak that lasted for long enough --
10 there was obviously MERS and SARS -- we hadn't really
11 invested in that for human studies.

12 There were some studies in animals but not in
13 humans.

14 **Q.** Not enough.

15 The evidence before the Inquiry, Professor, suggests
16 that there were a number of disparate angles or aspects
17 to the way in which we went about trying to carry out
18 the trials for repurposed therapeutics as well as new
19 therapeutics, in particular antivirals. Firstly, there
20 appears to have been a debate within government as to
21 whether or not the taskforce should be led by an
22 external professional in the way that the vaccine
23 taskforce was led by Dame Kate Bingham, and I think the
24 Antivirals Taskforce was led by Eddie Gray.

25 Secondly, that there has been since a debate about
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1 vaccines already being developed for coronaviruses, for
2 example the UK Vaccine Network had supported Sarah
3 Gilbert's team in Oxford to look at that. MERS is a
4 coronavirus, which they were working on, and they swung
5 it over. There was a lot of work internationally on
6 different vaccine platforms, including RNA, which had
7 never been used for a major infection before, including
8 viral vectored which the Oxford one was, which had only
9 been used in relatively limited circumstances before.

10 So there was a lot of pre-existing work that was
11 swung over to Covid and was appropriate for Covid as it
12 turned out. That wasn't given, to be clear. That
13 wasn't true for drugs.

14 **Q.** So there was much less pre-existing research on the
15 important areas of therapeutic medicine which ultimately
16 proved to be of assistance but in particular in relation
17 to monoclonal antibodies and the general issue of
18 antivirals?

19 **A.** Yes.

20 **Q.** There wasn't that pre-existing research which allowed
21 the system to be redirected towards producing antivirals
22 and therapeutic antibodies for Covid?

23 **A.** No, therapeutic antibodies, there was an existing,
24 both -- there was an existing large scientific
25 literature on that, but the antivirals, what's called
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1 whether there should be a single body responsible for
2 managing, coordinating, and keeping oversight of the
3 therapeutic trial process -- this is a suggestion that's
4 been made by Professor Charlotte Deane at UKRI --
5 a single body responsible for coordinating the
6 trialling, in light of the material with which I know
7 you're familiar from Sir John Bell and others who said
8 that the system was quite chaotic at the start.

9 And thirdly, there needs to be more research and
10 development on prototype antivirals. Are there any of
11 those -- are there any particular recommendations in
12 that list that you would put your not inconsiderable
13 institutional weight behind?

14 **A.** So on the first two, I'm going to sound slightly
15 heretical for someone in government on this, but
16 I actually have always found the structures to be
17 actually pretty secondary in terms of their effect. If
18 you've got good people, the exact structures tend not to
19 matter, if you get very good people who work in the
20 system who are half in, half out like Sir John Bell, or
21 are fully out, like Dame Kate Bingham, they all come in
22 when there's an emergency and the exact structures, as
23 you have implied both for vaccines and for therapeutics,
24 the system was pretty complex. You wouldn't probably
25 design it like that if you were doing an MBA course, but
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1 actually it worked.

2 So I would be worried if we decided it was all
3 a structural issue.

4 On the third point you make, I completely agree with
5 that statement. It's not that -- I don't disagree with
6 the previous ones, it's just that I don't think they are
7 fundamental, whereas we have large groups of viruses
8 where we do not have any serious prototype antivirals,
9 and were those to become pandemic, and I think we should
10 look in particular at ones that are important in animal
11 species, birds and bats and pigs, and a variety of other
12 ones, the diseases that are important in those animals
13 and birds are the ones that are likely to cause future
14 pandemics. And we really ought to look at those virus
15 classes and ask the question: do we actually have things
16 that could at least have a reasonable chance of working
17 for them, yes.

18 **Q.** It's very well known that pre-pandemic, of course the
19 government was guided very heavily by a 2011 influenza
20 pandemic strategy and that had provided for antivirals
21 for flu. I think it's well known that there was a --
22 there is or there certainly was a very large stockpile
23 of antivirals, I think the brand name is Tamiflu, is it?
24 So there is a good availability of antivirals in the
25 context of flu but what you're saying is there needs to

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1 technical report you make the points -- I won't take you
2 to them but you'll be very familiar with them, points 2,
3 3 and 5 in this chapter -- that the need for faster and
4 not too many trials --

5 **A.** Yes.

6 **Q.** -- and also the use of existing research infrastructure
7 whenever possible in order to make the system
8 self-evidently flow better.

9 Is there not anything that can be done to bring
10 about those two very laudable aims which you identify,
11 making sure that trials -- there are not too many
12 trials, it doesn't become a profusion of bodies tripping
13 over each other in their haste to commence trials, and
14 that also research infrastructure is utilised as well as
15 possible? Doesn't that require a heightened degree of
16 management?

17 **A.** So those two are linked, but if you think about what
18 happened during Covid, and I think this was an example
19 of things being done the right way, there was already
20 existing a mechanism called UPF, which --

21 **Q.** Is that the urgent --

22 **A.** Correct, it was a --

23 **Q.** -- public health badging --

24 **A.** -- public health badging. And what it was aiming to do
25 was to say there is a limited -- we only can run

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1 be more work done in terms of producing a library, if
2 you like, of prototype antivirals that can be worked on
3 in order to provide an antiviral for coronavirus, or
4 bird flu, or whatever the specific pathogenic disease is
5 that may next emerge?

6 **A.** Yes, and I think -- I mean, Sir Jonathan Van-Tam is
7 a particular expert on the antivirals for flu, amongst
8 many other things so you might want to ask him, but even
9 more flu, despite the fact that we have it the whole
10 time, every year, and we have it as our top pandemic
11 risk, actually, the antivirals for flu are not very
12 good. They are only moderately effective, and they
13 would acquire resistance relatively rapidly, I think,
14 were a pandemic to occur.

15 So I think we should be clear that antivirals is an
16 area in general where even where we've got a known risk
17 to humans where there's an extreme industrial interest
18 in building it, a company that produced a very good
19 anti-flu virus drug is going to benefit from that, we
20 still have a relative weakness. So as I say, antivirals
21 is an area where we are much weaker than we are both on
22 vaccines and on antibiotics and other antiparasitics.

23 **Q.** Can I press you on recommendation or suggested
24 recommendation 2 which is a single body for keeping
25 oversight over the therapeutic trial process. In your

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1 a certain number of trials in any particular group at
2 one time, and therefore there will have to be a fairly
3 rough justice approach to saying we're only going to do
4 a certain number of studies. Any more than that, the
5 risk is -- and this happened for -- if I'm honest, this
6 happened for most other countries that tried this, so
7 the UK succeeded because we didn't do this -- if you
8 allow every single trial to start, none of them complete
9 their necessary size, and you don't get results. You
10 have to have a smaller number.

11 So it was a fairly ruthless process. You've seen
12 that there was about a thousand trials went into the --
13 into the hopper(?), and only 100 were badged, and that
14 meant we could concentrate all our resources, so there
15 was a mechanism for doing that, and ultimately I had to
16 sign off on each of them.

17 Then alongside that we swung all of our trial
18 capacity and other capacity that was available over to
19 Covid and to these trials.

20 Now, that had a huge advantage and a significant
21 downside, which we should be very clear about. The big
22 advantage was, therefore, because we had a pre-existing
23 very strong system, of course divided between multiple
24 diseases, we were able to build on that and just swing
25 it over.

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1 And I think a repeated point that your Ladyship will
2 have heard multiple times is if you're already strong,
3 you've already have the foundations, you can swing it
4 over to an emergency. If you don't have those
5 foundations, you can't build it from scratch when the
6 emergency starts. So you can change those things, what
7 you can't do is build them *de novo*.

8 The downside -- and interestingly, even in the
9 evidence you've received from some of the witnesses for
10 this -- things -- people mentioned this as if it wasn't
11 a trade-off -- is we had to stop large amounts of other
12 very important research, both from the commercial sector
13 and from the academic sector and from charities. So
14 work on cancer, work on, indeed, other infections, work
15 on cardiovascular disease, all stopped to push our
16 system over to Covid.

17 Now, that benefited the world hugely. Some people
18 have then said, well, it's appalling that the UK's
19 ability to do clinical trials and all the other things
20 that went down in 2020 and doesn't that demonstrate that
21 the UK doesn't care about trials? And you say: come on,
22 guys, we've actually got one of the largest sets of very
23 fast trials, done incredibly professionally, used
24 everywhere in the world, because we closed everything
25 else down. But you can't have the one without the

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1 the Chief Medical Officer, yourself and Sir Jonathan in
2 particular were concerned in deciding what should
3 proceed and what shouldn't, there is significant
4 evidence, nevertheless, from Sir Jeremy Farrar,
5 Professor Van-Tam himself in his own statement,
6 Professor Sir John Bell, talking of a degree of
7 dysfunctional planning. There are many strong opinions
8 and perhaps vested interests in this field, and, on the
9 part of Professor Sir John Bell, a splintering of the
10 national programme for trials into different networks,
11 difficulties, debates, disputes between the various
12 parties, leading to then also, ultimately, in practical
13 terms a very -- he describes a lamentable rate of
14 recruitment.

15 So there do appear to have been considerable
16 problems in the running of this complex structure. Is
17 there not a way in which, in the future, when these
18 trials will have to be reset and, of course, repurposed
19 and sent in the direction that they need to be sent,
20 that there appears to be a stronger degree of control or
21 management?

22 **A.** I think that -- so I think, firstly, let's separate out
23 the phase I and II studies, where I think some of the
24 things that Sir John and others have said --

25 **Q.** Yes, I think concerned mostly with the --

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1 other.

2 And I think the learning from this that did surprise
3 me, actually, the -- was that re-standing those trials
4 up again -- we closed things down very fast, and very
5 effectively, and that gave us space to do all the
6 studies that were needed for Covid. Re-standing the
7 other studies back up took a lot longer than I think we
8 anticipated. So it's taken us about two-and-a-half
9 years from the time we've swung it round to get back to
10 a point where everything is beginning to get back to
11 a normal state.

12 So there is a price to be paid, because all the
13 studies that were stopped were doing very important and
14 useful things in other areas of medicine. So this
15 a trade-off. But I think in a national and
16 international emergency like this, my own judgement is
17 this was the right trade-off.

18 But we shouldn't pretend there wasn't a price.

19 There was a price.

20 **Q.** And that it was easy, because it wasn't?

21 **A.** No, it was not easy. No.

22 **Q.** One final question, please, Professor. Notwithstanding
23 the systems that were obviously in place for deciding
24 which trials would proceed, and you've referred to the
25 urgent public health badging system and the Office of

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1 **A.** Yes -- have some justification. From all the other
2 studies, like RECOVERY, PRINCIPLE, PANORAMIC, the list
3 of trials that the UK did, CTAP, the -- all of which
4 were highly successful, properly coordinated, you --
5 actually the UK had the largest portfolio per head of
6 population of trials anywhere in the world that came to
7 conclusion and had multiple outputs.

8 So I think -- I think -- I don't want people --

9 **Q.** No, Sir John Bell was talking about phase I and II, and
10 they're all concerned with phases --

11 **A.** Yeah. Now, phase I and II studies, in my view -- so
12 there was a dispute at the beginning, if I'm honest --
13 you know, you -- at the beginning of Module 2, 1 and 2,
14 you worried about groupthink. This is not one of our
15 moments of groupthink. And several people had strong
16 opinions, several of whom have given evidence to you,
17 about what the right way to proceed was.

18 The reality was that phase I and II studies really
19 depend on there being good products to put into them.
20 And the fundamental problem, actually, was we didn't
21 have very many antivirals to put into the system. If we
22 had had, I think the system would have shaken down quite
23 fast.

24 So what you then had was large number of groups --
25 who are quite disparate, you're right. They tend to be

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1 academic groups and/or companies, but with academic
2 links, mainly in the teaching hospitals. Very different
3 kind of model to where we had -- for all the repurposed
4 drugs, where the majority of the recruitment was done in
5 district general hospitals, and I think that was
6 important for lots of reasons. And, you know, would we
7 have produced a different result had there been
8 a different way of running it? Ultimately, the answer
9 is no, because the drugs weren't there.

10 **Q.** And the science just wasn't --

11 **A.** The science simply wasn't there. And if -- you know, if
12 it had been that the UK were doing poorly in this area
13 and there were really good studies being done in the US
14 and China and Italy, that would be different, but
15 actually we didn't end up -- at the end of Covid, we
16 didn't end up with a large portfolio of good antivirals
17 for coronaviruses, unfortunately. So the science simply
18 wasn't there on an international level, in my view.

19 That's not to say that there wasn't some *mêlée* at
20 the beginning. I accept that point. But I don't think
21 it had any practical outcomes, in reality.

22 **Q.** And there's nothing that immediately springs to mind in
23 terms of ensuring that the degree of *mêlée* is reduced
24 next time?

25 **A.** You know, you're always going to get little bits and

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1 difficult, thereafter, to engender sufficient levels of
2 trust and confidence on the part of pregnant women that
3 they would take up the offer that they were subsequently
4 given?

5 **A.** Yes, so I think there's a lot of force to that argument,
6 actually. I think the judgement was a perfectly
7 reasonable one, but the way that it was phrased and the
8 way that it was communicated I think made it much harder
9 when subsequently we were confident (a) that this was
10 a safe thing to do, relative to the risk of infection,
11 and (b) that pregnant women, and therefore their unborn
12 children additionally, were coming to harm because of
13 Covid, preventably, because of not being vaccinated.

14 I think we -- if we'd written it differently -- when
15 I say "we", I didn't actually -- wasn't involved
16 directly but I ultimately should take responsibility as
17 the CMO for not spotting this -- I think it would have
18 made it easier to make that transition.

19 I think that, though, there are two other problems
20 that go alongside this that probably are worth
21 highlighting. The first of which is there is an
22 automatic assumption that pregnant women will be
23 excluded from trials until it's proved that a drug is
24 safe. And under ordinary circumstances, that makes some
25 sense, and people constantly think back to and worry

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1 bobs. It was quite short lived and, you know, these are
2 all people who like and respect one another. They just
3 had different versions of how to get from A to B.

4 **Q.** Yes, like every profession and industry, I expect.

5 **A.** I'm told, yes.

6 **Q.** So there's number of discrete areas, Professor, that
7 have been raised particularly by the Core Participant
8 groups and I just want to put some of them to you, given
9 the almost unique position in which the Chief Medical
10 Officer is placed, and in particular in terms of the
11 response to the pandemic.

12 The first issue concerns the extent to which
13 pregnant or breastfeeding women could take part in the
14 vaccine trials, and the extent to which, as a result of
15 their absence from those trials, the JCVI advised in
16 December 2020 that there was insufficient evidence to
17 recommend routine use.

18 Obviously latterly the advice changed, and pregnant
19 and breastfeeding woman were told -- or pregnant women
20 in particular were told that they should be offered and
21 could be offered the vaccines. In hindsight, do you
22 think the messaging that went out generally in relation
23 to pregnant women could have been better formulated in
24 December 2020? It does rather appear as if such
25 a negative tone was adopted that it was extremely

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1 about, legitimately, issues around, for example,
2 thalidomide, and wanting to get this right and never
3 having that repeated.

4 In an emergency like this, the risk-benefit does
5 change, and I think we should have probably been more
6 careful on that.

7 On drugs, we were much more careful to make sure
8 that pregnant women and, indeed, young children, who are
9 often also excluded, were included.

10 Lucy Chappell, for example, did --
11 Professor Lucy Chappell, who is now Chief Scientific
12 Adviser, did a very good on the pregnancy with RECOVERY.
13 So I think there's a variety of ways we could do that.
14 And excluding people systematically from studies is
15 a problem across the board.

16 The second issue, though, and I do worry about this,
17 is that there is probably an exaggerated worry about
18 giving pregnant women drugs and vaccines in general, not
19 just specific to this, and it is notable that one of the
20 lowest uptakes of vaccines in the entire medical
21 workforce, or healthcare workforce was among midwives,
22 for example.

23 So there is actually not a strong tradition of
24 encouraging drugs and vaccines in pregnant women the way
25 that it is in others. On the one hand, they are more

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1 vulnerable to the risks of the drug having an
2 interaction with the pregnancy, but on the other hand,
3 they're also more vulnerable to the risks to the baby
4 from an infection, and we've seen several recent cases
5 of this, Zika was the most extreme one.

6 So I think there is a balance of risk and I think
7 sometimes we have erred too far towards excluding
8 pregnant women from studies when actually the correct
9 way would have been to accept that in fact the balance
10 of risk is in fact the other side: that pregnant women
11 and their unborn babies are uniquely vulnerable to many
12 infections, and therefore doing trials in this kind of
13 environment probably is an important priority.

14 **LADY HALLETT:** Can I just check. The stenographer, like me,
15 missed -- you said -- the lowest uptakes of vaccines in
16 the entire medical workforce or healthcare workforce was
17 among ...?

18 **MR KEITH:** Midwives.

19 **A.** Among midwives, yes -- (overspeaking) -- I didn't say
20 the lowest, but among the lowest, and I think -- I mean,
21 we can back those numbers up if you'd find that helpful
22 but quite a bit lower than some other groups. This is
23 not a judgement, it's simply a statement of fact. But
24 I think that kind of gives you a feeling for the fact
25 that worries about drugs and vaccines are relatively

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1 vaccines to this cohort, but sought the assistance of
2 the UK CMOs?

3 **A.** So I think the thing to -- so the thing to understand
4 with the JCVI advice, as you imply, and I just want to
5 re-emphasise this point because I think it sometimes get
6 lost -- is that they came to a view, which was the same
7 as what MHRA had come to the view, that there was
8 a small benefit at an individual level to a child of
9 that age group being vaccinated, but it was very small.
10 That was their judgement. And that had to be set
11 against all the risks of vaccination which were even
12 smaller, but they're never zero. And their judgement
13 was the benefit at an individual level was sufficiently
14 small that whilst they accepted there was an advantage,
15 it was not enough on the basis that they would normally
16 make recommendations to recommend a rollout across -- an
17 offer across the whole country for children.

18 So that was where they were. But they also -- their
19 view was -- and I think it was perfectly sensible that
20 they considered this -- that there were wider issues,
21 and the biggest of those, but not the only one, was
22 around education.

23 **Q.** Can I just pause you there. Why, though, did the JCVI
24 regard itself as not being entitled to express a view on
25 the wider educational and societal benefits of

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1 deeply entrenched in this area.

2 **MR KEITH:** Children and young persons. You've just referred
3 to them. In relation to this issue, this is quite
4 a contentious issue, that there are people who hold
5 a very strong view that children should not be offered
6 vaccination. There are other people who hold no less
7 strong a view that it's vital to vaccinate children for
8 the purposes of reducing transmission overall and also,
9 of course, to protect vulnerable and extremely
10 vulnerable people in households in which there are
11 children.

12 By September 2021, the issue arose as to whether or
13 not the JCVI, the Joint Committee on Vaccination and
14 Immunisation, should offer vaccines but not the
15 AstraZeneca vaccine, to all persons aged 12 to 15 who
16 had no underlying health conditions.

17 Hitherto, from December 2020 onwards, if you had
18 a health condition and you were over 18, you were
19 offered the vaccine, and subsequently, between
20 December 2020 and September 2021, all 16- and
21 17-year-olds were offered a vaccine, so it was a
22 question of going down the scale and seeing what the
23 position should be for 12 to 15-year-olds.

24 Why was it that the JCVI decided not to reach
25 a concluded position in terms of the advice to offer

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1 vaccinating children as opposed to narrowing down its
2 remit to expressing a view on just the individual risk
3 benefit balance?

4 **A.** I think it was just their judgement and this was
5 entirely their judgement, they're an independent
6 committee, that they weren't set up to do that, that
7 wasn't their expertise, and it also wasn't the remit
8 they usually followed, so therefore they would
9 essentially be breaking with the way they would normally
10 be considering the issues. Then they laid this out in
11 their own documents which I know you've seen, so I'm not
12 going to repeat them.

13 **Q.** Please.

14 **A.** At the same time, I and others were well aware of the
15 fact that my colleagues in public health, my colleagues
16 in local government, my colleagues in education were
17 saying that the damage to some children from being --
18 having disrupted education has become cumulative and
19 very severe. And I know you will be -- her Ladyship
20 will be looking at a module exclusively on children but
21 for this, this is an important point, which is that
22 education is a very central part of the development of
23 people and it is a public health issue. All the way
24 through history, better education leads to better public
25 health. So there is a very clear public health need for

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1 that.

2 So the question was, would vaccination in this age
3 group if taken up, and very much up to the individual
4 parents and children, but if taken up, could that lead
5 to a reduction in the disruption in education that was
6 certainly harming children, and in particular, harming
7 children in areas of relative deprivation who were not
8 in a position so easily to do home schooling and so on.

9 So there was a very live debate about the impact on
10 childhood of this disruption of education.

11 **Q.** And so in summary --

12 **A.** So we were asked essentially to say: is there enough
13 evidence that the overall benefit to this age group as
14 a whole, but not extending to any other age group, just
15 this age group, would it produce additional benefit
16 sufficient to recommend that this is made as a universal
17 offer, accepting that it is much more finely balanced,
18 and that this needs to be communicated to parents and
19 children that this is a much more finely balanced
20 argument than, for example, for a 70-year-old where the
21 argument is way over --

22 **Q.** Much clearer.

23 **A.** -- towards vaccination.

