

Thursday, 15 June 2023

1

2 (10.00 am)

3 **LADY HALLETT:** Good morning.

4 **MS BLACKWELL:** Good morning, my Lady. The gentleman in the
5 witness box is Professor David Heymann CBE. May he be
6 sworn, please.

7 **PROFESSOR DAVID HEYMANN (sworn)**

8 **Questions from COUNSEL TO THE INQUIRY**

9 **MS BLACKWELL:** Thank you, Professor.

10 I'd like to begin by thanking you for all of the
11 assistance that you've given so far to this Inquiry.

12 During the course of my questioning this morning,
13 please keep your voice up and speak into the microphones
14 so that the stenographers can hear you clearly. They're
15 preparing a transcript of your evidence.

16 If I say something that you don't understand or you
17 can't hear, please ask me to repeat it, and I'll do the
18 same for you.

19 There will be breaks during the course of your
20 evidence, but if at any time you require a break, please
21 just say so.

22 **A.** Thank you.

23 **Q.** Professor, you have provided a report during the course
24 of preparation for this Inquiry.

25 Could we please put it up on the screen. Thank you

1

1 Health Protection Agency as a non-executive chair,
2 working closely with the chief executive during the
3 response to the H1N1 influenza pandemic that we know as
4 swine flu. You then transferred to Public Health
5 England in 2013, again as a non-executive chair, and
6 during your stint there you accompanied the PHE team in
7 2014 to the Kingdom of Saudi Arabia to discuss and
8 review the data on the Middle East Respiratory Syndrome
9 CoV outbreak, we know that as MERS, and to offer
10 technical support during that investigation.

11 You have more recently been working again with the
12 World Health Organisation, and from 2017 you have been
13 the chair of the Strategic and Technical Advisory Group
14 on Infectious Hazards and you are currently Professor of
15 Infectious Disease Epidemiology at the London School of
16 Hygiene and Tropical Medicine. That brings us up to
17 date, thank you.

18 Over the course of your career you've published over
19 275 peer reviewed articles and book chapters on
20 communicable diseases, and you are the editor of the
21 Control of Communicable Diseases Manual.

22 In preparing your report for us, Professor, you have
23 also provided at the end of the report a bibliography
24 and list of references, we don't need to go to that now,
25 but you have also been good enough to consider

3

1 very much. It's, for the record, INQ000195846.

2 This is the first page of your report. We can see,
3 Professor Heymann, that it's signed by you on 19 May of
4 this year, and you have signed the author statement
5 confirming that it's your own work and that it's true to
6 the best of your knowledge and belief. Is that still
7 the case?

8 **A.** It's still the case, yes.

9 **Q.** Thank you very much. We can take that down.

10 Dealing next with your qualifications and extensive
11 career history, and I'm only going to concentrate for
12 the time being on the highlights as they are relevant to
13 this Inquiry, you are a trained medical doctor,
14 obtaining your BA and MD in the United States, and you
15 have a diploma in medical epidemiology from the London
16 School of Hygiene and Tropical Medicine.

17 In 1976 you worked for the US Centers for Disease
18 Control investigating the first Ebola outbreak in the
19 Democratic Republic of the Congo in 1976. You then
20 worked in your first stint for the World Health
21 Organisation between 1989 and 2009, and during that
22 20-year period you headed the World Health Organisation
23 global response to SARS-CoV-1, the Severe Acute
24 Respiratory Syndrome.

25 Then in 2009 you worked for the United Kingdom

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1 additional material which the Inquiry has obtained
2 during its preparation for these hearings, a list of
3 which has been provided to core participants and some of
4 which I will take you through during your evidence this
5 morning.

6 In terms of the scope of your report, that is set
7 out in a series of instructions which appears at
8 annex 2. Again, we don't need to go to it now, but in
9 summary you have been asked to assist in the following
10 areas: the virology of coronavirus viruses and
11 an explanation of the difference between SARS type
12 viruses and other viruses, including influenza; the
13 epidemiology of Covid-19, that's SARS-CoV-2 virus,
14 including its zoonotic origin and its first detection;
15 and an explanation of the method by which Covid-19 is
16 transmitted and how our understanding of that has
17 changed over the course of time.

18 You have also been able to identify and provide
19 descriptions of some of the UK bodies concerned with
20 threats, and some international organisations dealing
21 with the global assessment of public health emergencies.

22 All right. Well, having dealt with all of that,
23 let's start with the basics, please, Professor Heymann.

24 What are coronaviruses?

25 **A.** Well, coronaviruses are viruses, and viruses, unlike

4

1 bacteria, cannot be seen under a routine examination
2 with a light microscope, they need an electron
3 microscope. They're very tiny particles that can only
4 be visualised that way.

5 A coronavirus is like a sphere surrounded by fatty
6 material, and inside that sphere is the genetic material
7 of the virus, the RNA, ribonucleic acid.

8 **Q.** Yes.

9 **A.** On the surface of that fatty material ball, there are
10 spikes, which are protein, and those are the spike
11 protein of the coronavirus, and those spikes are what
12 hooks on to a receptor on a human cell. To reproduce,
13 a virus has to use that receptor -- shall I continue?

14 **Q.** Yes, please.

15 **A.** To reproduce, a virus must enter the cell through the
16 receptor.

17 **Q.** Yes.

18 **A.** Then it takes over the mechanism of the cell and
19 reproduces itself using the cell's reproductive
20 mechanisms.

21 **Q.** All right. And the spikes that you have described, do
22 they have the appearance of a crown, and is that the
23 reason why it's called coronavirus --

24 **A.** That's exactly right, yes.

25 **Q.** -- "corona" being that of a crown? Right, thank you.

5

1 that sometimes they caused outbreaks of infection in
2 animals. But it's only recently, since the
3 coronaviruses of the 21st century, SARS, for example --
4 SARS coronavirus 1 --

5 **Q.** Yes.

6 **A.** -- that it's really been intensively studied in animals.

7 **Q.** All right. How easily do they transmit between animals
8 and between species of animals?

9 **A.** They transmit fairly easily between animals in the same
10 family. We know that from studies that have been done
11 with camels, for example, studies that have been done
12 that showed that minks were able to transfer
13 coronaviruses to each other, and it's known that they
14 can transmit fairly easily in the animal kingdom.

15 **Q.** Is the transmissibility between animals any indication
16 of the ability or likelihood that a coronavirus can jump
17 the species barrier between animals and humans?

18 **A.** Well, jumping the species barrier is a very complex
19 issue, really. There have to be a series of risk
20 factors that line up in such a way that this jumps the
21 species barrier.

22 So coronaviruses do, from time to time, jump the
23 species barrier, and when they do -- other viruses as
24 well -- it's not known what they will do in humans.

25 Sometimes a virus enters humans and goes no further.

7

1 How many types of coronavirus are there in animals?

2 **A.** Well, it's not known exactly, but there are probably
3 over 200 coronaviruses that are around the world. It's
4 a very common virus in the animal kingdom.

5 **Q.** We heard yesterday from Dr Charlotte Hammer and
6 Professor Jimmy Whitworth that, so far as animals are
7 concerned, coronaviruses appear to be common in bats and
8 cats and camels; is that right?

9 **A.** That's right. They're in many, many animals,
10 including -- even whales, for example, also have
11 coronaviruses. So they're a very common virus in the
12 animal kingdom.

13 **Q.** Are they common in domesticated animals?

14 **A.** They have been shown to be able to infect domesticated
15 animals. It's not believed that they are common in
16 domesticated animals, except for animals that are raised
17 in animal farms where there isn't proper sanitation.

18 **Q.** All right. Well, we'll come to deal with those farms
19 and wet markets in a moment.

20 **A.** Okay, yes.

21 **Q.** For how long have coronaviruses been present in animals?

22 **A.** Well, it's really not known. They were first identified
23 in humans, for example, back in the 1960s.

24 **Q.** Yes.

25 **A.** And it's known before then that they were in animals and

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1 Rabies is a good example. From a dog to a human.

2 Other times a virus can enter humans, like the Ebola
3 virus, or some other virus, cause a small outbreak,
4 disappear and then re-emerge.

5 Finally, some, like HIV in the last century, emerge
6 from animals into humans and then they become endemic,
7 a regular virus within humans.

8 **Q.** Right.

9 **A.** In fact, all infections in humans are thought to have
10 come at one time or another from an animal, including
11 tuberculosis, including many common diseases.

12 **Q.** So what are the common risk factors that need to align
13 in order to cause a spillover, or a zoonosis, into
14 humans?

15 **A.** Well, those risk factors depend on many different
16 situations, really. The risk factor may be that the
17 animal is infected, that it's been intensively raised in
18 animal farms --

19 **Q.** Right.

20 **A.** -- and then people who are working on those farms could
21 become infected, or if the animals that are sent to
22 a live market, then people who purchase those animals
23 could be infected.

24 It's not known what all the risk factors are, but
25 what is known is that the animal and human kingdoms have

8

1 to be maintained separate as well as possible.

2 **Q.** All right, thank you.

3 One of the documents that you've been good enough to

4 look at is a witness statement that has been provided to

5 the Inquiry by Professor Mark Woolhouse. In his book

6 *The Year the World Went Mad*, he says that new human

7 viruses usually come from animals and most of them don't

8 spread well between humans. Do you agree with that?

9 **A.** Yes, I do.

10 **Q.** All right. He also says that coronaviruses are

11 generally more transmissible amongst humans compared

12 with other zoonotic viruses, and that is why they were

13 high on the list of viruses to worry about; do you agree

14 with that?

15 **A.** They do transmit fairly easily in some instances, but

16 some coronaviruses don't transmit easily from human to

17 human.

18 It depends where they reproduce in the human. If

19 they reproduce low in the lungs, then it takes a deep

20 cough or a medical procedure that causes droplets to

21 transmit. If they reproduce in the upper nasal

22 passages, then it's very easy to transmit. So they're

23 not all the same.

24 **Q.** Right, so there is a variance.

25 Could you explain to us, please, the process by

9

1 viruses and they have altered the way they do that

2 periodically. So I can't exactly what each one means,

3 but they do have a name and that name is with them

4 today.

5 **Q.** All right, thank you.

6 How severe or how mild with the upper respiratory

7 infections caused by those coronaviruses?

8 **A.** Those coronaviruses generally cause a common cold.

9 **Q.** Right.

10 **A.** They're common cold viruses.

11 **Q.** So fairly mild?

12 **A.** They're fairly mild, except in some people who might

13 have comorbidities or the elderly, who are debilitated

14 because their immune system is not responding the way to

15 should.

16 **Q.** What about young children, are they more at risk?

17 **A.** Young children are not considered to be at great risk

18 from human coronaviruses but they do get common colds

19 and those common colds are coronavirus sometimes.

20 **Q.** All right. What treatments or vaccines are available

21 for those four coronaviruses?

22 **A.** Well, there are no vaccines available. In fact they're

23 considered to be very mild viruses.

24 **Q.** Yes.

25 **A.** So the usual remedies that are used to treat a common

11

1 which a virus becomes endemic in humans?

2 **A.** A virus becomes endemic when it spreads throughout human

3 populations and is able to sustain its transmission from

4 human to human.

5 **Q.** Yes, okay. What factors might contribute to a virus

6 becoming endemic?

7 **A.** It's a characteristic of the virus, for one thing --

8 **Q.** Yes.

9 **A.** -- that virus, its transmissibility, its ability to

10 transmit. It's also the population which is infected:

11 if it's receptive to the virus and doesn't have

12 protection against it, it can transmit. If there's

13 a population that has solid immunity against a virus,

14 then it can't transmit further.

15 **Q.** Right.

16 You were good enough in the course of your report to

17 describe to us the four coronaviruses which are endemic

18 in humans. For the record, they are 229E, NL63, OC43,

19 and HKU1.

20 What do those letters and numbers mean? Is there

21 any format behind the nomenclature?

22 **A.** There is clearly a format behind them, and it depends on

23 when they were named what that format was.

24 **Q.** Right.

25 **A.** There is an international taxonomy group which does name

10

1 cold are used to treat them.

2 **Q.** What are the routes of transmission for them?

3 **A.** The routes of transmission are from the nose or the

4 nasal passages through a sneeze or a cough onto another

5 person, droplets and particles, aerosolised particles.

6 **Q.** How long would it take for there to be long-term

7 immunity from those four coronaviruses?

8 **A.** Well, long-term -- I'd rather talk about population

9 immunity. Population immunity is when the majority of

10 the population has had infection, has developed antibody

11 or response to that.

12 **Q.** Is that also sometimes known as herd immunity?

13 **A.** They're different. Herd immunity is an immunity which

14 protects against reinfection.

15 **Q.** Yes?

16 **A.** Or it's a vaccine that protects against infection. And

17 with the SARS Coronavirus 2, we don't have either of

18 those factors available. So in fact herd immunity

19 at present cannot be established from the SARS

20 Coronavirus 2.

21 **Q.** What's the difference between that and population

22 immunity?

23 **A.** Population immunity is general understanding of all the

24 population immune systems of the virus, with a response

25 with antibody usually, and therefore that population

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1 immunity, in the case of the SARS Coronavirus 2,
2 prevents serious illness and death in most people.
3 **Q.** Right.

4 I'd like to ask you some questions now about the
5 procedure that you set out in paragraphs 18 and 19 of
6 your report. We don't need to look at them, but it's
7 the molecular clock analysis that was taken of
8 coronavirus OC43.

9 First of all, Professor, can you explain to us what
10 the molecular clock analysis is.

11 **A.** Yes. Molecular clock analysis is an attempt to
12 understand the rate of mutation of a virus.

13 **Q.** So from the animal into the human?

14 **A.** No, the rate of the mutation in a human or --

15 **Q.** Within a human, right, okay.

16 **A.** Yes. Now, what was done in 2004, and which was very
17 important to note, is the fact that a group of molecular
18 biologists calculated a rate of mutation of human
19 coronavirus, the SARS coronavirus -- no, I'm sorry,
20 human coronavirus OC43.

21 **Q.** Yes.

22 **A.** They calculated that rate of mutation by taking all the
23 known specimens that they could find of OC43 virus from
24 1950s onward, they genetically sequenced them, and each
25 one had a slight difference in its genetic structure,

13

1 **Q.** Right.

2 **A.** So they hypothesised that this was the emergence of
3 OC43, which then became a virus which causes the common
4 cold today, because of population immunity, which is
5 protecting against serious illness and death.

6 **Q.** So by using the molecular clock analysis they were
7 confident, to within a certain time period, of when the
8 disease jumped into the human population?

9 **A.** That's correct. They used three different methods, and
10 they came out with the same with each of these methods.

11 **Q.** Right. Has that procedure been undertaken in relation
12 to what we now know as Covid-19?

13 **A.** There was an attempt by some molecular biologists in the
14 US to calculate -- to do a molecular clock analysis of
15 SARS Coronavirus 2.

16 **Q.** Yes.

17 **A.** In doing their analysis, they went backwards from the
18 time when it was first identified to where it might have
19 been very close to the virus that's similar in bats, and
20 they came to about a period of October 2019.

21 But this is just one of many hypotheses, as you
22 know.

23 **Q.** Yes. Thank you.

24 I'm now going to ask you a series of questions about
25 20th century coronaviruses, so we'll start with SARS,

15

1 and that's a mutation.

2 **Q.** Yes.

3 **A.** So they calculated a rate of mutation of that virus
4 going forward to 2003.

5 **Q.** Yes.

6 **A.** They did the same thing with the virus that comes from
7 cattle, because cattle were the source, or the expected
8 source, of OC43 --

9 **Q.** Originally?

10 **A.** -- in humans -- yes.

11 **Q.** Yes.

12 **A.** So they calculated a rate of mutation in cattle as well.

13 Then they took those rates of mutation and worked them
14 backwards from the present time --

15 **Q.** Yes.

16 **A.** -- to where both of those viruses would have looked the
17 same, where they wouldn't have mutated, and that
18 occurred between 1850 and 1890.

19 In 1888/1889 there was a pandemic called the Russia
20 influenza, and these molecular biologists hypothesised
21 that this was the emergence of OC43 because the pandemic
22 that occurred was not exactly what occurs with
23 influenza. There were many deaths, a million deaths in
24 a very small world, but it caused neurological symptoms
25 in most persons.

14

1 move on to MERS and then finish with Covid-19.

2 At paragraph 21 in your report you tell us that SARS
3 is thought to have emerged from an animal, likely to be
4 a civet cat, in a live animal market in the Guangdong
5 Province of China sometime late in 2002; is that right?

6 **A.** That's correct, yes.

7 **Q.** Is it thought to have resulted from a one-time mutation
8 of the virus, reproduced either in the animal host
9 before transmission to humans or in humans after the
10 emergence had occurred?

11 **A.** That's correct, yes.

12 **Q.** Is it right that the presence of antibodies in the blood
13 of workers in live animal markets suggests that they had
14 previously been infected with other coronaviruses which
15 had not gone on to transmit human to human?

16 **A.** That's correct. That comes from a study which was done
17 by Chinese after the SARS outbreak in 2003.

18 **Q.** Right. From the live animal market in Guangdong, SARS
19 went on to spread amongst health workers in provincial
20 a health facilities, through a combination of close
21 physical contact with infected patients and medical
22 procedures that cause pulmonary aerosols; is that right?

23 **A.** Yes, that's correct. The Chinese were never forthcoming
24 at the beginning with their information, but this is the
25 assumption.

16

1 Q. Right. What sort of medical procedures produce
2 pulmonary aerosol?
3 A. When there's a severe respiratory infection such as SARS
4 coronavirus, there is a lot of mucus that builds up in
5 the lungs.
6 Q. Yes.
7 A. To get that mucus out, to help the patient breathe
8 easier, there is an infusion through the nose and a tube
9 of saline, which is salt water, a --
10 Q. Yes.
11 A. -- body salt water, and then the lungs are flushed out,
12 the water is pulled out, and along with that is the
13 mucus that's been softened and absorbed by the water,
14 and droplets are many times caused as a result of that.
15 Q. Are the aerosols generated by that procedure the same or
16 smaller or lighter than aerosols generated by normal
17 voice projections, such as speaking loudly or singing?
18 A. I think it's useful to look at an aerosol as being on
19 a spectrum of droplets which are heavy and fall, to
20 lighter particles which are carried by the air, to very
21 light particles. So it's a whole range of things. And
22 these particles contain virus.
23 Q. Right. What stops the virus from spreading?
24 A. The virus is able to transmit and cause infection as
25 long as the surrounding material, which is, many times,

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1 as face masks or shields?
2 A. I think it can be assumed that early on they weren't,
3 because what the Chinese indicated, when they finally
4 opened up to providing information, is they thought that
5 this was influenza --
6 Q. Right.
7 A. -- and they therefore were not worried that it was a new
8 infection.
9 Q. Okay, thank you.
10 So SARS-CoV-1 was first identified as a novel
11 coronavirus by genetic sequencing in March of 2003,
12 which was about three months after its emergence. Do
13 you have any comment to make on the length of time that
14 it took to identify as a novel coronavirus?
15 A. Well, the virus was first isolated from a patient in
16 February --
17 Q. Yes.
18 A. -- in late February, and so it was very rapid, in
19 fact --
20 Q. Yes.
21 A. -- that it was understood that it was a coronavirus.
22 Q. Which countries were affected by SARS?
23 A. Well, initially there were -- about seven countries were
24 infected, because these were people who were stayed on
25 the same hotel.

19

1 mucus, is moist.
2 Q. Right.
3 A. If it dries out, the virus can no longer infect.
4 Q. So is that why ventilation assists in preventing
5 transmission, because the air flow will assist in drying
6 out the particles?
7 A. That's correct.
8 Q. All right.
9 At paragraph 21 in your report you say that there
10 was "substandard infection prevention and control" in
11 the Guangdong health facilities. How so?
12 A. Well, all we know is that the graph that the Chinese
13 finally produced for this outbreak shows that health
14 workers became infected very early in the outbreak, and
15 those health workers then continued to become infected,
16 and it's assumed that they infected their family members
17 and other patients. One of those health workers
18 actually came out of Guangdong Province into Hong Kong
19 in February of 2003, and from him the virus was spread
20 to people staying in the same hotel and it spread around
21 the world. So health workers are very important,
22 always, in emerging infections, because they don't
23 recognise that they're a new disease oftentimes.
24 Q. Yes. Do you know, for instance, Professor, whether or
25 not those health workers were routinely wearing PPE such

18

1 Q. Yes.
2 A. I think in my testimony I've said it went to 21 or
3 22 different countries. That included countries around
4 the world. The good -- if there was good in this
5 outbreak -- was that it didn't appear to make its way
6 into Africa, where surveillance might not have detected
7 it and it might have spread even further than it did.
8 Q. Yes. You have described the virus reproducing deep in
9 the lungs, which would require deep coughing
10 or pulmonary procedures to create the droplets or
11 aerosols that you've described.
12 Was that a major factor in the control of SARS?
13 A. I believe it was, yes. There were several factors that
14 were important. Number one, SARS Coronavirus 1 is not
15 transmissible, or highly transmissible, until two or
16 three days after the onset of signs and symptoms.
17 Q. Right.
18 A. Unlike SARS Coronavirus 2.
19 Q. Okay. Is that the incubation period?
20 A. That's the period from -- no, the incubation period is
21 the period from infection to onset --
22 Q. To onset of symptoms, yes.
23 A. Yes. So that was one of the factors. It wasn't
24 transmissible early, after --
25 Q. Right.