24 And that was what we were asked to do. We consulted
25 all the royal colleges that were relevant, the medical

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1 anyone else. And the question was not whether
2 disruption of education would harm children -- there is
3 absolutely no doubt it was doing so, in multiple ways,
4 as I'm sure your Ladyship will hear --

5 **Q.** But would vaccination reduce the disruption --

6 **A.** So the question really was would the vaccination -- was
7 there a high enough probability the vaccination would
8 reduce that disruption sufficiently to justify the
9 rollout on a top of the points that were made. And our
10 judgement, based on the collective view, certainly in my
11 view, of the medical profession was, the answer was yes,
12 but accepting that there should be no obligation on
13 anyone to get vaccinated and that we need to make
14 clear -- and this was very much in the rubric we gave --
15 that this decision was a much more marginal one and that
16 parents and children needed to be aware that this was
17 a more marginal call at an individual level.

18 **Q.** And you were addressing different issues from that, of
19 that from the JCVI, in no sense were you overruling the
20 JCVI?

21 **A.** In fact, the chair of the JCVI was part of the group
22 that was looking at this because we were very determined
23 that we didn't -- we started off from where they left
24 off, rather than try to go back over the ground they'd
25 covered. We took that as read.

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1 royal colleges, we consulted all the directors of public
2 health, we consulted local authorities and experts in
3 this area and there was a fairly widely-held view -- so
4 our view was we were representing the central position
5 of the medical profession -- that, based on what JCVI
6 and MHRA had said about a small advantage, we didn't
7 relitigate that, but these additional advantages were
8 sufficient to justify a universal offer to parents and
9 children.

10 **Q.** So you took as read that there was a marginal benefit on
11 the individual level?

12 **A.** Yes.

13 **Q.** You took as read what the MHRA was and the JCVI were
14 saying about the very rare possibility of an adverse
15 side effect, risk, but you focused on the position of
16 children themselves in terms of whether or not, absence
17 of vaccination would have a disruptive or damaging
18 effect on education and would lead to wider societal and
19 mental health issues for them as opposed to trying to
20 answer what is in the best interests of the population
21 at large?

22 **A.** Correct. I mean, I think -- yes, I'd slightly reframe
23 that but only very slightly because I completely agree,
24 but it absolutely had to be that the benefits accrued to
25 children of that age group. So it wasn't to benefit

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1 **Q.** A separate topic now, please, the dosing interval. When
2 the MHRA initially approved the Pfizer BioNTech vaccine,
3 one of the conditions was that there be two doses at
4 least, I think, three weeks apart, and subsequently,
5 advice was given that in relation to Pfizer BioNTech,
6 they should be at least three weeks apart, the two
7 doses, and in relation to the Oxford AstraZeneca
8 vaccine, I think it was set at four weeks, 28 days.

9 But the issue arose at the end of December 2020 as
10 to whether or not the first dose should be prioritised,
11 given obviously the limit on supply, and whether or not
12 the JCVI should give advice on that.

13 The four UK CMOs were asked to advise on this
14 subject, which they did in a letter -- well, they set
15 out their views in a letter dated 30 December 2020.
16 Why, again, were the UK CMOs invited to give their
17 expert view on the issue of prioritisation of the first
18 dose? Why was it a matter for you?

19 **A.** Well, the -- firstly, just to put some additional bits
20 of background to what you've said, to just recall that
21 this was at the point where the Alpha wave was really
22 taking off. We needed to move at considerable speed to
23 get as many people protected as possible, and by
24 a process of not terribly difficult maths, if you
25 vaccinate only once and then have a delayed second dose,

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1 you can get through a much larger proportion of the
2 population to have the first dose than if you do two for
3 everybody, because you can basically do twice as many
4 people in that first period.

5 So the question was, was the first dose providing
6 the majority of the protection? And the answer was yes,
7 pretty clearly. And our judgement technically was that
8 that protection continued at least for 12 weeks, so
9 therefore there was some room for manoeuvre. That
10 didn't mean there wasn't some benefit to a second dose,
11 but on a population basis, there would be significant
12 benefits to vaccinating more quickly and there were
13 theoretical reasons for thinking that a more delayed
14 second dose probably would lead to a better
15 immunological response, but we didn't know that and
16 there wasn't data to support that. So that was done on
17 the basis of first principles.

18 Now, the reason it -- the two bodies that were
19 consulted on this, that rightly were consulted before it
20 came to us, although we said this was a reasonable
21 question to ask, so we came in twice: firstly, was this
22 a reasonable question to ask? Answer, on public health
23 grounds, yes. Then it went to JCVI and also went to
24 MHRA who both independently agreed that this was
25 a reasonable thing to do, and then the UK CMOs gave the

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1 also consider the question of the dose and interval and
2 issue a prioritisation of the first dose?

3 **A.** They did and although in theory they give their
4 recommendations to ministers in practice, they are
5 actually the scientific advisory committee to the MHRA
6 so they were consulted alongside the MHRA.

7 **Q.** Thank you very much.

8 An important issue for this module is, of course,
9 the take-up of the offers of vaccination, the offer of
10 vaccination, in particular the barriers to access in
11 the -- facing minority ethnic groups and the many
12 reasons why there was an absence of trust or confidence,
13 both in vaccines and on the part of the government.
14 I just want to focus for a moment or two on how the
15 Office of the Chief Medical Officer contributed to the
16 system by which barriers were sought to be reduced and
17 confidence raised.

18 Did you yourself convene in fact a meeting in
19 January 2021 between the Office of the Chief Medical
20 Officer and the directors of public health to discuss
21 particularly the question of uptake of vaccines in
22 ethnic minority communities?

23 **A.** I did, yes.

24 **Q.** In your statement you make a number of recommendations
25 for future pandemics on this point, on this topic,

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1 advice out to the public and to the medical profession.
2 But we in a sense were -- at a technical level, we were
3 communicating the views of JCVI, but we also supported
4 those views, and we were aware that this was a very
5 controversial area including in the medical profession
6 and including amongst many scientists both in the UK and
7 particularly, actually, in other countries who thought
8 this was a very poor decision, was their view at that
9 point. And we thought it was important that we
10 therefore in a sense stood up for this decision and
11 explained it to the public and were prepared to take the
12 criticisms head on and explain them as best we could to
13 our professional colleagues and to the general public.

14 So that was the reason we chose to, in a sense, put
15 ourselves in that place. If it had been an
16 uncontroversial decision we probably would have just let
17 JCVI decide it and it would have happened.

18 **Q.** All right.

19 **A.** It was the controversy that meant we felt it was
20 important the CMOs actually gave a view and gave it
21 publicly.

22 **Q.** Could I use you to identify, please, another important
23 body. There is a body known as the Commission on Human
24 Medicine which gives advice on these matters in fact
25 directly to ministers, alongside the JCVI. Did they

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1 including better identification of lower take-up groups,
2 engaging much earlier and repeatedly with local leaders
3 before, of course, having to face a pandemic itself and
4 to respond, and also recognising that some lower uptake
5 is probably symptomatic of deprivation distrust, rather
6 than, rather than ethnicity.

7 Trying to focus on what can be done most rapidly and
8 in a practical sense, most practically, practicably, do
9 you think more should have been done and can be done to
10 build these communication links between central
11 government and the NHS, and local leaders, local
12 communities, speaking to them on the ground, engaging
13 with them in advance of a pandemic and saying: look,
14 when the next pandemic hits and we need to vaccinate,
15 what can we do to engender trust and reduce barriers?
16 Is that what you're driving at?

17 **A.** Yeah, I mean, I think that it is very clear that, you
18 know, we didn't do as well on this as we both should
19 have and actually, in my view, could have. Again,
20 accepting that you're never going to get perfection in
21 this area.

22 What doesn't work, and I think sometimes people
23 think that it's going to but it clearly is not going to
24 work, is people say: well, there's a low uptake in
25 X group so why can't the Chief Medical Officer go out

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1 and say, "Please take it up"?

2 The people who are cautious about vaccines for
3 a whole variety of reasons, are -- you know, if they
4 were going to listen to the Chief Medical Officer,
5 they'd have already done so.

6 And one of your core witnesses I thought made rather
7 a very powerful point, that it is all very well there's
8 people like me prancing around and putting up slides,
9 that wasn't actually speaking to their community. And
10 that's an entirely fair point. And just speaking more
11 and more is not going to help that.

12 So you're absolutely right, it has to go through
13 trusted interlocutors, and we need to start with their
14 views about what needs -- what people need to hear
15 about, what they are concerned about, what are the
16 issues.

17 The problem we tend to have is that people -- and
18 they -- some of these leaders will say this fairly
19 forcefully, and rightly -- is: when there's an emergency
20 you come to us, but you don't talk to us in between
21 worlds, and therefore why should we trust you now?

22 And that's a very forceful point, in my view. It's
23 actually the continuous communication in both
24 directions, learning in both directions, hearing what
25 people are concerned about and addressing it, or

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1 that which I think help, but the biggest one is to have
2 the ongoing dialogue all the time, rather than waiting
3 until the emergency hits, because then you would not --
4 should not be surprised.

5 I think one final thing which we did not really
6 fully appreciate was how much of the news that some
7 communities were getting was not from UK sources, and
8 that's --

9 **Q.** Social media?

10 **A.** Social media, or they might listen to the television
11 programmes from a country from which they or their
12 parents had come or whatever. So -- and over that, of
13 course, the UK Government has relatively little ability
14 to influence things. But we should recognise the
15 channels of communication may be different, and we
16 should factor that into the way we respond to it.

17 **Q.** You referred to healthcare workers. In the context of
18 prioritisation, it's self-evident that the JCVI
19 recommended a priority approach based on clinical
20 vulnerability drawn from age as well as a focus on the
21 healthcare and care sector systems, that is to say the
22 persons who looked after people in care homes, as being
23 the people who had to be vaccinated first.

24 Is there, as I suppose would be the case with any
25 attempt to prioritise vaccination, always going to be

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1 learning from it, I think, which makes this work.

2 There's a limit to what a CMO can do, but there's
3 quite a lot that a government can do. But a government
4 shouldn't assume they're just -- that they're going to
5 be seen as the good guys. And I think the NHS
6 sometimes -- and I speak as a member of the NHS --
7 assumes that everyone loves them. Actually not everyone
8 does. And they're seen as authority by some groups and
9 you need to be pretty realistic.

10 There was a very specific issue which I -- it may
11 sound small print but I think is quite important on
12 this, which was around the ethnic minority healthcare
13 workers. And we were very fortunate that healthcare
14 workers from multiple communities, Somali community,
15 Bangladeshi community, whatever, doctors, nurses,
16 physiotherapists, others, pharmacists, were
17 extraordinarily powerful advocates within their own
18 communities, but they were expected to do it in their
19 free time. And so therefore if you're a Somali doctor,
20 you did your day job and then you went and talked to
21 your community to help uptake happening.

22 My view was a small but important thing we could do
23 is actually to recognise that that is an important part
24 of the job. Now, that may sound very small print, but
25 it's the kind of -- it's multiple practical things like

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1 problems with definitions? And you were asked, I think
2 in January 2021, to give your advice as to what was
3 meant by the reference to healthcare workers in what
4 happened to be cohort 2. Is there anything that can be
5 done in terms of data to try to identify more clearly by
6 virtue of occupation how many people are in a particular
7 cohort, what characteristics they might possess, and,
8 therefore, whether or not they can be more readily
9 identified when it comes to their turn in the chain?

10 **A.** Yes. And I think this goes back to the point you were
11 making at the beginning of this -- before the break,
12 which is in some areas I was surprised by how good the
13 data were but in many other areas you think: how on
14 earth do we not know that?

15 So I think that this is about having proper data
16 across a whole variety of things, of which occupation is
17 clearly one. I think another important one was who
18 counts as a carer for the purposes of any kind of
19 decisions, because that has practical implications under
20 a number of different scenarios.

21 **Q.** Related to that, you refer in your statement to the fact
22 that the Office of the Chief Medical Officer had quite
23 a significant role to play when the JCVI, the joint
24 committee, came under pressure from various sectors and
25 from government to promote the interests of particular

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1 groups or cohorts or sectors when it came to
2 prioritisation. I'll ask you questions about the
3 independence of the MHRA and the safety context in
4 a moment, but how important is it that the JCVI, which
5 is in fact a statutory advisory body, maintains its
6 independence?

7 **A.** My view is it's absolutely critical. That doesn't mean
8 that they shouldn't hear what government is doing,
9 understand what's happening in other parts of the
10 system, but if you wish to have independent scientific
11 committees, independently chaired, and JCVI is one of
12 those, you can't then mix it up really.

13 So it was very important that they had independence,
14 and there were occasions when, if I'd -- if all the
15 decisions had been mine, I might have taken a slightly
16 different position to JCVI, but the whole point about
17 having a committee like JCVI is that they give the
18 independent advice and then, in England, statutorily,
19 and the other nations on advice, people follow that
20 advice. And that is -- unless it were patently
21 ridiculous, which it's not going to be with such
22 a distinguished and able group of people.

23 **Q.** Another point related to the issue of data -- and thank
24 you very much for expressing your views on that -- and
25 the issue of the group 6 cohort. So in the list of

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1 speed was important, and for speed you need simplicity.
2 Simplicity is the only way you're going to do it.

3 The second basic principle is we were -- the
4 prioritisation of carers, and in group 1 the
5 prioritisation of people caring for people in care homes
6 in particular, was not because we were prioritising
7 carers; it was because we were trying to protect the
8 people they were caring for. And so that was the key to
9 making the decisions.

10 In practice, we therefore had to work on a -- some
11 form of list that would approximate reasonably to those
12 who are looking after people who were most likely to
13 get -- to be harmed by getting Covid because the person
14 who was caring for them came in with --

15 **Q.** But that was people in care homes in fact --

16 **A.** Well, care homes was in group 1, and of course we made
17 the same judgement on health workers in group 2. But in
18 group 6 it was about carers of people who were less
19 vulnerable than those in care homes, based on the data
20 was available, but still would be more vulnerable than
21 the general population.

22 I think that the approximation that was used was
23 a reasonable one, but there will undoubtedly have been
24 large numbers of people who were, in a sense, hard cases
25 at one edge, who were not identified by that process,

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1 prioritised groups in phase I, as promulgated or
2 disseminated by the JCVI at the end of December 2020,
3 was a particular cohort, group 6, which included carers,
4 at least in some shape or form, and there was a very
5 difficult debate to be had about how to identify, at
6 least in England, adult carers, whether you identify
7 them by lists of who receives a Carer's Allowance, in
8 DWP (Department for Work and Pensions) records, or as
9 carers in GP records, or perhaps through the receipt of
10 what's known as an assessment process, a carer's
11 assessment at local authority level.

12 Were there very difficult issues there to be
13 circumnavigated in terms of trying to identify in
14 particular unpaid carers and whether they would be
15 entitled to prioritisation under cohort 6?

16 **A.** Yeah, I think that it's important when considering this
17 to go back to first principles, because they explain why
18 we ended up where we did. The first of which is that
19 the whole basis of getting this to work was that the
20 vaccine programme went at speed. And the more complex
21 you make a system, the slower it will go. So you can
22 have a perfect prioritisation, but because it is so
23 complicated, it's a lot slower to deliver, and actually
24 the net effect at a public health level is negative, and
25 there's very clear modelling that demonstrated that. So

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1 but trying to identify all of them accurately would have
2 slowed down the process to such an extent it would have
3 actually led to net harm overall. The queueing system,
4 in a sense, was very important to maintain, the
5 integrity of that and the speed of that, to achieve what
6 we were trying to achieve in terms of vaccinating the
7 whole population.

8 So that was the trade-off to be had, was between
9 perfection in terms of getting the exact people right
10 and the speed and usability and simplicity of the system
11 we were applying.

12 **Q.** And for the future, if ever there is a similar
13 prioritisation process adopted, which includes within
14 its cohorts a group of carers, sole or primary carers,
15 having the data to be able to identify such persons
16 would be of enormous assistance?

17 **A.** Correct.

18 **Q.** All right.

19 VCOD (vaccine as a condition of deployment) in
20 England had two aspects: one, the policy, which was
21 actually put into place, of vaccine as a condition of
22 deployment for persons working in care homes; and then,
23 subsequently, there was a proposal to widen it out to
24 the wider care and healthcare sector. Was that an issue
25 which ultimately was for the Chief Medical Officer, and

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1 it's obvious that you gave advice -- I'm not going to go
2 into the details of the advice -- or was it ultimately
3 a political decision for ministers?
4 **A.** My view is it was always one hundred per cent
5 a political decision, but there was some clinical
6 information that needed to precede it. But ultimately,
7 it's about essentially balancing two risks and rights
8 against one another: the risk to an individual who is
9 highly vulnerable being cared for by someone who,
10 because they haven't had a vaccine, then has an
11 infection and then passes it on. So that's the risk to
12 the person who is being cared for versus the risk to the
13 individual that their right to essentially not have
14 a medical procedure, or lose their job, is protected.

15 Now, there's a range of opinions on this, for what
16 it's worth, but I don't think it's worth very much. I'm
17 rather more sceptical than some people that this is
18 a good idea. But that's a view as a citizen.

19 As a doctor, I've got three views, basically. The
20 first to which is there are of course situations where
21 a health issue, health treatment, does lead to some
22 having to lose their current employment and go to
23 another. An example might be if a professional driver
24 had an epileptic fit, then that person would no longer
25 be able to do their job, because the risk to other

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1 Officers was -- and I made this point several times --
2 to say, firstly, there is some evidence that if you make
3 mandation, you will increase the rates of transmission,
4 and, clearly, if someone doesn't get an infection,
5 they're less likely to pass it on.

6 Those are statements in the sense of the blindingly
7 obvious. But they do need to be made.

8 But I also made the point, and made it repeatedly,
9 that you need to take into account the fact that every
10 drug and vaccine has side effects, and some of those may
11 be rare but still severe, and that has to be taken into
12 account in the decisions that are taken about mandation.

13 **Q.** And just --

14 **A.** And I made that point --

15 **Q.** -- I know it will be obvious, but why is it important to
16 be upfront about the fact that there may be, however
17 rare, serious side effects in the context of making
18 someone be vaccinated as a condition of their
19 deployment?

20 **A.** Well, essentially because you shouldn't -- you know,
21 I was sometimes worried that people were just
22 thinking: well, why on earth -- people should just get
23 vaccinated. I mean, what's the problem?

24 And my view is, look, this is (a) it's a medical
25 procedure, but (b), more importantly, of course there

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1 people is too great. So the principle that because
2 you're a risk to others you cannot do particular jobs --
3 and that is enshrined in law -- already exists. So that
4 is not a new --

5 **Q.** And patient-facing doctors and nurses and clinicians
6 have to be immunised for hepatitis B?

7 **A.** Well, so then there's a professional responsibility, and
8 there's very clear professional responsibility. I know
9 the medical side very well. There is, and has always
10 been, in the General Medical Council guidance, which all
11 doctors sign up to -- if you're a doctor you're agreeing
12 to abide by this -- a professional responsibility to
13 protect your patients from you giving them communicable
14 diseases, which includes, explicitly, vaccination.

15 There is a big difference, though, between
16 responsibility and legally mandating it so that you lose
17 your job if not.

18 And then there have historically been periods when
19 we have, for example, early in HIV, in previous eras of
20 hepatitis B, if someone had those infections we would
21 say you can be a doctor but you shouldn't be doing
22 what's called exposure-prone procedures, which would
23 include some surgical ones. So this is not new
24 grounding.

25 I think the only question for the Chief Medical

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1 will be side effects, and there may well be rare and
2 side ones. That is an important part of the balance of
3 risk.

4 Now, I, you know, don't think it's easy to make
5 a single overriding view of this. I would observe
6 that --

7 **Q.** And I should emphasise we're not asking you to come down
8 on one side or the other and to reach a view.

9 **A.** No, but in general, mandation has not got a very happy
10 history, so there are practical reasons for not doing
11 it.

12 **Q.** So smallpox --

13 **A.** Smallpox was an example. And indeed, in my view, what
14 happened after the mandation in the social care system
15 in England I think probably will be added to that
16 catalogue. But then the arguments of the other side are
17 perfectly strong ones. And if your own relative died
18 from Covid and you knew that they caught it from someone
19 who had chosen not to get vaccinated, I think you'd have
20 a strong view in the other direction.

21 So I accept, obviously, as a citizen, this is
22 a balanced and difficult decision, but I just think it's
23 important that the medical facts are in front of people,
24 including the side effects, as part of that balanced
25 decision.