20

- 1 **A.** It was only transmissible after signs and symptoms
2 developed.
- 3 **Q.** Right.
- 4 **A.** The second thing, it reproduced deep in the lungs, and
5 therefore was very difficult to transmit. There had to
6 be really deep coughing and close contact with others.
7 Finally, there was a willingness of the world at that
8 time to work together, and so countries agreed not to
9 travel to places where there were uncontrolled outbreaks
10 of SARS Coronavirus 1, which included Singapore,
11 Hong Kong --
- 12 **Q.** Yes.
- 13 **A.** -- and Canada.
14 So the outbreak was one that was contained rapidly,
15 and I think you could say that that virus now is gone
16 from human populations. It's been eradicated.
- 17 **Q.** Thank you.
18 During the evidence of Professor Whitworth and
19 Dr Hammer yesterday, we heard about something called the
20 case fatality rate.
- 21 **A.** Yes.
- 22 **Q.** Is that the number of confirmed deaths caused by a virus
23 in relation to the number of confirmed infections?
- 24 **A.** No. Confirmed cases.
- 25 **Q.** Confirmed cases, sorry.

21

- 1 population that has infection. Case fatality rates are
2 based on a case definition, and a case definition
3 describes what a disease is thought to look like by the
4 persons who develop that case definition, usually the
5 public health community.
6 Then all cases that fit that case definition must be
7 tested --
- 8 **Q.** Yes.
- 9 **A.** -- and must be shown to have had infectious agent.
- 10 **Q.** Is that a laboratory test?
- 11 **A.** That is a laboratory test, yes. Then the case -- the
12 death rate is those people who were shown to be infected
13 who died. So they're included in the case number --
- 14 **Q.** Yes.
- 15 **A.** -- but they're a separate number there, the fatality
16 number as well.
- 17 **Q.** All right. Now, you've described there a case
18 description. Is that the symptoms that have to be
19 present in order for a case to warrant the description?
- 20 **A.** That's right. In an outbreak investigation, or whenever
21 there's a new disease, a case definition is rapidly
22 developed based on what's known at that time.
- 23 **Q.** But that would change over time, would it not?
- 24 **A.** Absolutely, it can change over time, and it generally
25 does change over time.

23

- 1 **A.** Yes. Yes.
- 2 **Q.** The infection fatality rate is less certain because
3 there are those who may be infected asymptotically,
4 et cetera?
- 5 **A.** That's correct, yes.
- 6 **Q.** So that is not based upon confirmed cases?
- 7 **A.** That's correct, yes.
- 8 **Q.** All right. Now, the case fatality rate of SARS was, you
9 tell us in your report, close to 10%.
- 10 **A.** That's correct.
- 11 **Q.** In comparison to case fatality rates for MERS, which
12 we're going to move on to in a moment, which was
13 about 35%, and the case fatality rate for Covid-19,
14 which is around about the 1% mark.
- 15 **A.** Mm.
- 16 **Q.** Can you explain to us what danger lies in the phenomenon
17 of under-reporting and how that has to be factored in,
18 in determining either the case fatality rate or the
19 infection fatality rate, please.
- 20 **A.** Yes. Well, in infection fatality rate, it's very
21 difficult to know all the infections unless you test the
22 entire population.
- 23 **Q.** Yes.
- 24 **A.** So the infection rate -- case fatality rate would be the
25 number of deaths from that infection based on the whole

22

- 1 **Q.** All right.
2 Could we display, please, INQ000198953.
3 I think you've had an opportunity of looking at this
4 before, Professor Heymann. This is a table which has
5 been taken from a video lecture that
6 Professor Chris Whitty gave to Gresham College, London,
7 on how to control a pandemic, in 2018.
8 Now, if we just familiarise ourselves with what we
9 have. The vertical axis shows the level of transmission
10 and the horizontal axis shows the level of mortality.
11 If we start from the least serious moving up to the
12 most serious. Bottom left-hand corner, low transmission
13 and low mortality, the box in green, Professor Whitty
14 has said "Not worth worrying about". So that is the
15 least serious part of the table, isn't it? If
16 a pandemic is thought to have low transmission and low
17 mortality, that's the least serious of the four that we
18 see here.
19 The next in seriousness is the box above, so the
20 yellow box above, which is high transmission but low
21 mortality rate; do you agree with that?
- 22 **A.** Yes.
- 23 **Q.** The example that's been given here is the H1N1 2009
24 swine flu, which we see, according to this table, has
25 a mortality rate of 0.3%, but between 10 and 200 million

24

1 cases, so very high transmission?
 2 **A.** Yes.
 3 **Q.** Next in line, if we go to the bottom right-hand corner,
 4 we can see the pandemic with low transmission but high
 5 mortality. In that box the example given is the H7N9
 6 avian flu from 2013 to 2018, with 30% mortality but
 7 around 2,000 confirmed cases. So very low transmission
 8 there?
 9 **A.** Yes. I wouldn't call this a pandemic, though. This is
 10 not a pandemic. This is outbreaks of this disease which
 11 occur occasionally. The disease is not pandemic as such
 12 in humans, but it is -- it appears to be in birds.
 13 **Q.** Right, thank you.
 14 Then finally, top right-hand corner, we can see, in
 15 the pink box, the pandemic with high transmission and
 16 high mortality rate, the example given there is the H1N1
 17 1918 Spanish flu, with around 3% mortality. Do you have
 18 any comment to make about that box?
 19 **A.** Yes. It's always been interesting to me to see how
 20 virologists and others like to compare the current
 21 situation to 1918, which was a pandemic of influenza but
 22 which also was an era where there were no antibiotics,
 23 and although antibiotics will not clear influenza, they
 24 will clear superficial bacterial infections that occur
 25 in the lungs when they've been robbed of their lining by

25

1 **A.** SARS was a very severe respiratory infection which
 2 caused respiratory failure. People could no longer
 3 breathe.
 4 **Q.** Yes.
 5 **A.** The outcome of that was that there was a high case
 6 fatality rate of 10%, and in addition many people who
 7 recovered had what's called pulmonary fibrosis.
 8 **Q.** Right?
 9 **A.** Which means that their lungs were replaced -- the
 10 breathing -- the area where oxygen exchange in the lungs
 11 occurs was replaced with fibres which didn't permit
 12 exchange of oxygen, and so some of those people still
 13 today have severe consequences from having had this
 14 infection.
 15 **Q.** Are you able to say how the ongoing outcomes of SARS
 16 compare to those of Covid-19?
 17 **A.** It's too early yet to say the long-term effects of this,
 18 but certainly, like other viruses including,
 19 for example, the virus that causes mononucleosis, there
 20 is a period afterwards where people are still fatigued,
 21 still sick, and in Covid-19 it appears that there are
 22 many, many more symptoms that are occurring in these
 23 people.
 24 Remember, this is an animal virus that had adapted
 25 itself to animals and now it's in humans.

27

1 influenza virus. So the mortality was high, much of
 2 that mortality was likely due to superficial bacterial
 3 infections.
 4 So we don't really know the mortality from H1N1
 5 Spanish flu directly from the virus. We only know that
 6 on top of that there were bacterial --
 7 **Q.** Okay, so it could have been a combination of the virus
 8 and then the bacteria --
 9 **A.** That's generally --
 10 **Q.** -- effect on top of it?
 11 **A.** -- the thinking, yes.
 12 **Q.** All right, thank you.
 13 Just before we leave this table, are you able to
 14 assess where Covid-19 might appear in relation to the
 15 level of transmission and mortality?
 16 **A.** I would place the coronavirus, SARS Coronavirus 2, on
 17 this table -- let's see, I need to think a bit. I will.
 18 I would place this virus, I believe, on the high
 19 mortality end, and so I would place it high
 20 transmission, high mortality.
 21 **Q.** Right. So top right-hand corner in the pink box?
 22 **A.** Yes.
 23 **Q.** Thank you. We can take that down, thank you.
 24 What are the symptoms and clinical outcomes of SARS,
 25 or what were the symptoms and clinical outcomes?

26

1 **Q.** Right, okay.
 2 Could you explain to us, please, the difference
 3 between asymptomatic transmission and asymptomatic
 4 infection.
 5 **A.** Asymptomatic infection is people who become infected
 6 with an organism and never show signs and symptoms.
 7 That's asymptomatic infection.
 8 **Q.** So never any development of any signs --
 9 **A.** Never developed signs and symptoms from that virus.
 10 **Q.** Yes.
 11 **A.** Asymptomatic transmission is when a virus or bacterium,
 12 in this case a virus, when a virus is being shed by the
 13 person before onset of signs and symptoms, and that can
 14 then transmit to others. We know that occurs,
 15 for example, with measles, which is a respiratory
 16 infection, it occurs two to three days beforehand, and
 17 many virus infections are thought to transmit before the
 18 onset of signs and symptoms.
 19 **Q.** Right, so asymptomatic transmission is the transmission
 20 before any signs or symptoms, but after which the person
 21 may well develop signs and symptoms?
 22 **A.** That's correct, yes.
 23 **Q.** Thank you.
 24 **A.** They will develop signs and symptoms.
 25 **Q.** They will.

28

1 Just to complete this part of your evidence, what
 2 then is pre-symptomatic transmission? Is that the same
 3 as asymptomatic transmission?
 4 **A.** I would say they're the same, yes.
 5 **Q.** All right.
 6 At paragraph 29 in your report, you say that:
 7 "SARS-CoV-1 was transmitted primarily, but not
 8 exclusively, in health care and hospital settings ..."
 9 And that:
 10 "The majority of [patients] were adults between
 11 25-70 years of age."
 12 And that:
 13 "The investigations did not identify groups at
 14 [greater] risk of serious outcomes after infection ..."
 15 Is that right?
 16 **A.** **(Witness nods)**
 17 **Q.** Why do you think there were so few suspected or
 18 confirmed cases of infection in children under the age
 19 of 15?
 20 **A.** As we understand this, it was transmitted in hospital
 21 settings by procedures such as cleaning out of the
 22 lungs, and therefore it was in adult patient care areas.
 23 The nurses who became infected or the health workers who
 24 became infected and transmitted it to others were
 25 transmitting it in adult patient wards, not in

29

1 But why weren't the hospital workers then going home
 2 where there were children so children would get infected
 3 that way?
 4 **A.** They did go home and they did transmit it in the
 5 household, and some children were infected, but the
 6 majority of people who were infected were adults.
 7 **MS BLACKWELL:** When did the last known human infection
 8 occur, and how did it occur?
 9 **A.** The last known human infections of SARS Coronavirus 2 --
 10 **Q.** No, SARS Coronavirus 1.
 11 **A.** SARS Coronavirus 1, sorry. The last human infections of
 12 SARS Coronavirus 1 occurred in laboratory accidents: one
 13 in Singapore, one in Taiwan, and several outbreaks
 14 caused by laboratory accidents in China.
 15 **Q.** Right. Let's move on to MERS, please.
 16 First identified in the Kingdom of Saudi Arabia in
 17 June of 2012, humans became infected from close contact
 18 with camels, as we heard yesterday.
 19 Was the route of transmission between the species
 20 through droplets or bodily secretions or faeces or the
 21 combination of all three?
 22 **A.** Between humans?
 23 **Q.** Yes.
 24 **A.** Yes, in MERS coronavirus there is transmission from
 25 person to person by body secretions or by droplets, or

31

1 children's wards.
 2 **Q.** With SARS, did infection provide immunity against
 3 reinfection?
 4 **A.** It's not known, it's not known. And there were too few
 5 cases to really study that.
 6 **Q.** So what factors led to its containment after the period
 7 of about six months, I think you said?
 8 **A.** Well, those factors I reviewed earlier, was the fact
 9 that it was very difficult to transmit from human to
 10 human, it required very close contact with droplet
 11 spread. The world worked together to limit travel to
 12 where outbreaks were occurring --
 13 **Q.** Yes.
 14 **A.** -- and it didn't get into countries where there was poor
 15 surveillance which might not have detected it, and
 16 permitted it to spread further.
 17 **Q.** That was the reference to Africa?
 18 **A.** That's correct, yes.
 19 **Q.** So it didn't become endemic in humans?
 20 **A.** It did not become endemic in --
 21 **LADY HALLETT:** Professor Heymann, sorry, going back to
 22 something you said just now, you said transmission was
 23 thought to be in hospital settings, so it was by
 24 treating adult patients that the hospital workers got
 25 infected, and then they were dealing with adult wards.

30

1 similar close contact. It occurs in hospital settings,
 2 called nosocomial infection, when health workers don't
 3 practice washing of their hands or when they're using
 4 equipment which has not been properly sterilised between
 5 patients. That's the major means in which MERS
 6 coronavirus transmits from person-to-person.
 7 **Q.** How many cases were there in the United Kingdom?
 8 **A.** There have been five cases known in the United Kingdom,
 9 but three importations of the virus. So the virus was
 10 first imported in 2012.
 11 **Q.** Yes?
 12 **A.** Then since then there have been two other importations,
 13 and one of those importations was transmitted to
 14 a person who had accompanied the patient, and also to
 15 a visitor of the patient.
 16 **Q.** Right.
 17 There was then a second major outbreak in the
 18 Republic of Korea in 2015, when an infected person
 19 returned home from the Middle East, so brought it from
 20 the Middle East, and became ill and was seen at various
 21 health facilities.
 22 **A.** Yes.
 23 **Q.** Is that right? Again, substandard infection control at
 24 those facilities which led to the infection there?
 25 **A.** That's correct. There were many factors that were

32

1 thought to have caused this to spread so rapidly. One
2 of those was the fact that the patient went to three
3 different health facilities, and the infection
4 prevention and control measures in all of those
5 facilities was substandard.

6 **Q.** Were poor, yes. We're going to come to that in
7 a moment.

8 **A.** Okay.

9 **Q.** But in total, your report tells us that there were
10 185 cases in this outbreak, with 38 deaths, so that's
11 a case fatality rate of 20% or thereabouts, in the
12 South Korea outbreak.

13 There were, you tell us in your report, a series of
14 factors causing the infection to spread, and you've
15 begun to tell us about that. There was weak hospital
16 infection control, weak patient isolation procedures; is
17 that right?

18 **A.** Yes.

19 **Q.** Leading to infection of other patients and family
20 members. And also a nursing shortage. So that led to
21 a dependence on private, less well trained caregivers;
22 is that right?

23 **A.** That's correct.

24 **Q.** Yes. And extremely crowded emergency departments
25 without any isolation beds.

33

1 **A.** Yes.

2 **Q.** Were there any superspreading events in relation to
3 MERS? And can you describe to us what a superspreading
4 event is, please.

5 **A.** Yes, there were superspreading events -- in which virus,
6 in MERS?

7 **Q.** In MERS, yes.

8 **A.** In MERS there have been some superspreading events.
9 This was one in South Korea, for example.

10 **Q.** Yes.

11 **A.** And there have been events where there have been several
12 different cases in hospitals where one person was
13 admitted. But it's been very patchwork, the
14 understanding of this virus, because there hasn't been
15 clear and transparent sharing of information in many
16 instances.

17 **Q.** Right. What is a superspreading event, in scientific
18 terms?

19 **A.** A superspreading event is when a person who is infected
20 for some reason or another is able to infect many, many
21 other people. So it may be due to the fact that there
22 are many people in a very small closed space and the
23 person is able to transmit because he or she is at the
24 right phase of transmission and then transmit.

25 Superspreading events are events that occur when the

35

1 But it was rapidly contained, was it not,

2 Professor Heymann, within a couple of months?

3 **A.** That's correct.

4 **Q.** Was that containment down to a change in policies in the
5 hospital setting and an improvement in the infection
6 controls?

7 **A.** That's correct. There was an improvement in infection
8 control after retraining of hospital staff. There was
9 also an increase in ventilation in hospitals, which
10 dried out those virus particles.

11 **Q.** As we've already discussed?

12 **A.** Yes.

13 **Q.** Yes.

14 **A.** And there was also an understanding by the population,
15 because of good communication, what this virus was doing
16 and how to prevent infection. So there was a major
17 effort at communication, which is always important --

18 **Q.** Right.

19 **A.** -- in outbreaks.

20 **Q.** Does it follow from what you've just said that the main
21 or the primary route of transmission of MERS was through
22 droplets or aerosols --

23 **A.** That's correct.

24 **Q.** -- in the same way that we've described in SARS, with
25 SARS?

34

1 risk factors line up in such a way that they can occur.

2 **Q.** All right. So what we have described happening in the
3 hospital setting in South Korea, that would be described
4 properly as a superspreading event, would it?

5 **A.** That's a superspreading event.

6 **Q.** Even something on that fairly contained, small scale?

7 **A.** Yes.

8 **Q.** Was MERS capable of asymptomatic transmission?

9 **A.** It's not yet known whether asymptomatic transmission
10 occurs among humans, but clearly it occurs from camels
11 to humans. The disease is now endemic in camels. The
12 virus is carried in the nasal passages and transmits
13 quite easily to humans.

14 **Q.** All right. So has it become endemic?

15 **A.** It's endemic in camels, yes.

16 **Q.** Yes. But not in humans?

17 **A.** Not in humans, no.

18 **Q.** Right. All right, well, that brings us to Covid-19.

19 It's no part of this Inquiry to debate or to
20 determine the origin of Covid-19, but you attempt to
21 assist us in your report by setting out what you
22 consider to be the theories of origin.

23 Can you explain to us, please, Professor, what those
24 consist of?

25 **A.** There are two major theories about the emergence of this

36

1 virus in human populations.

2 **Q.** Yes.

3 **A.** One is that it came from a bat into an intermediary
4 animal, and from that animal into humans, possibly at
5 a live animal market. That's one hypothesis.

6 **Q.** Right.

7 **A.** The other is that there was a laboratory accident at
8 a major, highly secure laboratory in Wuhan, and that
9 laboratory we know was dealing with bats that had
10 coronavirus, and that laboratory, the hypothesis is that
11 either the virus was able to escape from studies that
12 were going on in a human who left and was infected, or
13 through some other means. The hypothesis then concludes
14 in some instances -- the other hypothesis is -- that the
15 virus was being manipulated in such a way that it gained
16 function, it gained the possibility of transmitting
17 easily between humans.

18 So these are all hypotheses.

19 What's important from them is that there are
20 messages that we can use. We need to make sure that
21 live animal markets are conducted in the right way, that
22 the animals that come to those markets are raised in
23 conditions where they can't become infected.

24 **Q.** Right.

25 **A.** And at the same time there need to be better standards

37

1 then, we have to deal with the virus as it is today, and
2 WHO, when they received the report on 31 December
3 in 2019, the next day did provide information about it,
4 and then continued to provide information about the
5 virus, through what's called the International Health
6 Regulations system.

7 **Q.** Yes, we'll come to that in a moment. Before we look at
8 the advice that the World Health Organisation gave in
9 the immediacy of the outbreak, I'd just like to return
10 to something that you've now confirmed in relation to
11 all three of these coronaviruses, so SARS, MERS and what
12 we now know as Covid-19.

13 You've referred to what I'm going to describe as
14 a lack of candour or a lack of information, a lack of
15 willingness to share information on behalf of some
16 countries.

17 Why is that such a problem?

18 **A.** Well, when a country shares information about a disease,
19 it often has economic repercussions.

20 **Q.** Yes.

21 **A.** For example, if a country says that they have cholera,
22 then other countries may stop importing seafood from
23 that country, tourists may stop going to that country,
24 and so countries don't like to report. So in
25 discussions at WHO it was understood that because there

39

1 of laboratories, high security laboratories, and those
2 standards need to be developed by the people working
3 with viruses, and adhered to by them.

4 **Q.** All right. So between those hypotheses, you aren't able
5 to say which one is more likely or which one is more
6 probable?

7 **A.** I'm not able to say that, because I don't have the
8 evidence.

9 **Q.** No. But they are both --

10 **A.** They're both hypotheses, yes.

11 **Q.** Thank you.

12 In terms of the sequence of events at the start of
13 the pandemic and the global spread, are you able to
14 explain to us, Professor Heymann, how that happened in
15 the immediate outbreak in China and how that travelled
16 around the world?

17 **A.** Well, there, again, are some hypotheses on this and some
18 evidence from that, but it's felt that it was possible
19 that the province where this outbreak began was
20 suppressing information about it, for some reason or
21 another, and that when the central government did
22 understand that it was going on they reported it to WHO.
23 That's one of the hypotheses. That's what many people
24 believe.

25 It doesn't really matter now what happened back

38

1 is no international policing mechanism to force
2 countries to report --

3 **Q.** Yes?

4 **A.** -- the way to do it was to change the norm, so that
5 countries understood it was expected and respected to
6 report. That's what the Director General of WHO did
7 during the SARS outbreak in 2003.

8 **Q.** How did he do that?

9 **A.** She actually announced publicly, four months after the
10 outbreak had begun, that China was not sharing
11 information with WHO, and therefore WHO couldn't do
12 a full risk assessment of what was going on.