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1 **Q.** And since you've very helpfully identified some of the
 2 competing considerations, is it important to note also
 3 that in that balance, in that mix, there must also be
 4 the evidence that appears to suggest that mandatory
 5 schemes tend to increase distrust and vaccine hesitancy
 6 generally?
 7 **A.** Yes, they increase uptake and decrease trust.
 8 **Q.** Right.
 9 **A.** As a broad thesis.
 10 **Q.** The MHRA system and the issue, the systems and processes
 11 for safety of vaccines will be addressed by other
 12 witnesses including the Inquiry's own experts. You
 13 mentioned earlier the issue of independence in the
 14 context of the JCVI.
 15 Could we have up, please, INQ000071886.
 16 This is an email from yourself and Sir Patrick
 17 Vallance, as he then was, to the head of the MHRA, Dame
 18 June Raine, dated 26 November 2020. You say:
 19 "Dear June
 20 "Patrick and I were just agreeing how lucky we are
 21 to have such a strong independent regulator as MHRA, and
 22 you at its head, at a time of intense pressure ...
 23 "We ... wanted to send a message of support and
 24 recognition."
 25 In this field of, or concerning the topic of
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1 who did, I thought, a superb job along with her
 2 colleagues in the MHRA, but was under a lot of pressure,
 3 felt that if there were any pressure brought to bear on
 4 her, she could talk to Sir Patrick or me and we would do
 5 our best to counteract that because I think I was
 6 worried at that point in time, if I'm honest, that
 7 otherwise the pressure would be applied and I made it
 8 clear that that was what I was doing in government.
 9 **MR KEITH:** My Lady, I will finish by quarter past and
 10 thereby I think ensuring --
 11 **LADY HALLETT:** No, but we've also got 10 to 15 minutes of
 12 CPs questions.
 13 **MR KEITH:** Yes, I will have shorn about 25 minutes from
 14 Professor Sir Chris Whitty's evidence, but I am in your
 15 hands as to whether you wish --
 16 **LADY HALLETT:** Professor Whitty, I will do whatever suits
 17 you best, given the impositions we make upon you. We
 18 can carry on until 1.30 or we could come back this
 19 afternoon. Whatever suits you best.
 20 **A.** From a purely practical point of view, my Lady,
 21 obviously if I can go earlier that's easier but I'm very
 22 happy to be in your hands. I really don't want you to
 23 feel I'm rushing this very important inquiry.
 24 **LADY HALLETT:** We wouldn't be thinking that at all. I think
 25 we'll carry on. Can we warn the stenographer that if
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1 distrust or vaccine hesitancy and confidence, why is the
 2 independence of the MHRA to be treasured?
 3 **A.** Both the professional and the public trust has to be
 4 based on the idea that MHRA, which is the first port of
 5 call -- without MHRA approval you don't get a drug or
 6 device -- is completely independent. And this was
 7 a very good example. The desperation, if I'm honest, of
 8 not just the public but also political leaders to the
 9 highest level, to have, for example, a vaccine or to
 10 have drugs that would get us out of the extraordinarily
 11 damaging situation we were in --
 12 **Q.** -- (overspeaking) --
 13 **A.** Sorry?
 14 **Q.** Hydroxychloroquine being an example?
 15 **A.** That was an example of a different sort. That was a
 16 licensed drug, actually, but this is for vaccines in
 17 particular, was very strong, and it was clear that when
 18 they -- when -- that there was a risk that they would
 19 either say to MHRA, "You've got to hurry up" and "Why
 20 are you going so slowly?", et cetera, or, even worse,
 21 say, "We really want you to come down on one side of the
 22 argument or the other." It is absolutely essential for
 23 all of us, including me as CMO and as a citizen, that
 24 the MHRA is completely independent in its judgements.
 25 And what we wanted was to make sure that Dame June,
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1 she needs to take a break, she can catch up later with
 2 the transcript.
 3 **MR KEITH:** Thank you, my Lady.
 4 Many of the members of two Vaccine Injured and
 5 Bereaved groups, in particular, have raised in their
 6 written material the issue of absolute and relative
 7 risk. That is to say in relation to the risks of
 8 vaccines.
 9 As shortly as you possibly can, Professor, because
 10 obviously this might be -- might lead to rather a long
 11 answer -- is there a strong case for changing the way in
 12 which the MHRA and other government bodies talk about
 13 risk in the context of the very rare or extremely rare
 14 or rare possibility of serious side effects.
 15 **A.** Yes, and I think -- so I think, firstly, people are
 16 understandable in their concerns about this. It can be
 17 made very complicated but at its base it is pretty
 18 straightforward which is, let us say I said this drug
 19 halves your rate of dying, or alternatively, this drug
 20 doubles your rate of having a side effect. Those sound
 21 big effects.
 22 If you had a 50% chance of having the side effect in
 23 first place, that would be an enormous increase. Let's
 24 say there's a 10% increase -- a 10% rate of a side
 25 effect. Let's take that as an example. Double that
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1 would be 20%, so 20% of all the people who had the drug
2 would have this side effect comparing to if they didn't
3 have the drug.

4 If, on the other hand, this was something which
5 happened only at a rate of one in a million, then
6 doubling it turns it to two in a million but means that
7 nobody else gets it. So the doubling is the same but
8 the actual number of people affected out of all the
9 people who are exposed, is very, very different.

10 **Q.** So if I can interpose there. If the reality is that
11 a particular vaccine gives rise to a serious side effect
12 in one in a million people, why is there any debate of
13 what the percentages might be in terms of a relative
14 balance or a relative increase? Is that not misleading?

15 **A.** Well, I think both are useful and my own view is that
16 particularly for very rare events but rare -- but --
17 serious or rare but very important in the other way but
18 rare events -- actually presenting both of them
19 alongside one another is useful. One of them tells you
20 that the drug or vaccine is going to protect or harm you
21 to, you know, more than or less than would happen if you
22 didn't have that drug or side effect, but the other will
23 actually give you an absolute number of the probability
24 of that happening, and that's what the absolute numbers
25 give you.

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1 reach that view?

2 **A.** So I think the key thing to have in your mind on this is
3 that the date at which this got MHRA approval was the
4 17 March 2022.

5 **Q.** So much later?

6 **A.** Much later. So this is -- in fact, I gave advice in, I
7 think it was December 2020; Sir Jonathan gave it,
8 I think in February 2021, from memory.

9 **Q.** Yes.

10 **A.** And the reason that, you know, we firstly agreed with
11 the Vaccine Taskforce that this was a potentially very
12 useful drug under certain circumstances, and we also
13 thought that the science behind it from AZ was very good
14 in terms of developing it. So there wasn't any dispute
15 about that. The reason, though, for an advance
16 purchase, it has to fulfil two criteria: the first
17 criteria is you have to be pretty sure, if you're --
18 particularly for something that's expensive -- and this
19 was an expensive drug, that wasn't the principal point
20 but that means that it makes it a live question -- that
21 you're actually going to want it in the end, otherwise
22 what you've got is a very large stock of a very
23 expensive thing you can never use.

24 And the second thing is that you need to have
25 a reasonable view that at the point you want it, that it

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1 And personally, I think most people make their
2 individual decisions based on absolute numbers. They
3 may not call it that but if I'm told I have a one in
4 a million chance, I have a very different view about it
5 than if I'm told I have a one in ten chance. So that's
6 really why I think it's useful to have both.

7 **Q.** Thank you.

8 The final topic is the therapeutic Evusheld, the
9 AstraZeneca-produced therapeutic, I think it was Project
10 Astronaut, AZD4772, or something like that. There were
11 two aspects of the Evusheld decision-making process.
12 One was the decision to make an advance purchase, and
13 that was an issue on which yourself and Sir Jonathan
14 Van-Tam opined during the course of February, March 2021
15 in particular. Then there was a second issue which
16 concerned whether from, in particular, January 2022
17 onwards, a decision should be made to buy Evusheld for
18 use as treatment.

19 For the first decision, the possibility of an
20 advanced purchase, the JV -- the Joint Vaccine -- the
21 Vaccine Taskforce sought the views of yourself and
22 Sir Jonathan Van-Tam in the autumn of 2020, and it's
23 plain that you advised, along with Sir Jonathan, that
24 the recommendation or your recommendation should not be
25 to proceed, not to proceed. Why, very simply, did you

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1 would be much less easy to get hold of or much more
2 expensive than if you bought it at an earlier point.

3 Now, the second one is not for me, principally, but
4 the first one, to some extent, is. And our view was we
5 have no clinical data on this, we don't know anything
6 about the side effects, we don't know who the groups are
7 we'd give it to at this point in time.

8 Very importantly, this was two monoclonal
9 antibodies. Now, monoclonal means they only address one
10 single thing on the spike of the virus, as opposed to
11 the vaccines, which have multiple things which they
12 interact, and it only protects people for a short period
13 of time, at the time we thought probably about six
14 months. I think that probably was correct, and so
15 therefore, there is a high -- there is a reasonable
16 chance that by the time that we actually have this drug
17 available we have clinical data, we know what the
18 safety, is, and it's got licensing, that either it'll
19 prove not to be as encouraging as we currently think,
20 because it's going to be quite a long way in the future,
21 or that the virus will have evolved to such an extent
22 that this is no longer an effective treatment.

23 So our view therefore was not, is this a good drug
24 or not? The answer was at this point it looked
25 promising but we couldn't be sure, but should we

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1 actually -- is there such a strong argument that we
2 should buy it now rather than wait until we actually
3 have some clinical data and we have licensure, or at
4 least a path to licensure.

5 **Q.** Can you explain why, however, in the context of
6 vaccines, a different path appeared to have been taken
7 insofar as they were subject to advance purchase, at
8 risk, a chance was taken, nobody knew whether they would
9 work, whether they would even be produced and
10 manufactured and delivered. There was a punt. Was the
11 clinical position prospectively for vaccines different
12 at that time than that for Evusheld?

13 **A.** Yes, fundamentally different.

14 **Q.** Why?

15 **A.** So -- so vaccines, as I've said, they have multiple hits
16 on goal, and therefore they can deal with evolution of
17 the virus to a much greater extent than something that's
18 only got two -- two points on the virus spike that it's
19 dealing with, which is what we were dealing with.

20 Secondly, a vaccine builds on itself. So if you
21 have one vaccine, generally, if it works, you have
22 a second shot, it's going to increase the effect? Even
23 if you then have a slightly different vaccine, that --
24 it broadens the protection. So it's got multiple
25 advantages from that point of view.

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1 over and over again, and it is less and less likely to
2 be effective as the virus mutates.

3 And what in fact happened -- so we had, sort of,
4 have three stages of decision making and the reason --

5 **Q.** Yes, I'm less concerned with the later stages because
6 obviously by then the vaccine had been rolled out,
7 you're in 2022, there are obviously very live issues as
8 to whether or not the material that was by then
9 available clinically would support a decision to buy it
10 as treatment, but I think we're going to leave it there,
11 Professor, unless --

12 **A.** Can I just finish this point, because I think you've
13 several times during previous witnesses essentially said
14 this was my decision, and I want to be clear that (a) it
15 wasn't actually my --

16 **Q.** I don't believe we have. It was ultimately a decision
17 for RAPID C-19 when it came to treatment?

18 **A.** Well, the way it worked was I gave some advice,
19 Sir Jonathan did, end of 2020, beginning of 2021, then
20 it went to RAPID C-19. And by the end of December 2021,
21 their view was this is looking very promising. And that
22 was their advice to me.

23 And then Omicron came along, and that was so
24 different that their view, and then subsequently the
25 view of the American authorities, European and others,

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1 It affects both the antibodies themselves, which the
2 cocktail has, but also the T cells -- this is a point
3 Sir John Bell and others make. So it actually affects
4 the immunological system in multiple ways, and actually
5 much of the protection for people we thought might not
6 be protected by vaccination probably came from that. So
7 very good data subsequent to this decision has
8 demonstrated that most of the people we were worried
9 would not respond to the vaccine in fact did.

10 **Q.** But --

11 **A.** It had a very high level of protection.

12 So -- and a third -- the final -- well, in fact, the
13 final two points were: the flash to bang time between
14 making the purchase decision and the vaccine being
15 available was much shorter, so you have less risk
16 associated with that; and, although this was only
17 a third order question, additionally, vaccines were
18 coming in at somewhere in the low tens of pounds per
19 person protected. The Evusheld was in the high
20 hundreds. You can dispute if that -- that amount. But
21 that's -- that only matters once you get to the final
22 point.

23 But therefore I think to treat them as the same
24 thing would be to misunderstand these are completely
25 different products. You have to keep on giving Evusheld

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1 was this is no longer going to work against this virus,
2 because it's evolved.

3 Had Evusheld been available and licensed in
4 early 2021, even with vaccination I think it would have
5 had at least some niche use, and if there hadn't been
6 vaccines, it would have had widespread use.

7 So I think the reason we ended up where we did was
8 a combination of how long it took to get to licensure
9 and the fact that the virus evolved and the fact we had
10 the vaccine and, indeed, multiple other --

11 **Q.** And the lack of clinical data at the start --

12 **A.** Yes, and multiple other issues. But I think sometimes
13 it's made to be a rather simpler issue than actually, in
14 reality, it was.

15 **MR KEITH:** Not on our part, Professor.

16 We've galloped through a wide range of issues, but
17 there we're going to leave it in terms of the questions
18 by the Inquiry.

19 **LADY HALLETT:** A couple more issues to be dealt with, first
20 by Mr Wilcock, I think you're asking a couple of
21 questions.

Questions from MR WILCOCK KC

23 **MR WILCOCK:** Professor Whitty, good afternoon, thank you for
24 giving up your lunch break for us. I'm asking you
25 questions on behalf of the Northern Ireland Covid

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1 Bereaved Families for Justice, and I've got three short
2 questions on the participation of Northern Irish
3 residents in vaccine and therapeutic trials for you.

4 So the first question is, you quite rightly told us
5 that the UK is fortunate to have a strong tradition of
6 the public taking part in clinical trials. But
7 according to Professor Michael McBride's statement for
8 this module, Northern Irish residents were only able to
9 take part in the UK-wide Novavax Covid trials. Do you
10 know why this was?

11 **A.** Unfortunately I don't, basically because, as was
12 highlighted right at the beginning, health in this area
13 is a devolved issue. Certainly, had investigators or
14 clinicians from Northern Ireland said they wanted to be
15 involved in any studies that were within my kind of
16 purview, I would have seen absolutely no barrier to that
17 being the case.

18 You of course do need to have a local investigator,
19 you need to have people who can run things on the
20 ground. The reasons why that happened in this case
21 I don't know and I wouldn't be the right person to
22 answer.

23 **Q.** Are you the right person to ask whether there might be
24 a way in which this problem might be addressed in the
25 future?

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1 than --

2 **A.** Yes, it's a platform trial, yes. But you do -- again,
3 need a local investigator who can lead it. You can't --
4 it has to be done locally in terms of the practicalities
5 of running a trial on the ground. And it has to be
6 someone who has some experience, usually, of trials.

7 **Q.** I've also been asked to ask you three questions on
8 behalf of the UK Covid Bereaved Families for Justice, on
9 a totally different topic.

10 Can you tell us what the extent was of the Chief
11 Medical Officer office's involvement in relation to the
12 development and/or availability of therapeutics for
13 children?

14 **A.** I -- so we weren't, and I wasn't, involved directly, but
15 what we were keen to do, and this was led in particular
16 by colleagues from Southampton, was to make sure that
17 therapeutics for children were extended out from the
18 base. Unfortunately, and this goes back to a previous
19 point that we had when we were talking about studies in
20 pregnancy, is that the default has for many years been
21 for many people who do trials, to exclude both pregnant
22 women and children, and indeed, even more, in my view,
23 shockingly, elderly people or people with
24 co-morbidities. And all of these are problematic. And
25 I personally think we should try to extend trials as far

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1 **A.** I think that the principal thing is really to strengthen
2 the clinical trials capacity across the whole of the UK.
3 I think that it is important that trials in particular,
4 but also observational studies, are available to people
5 across the whole of all of the communities of the
6 United Kingdom, all four nations -- as, indeed, more
7 internationally -- but take the UK, for multiple
8 reasons, fairness being one, but actually also
9 representativeness of population is another. So there
10 are good scientific as well as ethical reasons why that
11 is a desirable thing to have, yes.

12 **Q.** Thank you.

13 Final question on behalf of the group I represent:
14 do you know if Northern Ireland residents were able to
15 participate in the RECOVERY trial for repurposed
16 therapeutics?

17 **A.** I cannot recall that. I suspect you do know the answer
18 to that. I don't.

19 **Q.** I don't either, that's why I was asking you.

20 **A.** Well, we can easily find that out. But certainly there
21 would have been no barrier from the point of view of how
22 it was originally conceived and indeed how it was
23 funded. There may have been barriers operationally but
24 that's very easy to find out.

25 **Q.** Is that partly because it was a platform trial rather

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1 as you can, both on age and other indications. Again,
2 it goes back to making the trial population
3 representative.

4 But this is pushing against quite a long-established
5 way in which things have been done, and I personally
6 regret it. My own background actually is in doing
7 trials in children, but in part.

8 **Q.** Second question was, are you -- as far as you were
9 aware, was there any difference in the type and
10 efficiency of therapeutic treatments as between adults
11 and children, or does it --

12 **A.** I would -- well, the big difference to remember is that
13 fortunately -- and this will not necessarily be true in
14 a future pandemic, which is why I think this is a really
15 important question, children were much less likely to
16 have severe outcomes than adults.

17 **Q.** Yes.

18 **A.** So for the same side effects, and we discussed this
19 slightly when we were talking about vaccines, the
20 risk-benefit for children in this particular infection
21 is much less clear. So if you have a drug that had, let
22 us say, a side effect rate of 1 in 100,000, the
23 risk-benefit is less good for a child because actually
24 the benefit is going to be smaller than it would be for
25 an adult.

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1 Q. Yes.
2 A. But were we to have a pandemic in which children were
3 heavily represented -- and flu would be a very good
4 example of that, in flu children are some of the people
5 who are most affected -- then it would be a very serious
6 problem if we didn't have children involved in the
7 studies that are done and trying to examine how they
8 worked.

9 Children do handle both infections and sometimes
10 drugs differently to adults. So you can't make an
11 assumption that a child is just a small adult for the
12 purposes of trials and other things. You do have to pay
13 attention to the fact they are biologically distinct in
14 some ways.

15 Q. I follow. But sticking to Covid-19, do you think there
16 was sufficient prioritisation of reach into therapeutic
17 treatment for children with Covid-19?

18 A. I think, for the reasons I've just given, I think that
19 it was a lower priority only because of the fact that
20 children were much less badly affected by the outcomes.
21 There are some exceptions to that, of which there is
22 something that's called PIMS-TS, it's probably the most
23 well known, which is an immunological response, there
24 were some children who did come to harm. And certainly
25 for severe disease, children who got to hospital,

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1 He said, "I was told, we were doing it", that being
2 the DHSC, "but I worry that the details will be shonky."

3 And you said then:

4 "Reasonable but needs to get better."

5 And then you said then, "There will be cases."

6 So question in two parts, please. When you said it
7 was reasonable but needed to get better what did you
8 mean at the beginning of January 2021?

9 A. Yes, this is the one area of my written statement where
10 in fact I've reinterpreted what I said at the time.
11 I have to say, trying to interpret WhatsApp messages out
12 of context is very difficult so long after the event.
13 But I'm going to -- in a sense I'm going answer,
14 unhelpfully for you to begin with, just to set the
15 record straight, and then more helpfully as if I had
16 meant something slightly different.

17 So, actually, what I subsequently realised was this
18 was in the context of an exchange between Mr Hancock and
19 Lord Darzi where Lord Darzi had said he had had
20 a vaccination and subsequently got Covid. And so what
21 in fact I was referring to was there will be cases of
22 people who get Covid having had a vaccination.

23 So just to clarify that point.

24 Q. So that's the second part of your comment but the first
25 part about it's "reasonable but will get better" does

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1 I would want them to have at least as such emphasis, in
2 terms of treatment, as for adults, but of course the
3 numbers are much smaller and therefore it would take
4 longer to accrue the evidence you need as to the effect
5 and, indeed, side effect of drugs in that age group.

6 MR WILCOCK: Professor Whitty, thank you very much indeed.

7 LADY HALLETT: Thank you, Mr Wilcock.

8 Ms Morris.

9 Questions from MS MORRIS KC

10 MS MORRIS: My Lady.

11 Professor Whitty, I ask questions on behalf of the
12 Covid Adverse Reaction and Bereaved groups, and these
13 groups represent those who have suffered either injury
14 or bereavement following their voluntary acceptance of
15 one of the Covid vaccines, and I'm going to focus my two
16 questions on the topic of monitoring after the vaccine,
17 after it was rolled out for any adverse reactions or
18 injury.

19 I'm going to ask you to start, please, with
20 a WhatsApp exchange you had with Mr Hancock, the then
21 Secretary of State for Health, on 9 January, in which he
22 asked you about pharmacovigilance -- I think you've got
23 it in mind already, I don't need to call it up.

24 He asked you, "How strong is our pharmacovigilance
25 system in order to check events post-rollout?"

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1 refer to the monitoring -- (overspeaking) --

2 A. No, all of the exchange refers to were we picking up
3 cases in people who had had a vaccination.

4 But I want to answer the question as if I had been
5 answering about the other, because it could have been
6 either way, because that was more helpful, I think, to
7 what you are actually asking.

8 Q. Thank you.

9 A. Because, in a sense, the reason I misinterpreted it is
10 because I would have given essentially the same answer
11 either way, so I'm only doing that for accuracy.

12 The MHRA system, and I suspect the best person to
13 get the details on this is obviously going to be Dame
14 June Raine and there's very extensive expert evidence
15 which I read and which I think is extremely accurate,
16 from what I've seen, I think that lays out the
17 mechanisms, including the Yellow Card systems, the
18 electronic reporting, and so on, that the UK has.

19 The thing which was different about the rollout of
20 the vaccine was the speed at which it happened. And
21 usually, the rollout of any new drug will happen at
22 a relatively slow rate so you'll pick up the early
23 issues, if there are going to be rare effects that are
24 so rare you don't pick them up in the initial clinical
25 trials --

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1 Q. Yes.

2 A. -- but big enough that you actually see them under

3 operational practice, and that happens for many drugs,

4 in fact most drugs, in reality.