13 **Q.** What happened? Did that have a repercussion or
14 an effect?

15 **A.** That had an immediate effect, in that the vice premier,
16 Madam Wu Yi, immediately travelled to Geneva, apologised
17 to the Director-General, began to share information in
18 China, was able to stop the outbreak very -- the
19 outbreaks throughout China very rapidly.

20 So after that it's become understood that it's
21 expected and respected, and most countries now continue
22 to report, including China.

23 **Q.** What about MERS, was the same procedure adopted in
24 relation to the concerns about a lack of information
25 sharing there?

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1 **A.** There was hesitancy of the government of Saudi Arabia to
 2 report at the start, and one of the doctors who had been
 3 treating the initial patient thought it was
 4 SARS Coronavirus 1, and he did a genetic sequence and
 5 put that sequence publicly, and fortunately it was in
 6 the public domain because that's how the UK knew that
 7 they had a case imported.

8 **Q.** Right.

9 More recently, then, with Covid-19, what concerns
 10 have been expressed internationally about a lack of
 11 information sharing from China in the early days?

12 **A.** Yes, there was concern about a lack of sharing of
 13 information. I don't want to take a position on that.
 14 WHO did receive information, did put it out to
 15 countries --

16 **Q.** Yes.

17 **A.** -- and countries in Asia took that information very
 18 rapidly and acted upon it.

19 **Q.** Right.

20 **A.** These were countries that had had SARS previously and
 21 they were very attuned to coronaviruses.

22 **Q.** All right. Well, we'll return in a moment to deal with
 23 those countries and what perhaps could have been learned
 24 by their experiences, and why they were able to react so
 25 quickly to --

41

1 an initial outbreak or reacting to an initial outbreak
 2 than travel restrictions?

3 **A.** Yes, because infections can travel asymptotically in
 4 persons who don't develop signs and symptoms until
 5 they've crossed that international border.

6 **Q.** Yes.

7 **A.** So it's a false security to think that borders can stop
 8 infections.

9 **Q.** In later modules to this Inquiry we will look at the
 10 advice which was issued for preventing the infection
 11 spreading throughout the United Kingdom, but laying the
 12 groundwork now in terms of mask wearing, if I may, at
 13 paragraph 83 of your report you confirm that the World
 14 Health Organisation on 29 January of 2020 recommended
 15 wearing a medical mask alone during home care and in
 16 healthcare settings in the community, that that offered
 17 adequate protection against transmission if combined
 18 with hand hygiene and other infection prevention and
 19 control measures, but that a medical mask was not
 20 required for individuals without respiratory symptoms in
 21 a community setting, and that there was no evidence at
 22 that time on its usefulness to protect non-sick persons?

23 **A.** Yes, that was WHO's recommendations.

24 **Q.** Do you have any comment to make about that advice that
 25 was provided on 29 January?

43

1 **A.** Yes.

2 **Q.** -- Covid-19 when it started to spread.

3 But returning for a moment, please, to the initial
 4 outbreak, what reports and recommendations were provided
 5 internationally by the World Health Organisation about
 6 travel or travel restrictions?

7 **A.** Well, WHO recommended in its first emergency -- second
 8 emergency committee meeting after that, WHO took the
 9 recommendation of the emergency committee, which said
 10 that there should not be an interruption of travel and
 11 trade, especially for humanitarian purposes, if it was
 12 required to ship goods or other equipment to countries.

13 **Q.** Do you understand and concur with that advice?

14 **A.** In general, I do, yes. In fact, the best defence
 15 against the spread of international infections is good,
 16 strong national surveillance and detection mechanisms.

17 **Q.** Right, and what do you mean by that?

18 **A.** What I mean by that is that countries have surveillance
 19 systems which can detect unusual events very early --

20 **Q.** Yes.

21 **A.** -- whether it's reported from a community or reported
 22 from an emergency department or from the health system
 23 in general.

24 **Q.** And that, in your opinion, is a better -- the
 25 surveillance is a better method of controlling

42

1 **A.** That was solid advice to prevent transmission in care
 2 settings, and it was very important, and medical masks
 3 have been recommended -- were recommended for health
 4 workers.

5 **Q.** But it wasn't until much later, I think, in 2022, that
 6 the World Health Organisation unreservedly recommended
 7 mask wearing for the general public whenever there was
 8 a need to decrease community spread, but you would say,
 9 I presume, Professor, that by that time there was so
 10 much more evidence available?

11 **A.** That's right. And WHO doesn't like to make
 12 recommendations without an evidence base. They don't
 13 like to make precautionary recommendations, which are
 14 recommendations which would be modified as evidence
 15 comes in.

16 **Q.** So would you agree with a description that the initial
 17 advice, back in January of 2020, displays a hesitancy of
 18 the World Health Organisation in advising that mask
 19 wearing was appropriate? Or is it your evidence,
 20 Professor, that in fact that was solid, taking into
 21 account the very limited amount of evidence that was
 22 present at that time?

23 **A.** Yes, WHO has said that the reason they didn't recommend
 24 earlier is because they didn't have the evidence to make
 25 that recommendation.

44

1 Q. All right. And as you've just said, the evidence base
2 is extremely important --
3 A. It's very important, yes.
4 Q. -- for the World Health Organisation?
5 A. But there can be precautionary measures that are made,
6 recommendations that are made, which were not made by
7 WHO at that time.
8 Q. Even taking into account that Covid-19 is a fairly
9 recent disease, are you aware of case studies in China
10 around the asymptomatic transmission of the virus?
11 A. There was a study early on about asymptomatic
12 transmission in a household, but again the case
13 definition was not clear what was being used and it was
14 not really -- it was published and it was peer reviewed
15 early on, but it wasn't really clear that this was
16 an article to be followed. There were very few number
17 of family members involved.
18 The evidence really came from Singapore, when they
19 were able to look at seven different clusters of persons
20 who were infected and were unable to link them to people
21 who had clinical signs and symptoms.
22 Q. Right.
23 A. But people who they were able to link them to in
24 context, some of them did later on develop signs and
25 symptoms.

45

1 become infected from a person who is able to transmit
2 the virus or a bacterium.
3 Q. Right.
4 A. So if the reproductive number is 4, that means that one
5 person can infect four other persons, provided there is
6 no immunity among the persons to which that person is
7 exposed.
8 Q. Yes, all right.
9 In relation to Covid-19, has the reproductive number
10 dropped over the course of time?
11 A. Reproductive numbers drop as the number of people in
12 a population become immune, either from vaccination or
13 from disease. So the reproductive number has dropped in
14 the UK, for example, it's now thought to be less than
15 1 --
16 Q. Yes.
17 A. -- which is what cannot sustain transmission.
18 Q. Could we display, please, paragraphs 99 to 101 of
19 Professor Heymann's witness statement, his report, which
20 is at INQ000195846_0021. Thank you.
21 I'm just going to read through this with you,
22 Professor Heymann, dealing with the various symptoms of
23 Covid-19.
24 "99. It is currently estimated that up to 33% of
25 those infected in highly vaccinated populations do not

47

1 Q. All right. You've mentioned again there the case
2 definition. Are you able to help us, Professor, with
3 how the case definition of Covid-19 may have altered
4 over time based upon the increasing evidence?
5 A. Yes. Early on the case definition in China,
6 for example, was a case definition of a very serious
7 illness which required hospitalisation.
8 Q. Yes.
9 A. So they only were finding those serious cases because
10 that's what they were looking for, when other cases were
11 likely occurring as well.
12 Q. Right.
13 Could I ask you to explain for us, please, the
14 reproductive number.
15 LADY HALLETT: Before you do, can I just pause. The
16 transcript is not running. Are there any problems?
17 MS BLACKWELL: I think mine is, my Lady.
18 LADY HALLETT: Maybe it's just me. I seem to have stopped
19 rolling.
20 Sorry, forgive me, it was just me.
21 MS BLACKWELL: Not at all.
22 I was asking you, Professor, about the reproductive
23 number. Can you explain what it is and how it relates
24 to Covid-19, please.
25 A. The reproductive number is the number of people who

46

1 develop recognisable signs and symptoms of infection
2 after vaccination or on reinfection. Except for those
3 with comorbidities, including obesity, the rest have
4 a broad range of mild to severe signs and symptoms that
5 can include a new and continuous cough, anosmia (loss of
6 smell), ageusia (loss of taste), and a range of
7 non-specific signs and symptoms including shortness of
8 breath, fatigue, loss of appetite, myalgia (muscle
9 ache), sore throat, headache, nasal congestion (stuffy
10 nose), runny nose, diarrhoea, nausea and vomiting.)
11 "100. Decreased blood oxygen saturation is
12 a hallmark of serious illness after infection with
13 SARS-CoV-2 and complications including respiratory
14 failure, acute respiratory distress syndrome (ARDS),
15 sepsis and septic shock, thromboembolism, and/or
16 multi-organ failure, including acute kidney injury and
17 cardiac injury."
18 If we can just move up, please, to complete this at
19 paragraph 101:
20 "Infections in the elderly, and in others from
21 derived areas, and/or from certain non-white ethnic
22 backgrounds have caused more serious illness and death.
23 Underlying health conditions such as diabetes and
24 chronic renal disease, as well as obesity likewise
25 increase the risk of severe disease and death in

48

1 adults."

2 Now, that collection of symptoms and effects were

3 not known about on the immediate transmission back in

4 December of 2019, so does that picture build over the

5 course of time as the transmission increases and we are

6 able to see a variance in terms of the case definition,

7 and does that expand?

8 **A.** Yes. This is called the natural history of infection.

9 **Q.** Right.

10 **A.** All the signs and symptoms that are associated at one

11 point or another with infection. It does modify as more

12 information is obtained and focus is not on persons who

13 are seriously ill, but on persons who have a positive

14 diagnosis but have less serious illness, and this often

15 depends on being able to identify an infection by

16 a laboratory test.

17 **Q.** Right. Why is it, Professor, that symptoms may be more

18 severe for those who have comorbidities, in particular

19 obesity?

20 **A.** In obesity it's thought that there is a physical

21 component to that, where -- as it's very difficult for

22 an obese person to breathe at times, especially when

23 there is a pulmonary infection, making it very difficult

24 to exchange oxygen.

25 **Q.** Right.

49

1 incubation period. What do we know about that so far?

2 **A.** Well, the incubation period is the period, as we talked

3 earlier, from the time of infection to the time of onset

4 of signs and symptoms.

5 **Q.** Yes.

6 **A.** It's thought to be anywhere between two and 14 days,

7 although it will become more precise as more analysis of

8 information becomes available.

9 **Q.** All right. How does that compare to, for instance, the

10 incubation period of influenza?

11 **A.** Influenza has a shorter incubation period, about one to

12 three days or four days, so it's a much shorter

13 incubation period, and therefore the virus can increase

14 much more rapidly in infecting people than can one with

15 a longer incubation period.

16 **Q.** Right. We've talked or touched upon herd immunity and

17 you've explained to us what that is. Does the

18 incubation period have any connection to herd immunity

19 or how often -- sorry, how quickly, how rapidly

20 a population can become immune to a disease?

21 **A.** Yes, in fact the more rapid -- the shorter the

22 incubation period, the more rapidly the virus can

23 spread --

24 **Q.** Yes.

25 **A.** -- and therefore cause an immune response in the people

51

1 **A.** At the same time, persons who are obese have a greater

2 risk of diabetes too, and diabetes decreases the immune

3 response to infections, it's known that that occurs with

4 bacterial infections and it also occurs with viral

5 infections.

6 **Q.** Right, thank you very much. We can take that off the

7 screen now.

8 Just before we break -- I'm conscious of the time,

9 my Lady, and how long the stenographer has been working.

10 **LADY HALLETT:** I was wondering that. There have been some

11 difficult words to transcribe.

12 **MS BLACKWELL:** Yes.

13 **LADY HALLETT:** Is that a convenient moment now?

14 **MS BLACKWELL:** Yes, it is.

15 **LADY HALLETT:** Very well, I think we will probably take

16 a break. I will return at 11.20.

17 **MS BLACKWELL:** Thank you.

18 (11.06 am)

19 (A short break)

20 (11.20 am)

21 **MS BLACKWELL:** Thank you, my Lady.

22 We were talking about the facets of Covid-19 and the

23 various aspects of it that are important and that

24 perhaps set it apart from other viruses.

25 I'd like to turn to ask you, please, about the

50

1 who are infected.

2 **Q.** Thank you.

3 Moving on to deal with the current figures for

4 deaths and cases from Covid-19, as of the end of May of

5 this year, globally there were 767 million cases and

6 close to 7 million deaths. Those are the official

7 figures.

8 What is your opinion, Professor, about the danger of

9 relying upon official figures and whether or not, in

10 reality, those figures are likely to be considerably

11 higher?

12 **A.** Well, when reporting figures, it depends on many

13 different things. The reporting of cases by countries,

14 confirmed cases, depends on their testing strategy.

15 **Q.** Right.

16 **A.** So some countries have a much higher testing rate than

17 other countries. Some countries didn't bother doing

18 testing at all. So the reporting of cases is usually

19 based on confirmed cases, and that depends on the

20 testing strategy. Other countries may report suspect

21 cases; it may not be clear in those statistics who

22 reported suspect cases, who reported confirmed cases,

23 and, again, the confirmed cases depend on the laboratory

24 strategy, so cases are not a good way of evaluating or

25 at least comparing one country to another.

52

1 Deaths, however, are a much more solid figure,
2 because deaths usually occur in a hospital setting in
3 most countries, or many times do, and therefore it's
4 a better indication if it's confirmed death of the
5 number of cases that are occurring.

6 **Q.** But even in relation to numbers of deaths, is there
7 a difference between how some countries interpret
8 a death caused by Covid-19?

9 **A.** There is. In fact it depends on what's on that death
10 certificate in many countries, and sometimes there are
11 comorbidities which have become the cause of death, but
12 they were the cause of death because of a Covid
13 infection, yet it's reported as being a death from one
14 of those comorbidities.

15 **Q.** So The Economist has recently calculated excess deaths
16 globally as being in the region of 22 million, and
17 that's a much higher figure, three-fold higher than the
18 confirmed level of 7 million deaths globally.

19 **A.** Yes, and those excess deaths would also include deaths
20 of people who could not obtain healthcare for routine
21 problems during a pandemic or the epidemic, and
22 therefore added higher rates of mortality, causing more
23 excess death.

24 **Q.** Right, so excess deaths is not in itself an indication
25 of deaths caused for certainty by Covid-19?

53

1 **A.** That element was important because early in the outbreak
2 countries such as Japan, for example, did not only
3 contact tracing looking forward to see who was in
4 contact with a person who was sick, but also looked
5 backwards to try to find the source of infection, and
6 when they found that, they then did what they called
7 a precision lockdown: they locked down where the source
8 of infection was. That's good basic epidemiology and
9 outbreak control.

10 They did this in countries such as Singapore, in
11 South Korea, in Japan, in Taiwan and other places as
12 well.

13 **Q.** That was effective in controlling the spread?

14 **A.** It certainly appears it was effective, yes. In fact,
15 they were able to stop outbreaks that -- there were
16 major outbreaks in South Korea, there was a major
17 outbreak around a church event, as there was in
18 Singapore, and those outbreaks were completely contained
19 and stopped, which permitted those countries to let the
20 virus enter at a much lower rate because there were
21 fewer people infected to infect community members.

22 **Q.** But to be effective, a precision lockdown has to take
23 place very quickly after knowledge has been gained that
24 the virus is spreading?

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

55

1 **A.** No, that's correct.

2 **Q.** All right.

3 I'd like to ask you now some questions about the
4 level of preparedness of Asian countries for Covid-19,
5 those who had experience of SARS and MERS in their
6 recent history.

7 What effect do you think having a serious outbreak
8 of those two previous coronaviruses had on countries
9 such as Singapore, Japan, South Korea, Taiwan and
10 Hong Kong?

11 **A.** I believe they had a profound effect on those countries.
12 In fact I visited some of those countries during the
13 period after SARS and before the current pandemic, and
14 some of those countries had actually established
15 isolation wards with hundreds of beds in their
16 hospitals, ready for when there should be an outbreak
17 such as this. So they were developing surge capacity in
18 those countries at the same time as they were training
19 their health workers in procedures such as contact
20 tracing. So they appeared to be much better prepared,
21 because of what they had learned from the SARS outbreaks
22 back in 2003.

23 **Q.** So you have mentioned two things there, surge capacity
24 within hospitals, training of health workers in contact
25 tracing. Why was that second element so important?

54

1 **Q.** Before it gets out any further?

2 **A.** That's correct.

3 **Q.** All right. Those countries who had the ability, because
4 of the training of their healthcare workers, to undergo
5 contact tracing and then to set up a precision lockdown,
6 were more successful in continuing(sic) the early spread
7 of Covid-19?

8 **A.** It's my view that they were, and if you look at the
9 results of that today, you will see that their mortality
10 rates are much, much lower than mortality rates --
11 reported mortality rates in most European countries.

12 **Q.** All right. Let's take a look, please, at paragraphs 113
13 and 114 of your report.

14 **(Pause)**

15 113 and 114, please. Next page. Thank you. If we
16 could highlight those two paragraphs, please.

17 So just to confirm what you have told us, Professor:
18 "113. Early in the Covid-19 pandemic, studies in
19 Japan traced contacts of persons with Covid-19 forward
20 for isolation and monitoring, and backward to the source
21 of infection. They then shut down those areas where
22 transmission was shown to be occurring, many times in
23 nightclubs, gyms and other public spaces, until
24 preventative measures could be reinforced at those
25 sites.

56

1 "114. Such precision and short-term lockdowns
2 demonstrated that unlike influenza, initial Covid-19
3 outbreaks could be contained and transmission
4 interrupted. The same was true in Singapore and
5 South Korea in early outbreaks that occurred in
6 religious institutions and nightclubs [which is what
7 you've just told us]. Many Asian countries continued to
8 keep transmission at low levels before vaccines became
9 available by outbreak investigation and precision
10 lockdowns at the source, similar to those used in Japan.
11 [So] As of 19 February 2023 Asian countries had reported
12 fewer Covid-19 deaths per million in the population ..."

13 And you there give the figures:

14 "... (Japan 566, South Korea 680, Singapore 294;
15 [which are to be] compared to Italy 3,150, USA 3,344 and
16 the UK 3,038) [thereby] attesting to the effectiveness
17 of their containment strategies, though other factors
18 including the level of comorbidities and obesity may
19 have also played a role."

20 Thank you very much.

21 So those figures speak for themselves, really, do
22 they not?

23 **A.** Yes.

24 **Q.** You have described, when giving evidence before today,
25 what is known as a surgical lockdown. Is that the same

57

1 health populations include those with fewer
2 comorbidities.
3 **Q.** Right. So just taking us back for a moment to the
4 evidence that you've just given about the preparedness
5 of those Asian countries who had had a severe experience
6 of SARS and MERS, is there anything about the lack of
7 information sharing that you've also told us about that
8 may have affected the United Kingdom having the ability
9 to find out and understand the way in which those
10 diseases had affected those countries?

11 **A.** I think the information was pretty well available, it
12 wasn't available yet in peer reviewed publications,
13 because it takes time to get those out, but it was being
14 exchanged within WHO, within circles around the world,
15 and I think most informal contacts of health systems in
16 countries understood that this was quite a serious
17 outbreak in Asia, especially after the Diamond cruise
18 ship event, where a person from Hong Kong is thought to
19 have infected passengers on a cruise ship.

20 **Q.** Right, so does the fact that the United Kingdom didn't
21 have surge capacity, it didn't have hospitals with
22 ventilators and beds awaiting a virus such as this, and
23 didn't have a contact tracing system set up, indicate
24 that we hadn't learnt from the previous experience of
25 those Asian countries with SARS and MERS?

59

1 as a precision lockdown, simply a different way of
2 expressing the same?

3 **A.** That's correct.

4 **Q.** All right.

5 What is your opinion of the knowledge that the
6 United Kingdom could and perhaps should have had of the
7 effect that SARS and MERS had had in those Asian
8 countries and how that knowledge could or should have
9 been used in its pandemic planning?

10 **A.** In pandemic planning, the UK was very strong in
11 influenza.

12 **Q.** Yes.

13 **A.** That was what their planning was mainly about. Because,
14 in fact, that was on the top of their -- the risk
15 register in the UK. So there was very much emphasis
16 placed on influenza, and preparedness activities were
17 going on.

18 As we'll talk about possibly later on, preparedness,
19 though, doesn't just include strong public health, which
20 is mainly the focus of many of their preparedness plans.
21 It also includes a surge capacity, the resilience of
22 a health system to be able to take care of patients who
23 are infected, as well as patients who have routine
24 health issues, and in addition healthy populations are
25 better to resist serious illness after infection, and

58

1 **A.** The UK had quite a good case -- contact tracing systems.
2 In fact they're used at the local level regularly for
3 outbreaks that occur. But they occur at the local
4 level, where trust is very important, because if people
5 are going to give information about their contacts,
6 they're going to give it to people who they trust. So
7 countries including the United Kingdom centralised more
8 their contact tracing activities, and by so doing there
9 was less of a trust in that contact tracing, and it may
10 be that it was less effective.

11 So the lesson that I think we've all learned, and
12 I think many of us knew before, is that contact tracing
13 must be done where there's trust, and where you can
14 interact with people. It can't be done digitally in an
15 effective manner.

16 **Q.** All right. What about the lack of surge capacity?

17 **A.** The lack of surge capacity, after the influenza pandemic
18 there was an increase in hospital respirators, as far as
19 I understand, and there had been practice in activities
20 related to influenza, but they were just not activities
21 that were with the current pandemic, and I'm not sure
22 whether or not -- I can't say whether or not they
23 included what might happen if capacity in hospitals was
24 overwhelmed, although the UK responded rapidly with its
25 units that they did set up.

60

- 1 Q. All right.
- 2 Finally before we leave this topic, please could we
- 3 display the report of Exercise Alice, which is at
- 4 INQ000022732, please, and go to page 16.
- 5 Exercise Alice, as you will know, Professor, was
- 6 an exercise, a tabletop exercise that was delivered on
- 7 15 February of 2016 involving the Department of Health
- 8 as it then was, NHS England and Public Health England,
- 9 and it was based around a large-scale outbreak of MERS,
- 10 and dealt with two stages: first of all the initial
- 11 actions of the local health organisations and, secondly,
- 12 a position when the virus had spread to a wider number
- 13 of cases.
- 14 What we can see here, at page 16 of the report, at
- 15 appendix A, is the summary of lessons and actions
- 16 identified. I'd like to highlight, please, if we could,
- 17 number 5, action number 5. Thank you. We can see that
- 18 recommended by those producing the report was a briefing
- 19 paper to be produced on the South Korea outbreak of
- 20 MERS, "with details on the cases and response", and to
- 21 "consider the direct application to the UK including
- 22 port of entry screening".
- 23 First of all, do you consider that that was
- 24 an appropriate lesson to learn and action to raise?
- 25 A. Yes.

61

- 1 Disease X, in my view, is respiratory infection, but
- 2 there are other means of disease spread, as you know.
- 3 Q. Yes.
- 4 A. It can spread by enteric infection, infections from food
- 5 or water, and they can spread by vector-borne --
- 6 mosquitoes and other insects. So there are many
- 7 different ways in which infections can be spread. But
- 8 Disease X to me is that rapid spread of an infection,
- 9 usually a respiratory infection.
- 10 Q. What Professor Whitworth told us yesterday was that, in
- 11 his opinion, it's important to have a generic plan in
- 12 place that can be adapted depending on the specific
- 13 details of the disease that becomes a pandemic, that
- 14 attacks us, if you like. Do you agree with that?
- 15 A. Yes, as long as it can be adapted based on the different
- 16 characteristics of known -- what we know about viruses,
- 17 where they reproduce, how rapidly they transmit,
- 18 incubation periods and a whole series of other issues.
- 19 Q. Do you think that a pandemic on the scale and severity
- 20 of Covid-19 could have been predicted?
- 21 A. I don't believe it could have been predicted precisely,
- 22 no. I believe that there was concern about
- 23 coronaviruses, that they could spread rapidly within
- 24 populations. We had endemic coronaviruses. So I think
- 25 there was concern about it, but an outbreak such as this

63

- 1 Q. Do you know, Professor Heymann, whether or not that
- 2 briefing paper was ever prepared?
- 3 A. I do not know.
- 4 Q. All right. Thank you very much, we can put that away,
- 5 please.
- 6 Predicting future pandemics. This is something that
- 7 we touched upon yesterday in the evidence of
- 8 Professor Whitworth and Dr Hammer, and they described to
- 9 us the phenomenon known as Disease X and why it's
- 10 important for countries to expect the unexpected or to
- 11 look forwards and include in our pandemic planning
- 12 a disease which is not yet known about, the details of
- 13 which are not known about.
- 14 Do you agree with that?
- 15 A. Yes.
- 16 Q. Can you explain to us why you think it's important for
- 17 that to be part of a country's pandemic planning?
- 18 A. If you look at a Disease X as being a respiratory
- 19 infection or a respiratory disease, and look at the
- 20 various outcomes of what might occur from that
- 21 respiratory infection, then you can begin to prepare
- 22 based on different scenarios. It's not just one
- 23 scenario. As we talked earlier, it may be a respiratory
- 24 virus that produces deep in the lungs, it may be one
- 25 that produces superficially. But it's usually --

62

- 1 cannot be precisely predicted because you can't predict
- 2 an outbreak based on only one thing, and that would be
- 3 a virus; it has to be those risk factors that line up to
- 4 cause the emergence and to cause the infection to
- 5 spread.
- 6 Q. The Human Animal Infections and Risk Surveillance group
- 7 known as HAIRS, tell us, please, Professor, what that
- 8 group works on and the importance of the work that it
- 9 does in terms of the animal kingdom, diseases there,
- 10 zoonosis, and the prediction of what might be coming
- 11 along the line.
- 12 A. The HAIRS group is a One Health group, and One Health
- 13 means that the animal, human and environmental sectors
- 14 are working together on risk assessment, risk analysis
- 15 and risk management.
- 16 It's a very important mechanism within the UK, the
- 17 UK was one of the first countries to develop such
- 18 a mechanism, so it's very important, and in addition it
- 19 includes the devolved administrations and it includes
- 20 Ireland, the Republic of Ireland. So it's a very
- 21 important way of looking, doing horizon scanning,
- 22 looking -- what infections are occurring in animals and
- 23 what their risk might be to human populations.
- 24 The HAIRS group meets -- it's the environmental
- 25 sector, the government sector, the human health sector

64

1 and the environmental sector -- meets once a month, and
2 they look at what's on the horizon, and they see whether
3 or not that can be considered as a risk in the UK, and
4 if the UK's not prepared they recommend guidelines, they
5 recommend doing things to become better prepared.

6 So it's a very useful mechanism, and hopefully what
7 it could do is shift the paradigm from rapid detection
8 and response to prevention at the source, by knowing the
9 source of where these infections might come from. It's
10 a very important concept, because today most countries
11 think: well, what we need is a rapid detection system,
12 then we'll rapidly respond. What is needed is a One
13 Health environment where hopefully, in the future,
14 epidemics and pandemics can be prevented.

15 I can give an example.

16 **Q.** Yes, please.

17 **A.** In MERS coronavirus, we know that it's endemic in
18 camels.

19 **Q.** Yes.

20 **A.** We know that humans get inspected sporadically from time
21 to time from camels. The obvious solution to this is to
22 develop a vaccine and use it in camels. As long as that
23 prevents infection of camels and prevents nasal carriage
24 of the virus, we can prevent future outbreaks of MERS
25 coronavirus. That's why it's important to be looking at

65

1 available for analysis of long-term outcomes including
2 better understanding of long Covid and other sequelae,
3 and for better understanding of the impact on pandemic
4 control measures on mental health, on youth, and on
5 industry and business in the travel sector. By joining
6 the Horizon research programme of the EU, in which the
7 UK was a leader in the past, increased funding would
8 become available to supplement that provided
9 nationally."

10 So that is what you are recommending in relation to
11 continued funding?

12 **A.** That's correct. The UK in fact has contributed much,
13 much information to the literature because of their
14 excellent research capacity and because of the funding
15 that was made available by UKRI on the rolling call for
16 research that could be completed within a period of
17 12 months early on in the pandemic. In fact, I chaired
18 the panel that reviewed those research proposals. They
19 were excellent and they gave very important information.

20 **Q.** Thank you.

21 Can we move to paragraph 264, please, which is
22 recommendation 2. Thank you.

23 Before this you have said in your second conclusion
24 that the United Kingdom is one of the most respected
25 donors of international activities to better prepare the

67

1 both the animal and human sector and the environmental
2 sector at the same time.

3 **Q.** So prevention at source, meaning the animal before the
4 zoonosis occurs, before the disease jumps into humans,
5 rather than the rapid detection and response once that
6 has happened?

7 **A.** Both are important, but it's -- certainly the ideal is
8 to shift the paradigm back to prevention at the source.

9 **Q.** Yes, thank you.

10 Let's then, please, move to your conclusions and
11 recommendations. May we look first, please, at
12 recommendation 1, which is at page 55 in your report.

13 Each of your recommendations is preceded by
14 a conclusion, and in relation to recommendation 1 you
15 have concluded that research needs to be cutting-edge,
16 the UK needs to maintain its high vaccination rate.

17 And if we can go to the next paragraph, please,
18 paragraph 262, we can see here your first recommendation
19 is this:

20 "Funding for research should continue in order to
21 answer questions related to the pandemic strategy
22 adopted by the UK, including total population lockdowns,
23 and the impact the strategy has had on sickness and
24 death, and on surge capacity and resilience to continue
25 routine healthcare. Funding should also be made

66

1 world for epidemics and pandemics. So your
2 recommendation here is that:

3 "Funding should continue to be made available to
4 national academic and technical experts so that they are
5 able to support international activities that strengthen
6 epidemic and pandemic preparedness and response
7 activities, including support for funds at academic
8 institutions and within government that permit
9 replacement of skills nationally when UK experts are
10 responding to overseas needs. Official development
11 assistance (ODA) support should also continue to be
12 provided both to public-private and other pandemic
13 preparedness activities, as well as to international
14 organisations that provide global guidance and support
15 epidemic and pandemic prevention, preparedness and
16 response capacity development. This should include
17 continued active participation of the UK Government in
18 negotiations around the revised International Health
19 Regulations and the pandemic treaty, using its soft
20 diplomatic power when needed."

21 Do you stand by that recommendation?

22 **A.** I stand by that recommendation.

23 **Q.** Thank you.

24 Moving to paragraph 266, please.

25 Recommendation 3, at 266, is to:

68

1 "Continue to make permanent cross-government
2 interaction in activities that lead to stronger epidemic
3 prevention, preparedness and response, and identify
4 means of including the private sector in such activities
5 by ensuring that conflict of interest -- whether
6 perceived or real -- is understood and respected in
7 decision-making."

8 If we could move to paragraph 268 and deal with
9 these together, your fourth recommendation is:

10 "Cross-government working in a One Health mode
11 [which you've described to us a moment ago] -- without
12 ceding to the temptation to create a separate One Health
13 Ministry or agency -- should be formalised and
14 permanent. Cross-government work in a One Health mode
15 for epidemic prevention, preparedness and response
16 should continue, and include all economic sectors, both
17 public and private, so that a shift can be made to
18 prevention at the source. Such a shift might be
19 partially accomplished, for example, by increased use of
20 cost-effective vaccines in humans and animals, cleaner
21 agriculture, and cross sector joint risk assessment,
22 analysis and action."

23 Taking those two recommendations together, you are
24 very much of the view, Professor, are you not, that not
25 only should there be cross-government work but also what

69

1 **A.** Joined-up thinking. Not only across government but
2 across sectors.

3 **Q.** Thank you.

4 Finally, recommendation 5 at paragraph 270 -- you
5 recognise in your fifth conclusion that:

6 "Some of the failures in epidemic and pandemic
7 preparedness could have been prevented by focusing on
8 preparedness activities that include, but are not
9 limited to, the public health system."

10 You there mention again surge capacity within
11 the NHS.

12 So your recommendation 5 is to:

13 "Increase [the] DHSC oversight of the partnership
14 between the government agencies responsible for health
15 improvement, medical management and health
16 protection/public health with a focus on better epidemic
17 and pandemic preparedness in the future."

18 **A.** Yes.

19 **MS BLACKWELL:** Thank you very much.

20 My Lady, please could you grant permission for

21 Professor Heymann's report to be published?

22 **LADY HALLETT:** Certainly.

23 **MS BLACKWELL:** I'm just being given some instructions from
24 behind.

25 **LADY HALLETT:** While you read those instructions ...

71

1 you've described as One Health work within both the
2 government and the public and the private sector,
3 without being tempted to create a One Health Ministry or
4 agency, because that would be effectively working in
5 a silo and what you are promoting is working very much
6 as a whole?

7 **A.** Yes, in fact during the pandemic I had the opportunity
8 to see what many different companies in the UK were
9 doing as their preventative measures to respond, and
10 also with the airline industry, because they contacted
11 me, having worked with them during the SARS epidemics in
12 2003, and it was clear that they had many innovations
13 which might have been useful within the government, had
14 the government included them in some of their
15 discussions, and I think there was quite a high level of
16 frustration that they had to work separately from the
17 government because of this fear of a perceived conflict
18 of interest.

19 **Q.** Yes.

20 **A.** So it's always there, that concern for conflict of
21 interest and it's very important, but I think there are
22 ways that lessons can be learned from the private
23 sector, from others, that can be useful in government
24 and vice versa.

25 **Q.** Joined-up thinking?

70

1 When you spoke about HAIRS -- we have a lot of these
2 acronyms -- who established it? Is it a government-type
3 organisation, is it a voluntary organisation amongst
4 experts? How is it operated?

5 **A.** It's an organisation among experts, my Lady, and it was
6 established by the Health Protection Agency back in the
7 early 2000s as a means of bringing together technical
8 people within the government and within the devolved
9 administrations and the Republic of Ireland.

10 **LADY HALLETT:** Thank you.

11 **MS BLACKWELL:** My Lady, before I finish, I'm being invited
12 to ask two follow-up questions on advice in relation to
13 the wearing of masks, and I'm happy so to do with your
14 permission.

15 Professor Heymann, can you explain why the
16 experience of SARS and MERS, both being coronaviruses,
17 may not have been sufficient evidence for the World
18 Health Organisation to have advised at the beginning of
19 the Covid-19 outbreak that mask wearing was a good
20 precautionary element to take?

21 **A.** Well, it's very difficult to set up a study to determine
22 the effectiveness of mask wearing, and there was great
23 confusion in the general public, and in fact in some
24 governments, about what mask wearing was for.

25 Wearing a mask was to prevent others from becoming

72

1 infected, unless that mask also included protective
2 covering of the eyes. So mask wearing was a means of
3 preventing transmission to others from a person who was
4 infected.

5 It's very difficult to set up a study to evaluate
6 that and collect evidence, because it's hard to know
7 who's infected. So the evidence was not there and these
8 outbreaks were relatively small, MERS coronavirus and
9 SARS coronavirus, and there weren't studies that were
10 set up to evaluate that.

11 In Asia, masks have been worn as a courtesy when
12 people are infected for many, many years, and when
13 a person has an upper respiratory infection many times
14 they wear a mask to protect others. So it was much
15 easier for them to implement activities of mask wearing
16 because the population was accustomed to it.

17 **Q.** Would there have been any downside to the World Health
18 Organisation as a precaution, once Covid-19 was
19 beginning to spread, advising that masks should be worn?

20 **A.** There would have been one downside and that is the fact
21 that medical masks were in very short supply, and if the
22 general public were trying to get these masks as well as
23 the health community, it might cause a very serious
24 problem. So I know in the US, after an outbreak of
25 a choir in March of 2020, they recommended cloth face

73

1 name is Allison Monroe, and I represent the Bereaved
2 Families for Justice UK.

3 Just one topic, and one question and one point of
4 clarification arising out of that topic, which I'd like
5 to ask you and seek your assistance on, please.

6 The topic is the issue of infectious disease
7 strategy, and by way of a sort of point of
8 clarification, in a general sense, when one thinks about
9 or plans a strategy for infectious diseases, there would
10 be a raft of different components, some more important
11 than others, within such a strategy, wouldn't there?

12 **A.** Yes.

13 **Q.** This is not an exhaustive list at all, but, by way of
14 example, some of those components would be things such
15 as good public health, and a good public health system,
16 clear consistent messaging, high levels of
17 co-ordination, intra-governmentally and with the
18 scientific community, with health communities, early
19 alertness of infectious diseases, and a clear
20 understanding of where transmission happens and
21 an effective way of rapidly stopping that and shutting
22 that down; would you agree?

23 **A.** Yes.

24 **Q.** Those are some of the more important components.
25 Thank you.

75

1 coverings to prevent transmission from a person infected
2 to others. So there was concern, I believe, in many
3 circles, including at WHO, that by making
4 a recommendation to wear masks, this would compound the
5 shortage which was occurring of medical masks.

6 **MS BLACKWELL:** Right, thank you very much. That's very
7 clear.

8 My Lady, I have now finished. As my Lady knows, we
9 have a procedure in place during which core participants
10 are able to warn us of questions or areas of questions
11 that they wish to ask, and I know that
12 Allison Munroe King's Counsel, representing the Covid-19
13 Bereaved Families for Justice for today's purposes,
14 wishes to ask one question based around a topic which we
15 have been informed about.

16 So, my Lady, you have provisionally given
17 an indication that you would provide your permission for
18 that to be done. May that now be done?

19 **LADY HALLETT:** Thank you. Yes.

20 Ms Munroe.

21 **MS MUNROE:** Thank you very much, my Lady.

22 Questions from MS MUNROE KC

23 **MS MUNROE:** Thank you.

24 We're now at the afternoon -- oh, it's still
25 morning, just. Good morning, Professor Heymann. My

74

1 Within that context, then, Professor, the question
2 arises from something that is said by somebody that
3 I think you're probably very well acquainted with,
4 Professor Dame Jenny Harries, who will in due course be
5 giving evidence to this Inquiry but has provided
6 a written statement and a number of exhibits.

7 My Lady, I don't propose to take Professor Heymann
8 to any particular documents, but, simply for the
9 purposes of reference, the part of Dame Jenny Harries'
10 documents that I wish to refer to are found at
11 INQ000090317, and it's an exhibit, JH/M10009.

12 Now, she refers in that part of her statement,
13 Professor, to a document, quite an old one, from 2002
14 called *Getting Ahead of the Curve*. You're nodding
15 there. A document you're probably very familiar with?

16 **A. (Witness nods)**

17 **Q.** For those who are not, by way of a very, very abridged
18 summary, it effectively was produced by the then Chief
19 Medical Officer, Sir Liam Donaldson, and it recognised
20 that the country faced a number of public health
21 challenges, including infectious diseases, and it looked
22 at ways of dealing with that, and it recognised the need
23 to bring together skills and expertise of a number of
24 separate organisations to work in a co-ordinated way.

25 Going back, then, to the question that is posed,

76

1 Dame Jenny Harries says this in her statement -- it's at
2 paragraph 106, for reference, my Lady:
3 "In 2018, on a UK national level, Public Health
4 England identified that there had been a gap in national
5 strategy across governments focusing on infectious
6 diseases, and this gap had been apparent since 2002 and
7 the *Getting Ahead of the Curve* document. Having
8 recognised this gap, work was then started in 2018 to
9 address that issue of a strategy for infectious
10 diseases, and it was published in the autumn of 2019,
11 identifying ten different strategies including
12 a strategy for infectious diseases."

13 Now, I appreciate, Professor Heymann, that you're
14 not a person who makes policy decisions or policies, but
15 are you able to assist us at all in terms of why there
16 was that gap of a period of some 17 years, 16 years,
17 where there was no detailed infectious disease strategy?

18 **A.** I really can't answer that question. It's my
19 understanding that there were several plans on
20 infectious disease prevention and control which were
21 developed. I don't know what she's referring to that
22 was the gap. I don't know -- I would need to see what
23 documents were prepared, and I can't answer your
24 question, I'm sorry.

25 **MS MUNROE:** I'm very grateful.

77

1 not being present in person.

2 **LADY HALLETT:** Totally understand, thank you very much.

3 **MR KEITH:** Could they therefore be sworn,
4 Professor Alexander obviously remotely.

5 **PROFESSOR DAVID ALEXANDER (affirmed)**
6 **and**

7 **MR BRUCE MANN (sworn)**

8 **Questions from LEAD COUNSEL TO THE INQUIRY**

9 **MR KEITH:** Gentlemen, could I commence by asking you both to
10 ensure that you keep your voices up. It's going to be
11 a little difficult at times, Professor Alexander, to
12 hear you, so it's important that you do keep your voice
13 up.

14 If you're asked anything about which you are not
15 clear, please ask for the question to be put again.
16 There will be a break at lunchtime, lunchtime our time,
17 and there will be a break during the course of the
18 afternoon as we proceed through your evidence.

19 Thank you very much indeed for your joint expert
20 report, weighing in, I'm proud to say, at a hefty
21 321 pages.

22 Could we have that, please, on the screen. It is
23 INQ000203349.

24 My Lady, may we have your permission to have that
25 report published?

79

1 My Lady, that's the question on that.

2 **LADY HALLETT:** Thank you very much, Ms Munroe.

3 Right. Now, I think one of the next witnesses is
4 attending via videolink.

5 **MS BLACKWELL:** Yes, we need to rise very briefly, please,
6 my Lady.

7 **LADY HALLETT:** Thank you very much indeed,
8 Professor Heymann. Not only were you very helpful, but
9 you were very clear too. So thank you.

10 **PROFESSOR HEYMANN:** Thank you very much.

11 **(The witness withdrew)**

12 **LADY HALLETT:** Let me know when you're ready.

13 **MS BLACKWELL:** Thank you.

14 **(12.04 pm)**

15 **(A short break)**

16 **(12.10 pm)**

17 **LADY HALLETT:** Mr Keith.