5 But usually, the -- kind of the speed of that was

6 going to be -- will be such that you'll pick them up

7 fairly early on before many people are being given the

8 drug or vaccine involved. The speed of this meant that

9 this was more challenging, and therefore, various tweaks

10 had to be made to try to pick up data much more quickly

11 in realtime than would otherwise have happened.

12 So, to that extent, my view is there was a need to

13 improve the system we had, although I think the system

14 is very strong and that is the view of the expert

15 witnesses and I agree with that. So, in a sense, I'm

16 trying to be helpful to you by saying that had I been

17 meaning that, it was still a relevant point to make.

18 Q. Understood, thank you. Because you have talked about

19 data this morning and I think your position is that the

20 monitoring of any side effects and the creation of high

21 quality data after the vaccine rollout in this context

22 is important, is this right, because public health

23 officials need to know early signals of any emerging

24 adverse effects, injuries, from a safety and evaluation

25 point but also people that are injured and impacted also

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1 which is, were those areas addressed throughout the

2 pandemic? Did it get better, in your view?

3 A. In my view it did get better, over time, and, you know,

4 within this -- and I would like to just add an

5 additional point which you haven't asked but I think is

6 relevant to this, it is also very important that you

7 also bear in mind the benefits that happen which may --

8 which are also important. So, for example,

9 legitimately, people were concerned about the risks of

10 myocarditis in -- with -- following vaccination. The

11 rates of myocarditis are actually higher in people who

12 get Covid. So that's an example where you've got to

13 actually look at both the effects of having a drug or

14 vaccine but also the effects of not having it, and very

15 often it's that balance which actually gives you the

16 correct information.

17 Q. I appreciate that general and specific risk assessment,

18 thank you, but you'll appreciate that I ask questions on

19 behalf of those who did suffer some of those severe

20 reactions. So in terms of how it improved identifying

21 those, could you give a specific example of how that

22 improved from the start of the pandemic?

23 A. Largely this was to do with the speed at which the

24 process was actually analysed. What it doesn't, of

25 course, deal with is your original point about getting

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1 need to receive diagnosis, treatment and ongoing

2 support; is that fair to say?

3 A. Both of those are fair to say. So it's very important,

4 and this is the issue where you might have someone

5 vaccinated in place A, and then other -- their GP

6 records are in place B, and their hospital records are

7 in C and the three are not linked. And therefore,

8 things can, you know, at an individual level, that might

9 be picked up but what you don't see is a pattern across

10 the nation as a whole. So bringing data together is one

11 of the best ways of identifying these kind of risks at

12 the earliest possible opportunity.

13 Q. But just pushing you on your answer and appreciating the

14 context of the text now, do you still accept that there

15 was a need for some improvements of the system to make

16 a signal-sensitive post-rollout monitoring system at the

17 start of 2021? Did it need to get better?

18 A. There's almost no situation where you wouldn't have to

19 adjust what you're doing to the fact that this is going

20 at such a rapid speed, for the -- to get the maximum

21 outputs. I don't think, to be clear on this, I think

22 the UK was actually in a pretty strong position compared

23 to any other country. Every country was facing exactly

24 the same issues on this.

25 Q. And I think the final part of my question still stands,

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1 the data all merged together. And it was the speed of

2 analysis that definitely improved over this pandemic

3 compared to where you would normally expect it to be.

4 There was a real determination to pick up signals at the

5 earliest possible opportunity.

6 **LADY HALLETT:** Thank you very much, Ms Morris. Very

7 grateful.

8 **MS MORRIS:** Thank you, my Lady.

9 **LADY HALLETT:** Professor Whitty, you've been as helpful and

10 constructive as ever and may I repeat the thanks I have

11 already given you for all the work that you and your

12 colleagues did during the pandemic and also for the

13 continuing assistance that you and your colleagues

14 provide to the Inquiry. I am really grateful. The

15 burdens on you must be enormous, probably not as

16 enormous as they were during the pandemic or maybe they

17 are, I don't know, but I'm really grateful to you.

18 **THE WITNESS:** Thank you, my Lady.

19 **LADY HALLETT:** Very well, I have to return, because we have

20 a very busy afternoon, at 2.15. Sorry for a shorter

21 break.

22 (The witness withdrew)

23 (1.33 pm)

24 (The Short Adjournment)

25 (2.13 pm)

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1 PROFESSOR JONATHAN VAN-TAM (sworn)

2 LADY HALLETT: Welcome back, Professor.

3 Questions from COUNSEL TO THE INQUIRY for MODULE 4

4 MR KEITH: Professor, could you start your evidence, please,
5 by giving us your full name.

6 A. I am Jonathan Stafford Nguyen Van-Tam.

7 Q. Professor, thank you very much for attending today and
8 for your continued assistance, in particular the
9 provision of a further statement, INQ000474404 of
10 7 October last year, running to 79 pages.

11 Professor, I hope I won't embarrass you but I'm just
12 going to summarise briefly your professional
13 qualifications and your experience because of course it
14 all goes to the issues on which we'll be asking you for
15 your views on in a moment. But you are, by training and
16 profession, an epidemiologist and physician of public
17 health, you have a significant number of degrees,
18 diplomas, doctorates and fellowships. You headed the
19 Pandemic Influenza Office in what was then the Health
20 Protection Agency Centre in Colindale.

21 You were, importantly, a member of the old SPI
22 committee, which we looked at in Module 1, a member of
23 SAGE during the swine flu epidemic. You chaired the
24 expert advisory group on H5N1, bird flu. You were the
25 chair of NERVTAG between 2014 and 2017, and then of
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1 VTF, the Vaccine Taskforce, the TTF, the ATF and ATTF,
2 and prioritisation and delivery, because of course you
3 were an observer at the JCVI and, of course, you were
4 closely connected to the other CMOs and the NHS England
5 and the public health agencies concerned in delivery?

6 So you were in rather a unique spot, the interface
7 between all these various moving parts.

8 Did you also attend, observe at or liaise with
9 numerous advisory groups, such as the NERVTAG Covid-19
10 therapeutic subcommittee, the COVID-19 Neutralising
11 Monoclonal Antibodies and Antivirals Access Independent
12 Advisory Group, the COVID-19 Prophylaxis Oversight
13 Group, RAPID C-19 committee, and so on?

14 A. Yes, I did, but the pressure on my time was really so
15 great that it wasn't possible to religiously attend all
16 of those meetings. And in truth, with the passage of
17 time, I really can't recall a great deal --

18 Q. All right --

19 A. -- but it was my job to, I suppose, be the oil in the
20 machinery and to try to plot out for the CMO and for
21 ministers and understand what was happening in these
22 various domains, some of which, of course, like the
23 MHRA, were entirely independent in terms of the
24 decisions they took.

25 Q. Indeed, but the Office of the Chief Medical Officer,
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1 course you were appointed Deputy Chief Medical Officer
2 in October 2017, and you remained in that post until
3 March 2022. And you are a published author and senior
4 editor and you've had more than 200 peer-reviewed
5 scientific papers published.

6 Did you work as a vaccinator also during the course
7 of the pandemic?

8 A. Yes, I did.

9 Q. Did you do half a day a week, I think, on a shift?

10 A. I did half a day a week, and it was a great relief to be
11 out of Whitehall and Westminster with normal people for
12 a while.

13 Q. The role of the office of Chief Medical Officer and the
14 role of the DCMO, alongside the CMO, is a most important
15 one in the context of this pandemic.

16 Can we just have up, please, paragraph 1.7 of
17 INQ000474404. Thank you very much.

18 The heart of your role during the pandemic was you
19 were the interface, if you like, between those bodies
20 concerned in policy, the government, and the Government
21 Chief Scientific Adviser, development, UKVN, the UK
22 Vaccine Network, of which we've heard, and CEPI, the
23 clinical trials and studies of which we've heard, their
24 funding, which was the responsibility of the NIHR, UKRI,
25 and its MRC, Medical Research Council, procurement, the
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1 that's to say Professor Whitty, yourself, and
2 Professor Harries, were, to a very large extent, the oil
3 in the machine. You had a rather unique position
4 whereby you saw what was going on at every level of the
5 pandemic response?

6 A. Yes. Yes, and I think we also had to be, in many cases,
7 the translator interfaces between different bits of
8 science, between different types of science and between
9 the policy-making and the political world.

10 Q. And the CMO and the DCMOs are entirely independent, are
11 they not?

12 A. The Office of the Chief Medical Officer, that function
13 is, by statute, independent. Professor Sir Chris was
14 always my boss, and I wouldn't have considered myself to
15 be able to act entirely independently of Chris. In any
16 line management structure, you know, there's always
17 a boss.

18 But equally, Sir Chris was always extremely
19 accepting of, you know, good scientific arguments,
20 whoever they came from.

21 Q. And so, at every level, the proprieties were always
22 observed in terms of the independence of the various
23 bodies.

24 If you could have up INQ000071697, by way of an
25 example, Professor, on 17 November you yourself wrote to
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1 Dr Raine, now Dame June Raine, head of the MHRA, we can
2 see from the third paragraph:

3 "... the Department [DHSC] wishes to supply the
4 vaccine [this a reference to the Pfizer BioNTech
5 vaccine] in response to the COVID-19 pandemic. We
6 therefore seek your views on its suitability for
7 temporary authorisation under Regulation 174 ... so that
8 we may promptly and safely deploy the vaccine ..."

9 If we just go to the end of the letter we'll see
10 your name on the left-hand side. There we are.

11 As with many other parts of the complex machinery,
12 it was very important, wasn't it, to preserve the
13 independence of the various bodies. So you were
14 formally here asking the MHRA to consider its position,
15 but only on authorisation, which was exclusively for the
16 MHRA, and you refer to the advice which, whilst
17 relevant, is not the same thing as authorisation from
18 the JCVI?

19 **A.** Indeed so, yes.

20 **Q.** Right.

21 **A.** And, you know, for the record -- and I hope you won't
22 mind me being colloquial -- I've lost -- I lost count of
23 the number of times I would have had a telephone call
24 with Dame June and said, "June, at all times, if you
25 think I or anybody else in the wider system is, you

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1 ministerial approval of procurement decisions were made
2 in a vacuum --

3 **Q.** No.

4 **A.** -- without advice from the VTF clinical adviser, which
5 was me, in relation to the likely number of vaccines
6 that would be needed, for example.

7 **Q.** Yes, indeed.

8 **A.** And I, in a way, had to kind of second-guess where
9 I thought the JCVI discussions were going because the
10 JCVI couldn't make a decision until there were vaccines.
11 But equally, we had to buy things early on that didn't
12 exist. You know, we were putting money behind contracts
13 in the hope that there would be a vaccine, but, you
14 know, you have to decide whether you want 30 million
15 doses or 60 million doses, and you can't do that in
16 a vacuum so, absolutely, I gave that advice.

17 **Q.** That's an important topic. And in fact, either yourself
18 or Sir Chris Whitty or often all of you, including your
19 fellow Deputy Chief Medical Officer, Jenny Harries gave
20 advice in relation to the purchasing of vaccines and
21 therapeutics, the prioritisation and eligibility for
22 therapeutics and the offering of vaccination as well as,
23 as we'll see, dealing with multitude, a multitude of
24 issues concerning vaccine confidence or hesitancy,
25 delivery take-up, the whole gamut.

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1 know, nudging you or treading on your toes in some way,
2 you know, put the phone down and complain about it,
3 because it's absolutely sacrosanct and importantly so
4 that your work remains independent."

5 **Q.** And indeed on 16 November, by way, again, of example
6 only, 71886, INQ000071886, here's a letter in fact from
7 Sir Chris Whitty, copied to Sir Patrick Vallance as he
8 then was, saying exactly that.

9 **A.** Yes.

10 **Q.** "You've got to preserve your independence and if you
11 need help in preserving your independence, please let us
12 know."

13 And so that we're absolutely clear, decisions on
14 authorisation were absolutely and exclusively for the
15 MHRA. Decisions on procurement were for ministers on
16 advice of the various taskforces but in particular the
17 Vaccine Taskforce, and following advice from the Office
18 of the Chief Medical Officer, the Treasury, and no doubt
19 anybody else with a view on matters. And decisions
20 around vaccine eligibility and prioritisation, again
21 were for ministers, but on the advice which they agreed
22 to take and accept in advance, of the JCVI, the Joint
23 Committee on Vaccination and Immunisation.

24 **A.** Yes, that is entirely correct but I wouldn't want to
25 give the impression that VTF and then subsequent

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1 **A.** Yep.

2 **Q.** Right.

3 Vaccine development. It is very clear from evidence
4 before this Inquiry, and in particular from Module 1,
5 that pre-2020 the majority of government effort and
6 resources was focused on the possibility of a flu
7 pandemic.

8 **A.** Yes.

9 **Q.** I'm going to ask you some questions about onshore
10 manufacturing capability in a moment, and on research
11 and development. But in a very general sense, do you
12 think that the United Kingdom was well prepared for what
13 is known as Disease X, that is to say the yet unnamed,
14 but likely to happen, prospective or future pathogenic
15 outbreak?

16 **A.** So the answer to that is, I think, in two parts.

17 **Q.** Please.

18 **A.** Part one that I think I agree with what the Inquiry has
19 already said: that there was a very substantial focus on
20 pandemic influenza, as the threat, perhaps the only
21 threat, and there hadn't been that diversity of thinking
22 to the same extent about other pathogens. In other
23 words, a Disease X such as Covid-19, SARS-CoV-2.
24 Equally, I would say now that my personal scientific
25 view is that a future pandemic is a racing certainty,

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1 and by far and away the most likely pathogen to give us
2 the next pandemic, based on probability and the number
3 of data points we have, which are small, is influenza.

4 So in a way, that was, and should have been, the
5 primary forecast, because for me it still remains the
6 most likely next pandemic threat, though, if you make
7 those kind of predictions, you can always be wrong.

8 **Q.** Of course, we were hit by coronavirus in 2020. What do
9 you say to the opinion of many people, which is that
10 attention must also be paid to the Disease X on the
11 premise that it's not flu?

12 **A.** Yes, I agree with that, and the WHO has a list of high
13 priority pathogens, and I think we should take note of
14 that.

15 **Q.** You were intimately involved in the process by which
16 vaccines were successfully identified, procured and
17 delivered, and I just want to look at the position that
18 prevailed on the cusp of the pandemic in January 2020 so
19 that we can see just how unlikely it was that a vaccine
20 would successfully be developed and manufactured.

21 Can we have INQ000047554, page 1.

22 This a note you did for ministers, dated 24 January,
23 on coronavirus, and you make it absolutely plain: there
24 are no vaccines available for the Wuhan, it was then
25 known as the Wuhan coronavirus virus, and a vaccine is

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1 cancer; is that correct?

2 **A.** Science has been working on the idea that messenger RNAs
3 could be used in vaccine form for about 20 years --

4 **Q.** Right.

5 **A.** -- prior to the emergence of the pandemic. So we
6 shouldn't believe that these things just appeared in
7 a puff of smoke in early 2020, they were actually the
8 efforts of scientists over 20 years that were just about
9 mature enough to give us a solution at that time. But
10 let's be clear, if the pandemic had happened in 2015, I
11 don't think the messenger RNA platform technology could
12 have come to our assistance in the way that it did in
13 2020.

14 **Q.** There's much material before my Lady which suggests that
15 one of the reasons, one of the many reasons in the
16 complex picture of why there are degrees of vaccine
17 hesitancy or lack of confidence is the notion that the
18 vaccines were built on technology that was entirely new,
19 untested, appeared as if by magic in this country and
20 other countries in 2020. So I want you to be clear.

21 The mRNA technology had been worked on for a number of
22 years beforehand.

23 **A.** Yes.

24 **Q.** Had also the vaccine vector technology, the use of the
25 adenoviral vector --

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1 unlikely to be available for at least 12 months even in
2 experimental or unlicensed form and probably far longer.

3 There has been considerable research done already
4 and a lot of funding already provided, so the UK is in
5 a good position, but the likelihood of successful
6 development and manufacture was relatively low.

7 **A.** Yes, I think we all felt it was relatively low at the
8 time. I would say that if you asked me the same
9 question again now, knowing what I know about the
10 messenger RNA platform technology that we did not know
11 in 2020, it is clearly very agile -- in essence -- and
12 I'm over-simplifying -- once you have the genetic
13 sequence of a new organism you can almost dial up
14 a candidate vaccine.

15 So that kind of timeframe that I gave then was right
16 at the time. We could be a bit more optimistic for the
17 future.

18 **Q.** Right.

19 **A.** I think particularly with the agility that the messenger
20 RNA platform is likely, though unproven, to give us
21 against other future pandemic pathogens.

22 **Q.** Had there been some -- well, there had been a few --
23 there that been some advance and a considerable amount
24 of research done on mRNA vaccines pre-2020, I think in
25 the context of the possibility of using them to battle

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1 **A.** Yes.

2 **Q.** -- for the Oxford AstraZeneca vaccine also been worked
3 on and been around for some time?

4 **A.** That had also been worked on for many years and indeed,
5 as Sir Chris referred to this morning, the funding in
6 2016, I recall, from UKVNI to help the Oxford vaccine
7 group take the adenovirus vector technology towards a,
8 I think it was a MERS vaccine, really gave them
9 a head start in 2020.

10 **Q.** And you are aware of course that the United Kingdom
11 Government, through a number of bodies but not least
12 UKRI and the NIHR, the National Institute for, then, for
13 Health Research, had funded, to a very significant
14 extent, different teams of researchers and
15 investigators, working on vaccines --

16 **A.** Yes.

17 **Q.** -- for example, the Oxford group, as also with the team
18 led by Robin Shattock at Imperial College London?

19 **A.** Yes.

20 **Q.** Can we have INQ000047660, please.

21 This is another document you prepared in those very
22 difficult days in January 2020 about the way forward,
23 and you were asked to consider how vaccine discovery
24 might be accelerated. And you set out what you openly
25 describe as the difficult picture, which is that a new

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1 vaccine often requires 15 to 20 years, financial
2 resources output of a billion dollars to reach
3 licensing. There are obvious complexities in the
4 passage of time in both the pre-clinical and the
5 clinical stages.

6 If you could go over to page 2, paragraphs 18
7 onwards, you set out there some of the existing
8 research, and you have just referred to MERS, and you
9 identify a number of vaccine candidates.

10 So the picture wasn't one of unalloyed gloom, as you
11 say. A lot of research had been done, and a significant
12 degree of progress had already been made. But it was
13 a question of building on all that in order to be able
14 to reach the promised land.

15 **A.** It was, and, you know, for the Vaccine Taskforce,
16 literally we -- they -- the Vaccine Taskforce -- had to
17 back multiple technologies in order to have the chance
18 of at least one winner. So it was a form of spread
19 betting by any other name. But it was necessary, and
20 indeed, all of the modalities that the Vaccine Taskforce
21 backed have now produced licensed vaccines for Covid-19,
22 somewhere in the world. So it was --

23 **Q.** A great success.

24 **A.** It was good hunting in terms of my colleagues, and not
25 myself, who did the really hard due diligence work to

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1 ahead of the game, try to increase the prospects of
2 a successful development and production of a vaccine.

3 **A.** Yes, it was clearly the number 1 priority for us, and it
4 was my personal number 1 priority. Because I couldn't
5 see a way of normalising our lives quicker than by
6 having a vaccine solution at population level.

7 **Q.** In this general scheme, Professor, why is the ability to
8 offer strong trial facilities to a prospective
9 manufacturer of such importance?

10 **A.** Well, there's always this counter argument, if you like,
11 that so long as somebody offers a manufacturer good
12 phase I facilities, and so long as they bring a vaccine
13 to licence, you can buy it later, as it were.

14 However, there is a kind of soft diplomacy that goes
15 with helping pharmaceutical and vaccine companies to do
16 their work on our behalf to develop new vaccines, and it
17 is often the case that where you are, as a country,
18 deeply involved in supporting vaccine manufacture, you
19 are in a better position in terms of access to vaccine
20 as quickly as possible.

21 So there's part of -- part of this is about building
22 on the evident strength of British bioscience, but
23 equally it's about a kind of soft diplomacy in terms of
24 being front and centre when it comes to access to
25 vaccines.

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1 pick out not necessarily the most kind of perfect,
2 appealing science, but the science that looked good and
3 had a realistic prospect of delivery within, shall we
4 say 18 months to 24 months.

5 **Q.** If we could go forward one page to page 4, please,
6 paragraph 35. You identify a number of actions which
7 you believe should be taken proactively to prepare for
8 the possible arrival of the virus and for domestic
9 preparedness. You refer to the very good regulatory
10 environment. I won't ask you questions about that but
11 was that a reference to the MHRA in particular --

12 **A.** Mm.

13 **Q.** -- and it's scrupulous independence and exclusive
14 control over the issue of authorisation?

15 Then over the page:

16 "... strong facilities for Phase I trials ..."

17 III:

18 "... the continued development of vaccine
19 candidates ..."

20 So looking for a spread-betting approach.

21 IV:

22 "... whether the UK should invest in nucleic acid
23 manufacturing facilities for mRNA vaccines."

24 So right at the beginning you were seeking to
25 identify ways in which the United Kingdom could get

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1 **Q.** So, in addition to having a manufacturing capability,
2 it's perhaps no less important to have a strong platform
3 for the carrying out of trials so that, as a country, we
4 can be regarded as a best client, a best purchaser?

5 **A.** Yes.

6 **Q.** And that's a process which, of course, is required to be
7 funded?