18 **MR KEITH:** My Lady, may I please call

19 Professor David Alexander and Bruce Mann.

20 Professor Alexander is joining us from abroad by
21 videolink.

22 **LADY HALLETT:** Professor Alexander, I understand you have
23 recently undergone a bereavement, I'm very sorry.

24 **PROFESSOR ALEXANDER:** Thank you very much. I also had
25 cardiac problems, so I do apologise most profusely for

78

1 **LADY HALLETT:** You have.

2 **MR KEITH:** At page 2 of the report, we see something in
3 short order of your professional qualifications.

4 Professor Alexander, commencing with you, please,
5 first, are you professor of Risk and Disaster Reduction
6 at University College, London, from 1982 until 2002?
7 Did you teach in the fields of geomorphology, physical
8 geography, natural hazard and disaster studies at the
9 University of Massachusetts in the United States of
10 America? Were you also Scientific Director of the
11 Advanced School of Civil Protection of the regional
12 government of Lombardy, and also professor at the
13 University of Florence?

14 **PROFESSOR ALEXANDER:** That is correct.

15 **MR KEITH:** You have published the book *Natural Disasters*.

16 It was published in London and New York in 1983, it's
17 been subsequently reprinted, and you have published
18 a number of subsequent books and articles, including *How*
19 *to Write an Emergency Plan*.

20 **PROFESSOR ALEXANDER:** That's correct.

21 **MR KEITH:** Were you or are you still vice president and
22 chairman of the Trustees of the Institute of Civil
23 Protection and Emergency Management?

24 **PROFESSOR ALEXANDER:** I am.

25 **MR KEITH:** Mr Mann, turning to you, from 1979 to 2016 were

80

1 you a member of the United Kingdom Civil Service,
 2 serving in the Ministry of Defence and the
 3 Cabinet Office?
 4 **MR MANN:** That is correct.
 5 **MR KEITH:** Your MoD roles included being head of the Nuclear
 6 Accident Response Organisation, director of defence
 7 policy, and MoD roles in the Falklands, Gulf and Kosovo
 8 conflicts.
 9 Most relevantly for our purposes, did your
 10 Cabinet Office experience including serving in the
 11 Cabinet secretariat dealing with terrorism and Cold War
 12 planning, then subsequently being director of the Civil
 13 Contingencies Secretariat from 2004 to 2009?
 14 **MR MANN:** That is correct.
 15 **MR KEITH:** Were you also the leader of the independent
 16 review of the Civil Contingencies Act and its supporting
 17 arrangements, 2022?
 18 **MR MANN:** I was.
 19 **MR KEITH:** Itself also a weighty tome.
 20 Do you and have you both confirmed that the report
 21 which you have very kindly provided for us is the
 22 product of your own work, that the facts stated in it
 23 are within your own knowledge, and you understand your
 24 duty to provide independent evidence and expertise?
 25 **MR MANN:** Yes.

81

1 the matters which you were asked to address, and, at
 2 page 9, the sections into which you've divided your
 3 response. The way that you've done it is this: you have
 4 set out in section 2 the strategic approach adopted by
 5 successive UK governments. You addressed in section 3
 6 the key preparedness structures. Sections 4, 5, 6, over
 7 the page, were the key preparedness structures and the
 8 supporting arrangements adequate? And then most
 9 importantly, perhaps, for the purposes of today,
 10 latterly in your report you address the broad area of
 11 pandemic preparedness. Before bringing all that
 12 together and providing a very long list of conclusions
 13 and recommendations.
 14 Is that right, Mr Mann?
 15 **MR MANN:** It is.
 16 **MR KEITH:** In the first part of your report, we don't need,
 17 I think, to get it up on the screen, you make this
 18 point:
 19 "More reports, on generic or pandemic preparedness
 20 are published every week."
 21 There are hundreds of recommendations made.
 22 "But we are conscious the Inquiry has set itself the
 23 goal of reporting quickly ..."
 24 One of the reasons why that is a desirable aim,
 25 Mr Mann, is that lessons may be learned as soon as

83

1 **PROFESSOR ALEXANDER:** Yes.
 2 **MR KEITH:** Thank you.
 3 Now, it's probably convenient to start by
 4 considering very briefly the scope of your report.
 5 Could we please have up page 201.
 6 There we are, "Annex A: Scope of this Report". You
 7 have set out there the matters that you were asked to
 8 address by this Inquiry, and in very broad terms were
 9 you asked to consider the overall approach to risk and
 10 emergency management and a number of issues relating to
 11 that broad topic, pandemic preparedness, in particular
 12 whether there were in place suitable arrangements for
 13 identifying and assessing the risk of a non-influenza
 14 pandemic such as a coronavirus pandemic, whether or not
 15 there was an effective approach to building whole-system
 16 preparedness, the extent to which lessons had been
 17 learnt from other countries, about which we have just
 18 heard Professor Heymann give evidence, and whether,
 19 again, in particular, overall pandemic preparedness and
 20 resilience arrangements properly highlighted in the
 21 United Kingdom and prepared for the cascading
 22 consequences of a pandemic.
 23 So in truth, a very wide scope indeed.
 24 Could you please have up on the screen page 9. You
 25 commence your report by setting out, as we've just seen,

82

1 practicable.
 2 What is the position of the United Kingdom
 3 Government? What is its judgment in relation to
 4 potential future frequency of infectious disease
 5 outbreaks?
 6 **MR MANN:** I think there are two key points from documents
 7 published by the government. I wouldn't say that they
 8 address the question of frequency. I think the two key
 9 points are as follows, and I'll quote from those
 10 documents.
 11 First, that:
 12 "Infectious disease outbreaks are likely to be more
 13 frequent [by] 2030."
 14 And, second, that:
 15 "Another novel pandemic remains a realistic
 16 possibility."
 17 That is in the so-called Integrated Review of
 18 defence, security and resilience that was published
 19 in 2021.
 20 **MR KEITH:** So at a very broad and provisional and
 21 necessarily introductory approach, is it generally well
 22 recognised, then, that there is now a greater, an even
 23 greater need to enquire into these issues, to report and
 24 to learn lessons in the field of disease outbreaks?
 25 **MR MANN:** I hope that it is recognised. I recognise these

84

1 statements here, but clearly they need to be followed
2 through into action.

3 **PROFESSOR ALEXANDER:** If I might add here, I'm slightly
4 surprised that the government said that another novel
5 pandemic remains a realistic possibility. I would have
6 thought a better way of describing it is as
7 an inevitability, given that if we look at history,
8 pandemics have been recurrent throughout recorded human
9 history.

10 **MR KEITH:** A great deal, a large part of your report,
11 Professor Alexander and Mr Mann, sets out very detailed,
12 quite prescriptive views on aspects of the
13 United Kingdom system for preparedness, resilience and
14 response.

15 At the beginning of your report, therefore, you've
16 set out some of the features of the way in which you
17 have gone about trying to identify the most important
18 points, and you've set out some generic points about the
19 way in which you've approached your exercise and how
20 my Lady and this Inquiry should go about considering the
21 general field of preparedness in the context of our
22 emergency, civil emergency procedures.

23 So may I turn to just trying to highlight some of
24 the general points that you've made in your report.

25 The first point you make, and it's at page 12,
85

1 fields.

2 **MR KEITH:** Is the position of the United Kingdom Government
3 that, in fact, important work was done in the course of
4 preparing for the no-deal exit, for example in relation
5 to the reinforcement of preparatory relationships and
6 links between various entities, in relation to
7 solidifying and better preparing supply chains, in
8 relation to the training of civil servants, because
9 of course they would have to be trained for the purposes
10 of insuring for all the worst aspects that could come
11 from an unintended no-deal exit in terms of our
12 preparedness structures, and therefore there were
13 undoubtedly benefits which accrued as a result of the
14 attention to that particular course?

15 **MR MANN:** Yes, I recognise those benefits in exactly the two
16 ways you describe, which appear in the witness
17 statements which we read, on supply chains and on the
18 ability -- the improvement in the capability to manage
19 major emergencies, crises.

20 **MR KEITH:** But at page 11 do you nevertheless identify that
21 important work in the field of civil emergency,
22 including work on healthcare provision, adult social
23 care, resilience in critical sectors, planning for the
24 use of the police and military, the design of the
25 central response structures, refreshing the 2011
87

1 paragraphs 12 and 13 of your report, is that you say
2 that it's very important to note and to acknowledge that
3 on account of the planning -- undoubtedly necessary and
4 worthwhile planning -- that was done for the potential
5 no-deal exit from the European Union, the inevitable
6 consequence of the devotion of time and energy to
7 no-deal planning had an impact on the United Kingdom's
8 procedures and systems for general civil emergency
9 preparedness; is that right?

10 **MR MANN:** Yes, that is right.

11 **PROFESSOR ALEXANDER:** Yes.

12 **MR KEITH:** Is that a political point that you seek to make,
13 or is it simply a statement of fact that, in preparing
14 for one thing, which was a necessary aim in itself, that
15 preparation had to be done, there was inevitably going
16 to be consequences on other areas from which government
17 resources, time and effort were then going to be
18 diverted?

19 **MR MANN:** No, let me be clear, it is not a political point,
20 it is an administrative point. Yes, of course there was
21 an absolute need to prepare for exit from the
22 European Union. The point that we seek to make is that,
23 as well as preparing for, if it came to it, a no-deal
24 exit, there should have been capacity made available to
25 continue to pursue preparedness planning in other
86

1 Pandemic Preparedness Strategy and refreshing the UK
2 Pandemic Influenza Communications Strategy was affected
3 to some degree or another?

4 **MR MANN:** Yes.

5 **PROFESSOR ALEXANDER:** Agreed.

6 **MR KEITH:** That deals with, in a very general sense,
7 the United Kingdom Government. Were there consequences
8 also in relation to specifically Wales, Scotland and
9 Northern Ireland?

10 **MR MANN:** Yes, I think the witness statements bring the
11 consequences in each administration, bring those out
12 very clearly.

13 **MR KEITH:** Page 12, please. So in relation to Wales.

14 **MR MANN:** So in relation to Wales, in the same way as, in my
15 view, important aspects of public-facing preparedness,
16 as opposed to Whitehall-facing preparedness, important
17 aspects of public-facing preparedness had to be paused.

18 There were benefits in Northern Ireland, and the
19 witness statements make that very clear. Those are,
20 again, focused on -- although it is important, they are
21 focused on the inward-facing -- within the
22 administration -- capabilities.

23 **MR KEITH:** In relation to Scotland, which I think is over
24 the page, was there an impact insofar as the biennial,
25 every two years -- this is, every two years, the
88

1 biennial report to Scottish Ministers providing
2 an overview of the resilience of essential services and
3 critical infrastructure -- were not published?

4 **MR MANN:** Yes, this is the third aspect of -- there were, in
5 this analysis we broke the impact down into three areas.
6 The first is preparedness within an administration. The
7 second is the assurance which ministers and senior
8 officials could take on preparedness, this paragraph
9 covers exactly that. And then the public facing
10 activity preparing for the inevitable consequences of
11 a severe pandemic.

12 **PROFESSOR ALEXANDER:** If I may add, in the witness
13 statements there is a clear thread of a common feeling
14 that there were areas in which responsibilities were not
15 adequately clarified between central government and
16 between the devolved administrations.

17 **MR KEITH:** Professor Alexander, when you say "in the witness
18 statements", are you in fact referring to witness
19 statements which had been obtained by the Inquiry from
20 United Kingdom Government civil servants and employees?

21 **PROFESSOR ALEXANDER:** I'm specifically referring to exactly
22 those, but from members of the devolved administrations,
23 Scotland, Wales and Northern Ireland.

24 **LADY HALLETT:** Just before you go on.
25 Mr Mann, can you just expand a little on what you
89

1 Northern Ireland was concerned?

2 **MR MANN:** In exactly the same space. This is within
3 the Executive.

4 **MR KEITH:** You refer on the following page to the overall
5 judgment of a gentleman called Sir David Sterling who
6 I think was the head of the Northern Irish civil service
7 between 2017 and 2020. He says at paragraph 16 of your
8 report, because you've cited a segment of his evidence:

9 "... three challenges of persistent political
10 instability, resource pressures and Brexit were
11 significant issues in their own right. Together, they
12 combined to create a complex and difficult context and
13 significant resource pressures ..."

14 So in relation to Northern Ireland having reviewed
15 the material from the Northern Irish Executive Office,
16 as well as other civil servants in Northern Ireland,
17 have you noted that whilst the attention paid to
18 a no-deal exit had some beneficial impact, the position
19 in Northern Ireland was a different one because of the
20 issue concerning the collapse in the power sharing
21 agreement and what Sir David calls political
22 instability?

23 **MR MANN:** Yes. We tried to describe, I suspect, on the
24 basis of relatively limited evidence, the three issues
25 which faced Northern Ireland. We tried to bring out one
91

1 meant by Whitehall-facing and public-facing?

2 **MR MANN:** By Whitehall-facing I mean the preparedness within
3 the government department or series of government
4 departments. So more trained staff, better facilities
5 and so on, is all excellent, but it doesn't address the
6 fact that preparedness for -- plans and preparedness for
7 issues that would affect the public, who would be
8 affected by a major emergency, were paused.

9 **LADY HALLETT:** Thank you.

10 **MR KEITH:** In relation to Northern Ireland, you say at the
11 top of that page, page 13:

12 "By contrast, for the Northern Ireland Executive, EU
13 Exit planning was broadly beneficial in building generic
14 resilience and preparedness. Although some matters were
15 paused for other reasons ... the assessment of the
16 official most closely involved was that EU Exit planning
17 meant that Northern Ireland was in a better position to
18 manage the demands of major emergencies ..."

19 Is that in fact a reference to evidence obtained by
20 the Inquiry from the Permanent Secretary to the
21 Executive Office in Northern Ireland, who provides
22 a corporate statement which sets out the Executive
23 Office's view of the impact of the diversion of
24 resources and attention to EU exit but concluded that
25 broadly that planning was beneficial as far as
90

1 key judgment, which is that in March 2020, on the basis
2 of the administrative issues inside Northern Ireland,
3 a number of new and experienced staff had to be brought
4 in at the very beginning of the response to the
5 pandemic.

6 **MR KEITH:** All right, thank you very much.

7 That is the first point that I wanted to draw your
8 attention to in a wide and generic way.

9 The second point that you make in your report, in
10 a general sense, is the need to look to the future.
11 When asked to prepare recommendations and improvements
12 in the way that you have, is it necessary to try to form
13 a view or to try to look as far into the future as you
14 can, so that whatever you recommend -- if my Lady adopts
15 those recommendations and builds on them for herself --
16 that those recommendations will stand the test of time
17 and will have as long-term an impact as possible?

18 **MR MANN:** Yes.

19 **MR KEITH:** Just in a very general sense, perhaps
20 Professor Alexander, where do we stand in the general
21 scheme of things in terms of the United Kingdom's
22 preparedness structures? When were they last subject to
23 radical review?

24 **PROFESSOR ALEXANDER:** I suppose, really, that the last very
25 significant change was the construction and the passing
92

1 of the Civil Contingencies Act in 2004, which removed
 2 the need to depend upon thoroughly outdated legislation
 3 from the Cold War and the Civil Defence period. That at
 4 least established statutory duties, not merely among
 5 government, but among the providers of essential
 6 services. In my view, it didn't go far enough, but
 7 I think that is also the view of the independent review
 8 of the Civil Contingencies Act. But we also have the
 9 fact that the Civil Contingencies Act, good or bad as it
 10 might be, was essentially thrown out of the window
 11 during Covid. In other words, it was essentially
 12 replaced by the Coronavirus Act, which, although it was
 13 drafted in 2017, was essentially passed very quickly
 14 with little debate once the pandemic had started.

15 **MR KEITH:** All right. Well, we'll return to the question of
 16 the pandemic draft Bill and the Coronavirus Act in due
 17 course.

18 When, as you say, the Civil Contingencies Act was
 19 passed in 2004, had the passage of that Bill and its
 20 coming into force come after a time when the government
 21 had been dealing with matters such as widespread
 22 flooding, I think foot-and-mouth, there had been fuel
 23 protests in the years or at least at some point in the
 24 two or three years before the Act; was that primary
 25 legislative structure and the duties which were

93

1 national risk assessment, a progressive realisation that
 2 some of those risks were national, indeed international,
 3 in scale, and the arrangements we had in place started
 4 with -- indeed, the Act has on the face of the Act
 5 "Local Arrangements".

6 That's the first point.

7 The second point, as we have developed as a society,
 8 technologically, not only within the UK but also
 9 internationally, over the course of the last 20 years,
 10 those fundamental drivers -- you have heard some
 11 evidence on this -- in terms of urbanisation, population
 12 concentration, the speed and frequency with which people
 13 travel, technological developments and so on, means that
 14 the position now is, in my view, fundamentally different
 15 to that in 2004.

16 **MR KEITH:** So the risks that you've described appear to be
 17 more uncertain, they are of perhaps greater complexity,
 18 greater frequency. Is there also a greater risk now of
 19 what you describe as cascading events, that is to say
 20 the coming together of different risks simultaneously to
 21 create an even more complex emergency, or of
 22 an emergency developing in unexpected ways so that other
 23 areas are then open to crisis?

24 **MR MANN:** Yes, Professor Alexander has written the book on
 25 this, so I'll turn to him.

95

1 associated with it and the guidance and so on, to what
 2 extent were they informed by the political events that
 3 had taken place in the United Kingdom in the run-up
 4 to 2004?

5 **PROFESSOR ALEXANDER:** I think they very much were. And if
 6 you look at the world scale, you tend to find that about
 7 three-quarters of legislation on disasters and how to
 8 cope with them follows the event. Now, that may well be
 9 because disaster events are very common, worldwide we
 10 have about 700 a year, but nevertheless it is extremely
 11 common for a major event, a major civil contingency, to
 12 be the stimulus for a reappraisal leading to the passage
 13 of legislation to improve safety.

14 **MR KEITH:** Has there been a significant change, Mr Mann, in
 15 the -- what you would describe as the risk drivers which
 16 currently bear on the United Kingdom, in terms of the
 17 risks that the country faces, its future? Has the need
 18 to have a proper and effective system in place changed
 19 on account of changes in those risk drivers?

20 **MR MANN:** Yes, I think there are two points here. First,
 21 the Act and the legislation -- sorry, the Act and its
 22 supporting arrangements were taken through actually
 23 before the availability of the first national risk
 24 assessment, and there was a realisation -- and this was
 25 in my time in post -- there was a realisation with the

94

1 **MR KEITH:** Professor, perhaps we'll hear from you on that.

2 **PROFESSOR ALEXANDER:** Thank you. I have a research group on
 3 cascading disasters and we would argue that all major
 4 civil contingencies and many minor ones are cascading
 5 events by their very nature, because we live in
 6 networked societies which require us to interact in
 7 certain ways that can be easily disrupted by such
 8 impacts. So we're not only dealing with cascading
 9 events where you have, to begin with, the toppling
 10 dominoes metaphor, where one impact leads to another, we
 11 also have escalation points in that, where the
 12 interaction of different kinds of vulnerability can
 13 cause a worse secondary impact to the one that started
 14 off the whole process, on certain occasions.

15 But apart from all of that, we have the possibility
 16 of concurrent events. Although this is not directly
 17 relevant to the UK, during Covid there were three major
 18 earthquakes around the world. They required a very
 19 different way of dealing with the event to that required
 20 for dealing with an infectious disease, and yet it had
 21 to take place simultaneously.

22 I think the UK in this was lucky, quite simply
 23 lucky, that it didn't have, for example, major flooding
 24 or something like that during Covid, because there could
 25 easily have been large natural hazard impact or

96

1 something else that would have even further complicated
2 the response required.

3 **MR KEITH:** Thank you.

4 The third general point that you make in your
5 introduction is that future improvements and changes,
6 significant changes to the structural system for
7 emergency preparedness, response and resilience, must
8 reflect better than perhaps they have in the past
9 societal and public expectation.

10 What did you mean by that?

11 **MR MANN:** I meant that there is a range of societal factors,
12 we list them in the report, which any preparedness
13 structure, any law, any arrangements have got to take
14 into account. They are built to protect people, they
15 are built in the name of the people, and they've got to
16 be embedded. It's not just about processes and law and
17 structures and so on; this has got to have a human face
18 to it. We've identified five in the report, of which,
19 in our view, the most fundamental is competence. I'm
20 happy to go through the others if you wish.

21 **MR KEITH:** Well, we'll get to the conclusions in due course.
22 You've separated out your conclusions by reference to
23 these -- to some of these generic points.

24 **PROFESSOR ALEXANDER:** May I add --

25 **MR KEITH:** Please.

97

1 or not sufficiently.

2 **MR KEITH:** Currently?

3 **PROFESSOR ALEXANDER:** We have a very quick illustration of
4 this. We have these foresight programmes that have
5 indicated what the hazards are, but we also have
6 scenario-building exercises in government, namely the
7 National Risk Register and the National Security Risk
8 Assessment, which have very short time horizons, and yet
9 we know very well that many of the contingencies we face
10 are going to change and grow in the short term, the
11 medium and the long term. And they will require
12 adaptation to them.

13 **MR KEITH:** May we take it from what you've said, Professor,
14 that that's your view of the current position, that
15 currently the structures that we have in place do not
16 keep us safe or do not keep us as safe as you would wish
17 and everybody would sensibly wish us to be? Is that
18 your view?

19 **PROFESSOR ALEXANDER:** That is indeed true. We are,
20 of course, all responsible for our own safety, but
21 government, of course, has an essential, fundamental and
22 central role in providing safety to its population, and
23 I think it could do more and better in that.

24 **MR KEITH:** All right. Well, we'll return, of course, to
25 some of the aspects to which you've made reference, in

99

1 **PROFESSOR ALEXANDER:** -- that I think the UK is very good at
2 foresight. In 2011 to 2012 there was a major foresight
3 programme regarding civil contingencies, and there is
4 now another, and it is turning up some very interesting
5 pictures of what the country is now facing and will
6 probably be facing over the next 50 years.

7 The question, however, remains the extent to which
8 the results of such exercises are taken into account in
9 the arrangements for dealing with events, and that is
10 a very different matter.

11 **MR KEITH:** So are you saying, then, Professor, that whilst,
12 as a country and on the part of its various
13 institutions, there is good thinking going on in
14 relation to the possibility of future risks and what
15 they may consist of and what challenges we as a country
16 will face, the trick is to ensure that what arrangements
17 are put into place to give effect to that foresight
18 reflect public trust, reflect public confidence, ensure
19 that we as a country have faith in those arrangements
20 and therefore are more likely to comply with them and to
21 follow them? Is that the issue?

22 **PROFESSOR ALEXANDER:** Yes, indeed. I think the bottom line
23 of all of this is: do you think that the
24 British Government, within the limits of its competency,
25 keeps the public safe? I fear my answer to that is no

98

1 particular the National Security Risk Assessment, in due
2 course.

3 The fourth general point that you raise and to which
4 you refer is devolution. This is an important point
5 because, of course, this is a United Kingdom Inquiry and
6 it is enquiring, of course, not just into arrangements
7 in Westminster, the United Kingdom arrangements, but
8 into the affairs of England, Scotland, Wales and
9 Northern Ireland.

10 In a general sense, who or which structures bear the
11 primary responsibility for dealing with resilience,
12 dealing with preparedness -- that is to say being in
13 a position to respond -- and resilience, having the
14 ability or capacity to be able to respond well?

15 **MR MANN:** I'm sorry if I appear to be avoiding the question.
16 It has to be a shared responsibility. But technically,
17 and in law, civil contingencies is devolved in Scotland
18 and Wales. There are particular arrangements affecting
19 Northern Ireland.

20 **MR KEITH:** So does it follow -- Professor, please, yes?

21 **PROFESSOR ALEXANDER:** Yes, thank you. I agree entirely with
22 what Mr Mann says. However, I think if you look around
23 the world, you would see that the management of civil
24 contingencies only works if it is done at the local
25 level, because that is invariably, no matter what the

100

1 size of the event, the theatre of operations. Therefore
2 the quality of local organisation is absolutely
3 paramount. It is, however, dependent on the quality of
4 support given by higher levels of government.

5 One of the problems we have in Britain is that if we
6 leave aside the question of the devolved
7 administrations, we don't have an intermediate tier to
8 manage this, and at the same time it is very hard to
9 manage local endeavours from Westminster.

10 Thank you.

11 **MR KEITH:** Does it follow, therefore, from what you've both
12 said, that proper and sensible recommendations must take
13 into account the need to bring about improvements not
14 just in the national structures but obviously the
15 devolved structures and local structures, because all
16 play their part in the overall system of preparedness
17 and resilience?

18 **MR MANN:** Yes, it does. I fear that we are tacking back to
19 your spaghetti diagram eventually, but yes, there are
20 a wide range of organisations involved in preparedness
21 and response. That means there is a wide range of
22 interfaces between those organisations, and all of that
23 has to fit together smoothly.

24 **MR KEITH:** The fifth point concerns the difference between
25 resilience and preparedness.

101

1 any inquiry improve our resilience? Is that something
2 which is capable of being reported on, commented on,
3 being made the subject of improvement?

4 **MR MANN:** Yes. I think in three areas.

5 First, on preventative activity, not only before
6 an emergency arises, and you heard from
7 Professor Heymann this morning, but secondly, at the
8 onset of an emergency, to seek to slow spread, to give
9 people time to prepare. That's the first area.

10 The second area is to recognise the need for
11 whole-system preparedness.

12 The third area is the need, and I'm sorry to use
13 jargon, to recognise the need for whole of society
14 preparedness. That's not just public sector entities,
15 that is the voluntary and community sector, the business
16 sector, communities, individuals and their families.

17 **PROFESSOR ALEXANDER:** If I might add here, there is
18 a question of lessons learned, which is a phrase that is
19 often exercised. The measure of a lesson learned is in
20 fact in measurable positive change. There are most
21 definitely lessons to be learned from Covid-19, as there
22 are from previous events.

23 But one small illustration of this situation is that
24 one of the lessons of the 2005 bombs in London was the
25 need for greater co-ordination between the emergency

103

1 **LADY HALLETT:** Before you go on to that, Mr Keith. I think

2 I'm being encouraged --

3 **MR KEITH:** Ah, yes, may I say I think that's an excellent
4 time to pause.

5 **LADY HALLETT:** Forgive me, Professor Alexander, I hope you
6 have arrangements where you can get some lunch, Mr Mann,
7 thank you both very much. See you at 1.45, please.

8 (12.47 pm)

(The short adjournment)

10 (1.45 pm)

11 **LADY HALLETT:** Yes, Mr Keith.

12 **MR KEITH:** In your report, Mr Mann, Professor Alexander, you
13 refer repeatedly to the concept of preparedness and also
14 to the concept of resilience, and we've all referred to
15 those two words repeatedly already.

16 Preparedness appears to be about being ready:
17 identifying a risk, the risk of an event occurring, and
18 then preparing to deal with it, so doing something about
19 it. And resilience appears to us to relate to capacity
20 and concerns the ability to resist, absorb or adapt to
21 an event.

22 To what extent can improvements to the structures
23 for civil emergency better prepare us, as opposed to
24 better enable us to be resilient? So, putting it
25 another way, to what extent can any recommendation or

102

1 services, particularly in the declaration of major
2 incident that moves them from normal activity into fully
3 emergency related activity. That had not happened then.

4 12 years later, in the Manchester Arena bombing,
5 there was exactly the same problem, which implied that
6 in the 12 years that intervened, that particular lesson,
7 which is extremely important in terms of saving lives,
8 had not been learned.

9 **MR KEITH:** Does it follow from what you both said that the
10 distinction, for our purposes, between preparedness and
11 resilience, may therefore matter little, because what
12 matters is ensuring that the country puts itself in as
13 best a position as possible in order to prevent civil
14 emergency, to respond to civil emergency and to recover
15 from civil emergency, and to do so in a way which
16 engages the whole system and the whole of society? So
17 notions of resilience and debate about how wealthy and
18 healthy a country we are and how well we can adapt to
19 an emergency perhaps doesn't take us very much further
20 forward?

21 **MR MANN:** I think if you're looking at risk before
22 an emergency happens, I think there are a variety of
23 ways in which you can tackle risk -- we set them out on
24 figure 1 and figure 2 -- which is: identify it in the
25 first place, seek to avoid it or minimise its

104

1 consequences, prepare for it, respond to it. Each of
 2 those is a separate and distinct activity, although
 3 there are some overlaps, but they all need to be
 4 addressed for a country to be resilient. That's the
 5 proposition that we've got in section 2 of our report.
 6 **MR KEITH:** So is resilience just an omnibus word, then, or
 7 an aspect, if you like, of general preparedness?
 8 **MR MANN:** Preparedness is one aspect of resilience but there
 9 are many others which need to be addressed.
 10 **MR KEITH:** All right.
 11 **PROFESSOR ALEXANDER:** Resilience is a concept that actually
 12 has a history that goes back about 2,080 years to the
 13 first known sources of it. It is a rather difficult
 14 concept because it has been used in at least
 15 200 different ways in modern times, which can easily
 16 confuse matters. But to me it is a mixture
 17 of adaptation and resistance to adverse events. This
 18 very definitely includes preparedness and planning.
 19 Therefore, both preparedness and resilience involve
 20 foresight, because it is necessary as far as possible to
 21 anticipate the events that are likely to occur, where
 22 these can be foreseen. Obviously not everything can be,
 23 but very much indeed can be. You may be familiar with
 24 the concept of the "black swan", as enunciated by
 25 Nicholas Taleb by his book of that name. It is worth
 105

1 on the general policies rather than on the specifics of
 2 operational responses?
 3 **MR MANN:** No, I'd come at it another way. The focus should
 4 be on the outcome: what are you seeking to do to reduce
 5 harm and loss, at all stages that we've described in the
 6 cycle. From there you can work back to how best you
 7 bring the organisations that are needed to reduce harm
 8 and loss together -- and that means structures, but it
 9 means a lot else -- into a partnership to reduce harm
 10 and loss. And of course policies and practices are part
 11 of that mix.
 12 **MR KEITH:** I think we may be at cross-purposes. Does your
 13 report seek to provide the detail of how operationally
 14 responders -- and that may include emergency services,
 15 the NHS, educational facilities and care homes and so
 16 on -- should actually be responding day in, day out, to
 17 an emergency?
 18 **MR MANN:** No.
 19 **MR KEITH:** Right.
 20 **MR MANN:** No. Our aim, as we say right at the beginning, is
 21 to address the strategic issues on the basis that other
 22 modules will address the more operational issues.
 23 **MR KEITH:** Thank you.
 24 The next area concerns risk, and you've touched upon
 25 this already. Are you agreed that not all major risks
 107

1 remembering that it is a concept that is quite
 2 controversial, in other words it applies in economics,
 3 which is a rather distinctive discipline. The idea is
 4 that Europeans went to Australia believing all swans
 5 were white and then encountered black swans. In other
 6 words, that we are likely to be faced, by analogy, with
 7 events that are completely unforeseeable and therefore
 8 unforeseen. That, I think, is not the case in terms of
 9 civil contingencies; just about everything has
 10 precedence, even though the exact mix and the exact
 11 composition of the event cannot be precisely predicted.
 12 But it does mean that planning is absolutely fundamental
 13 and central.
 14 **MR KEITH:** Thank you. That's very clear.
 15 The next area I wanted to touch upon with you,
 16 please, is the distinction between structures and policy
 17 and operational response. Very little of your report
 18 addresses the detail of how, for example, services and
 19 help are actually provided by way of education or the
 20 responses of the emergency services or the actual
 21 provision of healthcare in hospitals or of social care
 22 in care homes.
 23 Is that because, when looking at a system of
 24 preparedness and looking to see where it can be
 25 improved, it's necessary to focus on the structures and
 106

1 to a country can be identified in advance, and of course
 2 not all specific major or catastrophic events can be
 3 planned for, and is it as a result of that that -- as
 4 you say -- no country can prepare for the specifics of
 5 whatever emergency may ensue, the need is to identify in
 6 broad terms the risks and to be able to plan for those
 7 broad risks in a way that is sufficiently flexible so
 8 that you can therefore respond properly to whatever
 9 emergency ensues?
 10 **MR MANN:** Not quite. I agree with Professor Alexander that
 11 actually most risks can be foreseen in some shape or
 12 form.
 13 **MR KEITH:** Ah.
 14 **MR MANN:** But it is inevitable -- two things are inevitable.
 15 First, human beings being fallible, that not all risks
 16 will have been identified. We have been surprised in
 17 the UK on a number of occasions.
 18 Second, the risk will not turn out the way in which
 19 you thought it might turn out.
 20 At that stage, then, you rely on the planning that
 21 has been done for the risks that have been identified,
 22 and on generic preparedness, in other words planning for
 23 all risks in the way in which you've described.
 24 Secondly, however, I would say best practice is that
 25 for the most significant risks, the risks with the
 108

1 highest likelihood and the highest impact, there should
2 be dedicated specific emergency planning for those
3 risks.

4 **MR KEITH:** The -- Professor, before I turn to you, can I ask
5 a follow-up question, please, of Mr Mann, so that we can
6 understand the parameters of this debate.

7 You used the words "in some shape or form". The
8 current system of preparedness in the United Kingdom
9 rests on the premise that, in broad terms, categories of
10 risk are identified, not the specific risk which might
11 eventuate. A broad category of risk of, I don't know,
12 flooding or pandemic influenza or a new and emerging
13 disease. Those risks are then assessed in terms of
14 likelihood and impact, and assumptions are made as to
15 the consequences, planning assumption is made, and then
16 those assumptions are disseminated so that everyone
17 knows what they're planning for, what they have to deal
18 with, and, in particular, what the reasonable worst-case
19 scenario might be.

20 So the starting point is, as you say, not every
21 single specific risk is identified in its detail. So
22 for both of you, would you agree that it is not
23 possible -- perhaps you may say it is possible, but we
24 understand you not to say so -- that every single
25 specific risk, with its particular detail, can be

109

1 Europe and, in particular, the UK faces in terms of
2 a brief description of possible scenarios and
3 a description of so-called weak signals which are
4 indications that that particular risk might be coming to
5 the fore. Now, whether or not that helps us is a moot
6 point, but let's also remember that the National
7 Security Risk Assessment and the National Risk Register,
8 its public face, both include scenarios. I think,
9 however, there are severe or serious significant
10 weaknesses in both documents methodologically speaking.
11 The key one, perhaps, is that the scenarios don't
12 connect directly to the plans, they are advisory for
13 those who are making plans. But I am used, instead, to
14 a situation in which the scenario is part of the plan,
15 the plan responds to the scenario and the scenario
16 includes the provisions for responding to the event.

17 There are other weaknesses, including short time
18 horizons, spurious accuracy and some questionable
19 assumptions or failure to declare all assumptions. But
20 nevertheless there is this methodology and it does
21 prioritise the risks. And let's remember that since
22 2008 viral pandemics were considered to be the most
23 likely and the most serious among about 36 risks which
24 figured in both documents.

25 **MR KEITH:** Perhaps we can descend to the detail immediately.

111

1 identified in advance?

2 **MR MANN:** I think the distinction between us is I believe
3 that those risks can be identified in advance, the
4 question is what is taken into planning. So it is --
5 there are thousands of risks confronting the UK. You
6 cannot plan for thousands of risks.

7 **MR KEITH:** Indeed.

8 **MR MANN:** So you need to group them together, where that is
9 sensible to do so. Flooding is an example. You cannot
10 predict where the flooding will be, how severe the
11 flooding will be. What you can do is build something
12 which says: if there is flooding, this is the plan we
13 will put into place, these are capabilities we will
14 deploy.

15 So I think there is a distinction between us on
16 identifying the risks in the first place, because if you
17 don't do that you will get caught out.

18 **MR KEITH:** I think we may be at cross-purposes.

19 Professor, what do you have to say to that
20 proposition?

21 **PROFESSOR ALEXANDER:** I think one of the key issues is
22 building scenarios. There is a website from a European
23 project that was managed by the University of
24 Manchester -- and the website is still active though the
25 project is finished -- which includes 1,500 risks that

110

1 The current system under the National Security Risk
2 Assessment and its public-facing National Risk Register
3 identifies -- or at least in 2019, and we're more
4 concerned with the position as it was when the pandemic
5 struck -- pandemic influenza and a new emerging disease,
6 a new emerging pathogen.

7 We've heard evidence, and it's obvious, that
8 reference to a "new and emerging disease" doesn't tell
9 you whether or not that disease is asymptomatic or
10 symptomatic, it doesn't tell you what its incubation
11 period is likely to be, it doesn't say anything about
12 the severity, and therefore the characteristics of that
13 particular risk remain unknown.

14 Are you saying that, and we're particularly
15 concerned of course with pandemic planning, that
16 a sensible system of risk assessment should be much more
17 detailed in its identification of the risk than the
18 current system, so that the system of identifying broad
19 risks -- flooding, pandemic influenza, new and emerging
20 virus -- is too broad? Whilst it provides us with
21 flexibility, it fails to make us focus on the particular
22 characteristics of the risk and therefore prepare?

23 **PROFESSOR ALEXANDER:** I think there is a variety --

24 **MR KEITH:** Sorry, Mr Mann, because you nodded, could you say
25 "yes" so your answer is on the transcript.

112

1 **MR MANN:** No, no, that meant I understood your question,
 2 Mr Keith. I'll let Professor Alexander go first.
 3 **PROFESSOR ALEXANDER:** Very kind, thank you.
 4 I think that there are various criticisms that can
 5 be and have been levelled against the methodology used
 6 in the UK. For example, there are five or six major
 7 criticisms in the assessment made by the Royal Academy
 8 of Engineering of the National Security Risk Assessment
 9 procedure. I agree with all of them, but I would go
 10 a little further than that. One of the problems also is
 11 that there is a failure in the scenarios to be
 12 sufficiently inclusive. There is spurious accuracy but
 13 at the same time there is a failure to consider how
 14 things might develop in specific particular cases. But
 15 it can be done.
 16 On 12 October 2008 I attended a Red Cross symposium,
 17 and at it an epidemiologist stood up and gave
 18 a 45-minute lecture. He started by saying, "My job is
 19 to tell you something you don't want to know and ask you
 20 to spend money you haven't got on something you don't
 21 think will happen". He then went on to describe a viral
 22 pandemic. And let's remember, this is half a medical
 23 problem, and an epidemiological problem, and half
 24 a socio-economic problem. And he described all of that
 25 in considerable detail.

113

1 a plan for -- as David has said, a plan for a severe
 2 pandemic has a lot of very common, very predictable
 3 features which ought to be identified and planned for
 4 specifically.
 5 **MR KEITH:** Are you saying that those characteristics should
 6 have been identified in the general risk assessment
 7 preparedness procedures but weren't?
 8 **MR MANN:** And the work that followed up from there, yes,
 9 absolutely.
 10 **MR KEITH:** Right. We'll look at that and we'll come to it
 11 later.
 12 **PROFESSOR ALEXANDER:** If I might add to that very briefly.
 13 One problem with the methodology that is used in Britain
 14 is that it is utterly specific. In other words, there
 15 is a scenario for a pandemic. I believe the correct
 16 methodology would be to have an envelope or a suite of
 17 scenarios: this is the best case, this is the worst
 18 case, this is the median case. What, instead, we have
 19 is an algorithm that gives us exact predictions: 48,324
 20 deaths will occur. This of course is nonsense. It is
 21 indicative and, in that sense, it is helpful, but
 22 I think we need a much broader way of describing our
 23 scenario.
 24 **MR KEITH:** All right. Well, we're going to return to that
 25 in detail a little later, and at this broad level, we

115

1 It got me teaching pandemics for the next ten years
 2 and trying to encourage the creation of pandemic
 3 emergency plans. It was also quite clear that this was
 4 going to happen and that large elements of it were
 5 entirely predictable once the pandemic, in terms of
 6 infectivity and lethality, passed a certain tipping
 7 point or reached a certain level.
 8 **MR KEITH:** All right.
 9 Mr Mann, do you want to comment? You deferred to
 10 Professor Alexander there.
 11 **MR MANN:** No, I absolutely agree with what
 12 Professor Alexander says. There is a greater degree of
 13 specificity that can be done.
 14 **MR KEITH:** Right.
 15 **MR MANN:** The only thing that needs to be avoided is that
 16 there are a thousand plans. There has to be some kind
 17 of aggregation to make the task manageable. But I do
 18 agree with the exact points that were made by
 19 Professor Alexander.
 20 **MR KEITH:** But the proof of the pudding, of course, will be
 21 in the eating. I mean, you require further specificity
 22 but you must still acknowledge that the system has to
 23 work and take account of broad categories of risk. The
 24 issue will be: where do you draw the line?
 25 **MR MANN:** Yes, which has to be a matter of judgement, but

114

1 must try to, I'm afraid, keep our answers as short as we
 2 can or you must keep your answers as short as you can if
 3 we're to be able to get to the meat of it.
 4 Another broad point that you make in your report, or
 5 another issue you refer to in your report is the
 6 existence of international indices of health security
 7 and related capability, and we've heard evidence about
 8 the Joint External Evaluation, which is conducted under
 9 the auspices of the World Health Organisation, and we've
 10 heard also of a second procedure under the Global Health
 11 Security Index processes.
 12 Just in a general sense, is it possible accurately
 13 to gauge or assess preparedness in advance of a crisis?
 14 Britain, United Kingdom, did well in the JEE evaluation
 15 prior to the pandemic, but the evidence may show that in
 16 reality we didn't do so well. Is it ever possible to
 17 gauge or assess preparedness in advance?
 18 **MR MANN:** Yes, I believe it is, provided that it is done in
 19 sufficient detail against precise or reasonably precise
 20 metrics. Yes, I believe that it is.
 21 **MR KEITH:** All right.
 22 Sorry, Professor, yes, please add what you were
 23 going to add.
 24 **PROFESSOR ALEXANDER:** I have done research on this in
 25 Mexico, and much depends upon the quality of the

116

1 methodology used for evaluation. It did appear at the
2 time of the pandemic that the World Health Organisation
3 evaluation of Britain's ability to cope with a pandemic
4 was simply wrong. It didn't match up to the results
5 that came out in comparing the British response to that
6 of other countries, or comparable countries.