8 **A.** Indeed. It is about -- with all the safeguards of
9 propriety and independence in place, it is about
10 developing the best possible supportive relationship on
11 an ongoing basis with the industry, who, in my view,
12 are -- have always been instrumental in delivering
13 vaccine solutions at scale when we need them. But it's
14 about that partnership approach, with the proper respect
15 for firewalls and integrity and, you know, commercial
16 sensitivity.

17 **Q.** On 30 March 2020 you, personally, and
18 Sir Patrick Vallance, as he then was, the Government
19 Chief Scientific Adviser, signed off the objectives you
20 identified and elucidated the objectives for the Vaccine
21 Taskforce?

22 **A.** Yes.

23 **Q.** And the Vaccine Taskforce, as is very well known,
24 commenced in two parts. It had an external advisory
25 board and a programme board and the external advisory

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1 board had bioindustrial specialists and venture
2 capitalists, vaccine scientists. A lot of external
3 element. And that became the Vaccine Taskforce, chaired
4 by Dame Kate Bingham, and led by the director general of
5 that taskforce, Nick Elliott.

6 In your statement you say, however, that, as
7 a result of the constitution and development of that
8 very successful body, you were struck by what you saw as
9 the dysfunctional relationship between the Civil Service
10 and pharmaceutical industry, and you appeal for the most
11 effective working relationship that is possible to be
12 pursued, and you also suggest that there be in the
13 future the creation of a totally dedicated workforce,
14 instrumental to the recreation of that vaccine success.

15 Why couldn't, in your view, a normal government
16 department, just an existing part of the DHSC or BEIS,
17 have done what the Vaccine Taskforce did? Why do you
18 think it succeeded?

19 **A.** So let me go back to my original remark, which I want to
20 be interpreted in terms of, prior to the VTF, the
21 relationship between the Civil Service and the
22 pharmaceutical industry was a bit dysfunctional, as
23 I observed it, with -- it was just too formal, too
24 stand-offish, and there wasn't this willingness to kind
25 of, you know, behave as close colleagues, and share

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1 know, in the military there are rapid reaction units who
2 are held at readiness from anything from two hours
3 upwards to, you know, a month, but those units know they
4 have a kind of stand-up role if there's a problem.

5 I think we almost need a cadre of experts who
6 understand that they are on, kind of, you know, call
7 down, as it were, in case there's a problem. We don't
8 want to be looking for those in the heat of a crisis.
9 We ought to know who they are, we ought to manage the
10 membership, a little churnover time as people retire,
11 new people come along. So I think there's some argument
12 in that. But the most important thing is not what you
13 call it; the most important thing is the mindset.

14 **LADY HALLETT:** You, I know, were here in the hearing room
15 this morning when Professor Chris Whitty was giving
16 evidence, and at one stage he said something that I've
17 personally always believed: it's not so much the
18 structures, it's the personalities.

19 **A.** Mm.

20 **LADY HALLETT:** And you also had in Dame Kate Bingham
21 a personality who was determined to get things done.

22 If you had this cadre of experts, would it not
23 depend upon whoever, in an emergency, was in overall
24 charge to get things done to change the mindset?

25 **A.** Yes, it would, and I wouldn't want to predefine that for

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1 problems and find solutions. It was all a bit too kind
2 of stultified in some way.

3 What changed with the Vaccine Taskforce was partly
4 that Dame Kate recruited a lot of people from the
5 industry who had a different kind of mindset, and it was
6 very helpful to me to have worked in the pharmaceutical
7 and the vaccine industries to understand that difference
8 in mindset. But also it was a national emergency, and
9 it was brought with a very specific, almost
10 task-and-finish approach to get this job done, because
11 people were dying, and we had to put the brakes on that.
12 And therefore, the kind of mission focus of the
13 individuals within the Vaccine Taskforce was something
14 that I've never seen before, and I'm immensely
15 privileged to have been a part of that.

16 **Q.** Would you therefore recommend, with all the authority
17 you can muster, that if faced with a similar national
18 emergency in the future, the same -- it's an excellent
19 phrase if I may say so -- "task-and-finish approach" is
20 adopted?

21 **A.** Well, I think broadly speaking the answer is yes, but
22 the important bits are the mindset and the important
23 bits are also being able to bring together the right
24 people as quickly as possible, even quicker than was
25 done in 2020. So I think there is an argument. You

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1 the future too much, but I think I would say, and I have
2 said it publicly on many lectures that I've given, that
3 I think it was a stroke of genius to have a venture
4 capitalist who understood biotechnology at the heart of
5 moving at pace to bring science to the marketplace, as
6 it were. I think that was an inspired choice.

7 And, you know, of course, you're right: a lot of it
8 had to do with Dame Kate's personal characteristics and
9 how driven we all know that she is, and she was, but
10 equally, it was an inspired occupational choice, in my
11 view.

12 **MR KEITH:** And we're not calling him as a witness, and
13 therefore I hope I can say this without causing him
14 undue embarrassment, that that choice was in large part
15 down to the judgement of Sir Patrick Vallance, as he
16 then was. And it's important, I think, also to note
17 that the external advisory board, that part of the
18 Vaccine Taskforce in its original emanation, was chaired
19 by Sir Patrick Vallance, and also that the notion of the
20 Vaccine Taskforce in its final form was significantly
21 contributed to by Alex Jones of BEIS --

22 **A.** Yes.

23 **Q.** -- a witness from whom we heard earlier.

24 Before I ask you for your overarching
25 recommendations on this in this field, can I ask you

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1 a couple of questions, please, about VMIC, the Vaccine
2 Manufacturing Innovation Centre.
3 **A.** Mm-hm.
4 **Q.** It's obvious from the emails and the submissions put to
5 ministers and the paperwork before the Inquiry that by
6 January 2021 it was obvious that hundreds of millions of
7 pounds had already been spent by way of funding on this
8 centre and there was a request for a further 80 million,
9 but that there were cost overruns and slow delivery, the
10 site was effectively not -- it hadn't been developed to
11 the extent that it was wished it would be, and there was
12 a prospect of a sale, and a risk in fact the site would
13 become unused or broken up?

14 And I think the view was taken that the best option
15 to try to get the site completed and get the site
16 operational would be to sell the entity to a foreign
17 multinational that could re-capitalise the project. Did
18 you have any views yourself on the merits of the sale of
19 VMIC to Catalent?

20 **A.** I didn't have any specific views on the sale of VMIC to
21 Catalent other than I understood them to be a contract
22 manufacturing organisation and it was a sensible sale,
23 but I inherited the VMIC concept, if you like, and it
24 was introduced to me when I was in office, it was either
25 the late part of 2017 or early 2018, and I think

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1 **Q.** You've used the phrase "step-in" --
2 **A.** Yes, so step-in could be about make the vaccine for us.
3 But the whole world needs a pandemic vaccine when
4 there's a pandemic. But it could also be about priority
5 access.
6 **Q.** All right.
7 **A.** And so there are different degrees of how you step in,
8 and that's not for me to --
9 **Q.** But you'd like to see a number of manufacturing plants
10 owned by manufacturers but in relation to which the
11 government has the ability to turn the production
12 towards their own use --
13 **A.** So I think it's potentially a very big advance that the
14 UK Government now has a partnership deal with the
15 messenger RNA manufacturer. I am --
16 **Q.** Do you mean the Moderna deal?
17 **A.** I do, and I'm agnostic to which messenger RNA
18 manufacturer it is, so long as they manufacture
19 messenger RNA vaccines. But equally, you know, it is
20 a case in point that the vast majority of the vaccines
21 we use in day-to-day public health practice are protein
22 sub-unit vaccines, and I think we ought to think
23 seriously about onshoring protein sub-unit manufacture
24 in the UK as well.

25 **Q.** Would what you've said apply equally, Professor, to

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1 I probably didn't make many friends with my VMIC
2 colleagues because I was a bit unenthusiastic about the
3 whole thing. And I realise I may be at variance with
4 other, you know, super scientific experts, but my view
5 is that VMIC was tending towards the idea of
6 a state-owned solution for pandemic vaccine
7 manufacturer, and I haven't seen that work outside of,
8 you know, the more totalitarian schemes of the world.
9 In the Western world, it has always been about the
10 vaccine industry being able to delivery a pandemic
11 vaccine at scale, as was the case in 2009.

12 And so for me, the kind of approach that I think is
13 more important is, you know, onshoring and backing
14 vaccine manufacturers to do their work and keep a plant
15 warm lit in the UK through their normal routes of
16 business, but to have step-in rights in the case of
17 a pandemic.

18 **Q.** And by step-in rights, do you mean an ability on the
19 part of the government to say, "Right, you're turning
20 the entirety of your manufacturing processes to creating
21 a -- manufacturing a vaccine for us"?

22 **A.** We are probably getting into detail here that I don't
23 think I'm qualified to talk about.

24 **Q.** Just in a general sense --

25 **A.** But --

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1 factories for the production of --

2 **A.** Antibodies.

3 **Q.** And also factories for what is called fill and finish,
4 the sort of syringes, the vials, the adjuvants --

5 **A.** Right.

6 **Q.** -- the bits and pieces that go with the vaccine?

7 **A.** So, with respect, the consumables are the vaccines and
8 the needles and so forth, and the sharps bins, and you
9 do need those in very large quantities in order to do
10 a national vaccine campaign as we did, and one of the
11 detailed conversations I remember having with the
12 procurement people was about making sure that we had
13 however many tens of millions of syringes bought before
14 they came into short supply, and that we made sure that
15 the graduations on the side could cope with a 0.3 or
16 a 0.5ml administration, because you can get some that
17 just go 0.5, my Lady, and that would be guesswork then
18 for the 0.3. So there was a lot of work that went into
19 consumables.

20 But in terms of fill and finish, that is really what
21 I suppose in common parlance we would call the kind of
22 canning and bottling bit of vaccine manufacture, and for
23 that, you need a line that has -- able to move at very
24 high speed and fill vials. You need all the glass, the
25 medical-grade glass that goes with the vials. It is

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1 internationally in very short supply. And so yes, that
 2 is often the bottleneck for any vaccine manufacture.
 3 **Q.** And you were intimately concerned, in fact, with trying
 4 to release that bottleneck in the course of the
 5 pandemic?
 6 **A.** Yes.
 7 **Q.** So to summarise and to draw those threads together,
 8 Professor, do you advocate for a cadre, as you've
 9 described it, a national vaccine committee or cohort,
 10 not necessarily a statutory agency, to be concerned with
 11 everything to do with the vaccines from surveillance to
 12 research and development, to procurement, to the point
 13 in fact of national delivery, in order to be able to
 14 replicate what the VTF did but also to give them a wider
 15 reach in terms of surveillance and research and
 16 development.
 17 **A.** No, no, I really don't want to go as wide as
 18 surveillance, which is done very well and -- by the
 19 UKHSA, and really to the envy of many people across
 20 Europe and the world.
 21 **Q.** Right. So not surveillance?
 22 **A.** I think it's about understanding the cadre of people
 23 that you are going to bring in if there is a need to --
 24 again, to move at real speed in this area.
 25 **Q.** Right. So, to a very large extent, reflective of what
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1 need to understand that freedom is not free. And in the
 2 same anyway, vaccine pandemic preparedness is not free.
 3 It is very expensive.
 4 **Q.** That's very clear, thank you.
 5 And then thirdly, and finally, based on what you've
 6 said, you call for a resilient onshore vaccine and
 7 antibody manufacturing capability?
 8 **A.** Vaccines.
 9 **Q.** Thank you.
 10 Could we now address, please, some of the discrete
 11 issues, and only some of them, which were considered by
 12 yourself and the Office of the Chief Medical Officer
 13 during the course of the pandemic.
 14 The dosage interval was an issue on which you were
 15 asked to advise. You wrote, along with
 16 Antonia Williams, of the DHSC, to the MHRA on
 17 22 December 2020, pointing out that, of course, the
 18 new -- I think it was the Alpha strain had arisen and
 19 was becoming dominant. Covid-19 was on the increase.
 20 You ask the MHRA expert working group, because it had
 21 a number of working groups, and also the Commission on
 22 Human Medicines, to provide a steer as to whether or not
 23 the interval between dose 1 and dose 2 could be
 24 extended.
 25 Briefly, what would be the prospective advantage of
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1 was or what became the Vaccine Taskforce?
 2 **A.** Yes.
 3 **Q.** Thank you.
 4 Secondly, do you call for further research and
 5 development in relation to vaccine technology, but
 6 particularly to try to see whether it's possible to
 7 identify generic or a prototype vaccine that can be
 8 tailored towards the particular pathogenic outbreak?
 9 **A.** So I think that's a very, very deep question, because
 10 vaccine development is so expensive. You can't take
 11 every potential human pathogen on the planet and
 12 necessarily have the resources to make a vaccine
 13 prototype.
 14 But you can do things such as the UK Government has
 15 done very recently. I'm not close to the details, only
 16 what's been released in the public domain, but with the
 17 continued advance of H5N1, for example, in dairy herds
 18 in the US, the UK, I gather, has made a decision to
 19 procure in advance, for stockpiling, several million
 20 doses of H5N1 vaccine. That is the kind of measured,
 21 proportionate step commensurate with changing risk that
 22 the US BARDA organisation has been doing for years and
 23 years, and it is something that we could do.
 24 But I want to be clear -- I have great admiration
 25 for a senior military officer who said to me: the public
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1 extending the interval?
 2 **A.** On theoretical grounds, if you give one dose of vaccine
 3 time to mature in the human immune system, it's going to
 4 respond better to the second dose. There were some very
 5 persuasive early data from the SIREN study showing that,
 6 in healthcare workers, those who had the longest
 7 interval between doses had the highest protection
 8 against infection. And so I say that in a theoretical
 9 world where, for example, if -- we're February now --
 10 no, January now -- if we could predict there was going
 11 to be a pandemic in 2026 and we could make the vaccine
 12 now and we could offer vaccine to the UK population in
 13 advance of that, my vote would be for an interval
 14 between the doses of at least three months.
 15 So that was the kind of theoretical basis for it.
 16 The hard-nosed reality at the time was that although we
 17 had very substantial contracts for vaccine futures, if
 18 that's the right word --
 19 **Q.** Supply was still --
 20 **A.** -- the rate at which it was coming through was not high
 21 to begin with, and we were faced with a difficult choice
 22 of whether to fully vaccinate a smaller number of people
 23 or to first dose very many more. And, you know, it was
 24 controversial, and I remember the fan mail, if that's
 25 the right word, in my inbox at the time from the public
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1 and the medical community about this.

2 **Q.** And I want to be clear, there were people all around the
3 world who said: well, why are you doing this? But you
4 were right, were you not, because the degree of
5 protection given by the first dose, if prioritised,
6 allowed a larger number of people --

7 **A.** Yeah. We didn't do this in a vacuum in terms of, you
8 know, let's just guess that the protection from the
9 first dose was this much. We actually had a bit of data
10 coming through on that, and the modellers helped us
11 with it, and I believe in the fullness of time the World
12 Health Organisation, which had been in opposition to our
13 position, came round and agreed it was the right thing
14 to do.

15 **Q.** And your colleague, Sir Chris Whitty, together with the
16 other UK CMOs, all wrote a letter of advice on
17 30 December on this issue of the dosing schedule. And
18 I'm going to summarise it if I may, Professor, I hope
19 you'll forgive me, in this phrase: it's better to give
20 two grandparents 89% protection than to give one 95%
21 protection and the other one none at all.

22 **A.** Did I say that?

23 **Q.** You did.

24 **A.** Yes, and I --

25 **Q.** You said it in the Daily Mail on 3 January, so I'm

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1 **Q.** -- so I think not.

2 **A.** Yeah.

3 **Q.** Right.

4 **A.** I think where I felt I had got a contribution to make
5 was that I had been studying academically influenza
6 vaccination in healthcare workers for many years and,
7 indeed, had advised the WHO, prior to being DCMO, on
8 this subject. And I was kind of very clear on where the
9 evidence was, but also where the evidence ended in terms
10 of mainly the US, mainly hospitals, and the mandation as
11 a condition of employment in various private hospitals
12 in the US. And I understood where that had been studied
13 and what the data readout was, and I felt that was
14 important that that was on the table for ministers to
15 understand as part of what was absolutely their
16 decision.

17 **Q.** It was a political decision, in truth?

18 **A.** Absolutely.

19 **Q.** You were sent a copy of a paper that had been prepared
20 for the committee, which my Lady will remember well,
21 Covid-O, which was then in play. This was in June 2021.
22 And the paper discussed what the levels of coverage
23 might be, whether or not VCOD would lift the uptake of
24 vaccination, but also, the degree of opposition and also
25 the risk that members of staff in the care sector might

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1 presuming that is a correct summation.

2 **A.** Well, I wouldn't have put it in the Daily Mail in those
3 figures unless I absolutely substantiated them with
4 data, so, yeah.

5 **Q.** Another deeply contentious issue was the issue of
6 vaccination as a condition of deployment.

7 **A.** Yes.

8 **Q.** Which is the policy by which one may mandate that if one
9 is to be deployed in a patient-facing role, for example,
10 then one must be vaccinated.

11 You were very closely connected to the debate in
12 February and March 2020 as to whether or not the
13 Coronavirus Bill, which was then passing through
14 Parliament, should include a mandatory vaccination
15 provision for both Covid and flu; is that correct?

16 **A.** **(No audible answer)**

17 **Q.** Did that come to pass? Was there a provision made in
18 the Act for mandatory vaccination for Covid and flu?

19 **A.** I can't remember, to be truthful. I've --

20 **Q.** Will you take it from me that there wasn't?

21 **A.** I think it was withdrawn.

22 **Q.** You wrote on 5 March --

23 **A.** And I think --

24 **Q.** -- saying, "I think we can let this one drop" --

25 **A.** Yeah --

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1 give up their jobs.

2 And on 26 June -- can we have this, please,
3 INQ000153996 -- you sent an email which refers indeed to
4 the work that you'd done on the flu issue for the World
5 Health Organisation prior to 2017. But at paragraph 1
6 you said:

7 "There is essentially no evidence base for the
8 effect of Covid vaccination of [healthcare workers] on
9 protection of patients/residents."

10 But:

11 "There is plenty of evidence that nosocomial
12 Covid-19 is a problem in ... healthcare and residential
13 care".

14 **A.** Yes.

15 **Q.** Can you just elaborate on that --

16 **A.** Yes.

17 **Q.** -- because from a layman's perspective it would seem
18 self-evident that if you vaccinate carers in a care
19 home, you will reduce the risk that their cares, the
20 residents, become infected?

21 **A.** So I'm glad you've asked me this question because this
22 is typical epidemiology medic speak.

23 **Q.** Thank you.

24 **A.** When I say there is essentially no evidence base for the
25 effect of Covid vaccination of healthcare workers or the

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1 protection of residents, it doesn't mean that
 2 vaccinating healthcare workers doesn't protect
 3 residents; it means that no one has studied it and
 4 therefore no one has generated the evidence by which
 5 I can say there is proof that it will prevent infection.
 6 It is a perfectly reasonable supposition, as Sir Chris
 7 said this morning that, actually, if you're not infected
 8 with Covid, because you're being prevented from being
 9 infected with it for some -- by some means, including
 10 vaccination -- then you can't pass it on to anybody
 11 because you don't have it.

12 So yes, it's common sense, but this is written in
 13 a very specific medical way, and I am worrying now that
 14 it was misinterpreted by others at the time, but there
 15 is no evidence base for it --

16 **Q.** But you've made it absolutely plain what you meant, so
 17 that's very helpful, Professor.

18 And indeed, the government took a view as to --
 19 well, it decided to implement a policy of VCOD in
 20 registered care homes on the basis that that mandatory
 21 vaccination of care home workers would reduce
 22 transmission --

23 **A.** Yeah.

24 **Q.** -- and would protect residents more. The issue then
 25 became to what extent would there be opposition, to what

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1 **Q.** And you say, having been told that a review of safety
 2 information had been conducted, and the Independent Data
 3 Safety Monitoring Board set up by Oxford for the trial
 4 had met and recommended vaccination could resume, you
 5 said this:

6 "Thank you for the update. Participant safety and
 7 indeed the safety of any vaccine are of paramount
 8 importance and I thank the MHRA for its independent
 9 oversight."

10 **A.** Yes.

11 **Q.** So a nod to the independence of the MHRA again.

12 In your position as the Deputy Chief Medical
 13 Officer, are you aware of any instance in relation to
 14 any of the Covid-19 UK vaccines where safety was not
 15 regarded as being of paramount importance?

16 **A.** No. With vaccines, you are giving, offering a medical
 17 intervention to someone who is generally perfectly
 18 healthy. That is a bit different to somebody who is
 19 offered a medical intervention who is at death's door
 20 because they're so ill with a particular illness. And
 21 so the risk/benefit, in terms of the acceptability of
 22 safety, is even higher stacked in terms of safety when
 23 you're intervening in a perfectly healthy patient. So
 24 I think what I said there is true, that safety is
 25 absolutely -- was paramount.

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1 extent would people walk away from the care sector
 2 because they didn't wish to be subject to mandatory
 3 vaccination?

4 **A.** Well, indeed, and all the issues which Sir Chris very
 5 eloquently laid out this morning.

6 **Q.** All those issues. Indeed.

7 Another topic, please, in relation to safety. In
 8 September 2020, part of the clinical trials -- and
 9 I can't recollect which phase of the trials it was, but
 10 part of the clinical trials in relation to the Oxford
 11 AstraZeneca vaccine, was paused because of safety
 12 signals coming to light, emerging, concerning the
 13 possibility of a condition known as transverse myelitis,
 14 which I think is to do with the inflammation of the
 15 spinal cord.

16 **A.** Mm.

17 **Q.** Could we have, please, INQ000152797, dated
 18 11 September 2020.

19 Obviously, the question of authorisation was
 20 absolutely for the MHRA, and the question of
 21 prioritisation was for the JCVI. But as you said
 22 earlier, the Office of the Chief Medical Officer plays
 23 a very important part in being made privy to
 24 information, and expressing its views and giving advice?

25 **A.** Mm, yes.

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1 And what was going through my head of course, when
 2 we got this signal, was separate to the MHRA's
 3 independent judgement about what should then happen in
 4 terms of whether --

5 **Q.** Quite.

6 **A.** -- the trial proceeds, but at the back of my mind is the
 7 thought that if that independent judgement is that this
 8 vaccine goes down at this point, then I, not me
 9 personally, but the VTF, we've just lost one of our
 10 spread bets here, and, you know, less important than the
 11 betting is the fact that our anticipated downstream
 12 supply of, shall we say, 20 or 40 million doses -- I'm
 13 making the figures up, but whatever it was -- that's
 14 just gone, and we've got to compensate for that
 15 somewhere else in our other contracts, and that was --
 16 (overspeaking) --

17 **Q.** But in the second paragraph you make absolutely plain
 18 that the practical consequences in terms of access to
 19 vaccines was secondary to the independence of the safety
 20 review?

21 **A.** Yes.

22 **Q.** Right. And over the page, page 2, do you refer to a
 23 number of the other steps that were taken, the bodies
 24 that are concerned in the safety process. You refer to
 25 the manufacturer's own data safety monitoring board?

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1 A. Yes.

2 Q. That's comprised -- it comprises independent external
3 individuals --

4 A. Yep.

5 Q. -- who comprise a board which gives advice to the
6 manufacturer. But also the CHM -- is that the
7 Commission on Human Medicines?

8 A. Yes.

9 Q. Is that an independent advisory body that gives advice
10 to ministers alongside the MHRA?

11 A. It advises the MHRA.

12 Q. It advises the MHRA. And also, a reference to
13 "international regulators". Do you see, halfway down
14 the page?

15 A. Yes.

16 Q. "We are not aware of imminent decisions by other
17 regulators ..."

18 A. No.

19 Q. In truth, the safety field is extremely well populated
20 by bodies, individuals, regulators, in this country and
21 abroad --

22 A. Yes, it is.

23 Q. -- all focused on safety, monitoring safety, and on
24 analysing emerging safety signals?

25 A. Yes. And the point about international regulators is

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1 Q. -- for safety --

2 A. Yes, and our regulator, you know, made a very major
3 contribution to European regulation.

4 Q. Since the transition period, 11 pm on 31 December 2021,
5 do you assess that we are in a less good position in
6 terms of understanding the data available to --

7 A. I mean, mine's a lay assessment and I think you need to
8 ask that question of Dame June or other professional
9 regulators.

10 Q. I will.

11 I want you to look at a particular document, please,
12 dated 8 December 2020, INQ000153551.

13 Professor, this is a document published on
14 8 December 2020 online, and it deals with the safety and
15 efficacy of the Chimpanzee Adenovirus Oxford 1 vaccine,
16 that is the Oxford AstraZeneca vaccine, AZD1222, against
17 SARS, so coronavirus, an interim analysis of four
18 randomised controlled trials.

19 A. Yes.

20 Q. So two points, please. One, the AstraZeneca vaccine was
21 trialled not just in the United Kingdom but trialled in
22 Brazil and South Africa?

23 A. Correct.

24 Q. With different participants, different ethnic and racial
25 mix?

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1 that all of these vaccine manufacturers are
2 manufacturing for the world, as much as they possibly
3 can, subject to affordability of course. But they are
4 intending that there is a global distribution. And the
5 UK is now, particularly after having left the European
6 Union, is a very small market in the eyes of vaccine
7 manufacturers now, and there are -- there's no more
8 important regulator to us than the MHRA, but actually,
9 if you look at the FDA and the EMA, in terms of the
10 population bases they serve, they're massively larger.
11 So there is also this tension, if you're a vaccine
12 manufacturer, about which regulators are interested in
13 whatever is going on in your trial.

14 Q. But it is obviously of assistance to the UK regulator,
15 the independent MHRA, to see what other fellow and
16 similar regulators are doing in Europe and America?

17 A. Indeed.

18 Q. And they know all the time what they are doing, do they
19 not?

20 A. Now there's more of a separation now we've left the
21 European Union, but of course there was none at all when
22 the MHRA was basically one of the members of the EMA.

23 Q. Was that because we were party to the EU's
24 EudraVigilance system --

25 A. Yes --

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1 A. Very much so.

2 Q. And indeed, in South Africa, the figures for black
3 African participation as opposed to white British were,
4 of course, massively in favour of the former?

5 A. Yes.

6 Q. The second point, though, is this: looking at this sort
7 of document, were these documents giving facts, figures,
8 detail of the safety processes and the trials very much
9 in the public domain?

10 A. Once a letter is -- once a paper is published in
11 something like The Lancet -- and this is The Lancet,
12 I believe -- if it's under an open access licence, the
13 very bottom line, cc'd by 4.0, then it's a gold access
14 open article: literally any citizen on the planet with
15 access to the Internet can open and download this for
16 free.

17 Q. Right. And if we could just be good enough to scroll
18 through, rapidly, the 13 pages constituting this
19 article, we can see that it is -- that the detail and
20 the scientific knowledge that is imparted by this
21 article is at a very high level, isn't it? It's
22 extremely detailed. It's extremely learned. And it
23 would appear to hold nothing back.

24 A. And yet it would be a very small document compared to
25 the actual regulatory submission that the manufacturer

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1 will have put in to the regulatory bodies, including
 2 the MHRA. This is a précis --
 3 **Q.** This is a mass of documentation --
 4 **A.** This is just a précis --
 5 **Q.** All right. This is just a single public article.
 6 All right. In 2021, just before Easter, on
 7 14 March, the UK bodies, the MHRA, the JCVI, yourself,
 8 DHSC, were alerted to an issue of whether or not the
 9 AstraZeneca vaccine was causing what's known as
 10 thromboembolic events, so blood clotting, and also
 11 associated in some cases with low platelet levels.
 12 I'm not going to ask you questions about the extreme
 13 rarity of the event and how rare it was at that stage as
 14 well, but an issue arose about whether or not, having
 15 been alerted, the MHRA and the JCVI should put out into
 16 the public domain their advice and a concluded position
 17 before the Easter Bank Holiday weekend. Do you recall?
 18 **A.** Mm.
 19 **Q.** And the JCVI met repeatedly, the MHRA met repeatedly,
 20 and you gave a press conference, I think, on --
 21 **A.** On 7 April.
 22 **Q.** On 7 April. You also attended a JCVI meeting on 4 May.
 23 Do you assess that although the final determined
 24 position by the MHRA and the JCVI was not formally put
 25 into the public domain until after Easter, that there

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1 that point but it wasn't --
 2 **Q.** But it was obviously significant --
 3 **A.** And the other point is that the data by then were
 4 beginning to suggest -- and it wasn't my job to at
 5 adjudicate on this, it was the job of the JCVI and the
 6 MHRA -- that the data were beginning to suggest that
 7 this was an age-related signal, and I recall that the
 8 eligible cohorts at the Easter weekend were over the age
 9 of 50 at that point. We hadn't gone down into those
 10 younger cohorts that would have been affected by any
 11 change in advice.
 12 So actually --
 13 **Q.** And in respect of whom there might be a difference in
 14 the extreme or very rarity --
 15 **A.** Exactly.
 16 **Q.** -- of a thromboembolic event --
 17 **A.** And so the advice to use from JCVI and MHRA in terms
 18 of -- particularly JCVI -- in terms of vaccines that are
 19 suitable for the over-fifties, which was where we were
 20 at on the Easter weekend, didn't change, because of
 21 this. So we weren't at that really difficult point, and
 22 it could have been a lot more difficult if we'd actually
 23 been in those lower age cohorts at the time when this
 24 signal emerged. So, you know, that was just fortuitous.
 25 **Q.** The JCVI, which obviously was due to give its advice on

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1 was nevertheless a very significant amount of
 2 information about this thromboembolic event put into the
 3 public domain before the weekend?
 4 **A.** I think there was information in the public domain
 5 before the weekend and I don't think people did
 6 nothing -- well, I absolutely recall that people didn't
 7 do nothing over the Easter weekend and kind of downed
 8 tools and said, "Look, it's Good Friday, we can't do any
 9 more, we'll knock this on the head until next week". It
 10 wasn't like that at all. It was the fact that this was
 11 going to be an extremely complex piece of messaging,
 12 that if it had gone wrong in some way it would have
 13 undermined confidence in the whole of the UK vaccine
 14 programme, and therefore, it was really important that
 15 there was time to properly assemble the right messages,
 16 factual, truthful, but correctly worded, and that enough
 17 organisations who would essentially, kind of, pick up
 18 the tab for this after the announcement, understood how
 19 to respond and were not on the back foot.
 20 **Q.** So, if the information had been put into the public
 21 domain hurriedly or in a way that caused the horses to
 22 shy and the vaccination programme to halt or to be
 23 damaged, Covid-19 would carry on killing people and that
 24 would be an unacceptable risk?
 25 **A.** Yes, I don't know what the death rate per day was at

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1 whether or not the AstraZeneca vaccine should continue
 2 to be offered --
 3 **A.** Yes.
 4 **Q.** -- was obviously doing so in the context of realising
 5 that it was, in fact, the higher priority cohorts who
 6 were in the currency of being offered that vaccine, not
 7 very much younger people.
 8 **A.** Yes.
 9 **Q.** But they said that, with substantial discomfort, they'd
 10 come to the decision not to release, because they didn't
 11 want to jump the gun and get it wrong, an independent
 12 public statement.
 13 **A.** Yes.
 14 **Q.** And in a letter -- I don't think we'll bring it up
 15 because I'm not sure it's on the list, but there's
 16 a letter from Mr Hancock to Professor Lim of the JCVI on
 17 2 April.
 18 **A.** Yes.
 19 **Q.** INQ000416158. And Mr Hancock says obviously individuals
 20 "should be fully informed of the benefits and risks in
 21 a timely manner", but the letter refers to the fact that
 22 even if the JCVI doesn't issue a full statement then and
 23 there, the MHRA had updated its weekly Yellow Card
 24 reporting. There were also published weekly reports
 25 referring to the possibility of thromboembolic events,

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1 very rarely, and letters had already been sent to all
2 NHS medical directors and all primary care networks.

3 So even if the JCVI had not issued a formal press
4 statement, had the information about the occurrence of
5 these events nevertheless been disseminated across
6 a very wide scale already?

7 **A.** I think it was handled as expeditiously as it could have
8 been in a safe and controlled way.

9 **Q.** The mRNA vaccines --

10 **A.** Yes.

11 **Q.** -- so Moderna and Pfizer BioNTech, it's well known, very
12 rarely indeed, can have the side effect of causing myo-
13 and pericarditis, but importantly they can also be
14 caused by Covid-19?

15 **A.** Yes.

16 **Q.** In April 2021, news emerged in Israel of a small number
17 of young men reporting cases of myocarditis. What did
18 you do to try to get as much information about what was
19 going on in Israel as possible?

20 **A.** So I recall that I had a contact in the British Embassy
21 in Israel, I think it was Keren Shurkin, I can't quite
22 remember, and that I asked her for a rapid introduction
23 to the scientific authorities in Israel for a bit of
24 feedback on this and I think I also contacted --
25 probably it was Phil Bryan at the time, at the MHRA, and

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1 up, and you have to decide when it's the signal and when
2 it's not, and you have to also decide if the signal is
3 likely causative or not, and that is such complex stuff.

4 It is best left to people who do this for a living,
5 which is the professional regulators and their
6 pharmacovigilance arms.

7 So my view was make sure everyone is alert to this,
8 and then just leave it to the experts to work it
9 through.

10 **Q.** And did you ever see any attention falling short of the
11 utmost importance being paid to the issue of safety
12 signals and their investigation?

13 **A.** No, because I wouldn't have let it drop.

14 **Q.** And would you say the same in fact in relation to the EU
15 regulator, the EMA, of course from whom you heard
16 regularly, as well as, of course, the FDA in America?

17 **A.** Yeah.

18 **Q.** It was taken incredibly seriously?

19 **A.** Yeah, I mean, I don't have much experience of the FDA
20 but I've worked with officers from the EMA over the
21 years and I have the highest regard for them,
22 particularly in the vaccine sector.

23 **Q.** Finally, I would like to ask you some questions, please,
24 about therapeutics and in particular Evusheld. If it
25 proves not to be possible to identify, develop, and

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1 said, "Look, I've just heard this; what have you heard?"

2 Are we awake to this?"

3 But you might need to remind me through some
4 exhibits.

5 **Q.** So you emailed, I think, a number of your contacts and
6 tried to get as much information as you could, and was
7 this the position, that the MHRA had already, of course,
8 convened to look at it, as had its expert working group?

9 **A.** Yes.

10 **Q.** As had the Commission on Human Medicine. And the
11 figures showed, at least as of 12 May, 16 reports of
12 pericarditis and 19 of myocarditis for Pfizer. What was
13 the context? How many -- very roughly, how many doses
14 had been given worldwide by that stage?

15 **A.** I just can't give you a proper answer to that, but my --

16 **Q.** -- (overspeaking) --

17 **A.** -- hazard is millions, at that point. One of the things
18 about safety signals with vaccines is that they're a bit
19 like fog on the motorway, that you can be driving along
20 and it looks a bit misty but you don't yet call it
21 foggy, you call it misty, but your passenger might well
22 say, "Oh, it's a bit foggy". And there's another
23 decision about when the fog lights go on on your car,
24 and so forth. In other words, what I am saying is that
25 these things emerge very gradually as the numbers build

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1 manufacture a vaccine, or if there is a vaccine, people
2 are unable to take it, or if they do take it, unable to
3 benefit significantly from it, in such scenarios, is it
4 vital to have an alternative medicine available?

5 **A.** The very short answer to your question is yes, but
6 I would, my Lady, if it's possible like to really try
7 and elucidate for the Inquiry the relationship between
8 vaccines and therapeutics, because I don't think that's
9 necessarily come across clearly enough.

10 So at the start of a pandemic when you have a new
11 pathogen and you have nothing to throw at it other than
12 public health measures, vaccines and therapeutics are
13 both equally important, because you do not know which
14 will succeed and you already know that the likelihood,
15 in 2020, of getting a vaccine was relatively low. And
16 so you have to go after both immediately.

17 As our pandemic in 2020 evolved, by quite early in
18 2021, it was -- we were already, you know, steaming away
19 with the vaccine programme, and it was becoming
20 self-evident that alone, via the UKHSA surveillance,
21 that vaccines were really turning a handle on this and
22 making a material difference. And at that point
23 therapeutics do become less important on a population
24 basis, but still incredibly important for people who
25 fall through the net with serious illness, and require

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1 some form of rescue.

2 Now, into that space come the antiviral medicines,
3 and we, of course, had deployed molnupiravir and I think
4 we'd deployed Paxlovid as well, as the specific
5 antivirals.

6 **Q.** Is that the combination of --

7 **A.** -- that's the combination for -- (overspeaking) --

8 **Q.** -- monoclonal antibodies.

9 **A.** But to your wider point about phase I and phase II
10 development, both of those medicines didn't come through
11 those programmes, they came direct from manufacturers
12 who had it themselves or licensed it themselves and
13 wanted to pursue it through their own, kind of, clinical
14 trials development. But actually, when we, for example,
15 evaluated molnupiravir in the PANORAMIC study which
16 I know you've talked about, a platform study across
17 primary care, we found that molnupiravir in a fully
18 vaccinated population did not reduce the likelihood of
19 hospitalisation by any significant amount. That's in
20 very stark contrast to the manufacturer's phase III
21 results which showed a 30% reduction in hospitalisation.
22 That was in an unvaccinated population.

23 So I think that illustrates how, if the vaccine is
24 doing the heavy lifting in a population, there is
25 a changed emphasis on antivirals.

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1 are a great many patients with a degree of immune
2 compromise who, in my view, now have benefited very
3 substantially from vaccine, particularly as they're
4 called twice yearly at the moment by the JCVI for
5 boosters.

6 So that's the kind of complex interaction between
7 the two, and I hope it explains to an extent to the
8 Inquiry the emphasis on different -- on the acquisition
9 of different products, at different stages of the
10 pandemic.

11 **Q.** And does it follow, Professor, that -- well, is it your
12 position therefore that there was no strategic
13 inappropriate prioritisation of vaccines in 2020 over
14 the pursuit of therapeutics --

15 **A.** Yes.

16 **Q.** -- particularly bearing in mind that throughout 2020
17 there was a focus on the reprioritisation of already
18 authorised drugs which led to dexamethasone?

19 **A.** Yes.

20 **Q.** And in 2021, the development, manufacture, authorisation
21 and then making available of molnupiravir and Paxlovid
22 in particular?

23 **A.** Yes, along with some monoclonals.

24 **Q.** Along with some monoclonals.

25 **A.** Yes.

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1 Now, just to go on for one more second.

2 **Q.** Please.

3 **A.** On the therapeutic antibodies, there are two ways you
4 can use those. One is in a patient who is already
5 unwell, and because of their immune state, requires
6 a bit of extra support, and indeed, those antibodies
7 have been used by the NHS for high-risk patients.

8 The second way is, of course, to administer the
9 antivirals as a prophylaxis that will last a finite but
10 not indefinite period of time, that will need to be
11 re-administered, and whenever you, in an individual
12 patient, make a decision to stop using those antibodies,
13 that patient is returned to a state of full
14 susceptibility to the virus, unless they've acquired
15 infection along the way, and unless they've also been
16 vaccinated.

17 And to Sir Chris's point, our estimation of the
18 number of people who would not be helped by a vaccine
19 has dropped very, very substantially now. As we've
20 seen, even people who don't respond to a standard
21 two-dose prime, do respond to successive doses, and have
22 important T cell protection and so forth.

23 So I feel it's been presented as a bit binary that
24 either you can benefit from the vaccine or if you're
25 immunosuppressed you can't. It isn't like that. There

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1 **Q.** And does this second proposition also therefore follow:
2 is it your view that there was a lacuna, whether
3 prophylactically or by way of treatment following
4 infection, for the immunocompromised, a gap, they were
5 essentially left hanging, or is it your view that, to a
6 very large extent, everything that was done reasonably
7 was done in terms of trying to procure therapeutics?

8 **A.** I think history speaks for itself, that those
9 immunosuppressed patients can access treatment, whereas
10 those of us who don't those kind of conditions can't.
11 So yes, I think so. I think the notion that -- I think
12 the notion that was laid out before Sir Chris this
13 morning that what we said in February 2021 about
14 Evusheld was a kind of permanent no, that certainly
15 wasn't the case. It was a "no, not now", and not in
16 these quantities.

17 You know, we didn't have any clinical trials
18 results. The MHRA approval was later. The vaccine
19 programme was moving at real pace. We don't have
20 a virus that is obviously winter seasonal in the same
21 way that influenza is, and so timing of administration
22 would have been very tricky indeed.

23 We also had a promised very short shelf life for any
24 bulk manufacture and, with hindsight, we also discovered
25 that there was going to be a potential resistance

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1 problem with the Omicron variant, though we did not know
 2 that at the time of writing the letter. And so
 3 that's --
 4 **Q.** Is that reference -- I'm sorry to interrupt. That
 5 reference to Omicron is a reference, is it, to the fact
 6 that at the end of the process, so by 2021, when there
 7 was an issue about -- and into 2022, whether by way of
 8 treatment -- sorry, whether prophylactically Evusheld
 9 shall be offered to people who were infected, Omicron
 10 had changed the game?
 11 **A.** Yes.
 12 **Q.** It changed the rules?
 13 **A.** Yes.
 14 **Q.** Because such clinical data as there was made plain that
 15 it was less effective against this variant?
 16 **A.** Yes.
 17 **Q.** And secondly, I think the point will be put to you on
 18 behalf of the immunosuppressed: well, look, great risks
 19 were taken in relation to vaccines, great advance
 20 purchase, at massive cost at risk, before one knew with
 21 any degree of certainty whether they would work, and
 22 certainly in advance of the majority of the clinical
 23 data becoming available. Ultimately, Evusheld was put
 24 through the RAPID C-19 committee process and a decision
 25 that to be taken as to whether it was appropriate to

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1 **LADY HALLETT:** Thank you very much, Mr Keith.
 2 Ms Morris.
 3 **Questions from MS MORRIS KC**
 4 **MS MORRIS:** My Lady.
 5 Professor Van-Tam, good afternoon. My questions are
 6 on behalf of the Covid Adverse Reaction and Bereaved
 7 groups, and my questions are going to focus on public
 8 health communications about risk. You've touched on one
 9 example of that with Mr Keith a moment ago, the Easter
 10 pronouncements, but I'm going to ask you in general
 11 terms, please.
 12 You said in your statement that no vaccines are
 13 without risk.
 14 **A.** Mm.
 15 **Q.** So the question when offering clinical advice to the
 16 public is whether the benefits exceed the risks?
 17 **A.** Yes.
 18 **Q.** And you said in your statement that you consider that
 19 the Chief Medical Officer's office contributions to the
 20 public messaging about vaccines adequately reflected
 21 both the risks and benefits of vaccination?
 22 **A.** Yes.
 23 **Q.** So my question is: would you agree that enabling an
 24 individual to make an informed decision requires
 25 providing more than just a general statement that

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1 decide to proceed with it, and buy in large amounts.
 2 Why wasn't Evusheld given the same crack of the
 3 whip? The same degree of at-risk purchasing that the
 4 vaccines were.
 5 **A.** Because it was moving at so much slower a pace. And
 6 it's -- you know, at the time at which enough data
 7 surfaced to understand what it would do, we were in
 8 a completely different phase of the pandemic by then.
 9 **Q.** Because the vaccination programme?
 10 **A.** Yes --
 11 **Q.** -- was essentially complete?
 12 **A.** Yes.
 13 **Q.** Because the population had thereby been immunised?
 14 **A.** Yes.
 15 **Q.** And therefore transmission was lower?
 16 **A.** Yeah.
 17 **Q.** And it was a different ballgame?
 18 **A.** Yeah. And indeed many of the immunosuppressed
 19 population would -- well, all of them, pretty much,
 20 would have been vaccinated, and a substantial majority,
 21 we now have understood, will have some degree of
 22 protection from the vaccine programme, and how it is
 23 applied to them.
 24 **MR KEITH:** Thank you.
 25 My Lady.