7 **MR KEITH:** All right, thank you.

8 Could you please turn to page 23 of the report.

9 Professor, I presume you have a hard copy of your report
10 there in front of you?

11 **PROFESSOR ALEXANDER:** I do. I do.

12 **MR KEITH:** You say this:

13 "There was thus no document which set direction for
14 the wide range of organisations involved in building
15 resilience and preparedness, helping to unify their
16 actions towards a common end."

17 Are you saying that there is in the United Kingdom
18 no single document, no single strategy, no single piece
19 of paper which sets out our disaster risk reduction
20 strategy? Or is this a conceptual point that you're
21 making?

22 **MR MANN:** No, no, absolutely not. A very practical point.
23 No, there is no document that sets out where we're
24 trying to get to, how will we know when we get there,
25 and what steps we will take along the way and,

117

1 publishing a new strategy, and it called for evidence in
2 July 2021 for the public to contribute answers to
3 question that it posed on a range of topics, and this
4 document, the Resilience Framework, was published in
5 December 2022.

6 I don't want to spend time going through it in
7 detail with you, because in fact, my Lady, witnesses
8 from the Cabinet Office will be addressing the
9 particular document later in Module 1.

10 But did it essentially set out an action plan from
11 the government in relation to a number of areas, risk,
12 responsibilities and accountability, partnerships,
13 communities, investment and skills, and set out a broad
14 framework of -- and I apologise for using this word, it
15 is not my word -- deliverables, which would be produced
16 or which the government would endeavour to produce by
17 reference to two deadlines: the preparation and conduct
18 of actions by 2025, and also the production of actions
19 and deliverables by a later date, 2030?

20 **MR MANN:** Yes, it did.

21 **MR KEITH:** In general terms, have you been able to take
22 account of that document, the UK resilience framework,
23 for the purposes of producing for my Lady the report
24 that you have?

25 **MR MANN:** Yes, at relevant sections of our report we try to

119

1 importantly, what resources we will apply to trying to
2 achieve that ambition.

3 **PROFESSOR ALEXANDER:** Might I add here that when finally
4 an attempt is made at this with the UK Government
5 Resilience Framework of December 2022. In it there is
6 no mention of gender, of people with disabilities, of
7 the elderly, or of ethnic and cultural minorities, and
8 yet all of these are essential issues that need to be
9 dealt with if resilience is to be created, maintained,
10 guaranteed or whatever.

11 **MR KEITH:** Can we just pause for a moment, then. You've
12 introduced a new and important document. Is this the
13 document published by the United Kingdom Government in
14 December 2022?

15 **PROFESSOR ALEXANDER:** Yes.

16 **MR KEITH:** I'm going to hold it up, Professor, so that you
17 can see it. The UK Government Resilience Framework.

18 **PROFESSOR ALEXANDER:** Exactly.

19 **MR KEITH:** Could we please have INQ000097685.

20 (Pause)

21 **MR KEITH:** Mr Mann and Professor Alexander, I think the
22 position was this: that as a result of wider ranging
23 reviews carried out by the government into national
24 security and biological security, integrated reviews and
25 so on and so forth, that the government committed to

118

1 interleave the relevant points inside the government's
2 Resilience Framework.

3 **MR KEITH:** That is, on one view, a strategy document. It
4 sets out at very high level what the United Kingdom
5 proposes to do in relation to improving the structures,
6 producing deliverables in relation to various aspects of
7 the civil emergency structures in this country. Why
8 does that not suffice to be the single strategy document
9 of which you speak?

10 **MR MANN:** Four points. I think, first, in my view it starts
11 from the wrong place.

12 **MR KEITH:** Why?

13 **MR MANN:** It sets out a range of measures and says --
14 implies: if those measures are taken, we will have
15 a sufficiently adequate system to deal with the future
16 we face.

17 I don't believe that to be the case. I think the
18 document should have started in a different place: what
19 do we need, first, to deal with catastrophic
20 emergencies; secondly, actually to pick up international
21 best practice? I think it falls short in both of those
22 areas.

23 Second, it's too slow. It suggests a range of
24 measures for implementation in the period 2025 to 2030.
25 I think a lot of those can be done sooner and ideally

120

1 should be done sooner.

2 Third, it's not a strategy. It was advertised as
3 a strategy. It does not set out "this is where we'd
4 like to get to, this is how we'll know we get there, and
5 these are the steps we'll take on the way. There's
6 a lot of very good ideas in there, but they're not
7 brought together into a single unifying roadmap which
8 everybody in the responder community can use.

9 And finally, it is almost silent on resourcing.

10 **LADY HALLETT:** Mr Mann, you're probably more used to this
11 language of this kind than I am, fortunately, what
12 exactly does the "preparation and conduct of actions"
13 mean? It's not even English, is it? Preparation and
14 conduct, does that mean just actions?

15 **MR MANN:** No, it doesn't, my Lady. It is very, very --
16 I don't want to sound Sir Humphrey about this, but it's
17 very, very carefully drafted language, which includes --
18 tries to seek to buy time and to leave open the option
19 of not proceeding with those proposed actions.

20 **LADY HALLETT:** But doesn't the word "conduct" usually mean
21 you've done the thing?

22 **MR MANN:** It ought to, yes. Yes, but I don't think in this
23 specific case it is being used in that sense, for all of
24 the actions that are proposed. Some of them you may
25 have noticed are the subject of -- I'm sorry to use

121

1 multilateral action ..."

2 And already taking action by:

3 "Continuing to deepen and strengthen its
4 relationships with the Voluntary and Community
5 Sector ..."

6 If you turn over the page to page 67 in the hard
7 copy, or 73 online:

8 "By 2025, the [United Kingdom] Government is
9 committing to take the following actions:

10 "[Clarifying] roles and responsibilities in the
11 [United Kingdom] Government for each NRSA risk, to drive
12 activity across the risk lifecycle.

13 "Conduct an annual survey ...

14 "Introduce an Annual Statement to Parliament ...

15 "Develop a measurement of socio-economic
16 resilience ...

17 "Run a pilot across [the] three key pillars of
18 reform ... [of] Leadership, Accountability, and
19 Integration of resilience ...

20 "Grow ... advisory groups ...

21 "Deliver a new UK Resilience Academy ...

22 "Deliver a new training and skills pathway ...

23 "Reinvigorate the National Exercising Programme ..."

24 And over the page, page 69 in the hard copy, 74

25 online:

123

1 jargon -- pilots and pathfinders and other things, which
2 leaves open the option of not proceeding with those
3 measures.

4 **MR KEITH:** Could we, I want to ask you since you've raised
5 the topic, Mr Mann, perhaps we could get the summary of
6 the framework actions on the screen. It may be at
7 page 72, annex B of this December 2022 report, which
8 of course is post-Covid. We'll just have a look at some
9 of the propositions and the language.

10 So, to find our bearings -- Professor, you won't
11 have a hard copy of the report in front of you --

12 **PROFESSOR ALEXANDER:** Actually I do have a pdf copy.

13 **MR KEITH:** Oh, very good. The hard copy is different, it's
14 page 66:

15 "Annex B: Summary of Framework actions

16 "The [United Kingdom] Government is already taking
17 action by:

18 "Refreshing the NSRA process ...

19 "Creating a new Head of Resilience ...

20 "Strengthening UK Government resilience

21 structures ...

22 "Continuing ..."

23 So it's taking action already.

24 By:

25 "Continuing to take international, bilateral and

122

1 "By 2030, the UK Government will:

2 "Develop proposals to make ... communications on
3 risk more relevant and easily accessible.

4 "Work across [the] three key pillars of reform to
5 significantly strengthen [the local resilience
6 forums] ...

7 "Introduce standards on resilience ...

8 "Provide ... better guidance ...

9 "Build upon existing resilience standards ..."

10 And in relation to investment:

11 "Have a co-ordinated and prioritised approach to
12 investment in resilience ... informed by a shared
13 understanding of risk.

14 "Consider options force funding models for any
15 future expanded responsibilities ...

16 "Offer new guidance ..."

17 So in your professional opinion, Mr Mann, firstly,
18 and Professor Alexander, are those commitments
19 sufficiently concrete, clear, precise to meet the
20 concerns that you've both expressed already this
21 afternoon?

22 **MR MANN:** No. In three senses. First, if all of those were
23 executed, the question I think needs to be addressed is:
24 would the UK be in a better place to handle catastrophic
25 emergencies? My judgment is no.

124

1 Secondly, are they concrete? To use your language,
 2 Mr Keith. No. What they don't do is, first of all, set
 3 out how we'll get from here to there in a way in which
 4 responders throughout the community can understand.
 5 Secondly, they don't have any kind of -- almost any
 6 kind of metrics on, okay, when we get there, this is
 7 what we'll see, this is what it will look and feel like.
 8 **MR KEITH:** Professor?
 9 **PROFESSOR ALEXANDER:** Yes. There are one or two of these
 10 that have already been done. For example, the
 11 measurement of socio-economic resilience, the British
 12 Red Cross has already done that. But they are outside
 13 the system. However, more substantially, my feeling
 14 about this is that it is an attempt to tinker with the
 15 system rather than radically approach it with a new
 16 view.
 17 My opinion of the British civil protection system is
 18 that it actually is not a system, it is a set of
 19 fragments, which is a way of saying that it isn't
 20 terribly well connected, despite the spaghetti diagram.
 21 Indeed, perhaps that is diagnostic of what I'm saying.
 22 It lacks a middle tier, for example. It is very top
 23 heavy. It is very top-down. Despite the absolute need
 24 for organisation at the local level, it relies heavily
 25 on the military, and I think that is a very bad thing.

125

1 **MR KEITH:** Right.
 2 So just drawing the threads together from the debate
 3 of the last few moments, is it because of the inadequacy
 4 of existing documents and strategies and also because of
 5 your joint opinion on the inadequacy of the government's
 6 post-Covid response that you recommend, at page 23 of
 7 your report, paragraph 44, Professor, that "a vital
 8 foundation stone to building robust resilience and
 9 preparedness" is the "development by
 10 the [United Kingdom] government, working with the
 11 devolved administrations and Resilience Partnerships of
 12 a formal UK-wide Resilience Strategy"?
 13 **MR MANN:** Yes, it is.
 14 **MR KEITH:** Are you inviting, in effect, a wholesale radical
 15 rewriting or writing of our strategic approach going
 16 forward?
 17 **MR MANN:** Yes.
 18 **PROFESSOR ALEXANDER:** Yes.
 19 **MR KEITH:** Coming at this issue from a different angle, you
 20 go on elsewhere in your report to examine the conceptual
 21 features of the approach applied by the United Kingdom
 22 Government and other governments called "integrated
 23 emergency management", IEM, and at page 25 of your
 24 report -- could we have, please, page 25 up on the
 25 screen -- there is a figure, figure 1, "Original

127

1 I'm not anti-military. On the contrary, I would like to
 2 see the British military forces liberated from some of
 3 the civil contingencies work so they can get on with
 4 their core business, especially as they are in the
 5 process of being downsized with regard to their human
 6 complement.
 7 **MR KEITH:** All right, Professor, I'm afraid I'm just going
 8 to pause you there. There are some things that this
 9 Inquiry can inquire into, some which it can't.
 10 I'm afraid recruitment levels and manning in the army is
 11 not one of them.
 12 **PROFESSOR ALEXANDER:** No, no, I was not suggesting that
 13 there should be more recruitment in the military,
 14 rather, instead, that the system should be revised so
 15 that it is more securely based on the local level, the
 16 regional level and civilian input. That's including, as
 17 the House of Lords' report suggested quite strongly,
 18 a far better incorporation of the voluntary sector into
 19 that system, and a greater reliance, including in
 20 statutory terms, upon the voluntary sector.
 21 **MR KEITH:** We will come to many of those aspects later.
 22 You've referred there to the House of Lords committee;
 23 is that the House of Lords Select Committee on Risk
 24 Assessment and Risk Planning, to which --
 25 **PROFESSOR ALEXANDER:** Yes, it is, yes.

126

1 Integrated Emergency Management Framework".
 2 We understand that each of the blue circles
 3 signifies an approach or at least a broad description of
 4 what must be done. There is obviously a strong level of
 5 doctrine or conceptual analysis in this. But you've
 6 summarised the phases in your report:
 7 "Anticipate: 'horizon scanning' ...
 8 "Assess: the analysis of identified risks ...
 9 "Prevent: the actions undertaken to seek to avoid
 10 [a risk] ... the likelihood of, a risk arising ...
 11 "Prepare: the development of the emergency plans ...
 12 "Respond: the actions taken to deal with the
 13 immediate effects of an emergency
 14 "Recover ..."
 15 Together they form, doctrinally perhaps, the
 16 framework for emergency preparedness, response and
 17 resilience. Why is it necessary to separate out these
 18 functions in this way? Why is it necessary to have what
 19 is known as an integrated emergency management
 20 framework? Is that not just more jargon?
 21 **MR MANN:** No, I think it does two things. First, starting
 22 from the position of identified risks, it identifies the
 23 process which knits together the actions of a wide range
 24 of people and organisations into trying to avoid or
 25 reduce those risks causing harm and loss. Not every

128

1 organisation will have every one of those phases, but
2 it's important that they can all see how, when they come
3 together in partnership, they can minimise harm and
4 loss, the risk of harm and loss. That's the first.

5 The second then is for those who are tackling, let's
6 say, one part of that, emergency preparedness, they need
7 to see the interconnections between what they are doing
8 and what others are doing and not work in their own
9 silos.

10 **MR KEITH:** So -- sorry, Professor, you were going to say
11 something?

12 **PROFESSOR ALEXANDER:** Simply that this is one of a number of
13 versions used in standard risk assessment, risk
14 management by companies, by all concerned, by
15 governments, by agencies and so on. It is necessary to
16 tackle risks holistically in a broad sort of way, but to
17 do so it does require a structure.

18 **MR KEITH:** So in essence, if I may summarise -- and
19 I summarise your expertise imperfectly, of course --
20 although in a system, a proper system of emergency
21 preparedness, the people who tell everyone else what to
22 do need to know what to tell them to do, the people who
23 respond need to be told what to do, the people who draw
24 up the policies need to draw up clear, concrete and
25 transparent policies, that's not enough.

129

1 half of the problem is to train people in what they need
2 to do, the other half of it is to train them to
3 understand what everyone else has to do, because this is
4 always a collective effort, and --

5 **MR KEITH:** Right.

6 **PROFESSOR ALEXANDER:** -- it cannot take place on
7 an individual level without adequate integration with
8 what everyone else is doing, otherwise the results are
9 working at cross-purposes.

10 **MR KEITH:** If the system or the integrated framework is
11 erroneous or wrong in some regard, strategic weaknesses
12 can follow, and do you therefore, at paragraph 50, say
13 this form of the integrated emergency management
14 framework resulted in an "absence of a focus on quality
15 and effectiveness", basically an absence of focus on
16 ensuring that everybody's parts were working, and that
17 the system was being properly tested, and found to be
18 adequate?

19 **MR MANN:** Yes.

20 **MR KEITH:** And also a "focus on processes rather than
21 people". Would you elaborate on those two weaknesses
22 which you say strategically resulted from this framework
23 not being correctly drawn up.

24 **MR MANN:** Yes, your first point is absolutely right.
25 Looking at it overall, at a whole-system level, at

131

1 To your second point, Mr Mann, everybody playing
2 their part in a system of civil contingency and
3 emergency crisis management needs to understand where
4 they come into the general scheme of things. They need
5 to understand, as you would say, Professor, holistically
6 how it all hangs together.

7 **MR MANN:** Yes. Putting it at its simplest, when the people
8 who have done the risk anticipation assessment produce
9 their national risk assessment or whatever, the next
10 question ought to be: okay, how do we avoid these risks
11 happening in the first place, or at least seek to
12 minimise their impact?

13 Next they ought to be saying: we have taken
14 preventative or mitigation activities as far as we can,
15 there is this residual set of risks and potential
16 emergencies which we cannot address, we're now passing
17 it over to the preparedness planners. And the
18 preparedness planners will then pass it over to the
19 response planners and so on. It has to be integrated,
20 so the first word is really important.

21 **MR KEITH:** So this framework, this integrated framework is
22 essential in order to remind everyone the nature of the
23 task in hand, what needs to be done and to ensure that
24 they're doing the right things in the overall system?

25 **PROFESSOR ALEXANDER:** Yes, in emergency management training,
130

1 a leadership level, have we done as much as we can --
2 there is a question: have we done as much as we can to
3 reduce risk as far as is practicable and cost-effective?

4 That is the validation and assurance bubble. And,
5 secondly, to learn lessons of where we can do better to
6 reduce risk. That might be about preventative activity,
7 it might be about having better preparedness. That
8 involves looking at the entire cycle overall, which is
9 your point, I think, Mr Keith. On the people side, yes,
10 as we put inside the report, it does get very processy,
11 products, very antiseptic, as people use the word. It's
12 very easy to lose sight of the fact that, at the end of
13 this, this is being done for people, their safety, their
14 welfare, harm -- to avoid harm and loss.

15 One of the criticisms we make here or one of the
16 suggestions for improvement we make is: get that focus
17 on people into all forms of activity, not only each of
18 the bubbles, but actually into the process overall.

19 **MR KEITH:** So -- yes, Professor?

20 **PROFESSOR ALEXANDER:** In 2005, the London Assembly produced
21 a committee which then produced a three-volume report on
22 the bombs of 7 July. That was a day when there were
23 some fairly severe problems in managing the emergency as
24 it evolved, and the very first recommendation of that
25 report was that the responders and the agencies and

132

1 organisations behind them needed to shift their focus
2 from processes to the beneficiaries, the people they
3 were helping. I thought at the time that that would
4 cause a revolution in British emergency management
5 practice, because it seemed both eminently sensible and
6 something that clearly needed to be done in a wide
7 variety of arenas. I was rather surprised to find that
8 it simply did not happen.

9 **MR KEITH:** You may know, Professor, that my Lady was the
10 deputy assistant coroner in the inquests into the
11 terrible deaths of those who died in the 7/7 attacks.
12 So what you're saying, essentially, is it was
13 recognised -- and I'll apologise for giving evidence --
14 it was recognised by my Lady, in her report after the
15 inquest, and by the London Assembly, that proper
16 preparation and proper response needs to focus more on
17 people rather than becoming obsessed, perhaps overly
18 focused, with the processes themselves.

19 **PROFESSOR ALEXANDER:** Exactly. I'd like to emphasise that
20 this is in no way a criticism of any individuals,
21 inasmuch as there were many people who did precisely
22 focus on the people, on the outcomes and so on, but the
23 question is how much leeway to do that did the system
24 allow them.

25 **MR KEITH:** Right. So if we could have up page 27 -- I think
133

1 the National Health Service emergency response.
2 However, there is a belated and rather slow realisation
3 in government that they need to use academic expertise
4 more, particularly academic expertise of an applied
5 nature, which is directly useful in the processes of
6 validating and learning.

7 **MR KEITH:** The next part of your report focuses on the
8 legislative framework and structures, this is section 3
9 of the report. As you have already identified, the
10 piece of legislation at the heart of the emergency
11 preparedness legislative framework is the Civil
12 Contingencies Act 2004.

13 In light of the time constraints, I'm not going to
14 take you through even the most important parts of
15 the Act. Could we please focus our attention on the Act
16 at a broad level.

17 The Act provides in its first part for duties to be
18 imposed at local level, and I'm summarising hugely here,
19 on two groups of responders, category 1 and category 2
20 responders.

21 If perhaps we could have up our spaghetti chart,
22 I think it's INQ000204014.

23 **(Pause)**

24 There we are. If we could go, please, to page 17.

25 This is -- I'm not quite sure, it's just suddenly
135

1 it's 27 in the hard copy for you, Professor -- do you
2 both recommend that in this conceptual issue in this
3 identification of the learning and the work that has to
4 go into identifying the integrated system, what we are
5 all meant to do, it is essential that two further
6 segments be inserted? One is an express obligation to
7 validate and assure, that is to say to test; and
8 a second one, to learn and improve, following recovery,
9 so that lessons are better learned and the system is
10 improved along the way.

11 **MR MANN:** Yes.

12 **PROFESSOR ALEXANDER:** Yes.

13 **MR KEITH:** If that is done, if my Lady recommends that the
14 integrated emergency management framework be expressly
15 altered to include those important features, that will
16 have a beneficial, practical outcome(?).

17 **MR MANN:** Yes. This will tell people that, as part of their
18 day-to-day work, as part of their training, those two
19 activities need to be recognised and done properly.

20 **MR KEITH:** All right.

21 **PROFESSOR ALEXANDER:** And furthermore, there are at least,
22 I think, 62 universities in Britain that provide
23 expertise that is useful in this case. Now, some of
24 them are directly used, for example Nottingham Trent and
25 the Fire Service, Manchester Metropolitan University and
134

1 jumped. Has it jumped to a different page?

2 **LADY HALLETT:** I've got the one with the "Local Resilience
3 Forums" down at the bottom left.

4 **MR KEITH:** 2009 -- yes. If we look at the top:

5 "Pandemic preparedness and response structures in
6 the UK & England - 2009."