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1 benefits outweigh the risk, but also specific
 2 information about those risks to allow them to make an
 3 informed, independent assessment of whether the vaccine
 4 is something that they want to undertake?
 5 **A.** Yeah. So I want to be clear that the assessment of
 6 risk-benefit itself was done by the JCVI, not the UK
 7 chief medical officers.
 8 **Q.** Understood.
 9 **A.** It was our job to communicate it.
 10 I think there were a multitude of sources available
 11 to explain what the potential adverse events were. That
 12 communication is generally in the domain of the
 13 UK Health Security Agency, but I think we did our very
 14 best to be fair and realistic about that.
 15 And indeed, at vaccination sessions, I would say
 16 pretty much every patient I saw was given a patient
 17 information leaflet at the time of vaccination by either
 18 the vaccinator or the clerk helping the vaccinator in
 19 the booth. So I think there was a very substantial
 20 amount of opportunity --
 21 **Q.** Thank you.
 22 **A.** -- to ask questions.
 23 **Q.** Thank you. Well, the Inquiry may hear more evidence
 24 about patient information leaflets throughout the
 25 evidence, but you say further that -- in your statement,

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1 that:

2 "... relative risks can [themselves] be misleading
3 when communicated to non-experts if the effect of the
4 size is very rare ..."

5 And you said as well that that doesn't mean that you
6 shouldn't use such statistics but that they should be
7 put into context, and therefore reducing the risk of
8 harming public confidence in a vaccine, and therefore
9 reducing the risk of vaccine hesitancy.

10 So it seems to be you're sort of talking about the
11 way that information is packaged and put forward in
12 public messaging; is that fair to say?

13 **A.** Yes. I don't think I want to, unless, my Lady, you want
14 me to, to go through again relative and absolute risk.
15 I think that was very well taught this morning.

16 I think the things you talk about are important, but
17 I think they were very well handled.

18 **Q.** Okay. My next question is: do you believe that the
19 messaging you referenced sufficiently empowered
20 individuals to understand those risks in detail rather
21 than relying on, sort of, general and consistent
22 pronouncements that the benefits outweighed the risks?

23 **A.** So I'm a great believer in doctors treating their
24 patients as if they were their relatives, their loved
25 ones, because I think that way, you get the very best

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1 Earlier in your evidence you mentioned controversial
2 decisions and it's on the issue of difficult decisions
3 to be made during a pandemic that I'd like to ask you
4 about.

5 The Inquiry heard last week about the MEAG, the
6 Moral and Ethical Advisory Group which was closed in
7 October 2022. The Scottish Covid Bereaved suggest that
8 a body be set up to deal with medical ethical issues
9 which could provide advice, for example, as to what to
10 do in a pandemic when demand for vaccinations outstrips
11 supply, if that ever comes to pass.

12 Is this an issue that might helpfully and workably
13 be considered by such a body, and if so, do you think
14 that the CMOs of each country should be part of that
15 body?

16 **A.** So, first of all, the idea of ethical decisions in
17 medicine and public health practice is definitely not
18 new, and MEAG, to which you refer, was, as far as
19 I understand it -- and I didn't follow that committee
20 greatly -- an evolution from CEAPI, which was
21 the Committee on the Ethical Aspects of Pandemic
22 Influenza, which I remember being set up to consider
23 ethical issues in relation to a pandemic,
24 particularly -- well, obviously, a flu pandemic, but
25 around potentially the use of very scarce resources such

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1 out of doctors, and, you know, my doctors quite often
2 get asked, "Well, what would you do if I were your
3 relative?" Because I think that's, you know, you hit
4 the nail on the head there.

5 I have been very public in communicating with the
6 public that I told my mother, and that she was to have
7 her coat on, and to be ready for the first available
8 vaccine slot that I could get her, wherever it was in
9 the UK -- as it happened it was where she lived -- but
10 I think that's important. And I think we know from
11 influenza vaccination that the strongest advocate of
12 vaccination, the strongest advocate of helping a patient
13 to understand risk and benefit, is for a practitioner to
14 say whether they themselves have been vaccinated; and we
15 know that is very effective in terms of flu vaccine
16 uptake.

17 So that's the most important -- they're the most
18 important communication facets.

19 **MS MORRIS:** Thank you, my Lady.

20 Thank you, Professor.

21 **LADY HALLETT:** Thank you, Ms Morris.

22 Ms Mitchell, who is that way.

23 **Questions from DR MITCHELL KC**

24 **DR MITCHELL:** I appear as instructed by Aamer Anwar &
25 Company on behalf of the Scottish Covid Bereaved.

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1 as the intensive care unit, were they to be overwhelmed.

2 Now, we never got into a position, the scenario
3 described of running out of vaccines, but I imagine that
4 we would have put that back to JCVI saying that we can't
5 deliver what you recommend; what do we do about it? And
6 I imagine that there would have been a discussion with
7 MEAG at the time.

8 So yes, I think ethics is very important in these
9 big public health crises, but I think the question
10 you're asking about should such a body exist in a kind
11 of standing way is probably one that ought to be
12 addressed to the Department of Health and Social Care,
13 or even to the Cabinet Office, rather than me as the
14 DCMO as was.

15 **Q.** Sorry, just one final question on the point of who might
16 be involved in that body, do you think it would be
17 helpful if a CMO or Deputy CMO would be part of that
18 process?

19 **A.** I think the expert groups need to have the right
20 constitution of experts and laypeople on them. I think
21 there's a point about a CMO or a DCMO being present as
22 an observer in the same way that I was privileged to be
23 an observer at JCVI meetings whenever I could manage it,
24 which was most of the time.

25 But CMOs and DCMOs in a pandemic crisis are pulled

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1 a thousand ways each time of day and I don't want to
 2 give you a dishonest answer that I could necessarily
 3 have prioritised those meetings had I been invited.
 4 **DR MITCHELL:** Thank you.
 5 **MR KEITH:** My Lady, it may assist if I simply observe, very
 6 briefly, that in the three witness statements of
 7 Clara Swinson from the DHSC, the Department of Health
 8 and Social Care, there are references to the role of
 9 MEAG. It reported on age, morality issues, the
 10 vulnerability of people who work in frontline
 11 occupations, VCOD uptake amongst minority communities,
 12 younger adults, wastage, passport certification and
 13 a host of other issues. And there is a witness
 14 statement from the chair, the co-chair of MEAG,
 15 Sir Jonathan Robert Montgomery in the written material.
 16 **LADY HALLETT:** Thank you very much, Mr Keith.
 17 Professor, thank you so much for your help, all that
 18 you did, obviously, during the pandemic and the help
 19 that you've provided to the Inquiry. I hope that you
 20 don't go near Whitehall soon, when you referred to the
 21 joy of leaving Whitehall. So thank you very much for
 22 everything you've done.
 23 I think the stenographer, apart from everybody else,
 24 deserves a break, so if Dame Jenny Harries will forgive
 25 me, we shall take a break now and I shall return
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1 Agency, or UKHSA.
 2 And the second is INQ000474715, that's a short
 3 supplementary statement, again provided by you on behalf
 4 of the UKHSA; is that right?
 5 **A.** Yes.
 6 **Q.** Are those statements true to the best of your knowledge
 7 and belief?
 8 **A.** Yes.
 9 **Q.** Thank you. As I say, you've given evidence to the
 10 Inquiry before, so I can deal with your illustrious
 11 professional background rather briefly, but you are the
 12 chief executive officer of the UKHSA?
 13 **A.** That's correct.
 14 **Q.** Prior to taking on that role, you were one of the Deputy
 15 Chief Medical Officers for England from 15 July 2019 to
 16 31 March 2021?
 17 **A.** Yes.
 18 **Q.** Before your appointment as DCMO you were regional
 19 director for the south of England within Public Health
 20 England --
 21 **A.** Yes.
 22 **Q.** -- from 2013 to 2019. Alongside that, you were interim
 23 deputy national medical director for PHE from 2016 to
 24 2017?
 25 **A.** Yes.

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1 at 4.00.
 2 (The witness withdrew)
 3 **(3.43 pm)**
 4 **(A short break)**
 5 **(4.00 pm)**
 6 **LADY HALLETT:** I'm sorry we've kept you waiting so long,
 7 Professor Harries, as you've probably heard, we've had
 8 quite an intensive day.
 9 **MR MANSELL:** Thank you. Could the witness be sworn, thank
 10 you.
 11 **PROFESSOR DAME JENNY HARRIES (affirmed)**
 12 Questions from COUNSEL TO THE INQUIRY
 13 **MR MANSELL:** Could you give the Inquiry your full name
 14 please.
 15 **A.** Jennifer Margaret Harries.
 16 **Q.** You are Professor Dame Jenny Harries, I will refer to
 17 you Professor Harries, if that's okay.
 18 Thank you very much for attending today to assist
 19 the Inquiry. You have kindly provided witness
 20 statements and oral evidence to the Inquiry previously.
 21 In fact, you've given evidence in all three previous
 22 modules of this Inquiry.
 23 In terms of Module 4, you have provided two witness
 24 statements: the first is INQ000492334. That is the
 25 corporate statement on behalf of the UK Health Security
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1 **Q.** And from April 2017 until you commenced the DCMO role,
 2 you also formally held the strategic incident deputy
 3 medical director role at PHE?
 4 **A.** That's correct.
 5 **Q.** And in terms of your training, your background is as
 6 a clinical doctor with specialist training in public
 7 health medicine.
 8 **A.** Yes.
 9 **Q.** Could we start, please, by just establishing some things
 10 about the UKHSA. It is an executive agency of the
 11 Department of Health and Social Care, and is it right
 12 that it became fully operational from 1 October 2021?
 13 **A.** That's correct.
 14 **Q.** Its role is to protect the public not only from
 15 infectious diseases but also from external hazards such
 16 as chemical, radiological, nuclear, and environmental
 17 threats?
 18 **A.** That's correct.
 19 **Q.** You explain that UKHSA brings together expertise from
 20 several predecessor organisations, and those include
 21 PHE, and the Vaccine Taskforce, or VTF?
 22 **A.** Yes, and the Joint Biosecurity Centre as well.
 23 **Q.** Your witness statement addresses the work of the VTF.
 24 The work of PHE is addressed by your colleague,
 25 Dr Mary Ramsay from whom we'll be hearing later in this
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1 module, but is it right that you will be addressing the
2 "Lessons for the Future" section of Dr Ramsay's witness
3 statement?

4 **A.** That's correct. And if I could just step back to the
5 VTF, as UKHSA we only absorbed a small component of that
6 so it wasn't the whole of the previous function in VTF.

7 **Q.** And we'll look at that in some more detail as well but
8 that's an important clarification. Thank you.

9 Your main Module 4 statement helpfully sets out
10 a narrative of events in terms of the work of the VTF,
11 and there's no need for us to rehearse all of that
12 evidence. Instead -- although it is very valuable to
13 the Inquiry -- but the focus of my questions today will
14 be in two parts. First, on some discrete issues
15 relevant to vaccines and therapeutics, including some
16 advice you gave as DCMO during the pandemic, and also on
17 lessons learned and recommendations in terms of what can
18 be drawn from the work of the VTF, looking ahead to the
19 next pandemic.

20 So can we start, please, with the topic of
21 vaccination as a condition of deployment, or VCOD, and
22 in February 2021, in your role as DCMO you were asked
23 for your view on DHSC advice about making vaccination
24 a condition of deployment in care homes.

25 We can see the relevant email at INQ000153737. And
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1 If Covid goes well, we could boost vaccine uptake for
2 the ethnic minorities in all communities and gain years
3 of life now and in the future. If it goes wrong, we
4 lose children and parents and the communities spiral
5 down with ever increasing inequality."

6 Do you think that sufficient consideration was given
7 to the potential impact on health inequalities when it
8 came to implementing VCOD?

9 **A.** So I think the position around inequalities was well
10 understood, and what you don't see behind this is
11 a significant amount of discussion within the Department
12 of Health. And I wouldn't like to suggest this is the
13 only opportunity I had to input.

14 I think there is a point here which is -- and it
15 applies to many things through the pandemic, that there
16 is often a drive or a push or a feel that inevitably one
17 has to respond quickly to something, and what I was
18 trying to flag here was, in the midst of gloom, there
19 was actually a potential long-term opportunity, that if,
20 at a time when people saw vaccines, quite rightly, as
21 something which was going to pull us out of the
22 pandemic, that would be a positive lever for the future,
23 for other vaccination programmes, that start to reduce
24 inequalities. That's a very difficult position to hold
25 in the middle of the pressures of a pandemic. And so
195

1 this is an email from you on the issue of VCOD,
2 15 February 2021.

3 I think there was an attachment earlier on in the
4 email setting out some -- the DHSC policy position, and
5 this is you expressing your view.

6 You say at the top of that page:

7 "I have been quite outspoken on the attached. I am
8 hugely supportive of getting care homes protected, but
9 I have seen no evidence to suggest that this policy is
10 going to result in more benefit than harm. My personal
11 gut feeling (agreed not a scientific parameter!) is that
12 it is hugely risky with the workforce we are dealing
13 with in areas with the most deprivation and likely
14 issues with attracting staff."

15 And you go on to set out your views. In the last
16 bullet point of that email, on that page, you say:

17 "Of most significance is my concern on potential
18 racial 'antagonism' when such a large proportion of the
19 workforce in critical areas are from ethnic minority
20 backgrounds and particularly when low rates of uptake
21 are not being addressed in this way in doctors and
22 nurses."

23 And you go on:

24 "Most of all, I am concerned about the impact on
25 wider vaccine uptake and subsequent health inequalities.
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1 although you can see that in general I was leaning away
2 from it, if I had a personal view, that was one of many
3 views at the time, and there were many good, logical
4 reasons that I also understood for why you want to
5 maximally protect a care home immediately.

6 **Q.** You're writing this in February 2021. Here we are in
7 January 2025. In your view, did Covid go well, or go
8 wrong in terms of vaccine uptake and subsequent health
9 inequalities?

10 **A.** So the short-term impact of this was that care --
11 vaccination of care workers rose in the immediate time
12 period. And one of the critical underlying factors here
13 was, at this time, the workforce -- I was thinking
14 particularly about London, where 50% or more of the
15 workforce in minority and ethnic areas and most of the
16 deprived areas was from minority and ethnic workers.
17 They are the bedrock of providing services.

18 So if, as I think I -- one of the opening statements
19 suggested, people had perhaps taken a break rather than
20 been forced to have it, the whole system would have
21 collapsed and we would have had then risks to life,
22 potentially, because we would not have workforce for
23 those elderly people needing care.

24 I think, from some of the evidence that's been put
25 forward, and it's difficult to estimate this in
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1 scientific parameters, statistically, but I think what
2 we have seen is it is the trust element behind this
3 which goes.

4 I actually personally think every clinician, every
5 hear, every frontline support worker, absolutely it's
6 their responsible to do what they can to protect those
7 that they care for, but I would rather see it introduced
8 in a way which is longer term, sustainable, and based on
9 trust and good information.

10 **Q.** Finally on this, did we get it right, VCOD for workers
11 in this situation, or is there anything to be learned in
12 terms of lessons for the future in the next pandemic and
13 how we go about it?

14 **A.** So I think my comments here are a microcosm of what I've
15 seen in more general programmes. So, for example,
16 you're probably aware of the measles outbreak around in
17 Birmingham, Wolverhampton, and I was struck when I was
18 visiting that many of the communities there, it is
19 a long-term trusted relationship. It's not about an
20 occupation or a transactional reaction or an ethnic
21 background; it's about a community and individuals in
22 it, and they need to have those long-term sustained
23 relationships, on a non-transactional basis, where
24 people understand what is important to the community as
25 well as what we see as important to protect the

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1 and we can see that as we move down. Thank you.

2 You say:

3 "The rationale for appearing to be unhelpful in your
4 immediate ask is because of the wider implications."

5 And you set out your logic there as follows:

6 "1. The agreed prioritisation of vaccinations being
7 to save lives.

8 "2. ... mortality and morbidity rates amongst school
9 teachers are either lower than or similar to relevant
10 comparator occupational groups.

11 "3. Children themselves rarely get seriously
12 ill ...

13 "4. All teachers who are clinically extremely
14 vulnerable should have been vaccinated by now ..."

15 And you go on to list some further factors there.
16 And you say at the bottom of this email, a bit further
17 down the page:

18 "Quite apart from this more logical discussion, such
19 a move would inevitably open the flood gates to every
20 other group of workers who may feel they lack confidence
21 in the current pandemic ..."

22 You give some examples.

23 "... all public facing and essential for current
24 ability to maintain a relatively normal and probably all
25 meeting a higher number of new social interactions

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1 population.

2 **Q.** That can come down. Thank you very much.

3 Next topic is prioritisation decisions of the JCVI
4 and how those decisions are taken, which groups are
5 prioritised. And you may be aware that the Core
6 Participant group, Covid-19 Families for Justice UK, has
7 raised concerns about whether teachers and perhaps other
8 key workers should have been prioritised for
9 vaccination.

10 And indeed, the Inquiry heard moving evidence last
11 week from Helena Rossiter about her son, Peter, who was
12 a teacher. And he sadly contracted Covid-19 and passed
13 away in August 2021.

14 In February 2021, the director of public health at
15 Liverpool City Council contacted you about piloting
16 a scheme which prioritised vaccination for teachers,
17 something that would have been outside of the JCVI
18 guidance on prioritisation. It was said that such
19 a pilot would reflect the priority of reopening schools,
20 keep infection rates low in schools, and build
21 confidence among parents and school staff. And we can
22 see your response to that idea at INQ00072914, please.

23 And here we go. This is your email response,
24 25 February 2021. Now, you were against such a pilot,
25 and you set out in your email a number of points why,

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1 through their workplaces than teachers."

2 So you're talking there about the floodgates being
3 opened.

4 You do go on in the next paragraph to stress that
5 having a really clear and simple rollout programme for
6 the UK has enabled delivery of the vaccine, but you do
7 so:

8 "Whilst you will know I am usually hugely in favour
9 of local variations and process adaptations this is one
10 where I think [the] outcomes could ... be different ..."

11 What did you mean when you said you were usually
12 hugely in favour of local variations and process
13 adaptations?

14 **A.** So, first of all, can I just say, I did listen in detail
15 to Ms Rossiter's hearing appearance, and so my
16 condolences to her because she will be very interested,
17 I'm sure, in the logic that went through this, but
18 obviously we are looking, as we've heard, at population
19 health and the delivery of a whole-country vaccination
20 programme.

21 The reason I put that is because my background,
22 which you didn't get to, is actually I've spent more
23 time as a director of public health in local communities
24 and the starting point for where I think is in
25 communities, not in a Whitehall office somewhere, and

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1 Matt Ashton was one of my previous fellow directors of
2 public health and I would often have directors of public
3 health emailing me to keep in contact, if you like, or
4 if there were queries around why we were doing something
5 or if something had been announced, if they had
6 information, they would come to me. So as a friendly
7 voice, if you like, a friendly contact in CMO's office.

8 So that's what this means here and what -- Matt will
9 know that, I understand sometimes you need to use local
10 variation to get the right impact, to reach people, as
11 we've been speaking about, I think, a lot during the
12 Inquiry. And so what I was saying was I understood why
13 he might be trying to do something differently, but why,
14 unusually for me -- I'm very supportive -- in this case
15 I didn't feel that was the right approach. And quite
16 apart from the overall logic about the epidemiology and
17 the evidence that we had to date, two things: one is, it
18 would have been a study and it would have required
19 ethics approval, and I didn't consider the logic would
20 actually have given that. So that would be a no-goer.

21 But actually, there is a very simple point here,
22 which is the rollout of the programme, the vaccination
23 programme in the UK, was unprecedentedly quick. And
24 actually, stepping across, trying to put in variations,
25 if Matt had gone in one direction and another director

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1 Dr Ramsay raising the concern that the information there
2 was inaccurate and misleading, and eventually she brings
3 it to your attention, but there is no suggestion that at
4 any stage you were responsible for updating the advice
5 or were responsible for the fact that it may have been
6 misleading.

7 So you say, or rather Dr Ramsay says, in the email
8 at the second half of that page:

9 "Dear Jenny, to be aware, I have requested clearance
10 to change NHS website which is currently out of date for
11 information on clots ..."

12 And this is 2 April 2021, so we're now on the eve of
13 that advice from the JCVI changing on 7 April, we'd
14 heard about this critical period with Jonathan Van-Tam
15 a little earlier. This was the weekend over which there
16 was some correspondence about how this would be
17 communicated to the public.

18 And Dr Ramsay says:

19 "... sort of me against DHSC comms -- CMO in
20 between -- sub going to [Secretary of State], long
21 story, but it was never updated after last MHRA press
22 release because we were waiting for updated advice --
23 dragged on so long it was then too late. Current
24 content links to out of date MHRA story with very bad
25 advice about presenting -- implying you have to have

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1 of public health in another, very soon what you'd find
2 was the whole of the programme would have been disrupted
3 and we would have been focusing on small groups with
4 much lower risks of mortality rather than covering the
5 whole population very rapidly in a systematic and
6 clinically prioritised way.

7 So again, broadly very supportive of local variation
8 and seeing things from a community side. In this case,
9 I didn't feel it was the right thing to do for the
10 reasons stated.

11 **Q.** Is an important lesson for the future here about the
12 clarity and simplicity of the JCVI approach and how
13 effective that was?

14 **A.** Yes, I think we've spoken a lot about communication and
15 you can never do too much communication and there will
16 always be a problem with it somewhere, but for something
17 of this size, in trying to protect a whole population,
18 that simplicity, to my mind, was a really important part
19 of the success of the vaccine rollout.

20 **Q.** Before we move on to VTF, lesson learning, one more
21 email, please. And it's INQ000534168.

22 It's an email chain between Dr Ramsay and others
23 including, eventually, you. And I'll just say at the
24 outset, this a long email chain in relation to
25 information on the NHS website about blood clots and

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1 four days of headache rather than headache starting more
2 than four days after vaccine."

3 If we just move down the page, please, we can see
4 that -- just go back up, please. There we go. We can
5 see that Dr Ramsay has put an excerpt of the MHRA advice
6 there. And your response at the top of the page:

7 "Very grateful for update.

8 "Given the various arguments that have been
9 elaborated", nothing further to add but keep me up to
10 date, essentially.

11 That can come down from the screen. Thank you.

12 Are there any lessons we can learn from this, in
13 terms of ensuring that the public is kept up to date
14 about safety and risk? In particular, looking at that
15 email, it seems like a lot of bodies were involved in
16 signing off advice, you've got NHS Digital, the
17 Secretary of State, DHSC comms, MHRA, OCMO, all of these
18 people having a say on how this should be coordinated.
19 Is there -- were there too many cooks in terms of
20 getting this message out there and making sure it was
21 accurate?

22 **A.** So normally this would flow very smoothly. I don't
23 think there's a problem. I don't think there's --
24 I think it's actually important for public safety in
25 this case that there are a lot of cooks. It means, as

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1 there is Mary and me, and CMO, and MHRA, everybody
2 actually trying to keep a focus on what is happening,
3 and interrogating information. So I think the fact that
4 there are lots of eyes looking and trying to get it
5 right is important.

6 The critical point here was that, if I remember
7 correctly, this was -- there were two elements. One was
8 the actual articulation of the MHRA advice. So whether
9 it had been -- and it's surprising how a change of two
10 or three words will give a different meaning or imply
11 something differently to different people, and I think
12 Dr Ramsay was quite outspoken in her view of how that
13 had been articulated.

14 So that was one issue, but then it ran in, and there
15 was no suggestion that anybody disagreed that that
16 should be rephrased. That was -- it in the public
17 domain, it wasn't new, it wasn't being kept from the
18 public. The difficulty was in trying to move that at
19 the same time as putting new advice out which built upon
20 it. And I think this was the day before a bank holiday
21 weekend, and I think there's a general consensus from
22 everybody, advice should go out as quickly as possible,
23 people should always have informed consent. But in
24 order to have properly informed consent, everybody who
25 is part of that conversation needs to have the right

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1 management office, supply management and supply
2 readiness functions were transferred to the UKHSA; is
3 that right?

4 **A.** Yes.

5 **Q.** Now, we've heard evidence this morning from
6 Alexandra Jones about the manufacturing perspective in
7 terms of vaccines and preparedness for the future. How
8 much does UKHSA take an interest in that, and are you
9 able to talk to us a little bit about where we are in
10 terms of manufacturing capability?

11 **A.** So I think technically and logically, we do not have
12 a remit to actually look at that. I think we should.
13 And so the interest is very definitely there. And work
14 which we have undertaken as we've come -- started to
15 come out of the Covid pandemic and looking to prepare
16 for the future, is very much based around the 100 day
17 model. So the UKHSA holds the UK secretariat for the
18 100 day model, so trying to get diagnostics,
19 therapeutics and vaccines, where possible, within that
20 100 days, alongside the -- so we're working, if you
21 like, within the UK to try to do the same thing which we
22 are supporting internationally.

23 So when it comes to things like the capacity to
24 deliver vaccines or manufacture or have substrates
25 available for that production, to my mind those are key

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1 evidence and information to enable an individual to have
2 that consent.

3 And so I think from around this time, there was --
4 and I could see in the email, which was why I didn't
5 step in actively -- there was a discussion going on
6 across the department and with all of the communications
7 experts, professionals, and JCVI, as to what was the
8 safest and most robust mechanism to get the information
9 out to the public as quickly as possible, and it was
10 agreed by consensus that it would be afterwards. It was
11 simply -- there was a risk actually in the public
12 receiving inaccurate information or half of the
13 information and taking action.

14 I think also over the weekend, importantly, the
15 advice that did come out later was going to be for the
16 younger age group, and the people who were being
17 vaccinated over the weekend were those in the --
18 50 or above.

19 **Q.** And we heard similar evidence not long ago from
20 Jonathan Van-Tam.

21 Let's move to the Vaccine Taskforce, please, and
22 lessons that can be learned in relation to that.

23 On 1 October 2022, the VTF's functions transitioned
24 to the UKHSA, the Office for Life Sciences, and DHSC.
25 The VTF strategy and analysis, commercial and project

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1 components of any work we might do on surveillance, to
2 detect new pathogens, on genomics, whether we are
3 looking at what vaccines exist already, how we're
4 working on the international front; because the logic is
5 if you don't have the manufacturing capacity, there's no
6 point having done the stuff upfront. So I see this as
7 a whole continuum in which we should be directly
8 involved.

9 So we have done work recently, probably not to
10 discuss in detail here, around what vaccines and, to
11 some broad extent, what capacity we have. And I think
12 some of the comments colleagues have written in
13 statements I would tend to agree with, which is we do
14 not have, in this country, complete coverage, if you
15 like, of all different technologies that we might
16 require. And we certainly don't have a logic, I think,
17 sitting behind it.

18 I suppose, from my perspective, the part that's
19 missing is not -- is the connectivity within the
20 Department of Health and the Department for Science,
21 Innovation and Technology, and there is, I think,
22 a Civil Service clunkiness in ensuring that those
23 facilities exist.

24 And if I give an example, because I know it's been
25 a topic of the Inquiry, whether or not VMIC is the right

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1 thing to be available or should have been sold, or
2 whatever, actually the UKHSA wasn't consulted in any way
3 at all. And I think what this underlies is a wider
4 issue about government internally knowing what skills,
5 capabilities it has at its disposal in order to link
6 them effectively in peacetime and be ready to go in
7 a pandemic.

- 8 **Q.** I was going to ask you about that because, arguably, one
9 of the great benefits of the Vaccine Taskforce was it
10 took this global view of the vaccine journey. It was
11 looking at what was available in terms of the market,
12 procurement, manufacturing capability, and it also
13 advised to a certain extent on deployment as well,
14 limited, but it did play a role. It was that whole
15 vaccine journey that it had a look at and had
16 responsibility for. It sounds like -- and it's taken
17 from your statement -- that that has now been fragmented
18 across departments. Is that something that needs to be
19 fixed?
- 20 **A.** So I -- if I step back, it was very interesting, when
21 the part of the Vaccine Taskforce that came to UKHSA --
22 and I might say I very voluntarily and actively grabbed
23 them, for the reasons which we are talking about, they
24 came into the UKHSA as the COVID Vaccine Unit, and they
25 came with skills and approach, a way of doing things

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1 did have a very, very clear mandate, with a very
2 significant budget, and a very active leadership, and
3 those were all good. The thing that really pulled it
4 out was the connectivity with the -- with industry, with
5 pharma and biotech, and that is the area which, in
6 UKHSA, I am trying to replicate. And I can go into some
7 of the ways that we're doing that.

- 8 **Q.** Let's look at the relationship with industry through the
9 lens of the cancellation of the Valneva contract.
10 And just some background to this, September 2021,
11 the UK decided to cancel the vaccine supply contract
12 with Valneva. This vaccine was a whole inactivated
13 virus vaccine technology, a well-established technology
14 for developing effective vaccines. It was the only
15 inactivated whole virus candidate in the VTF portfolio.
16 And you will have seen the concerns that have been
17 raised by a number of Module 4's witnesses in relation
18 to the cancellation of that contract.

19 Dame Kate Bingham describes the cancellation as
20 "inexplicable" and says that it is a hallmark of the
21 adversarial approach that was taken to industry since
22 she left the Vaccine Taskforce. She says it sent the
23 worst possible message to any future UK industrial
24 investor or life sciences partner. And Dr Clive Dix
25 who, of course, was the interim chair of the taskforce

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1 which we need to capture for the longer term. That
2 doesn't mean what was happening originally was wrong;
3 it's more horses for courses. We want slow, steady,
4 business as usual for some programmes, and we need the
5 alacrity of the Vaccine Taskforce to be able to go when
6 we need it.

7 What was very interesting was it took me quite
8 a while -- I stood back and said: what is it that the
9 Vaccine Taskforce has done that makes it different? And
10 tried to look from the eyes of those who had, if you
11 like, come over to UKHSA. Many of the things which they
12 cited as part of the Vaccine Taskforce, quite rightly
13 from their perspectives, were things which I knew were
14 not part of the Vaccine Taskforce. They were existing
15 parts of the system. So, for example, the work which
16 was done at Porton Down -- Porton Down was actually
17 PHE laboratories, but it wasn't recognised that that was
18 a scientific site of excellence to start with.

19 The registry, I think, was, I think -- and I may be
20 wrong on this one -- based on a registry which existed
21 but actually needed hauling into the 21st century.

22 There was surveillance systems and genomic systems
23 that were running.

24 So I think what the Vaccine Taskforce did, there was
25 some very specific things. One is it was contextual, it

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1 after Dame Kate Bingham left, is similarly critical.

2 Now, you were not involved in this decision but you
3 are the UKHSA corporate witness giving evidence here at
4 this module of the Inquiry. What lessons, if any, does
5 the UKHSA draw from the Valneva episode in terms of
6 ensuring positive relationships with industry?

- 7 **A.** So I might take that in reverse because it assumes that
8 the relationships with Valneva and with industry are
9 poor now, and I don't think that is the case. So I have
10 read Dame Kate's statement, and Clive Dix's, and the
11 assumptions that -- I mean, we actually have been
12 working with Valneva directly, the Livingston factory is
13 operational. There are vaccines for chikung-- well,
14 working towards chikungunya, but Japanese encephalitis,
15 I think, being developed there. And I think if you look
16 at the statement from the Valneva representative, I
17 don't know if they're speaking in due course, it
18 actually says that we would work with HMG in the future.

19 So I think objectively, that is not the case and, in
20 fact, we have -- as UKHSA, we have an invitation to go
21 to the Livingston factory this year and they are part of
22 our forum in the 100 Days Mission work of working within
23 industry. They are one of our partners.

24 So we should not be too pessimistic, I think. That
25 signals there's a very healthy relationship with

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1 industry.

2 The issue with the Valneva contract is -- does flag,
3 I think, attention between some of the issues to do with
4 why the taskforce was successful, but also why it starts
5 to fall into difficulties when we get into routine
6 business as usual, so if you back -- I think we've said
7 we back lots of horses, there were seven main contracts,
8 we thought there was a 5% to 10% likelihood success.
9 Actually, if seven of them succeed -- some of them are
10 likely to be better than others -- it is important when
11 JCVI makes its decisions, that those decisions are based
12 on using the best vaccines, the most cost-effective
13 vaccines for the population. And unfortunately, despite
14 all of the various stages of growing things and variants
15 and what have you, by the time we got to the critical
16 point, I think Valneva could not deliver against its
17 contract. It had a contract which it had agreed and the
18 taskforce had agreed, and moreover, the product was not
19 going to be likely under any circumstance in the future,
20 even though it was actually given a conditional
21 authorisation to be put forward as a preferred
22 JCVI-recommended vaccine.

23 Now, I think to some extent that's inevitable, if
24 you have seven different positive outcomes from trials,
25 and there are two things that I think are important.

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1 And, you know, the decision was taken by -- with
2 ministers' approval and with direct approval by the
3 Chief Secretary of the Treasury, with all of the factors
4 around employment in Scotland and the share price
5 changes and everything else, absolutely understood.

6 So I think it was a very well-considered decision,
7 albeit clearly not one that Valneva would have wished
8 for at the time.

9 **Q.** Let's move now, please, to current preparedness and
10 again, it's only right that I air some of these concerns
11 that have been raised about the state of the UK's
12 preparedness. Dr Dix expresses the view that the UK is
13 now in a weaker position than it was prior to the
14 Covid-19 pandemic, and that we don't have any
15 resilience.

16 And Sir John Bell in his words, he says, "Someone
17 needs to get a grip" and presumably, it's the UKHSA that
18 is going to be foremost in getting that grip.

19 Is VDEC, the Vaccine Development and Evaluation
20 Centre, an important part of gripping the situation and
21 ensuring resilience? And if so, could you tell us more
22 about that, please.

23 **A.** It is, but it's all the systems around it as well. And
24 I think, without sounding like I'm on a ticket to the
25 Treasury, it is important to understand the resource

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1 One is, I think there's an implication in many of the
2 statements that people don't realise that -- it appears
3 that there is a focus on mRNA vaccines. I have stood up
4 at the World Vaccine Congress in Washington and said
5 very clearly we need to understand and keep working on
6 the different technical modalities because there will
7 be -- horses for courses -- that sometimes some will
8 work, others won't.

9 In this case I think there was an assumption that
10 those who were perhaps -- it was a fairly standard
11 vaccine platform, well used, that those who were
12 immunosuppressed might actually have a better booster
13 result from this. That was not what happened in
14 practice evidentially, so we couldn't use it for that
15 basis.

16 And at the end of the day the contract had been
17 agreed. So there was a shared risk with all of these
18 contracts, quite a wide risk, taken by government, but
19 at some point government has a responsibility to the
20 taxpayer and I think that was factored in, but moreover,
21 if the basis was actually to ensure that we onshored
22 that sort of technology, then my view is perhaps it
23 should have been a different sort of contract, because
24 this was a fairly standard contract that needed to be
25 followed through.

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1 which is available. So I think we are getting a grip,
2 it's not just our responsibility either, but the parts
3 that we can do, we are actively tackling within the
4 budget that we have. I mean, our budget now is about 3%
5 of what it was at the time when the Vaccine Taskforce
6 was operating and the pandemic was at its height. So it
7 is a very, very different context that we're working in.
8 But equally, we're not trying to respond to a pandemic
9 at the same time.

10 So the Vaccine Development and Evaluation Centre is
11 sitting within a whole pathway of work that we're doing.
12 It stems right from the opportunity to contribute to
13 international surveillance. So I noted, for example,
14 Professor Horby's content was suggesting we should be
15 working, for example, with BARDA -- the American
16 research -- we do. We are contracted with them on an
17 indefinite contract with indefinite quantity. So, we
18 are, I think, the only international partner who has
19 that sort of relationship outside of the US.

20 We are working with their own data outbreak
21 forecasting centre.

22 We, in the UK, have contributed in leading key parts
23 of the new UK national bio security strategy, that was
24 published in 2023. So that surveillance data allows us
25 then to feed into and start to predict, in the same way

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1 that and contributing directly to WHO work on the R&D,
 2 the blueprint for likely pathogens coming up, and we
 3 have done some early work -- and VDEC is involved with
 4 some of this as well -- on the priority pathogen family
 5 for the UK, if you like, and that includes endemic
 6 disease and AMR, and we are developing what we've called
 7 a tool, an R&D tool, and we have shared some of that.
 8 It's not quite finalised yet but it is doing exactly
 9 what I think many of the contributors to the Inquiry
 10 have said, which is to look ahead to develop products
 11 against the pathogen, priority pathogen families, and
 12 start to look -- scan where we have vaccines or
 13 therapeutics and where there are big gaps.

14 So the Vaccine Development and Evaluation Centre,
 15 what that is doing is contributing both to the
 16 surveillance but it is also supporting industry. We do
 17 contracted work, but we also start to develop novel ways
 18 of looking at things. So we -- sorry, I've had a senior
 19 moment here. There's a chip mechanism for trying to
 20 construct different ways of looking at tissue, so rather
 21 than looking at animal models, looking to see how you
 22 can test products and vaccines using different models
 23 than previously.

24 So lots of innovation work and that centre supports
 25 trials going right through from pre-clinical right

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1 looking at -- for example in the neutralisation studies,
 2 looking to see whether the vaccines stay active against
 3 different variants, whether therapeutics are useful. So
 4 it's a whole pathway of genomics, of detecting different
 5 pathogens out there, and then looking at them in detail,
 6 and suggesting working with manufacturers and pharma to
 7 understand what the likely future products could be.

8 So the Moderna Strategic Partnership is really
 9 interesting. You say it actually gives us -- because
 10 the mRNA technology is likely to be a very rapid
 11 turnaround, probably more so than many of the previous
 12 ones, it means that instead, potentially, it -- once up
 13 and running, we can detect earlier, we work with
 14 manufacturers, with vaccine companies, and actually turn
 15 that round.

16 So, for example, I think it will be possible in the
 17 future, instead of trying to work out what the next flu
 18 variant is going to be in the winter, to actually be
 19 able to manufacture in that time period a much more
 20 specific vaccine for the seasonal flu, which will have
 21 higher effectiveness and actually deliver it within
 22 a very short time period.

23 On the -- so Moderna has built their site at record
 24 speed. It is actually just about due to be open very
 25 shortly. It should be operating by the end of August,

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1 through to phase I, II and III, and actually was
 2 instrumental in supporting many of the trials from the
 3 Vaccine Taskforce.

4 **Q.** And maybe you can help us with this, please, because
 5 UKHSA holds the SRO responsibility for the partnership
 6 with Moderna, and this is dealt with in Dr Ramsay's
 7 statement. The aim of that partnership is to have
 8 a manufacturing facility that will be capable of scaling
 9 up to supply up to 250 million doses of mRNA vaccine per
 10 year in the event of a future health emergency. There's
 11 also the AstraZeneca investment announced in March 2024,
 12 a planned investment of 650 million in the research,
 13 development and manufacture of vaccines in the UK.
 14 I think the plan is to have a site open in Speke in
 15 Liverpool.

16 We heard from Alexandra Jones this morning that
 17 those two central planks of preparedness and
 18 forward-looking planning, neither of them are open yet.
 19 They're not operational. Can you help us with how VDEC,
 20 if it does, feeds into the work of these investments
 21 from industry and how that may ensure preparedness with
 22 the UK?

23 **A.** I don't think we should just see VDEC as doing that, the
 24 whole organisation feeds in. So if we know what
 25 variants are coming, VDEC, the centre is expert in

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1 I think. To be confirmed with them. But one of the
 2 exciting things there is that part of that partnership,
 3 it's not just about the product, it's about aligning
 4 preparedness. So in July last year we did a tabletop
 5 exercise with them that said: if we had this pathogen,
 6 how would it pan out? In practice, what would happen?
 7 And in fact we'd done an even more superficial one at
 8 the end of the year before, looking at the new variant
 9 of the swine flu that arose in Yorkshire.

10 So it's much more than just about producing the
 11 vaccine. It's how would we connect, how would
 12 a manufacturer get the signal, all the things that the
 13 Vaccine Taskforce was doing are actually starting to
 14 become business as usual.

15 And I think on another company you haven't
 16 mentioned, and it's in the public domain, so it's not
 17 commercially sensitive, is Seqirus. So I have visited
 18 the Seqirus lab. So there is an advance purchase
 19 agreement there for flu but also a purchase of the avian
 20 flu vaccine. And again we're working with them, I think
 21 on the 28th of next month, to work through how would we
 22 do the rapid distribution of that if it was needed.

23 So these are all practical examples of trying to
 24 work with industry and embed both emergency preparedness
 25 and emergency response into those relationships so they

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1 are ready to go when we need them.
 2 **MR MANSELL:** Professor Harries, thank you.
 3 My Lady.
 4 **LADY HALLETT:** Thank you very much indeed. I don't think
 5 there are any questions from Core Participants for you.
 6 Most times we meet, you seem to be having to deal with
 7 a new outbreak of a new virus, but this time, sadly,
 8 we've got the similar viruses we had before.
 9 **THE WITNESS:** We have.
 10 **LADY HALLETT:** Anyway, thank you so much for your help, and
 11 appreciate the burden we place on organisations like the
 12 UKHSA, and so, please, thank your colleagues and the
 13 team that you have there for all the help they have
 14 provided. Thank you very much indeed.
 15 I can't promise you I won't ask you to help again,
 16 sorry.
 17 Very well, 10.00 tomorrow morning, please.
 18 **(The witness withdrew)**
 19 **(4.45 pm)**
 20 **(The hearing adjourned until 10.00 am the following day)**
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