7 I think that's page 17.

8 Could we just, to get our bearings, have page 3 and
9 then page 4, if that's not too arduous a burden.

10 So around about nine years later, August 2018, and
11 the position has become rather more complex, and
12 of course, Professor, the answer to your implied
13 question from earlier was that this diagram is not
14 an exact reality, of course, as you know very well, of
15 the reality of our emergency preparedness systems, and
16 it was seeking to make the forensic point to which you
17 referred about the complexity of the position.

18 Then page 4 should be 2019, there we are,
19 August 2019.

20 So right at the bottom left, we have the "Local
21 Resilience Forums", and then we have the two types of
22 responders: category 1 responders and category 2
23 responders.

24 Is the position that they have differing legal
25 duties imposed upon them, and that the Act obliges
136

1 category 1 responders to do in fact more things than
2 category 2 responders are obliged to do, but it's more
3 prescriptive and it imposes a greater legal burden on
4 category 1 responders than category 2? Is that a fair
5 summary?

6 **MR MANN:** That is correct.

7 **PROFESSOR ALEXANDER:** Yes.

8 **MR KEITH:** Is there an argument for changing the imposition
9 of the legal duties on category 1 and category 2
10 responders to make sure -- to bring category 2
11 responders further into the fold, to bind them closer to
12 category 1 responders, and to sharpen up that part of
13 the system?

14 **MR MANN:** Yes, I believe there is, for three reasons.
15 First, we'll come back to this, if we, as we propose --
16 if it is the aim to build a system which is capable of
17 dealing with catastrophic emergencies, with the ability
18 to deal with local and regional emergencies, then
19 category 2 responders, at a time when the whole country
20 is responding to a catastrophic emergency, have got to
21 have fuller responsibilities than they presently have.
22 We saw that proved in the Covid-19 pandemic.

23 **MR KEITH:** Can I just pause you there. Could you give us,
24 please, some indication of who the category 2 responders
25 are, and explain why they are the sorts of entities,

137

1 outage, flooding and so on. That also, in our view,
2 increases the responsibility on them to undertake those
3 activities.

4 Thirdly, in the review, independent review, which
5 I conducted, it was very clear that there was
6 a developing "us and them". This did not feel like
7 equal partnership; it was a mixed picture but it did not
8 feel like an equal partnership. An equal partnership is
9 exactly what is needed for dealing with a catastrophic
10 emergency.

11 **MR KEITH:** Professor, do you want to add to those three
12 points?

13 **PROFESSOR ALEXANDER:** Well, we live in a world of cascading
14 disasters, and the cascade often occurs through the
15 failure of critical infrastructure, which has between
16 eight and 11 categories. It is things like water and
17 sewage, electricity, gas supply, transportation,
18 healthcare, emergency response. But if we lose
19 electricity, I can fairly easily think of about
20 38 different consequences that would stop life being
21 lived as normal. If we merely consider the effect of
22 having no electricity on banking, it could freeze up
23 just about everything, for the simple reason that the
24 circulation, the supply and the use of money is
25 entirely, nowadays, dependent on electricity, one way or

139

1 utilities and so on and so forth, and businesses and
2 communications suppliers, who need to be brought into
3 the fold more because of the more complex risks and the
4 more dangerous emergencies we're likely to face?

5 **MR MANN:** Certainly. Category 2 responders are, in
6 shorthand, the people who provide the essential services
7 on which the country depends to keep running, so water,
8 electricity, communications and so on, transport
9 operators.

10 In other words, to keep the country running, here is
11 the core point, they need to be capable of doing
12 effective planning and playing a full role in the
13 response, and that means that they need also to have
14 played a key role in the identification of risk and in
15 the preparedness planning.

16 So on the duties which presently fall on the
17 so-called category 1 responders, the public sector
18 bodies, we believe that they should have a full role in
19 each of those activities, and therefore the duties
20 should fall on them. First point.

21 Second point, the future risk picture, especially
22 with climate change, the leading effects of climate
23 change means actually that some of the most significant
24 emergencies may start with the provision of essential
25 services: electricity failure, telecommunications

138

1 the other. So in fact there are plenty of opportunities
2 for critical infrastructure failure to be absolutely
3 central to the emergency, and that is a very good reason
4 for ensuring that its operators have greater powers and
5 greater legal requirements.

6 **MR KEITH:** Is the proposition underpinning what you've both
7 just said that the imposition of legal duties is
8 necessary to ensure that, whoever the responders are,
9 they step up to the mark, that they do the planning that
10 is expected of them, they draw up the plans, they
11 validate them, they have them tested, they engage with
12 the public, with other responders and so on and so
13 forth, that they do the job in hand?

14 **MR MANN:** Yes, it is, and that how well they do the job is
15 the subject of validation and assurance regimes.

16 **MR KEITH:** To what extent is central government or regional
17 government or the devolved administrations subject to
18 any comparable legal duty --

19 **LADY HALLETT:** Just before you move to that, Mr Keith, may
20 I just ask a question.

21 You said there were examples during the Covid
22 pandemic in the UK as to why you think this duty should
23 be put on category 2 responders. Could you give
24 an example of those?

25 **MR MANN:** Yes. It's not so much failure in that case, we

140

1 might come to other examples of that, critical
2 infrastructure failure, but the key point, especially in
3 the first wave of the pandemic, the key issues were how
4 to keep essential services being provided to citizens
5 and the economy. So that is continuing to keep
6 electricity, food, water, transportation running.

7 **LADY HALLETT:** Now, I understand that, but I thought what
8 you were saying was you were about to give examples as
9 to why there should be this duty; in other words, that
10 things had gone wrong because there wasn't this duty.
11 You weren't saying that?

12 **MR MANN:** No, I wasn't saying that, my Lady. I'd use other
13 examples for that.

14 **MR KEITH:** My Lady, is that a convenient moment?

15 **PROFESSOR ALEXANDER:** I would add that the law may be
16 considered as a means of punishment, but it is also
17 a great enabler, and one thing that it can do is to
18 bring the providers of essential services and others
19 more firmly into the system.

20 **MR KEITH:** I think I'd asked you to what extent are
21 comparable legal duties imposed on central government,
22 regional government and the devolved administrations.

23 **MR MANN:** Central government, there are two government
24 departments which are designated, Department of Health
25 and Department for Transport, who are designated in the

141

1 They need absolutely to be part of the system, but
2 I think more thought needs to be given, especially in
3 the light of this government's proposals for devolution
4 and the creation of more combined authorities, as to
5 what those duties, if there were any, would look like
6 and how they should best be fitted inside the system.

7 **MR KEITH:** Has the argument for the imposition of legal
8 duties in a general sense on central government
9 strengthened as a result of the government's response to
10 the Covid pandemic?

11 **MR MANN:** Unquestionably, yes, but what that has brought out
12 for me is two things. First, that leadership role, that
13 partnership role in leading an emergency and, secondly,
14 as we put in the independent review report, some
15 deficiencies which we heard about in their preparedness,
16 to a degree because they did not have legal duties and
17 it was not therefore one of the major things on the
18 radar screens of the senior leaders of those
19 departments.

20 **MR KEITH:** All right. There are two other aspects,
21 structural aspects, to this chart or this representation
22 of pandemic preparedness and response structures that
23 I want to ask you about. In fact, three.

24 Firstly, at the top left we can see "Pandemic
25 preparedness and response structures". When dealing

143

1 jargon as category 1 responders. The rest of central
2 government -- UK Government central government
3 departments are not, and that I believe is the case in
4 the devolved administrations.

5 **MR KEITH:** There are other aspects in which the Act
6 distinguishes between the United Kingdom Government and
7 the devolved administrations but we needn't trouble
8 ourselves about that now. What about regional
9 government, so combined authorities, mayors?

10 **MR MANN:** Regional government is not covered. Combined
11 authorities are not covered in any way in the Act or any
12 of its supporting documentation.

13 **MR KEITH:** In your report, do you recommend that
14 consideration be given to the imposition of the legal
15 duties or a variant thereof in the Civil Contingencies
16 Act 2004 to central government in general terms and to
17 regional government beyond the specification of the two
18 departments to which you made reference?

19 **MR MANN:** Yes, I draw a distinction. For exactly the same
20 reasons, the ability to manage a catastrophic emergency,
21 to take a leadership role in a catastrophic emergency,
22 that sense of partnership, we believe that duty should
23 apply to central government, uniformly, not just those
24 two departments.

25 I'd make a distinction on combined authorities.

142

1 with the identification of the bodies and the entities
2 that are concerned generally in the United Kingdom's
3 response to emergencies, is it important to distinguish
4 between preparedness and response? So there are
5 different duties and different bodies depending on
6 whether you're dealing with preparedness or response?

7 So, for example, the distinction between local
8 resilience forums and strategic co-ordinating groups.

9 **MR MANN:** I'm hesitating on your word "distinction",
10 Mr Keith. The two need to be umbilically linked.
11 Whatever is done in preparedness is probably being done,
12 and the plans that are being developed are probably
13 going to be used by the same people when it goes into
14 the response.

15 There is a very narrow question, which is whether it
16 makes any sense any longer to have a distinction between
17 local resilience forums on the one hand, as it were
18 peacetime bodies, and strategic co-ordination groups on
19 the other, the organisations -- the forums that manage
20 a major emergency.

21 I think there are arguments either way. I do think
22 it needs to be explored. I would say that there are
23 differences in membership, there are differences in
24 role, there are differences in legal responsibility --
25 local resilience forums have legal duties -- but most

144

1 importantly there are differences of culture, as between
2 a meeting of a local resilience forum on the one hand
3 and a strategic co-ordination group which is there to
4 tackle an emergency. Those need to be thought through
5 carefully, but I think it is a very good question.

6 **MR KEITH:** Professor, before I ask you to come in on this,
7 may I please just ask a follow-up question and then I'll
8 ask you to comment generally.

9 In your own report, Mr Mann and Professor Alexander,
10 you separate out, by reference to preparedness and then
11 response, all the many structures. So I think your
12 section 4 deals with preparedness and your section 5
13 dealt with response. And so many of the same bodies to
14 which you referred in one area were replicated in the
15 other, and of course you've identified that many of the
16 bodies have both response and preparedness functions.

17 Is there an argument for radical reform in terms of
18 trying not to draw out that distinction between
19 preparedness and response in terms of identifying the
20 right bodies and the right duties to impose on them? Is
21 this an unnecessary complication now?

22 **MR MANN:** I do not want to suggest that there should be
23 a sweeping -- as it were, a sweep of the hand and all of
24 these bodies be merged, response and preparedness be
25 merged into every body, every organisation, every forum

145

1 semantics, but I don't think risks are really "owned" by
2 individual departments. They're "owned" by all of us.
3 Although it is important to have, perhaps, a lead agency
4 with regard to specific scenarios or specific risks, it
5 is also important that there is a collaborative and
6 shared effort.

7 **MR KEITH:** Professor, if I may say so, I think, with your
8 appeal to plain English, you are, with this Tribunal,
9 kicking at an open door.

10 **PROFESSOR ALEXANDER:** Yes.

11 **MR KEITH:** Perhaps we -- we can't, no, I think, in the
12 course of this Inquiry, or at least an Inquiry lasting
13 less than three years, deal with all aspects of language
14 in this system which are -- I'm now going to just delve
15 into it -- unfortunate. The point is well made, but
16 we'll come back to risk assessments in a moment.

17 So that is one area. The second area I wanted to
18 ask you both about was, if you look at the left-hand
19 side of the diagram, you will see the "Resilience
20 Emergencies Division", which is the liaison between
21 local resilience forums and local authorities and also
22 tactical co-ordination groups and strategic
23 co-ordination groups, and the body above it, the
24 government department which was the Ministry of Housing,
25 Communities and Local Government, but is now the

147

1 all the way through this chart. I think it needs very
2 careful thought, not least on the purpose of the
3 organisation or the forum --

4 **MR KEITH:** Right.

5 **MR MANN:** -- before making that decision.

6 **MR KEITH:** Professor?

7 **PROFESSOR ALEXANDER:** Well, the Americans did try to, if not
8 merge, at least bring very firmly together 125 federal
9 organisations after 9/11 in the creation of a Department
10 of Homeland Security, and I'm not sure that that was
11 actually a terribly well thought out move.

12 I think there needs to be more of a sense of
13 constancy in the way that emergencies are managed,
14 rather than having fora that meet at intervals and
15 groups that are co-ordinated to manage emergencies when
16 they occur.

17 I think there really should be something that is
18 there all the time, constantly upgrading the planning
19 and so on.

20 But I would like to mention one other thing about
21 your diagram and about the British strategy, and that is
22 that in the National Security Risk Assessment and so on,
23 there is the concept of the agency that "owns" the risk,
24 usually a government department. I rather don't like at
25 least the terminology. Perhaps I'm quibbling over

146

1 Department for Levelling Up, Housing and Communities.

2 If we were, but it will take too long, to go back to
3 the diagram ten or so years before, there used to be
4 a government body known as the Government Offices for
5 the Regions, and they provided a secretariat, something
6 called regional resilience forums, and they were the
7 liaison with all the local bodies, or at least the
8 majority of them.

9 Was that change, whereby the link, if you like,
10 between central government and local authority was put
11 into the Department for Levelling Up, Housing and
12 Communities, through its resilience emergencies
13 division, an improvement, or was that a retrograde step?

14 **MR MANN:** No, my belief is that it was a retrograde step.
15 I will start on the technical aspects.

16 Professor Alexander will probably talk about experience
17 in other countries.

18 I think it's a retrograde step for three reasons.

19 First, on risk assessment and planning, there are
20 risks which are -- not all risks stay nicely confined
21 within the boundaries of a local resilience forum area,
22 there are risks that cross boundaries. There needs to
23 be risk assessment done on a regional level, there needs
24 to be planning done on a regional level as well as
25 training and exercising and so on, and experience has

148

1 shown that that has degraded in the course of the last
 2 ten years. First point.
 3 Second point, those regional resilience teams were
 4 boots, eyes, ears on the ground. They knew what was
 5 going on, they could report back, they could have
 6 a quiet word in the ear, they were a first line
 7 assurance capability that people in the organisations
 8 were undertaking tasks well. That again, as we found in
 9 the independent review, has gone.
 10 Thirdly, when it comes to an emergency, what we have
 11 at the moment is 38 entities, local resilience forums,
 12 strategic command groups, going into one government
 13 department. I just don't think that can be done.
 14 **MR KEITH:** Before I ask Professor Alexander to come in on
 15 this, can I ask you, please, Mr Mann: you were of course
 16 director of the Civil Contingencies Secretariat from
 17 2004 to 2009; this change, fundamental change, took
 18 place after your watch, didn't it --
 19 **MR MANN:** It did.
 20 **MR KEITH:** -- in 2011?
 21 **MR MANN:** Yes.
 22 **MR KEITH:** Were there indications of this change whilst you
 23 were still in office in that post or was this all
 24 entirely after your time?
 25 **MR MANN:** All entirely after my time. It was the incoming
 149

1 service. So that was really important in both civil
 2 protection and health maintenance terms.
 3 I think that that worked out extremely well. It
 4 also meant that attention could be given at the right
 5 level to the sorts of work and support required locally
 6 which simply could not be managed nationally.
 7 So I do believe that one of the things that Britain
 8 most needs is a proper regional tier. I don't think
 9 that the metropolitan authorities are sufficient for
 10 that. For example, it might be helpful to have
 11 a regional tier that encompasses both Liverpool
 12 and Manchester, and things like that.
 13 **MR KEITH:** All right.
 14 The next and final point in relation to the
 15 structures concerned something that you've already
 16 referred to, in fact repeatedly, the lead government
 17 department.
 18 Now, again dealing with the United Kingdom
 19 structure, not because the DA, the devolved
 20 administration, structure is any less important but it's
 21 convenient to be able to identify in the UK structure
 22 this entity.
 23 An absolutely core feature of the emergency
 24 preparedness systems in the United Kingdom is that there
 25 is always identified a lead government department which
 151

1 administration that made a number of changes to local
 2 and regional levels, the governance of England, and this
 3 was one of them.
 4 **MR KEITH:** All right.
 5 Professor, do you want to add anything to the point
 6 about the RED, the Resilience --
 7 **PROFESSOR ALEXANDER:** Yes, please. I was a member of the
 8 East of England resilience forum, which co-ordinated the
 9 work in six counties. It had great potential but it had
 10 no resources and no authority, which was extremely
 11 frustrating. Therefore it wasn't able to achieve very
 12 much, although it did achieve something, and I was sorry
 13 to see it go.
 14 I'm familiar with regional work in a variety of
 15 different countries, for example in Sweden, Portugal,
 16 Spain and so on, and particularly in Italy, and during
 17 Covid it was most notable that the regions were the
 18 lynchpin, absolutely. Television viewers on the news
 19 three times a week would see a film clip of the
 20 Prime Minister in front of 20 screens, on each of the
 21 screens, there were the presidents of each of the
 22 20 regions. Covid was very different in each region.
 23 The purpose of central government was to support
 24 variously and fairly the work against Covid of the
 25 regions, and in Italy the regions run the health
 150

1 must maintain a state of readiness and lead the charge
 2 in terms of the response to emergencies for which it is
 3 the nominated central government lead. So if there is
 4 a government department which takes the lead in relation
 5 to an animal disease, it's going to be the Department
 6 for Health and Social Care. Which is why, in this
 7 chart, which deals primarily with Covid of course and
 8 preparedness for pandemics, the lead government
 9 department is the Department for Health and Social Care.
 10 In your report, you identify that in relation to
 11 national crises and complex emergencies, and
 12 particularly cascading emergencies, a number of
 13 departments will have to be involved. So, for example,
 14 in relation to Covid you would have had the Department
 15 for Education in relation to schools, you've got HMT in
 16 relation to financial support, you've got the
 17 Home Office in relation to borders and enforcement, and
 18 so on and so forth.
 19 What flaws have you identified in relation to the
 20 lead government department model?
 21 **MR MANN:** The most obvious systemic issue is whether, for
 22 a catastrophic emergency, a lead government department
 23 can oversee preparedness for and the response on all of
 24 the issues including a wide range of issues which are
 25 outside its direct scope and responsibility.
 152

1 **PROFESSOR ALEXANDER:** Yes, worldwide it's usually the
 2 ministry of the interior -- or, in other words, the
 3 Home Office -- which is the minister and the ministry
 4 that runs civil protection. And it was the Italians, in
 5 1999, who bequeathed to Europe a non-binding
 6 European Union directive that civil protection should
 7 really be a dependency of the cabinet as a whole,
 8 because of the need to give full weight to other
 9 ministries, health, public works, whatever, economy,
 10 whatever the ministries might be. And that was adopted
 11 by a number of countries, more or less by Britain as
 12 well. That was absolutely necessary to avoid the
 13 marginalisation of particular government departments.

14 **MR KEITH:** When Covid, of course, struck, a very large
 15 number of government departments were engaged. Was the
 16 flaw that when more than one lead government department
 17 had to respond and take responsibility for important
 18 parts of the country's response, the lines of
 19 accountability and transparency and leadership blurred
 20 because nobody could say that there was one single lead
 21 government department that was in charge?

22 **MR MANN:** I think there are two parts of the answer to that
 23 question. There is a preparedness part to it, which is:
 24 who should lead on areas which are outside the
 25 responsibility of the so-called lead government

153

1 government department because it responds to matters
 2 concerning the environment and flooding and so on, but
 3 then when the emergency moves to the response stage
 4 another government department, a different lead
 5 government department, may be the more appropriate
 6 department?

7 **MR MANN:** No, I would never change horses in mid-stream.
 8 The people who did the planning, the people who did the
 9 thinking, ought to be the people who are involved in the
 10 response.

11 I think my point is that there is a range of smaller
 12 scale emergencies, animal disease outbreaks, flooding
 13 and so on, where people will naturally look to the lead
 14 government department, the obvious department. That is
 15 right, because the --

16 **MR KEITH:** I'm sorry to interrupt, I think, Mr Mann, we may
 17 be at cross-purposes. I may not have put the question
 18 clearly enough.

19 **LADY HALLETT:** You can put it after you've had the break,
 20 Mr Keith, give you a chance to rephrase it.

21 **MR KEITH:** That gives me a chance to reformulate it.

22 **LADY HALLETT:** Exactly.
 23 Right, 3.20, please.

24 **(3.05 pm)**
 25 **(A short break)**

155

1 department and make sure that those are planned for
 2 properly and what is needed is in place; is that the
 3 lead government department or is that somebody else,
 4 like the Cabinet Office? That's the first question.

5 The second question then is: in the response phase,
 6 is it the lead government department or is the
 7 Cabinet Office absolutely at their shoulder, at the
 8 lectern for every press conference given by the
 9 Prime Minister, and so on?

10 My personal view is, for the most catastrophic and
 11 complex emergencies, there should be that shared
 12 responsibility -- not a single responsibility, that
 13 shared responsibility -- lead government department with
 14 the Cabinet Office using its convening power in the
 15 preparedness phase and in the response phase to get all
 16 other entities behind the response.

17 **MR KEITH:** Professor, before I ask you for your response,
 18 could I just please ask you this, Mr Mann: you yourself
 19 have just drawn a distinction between preparedness and
 20 response in the context of a lead government department,
 21 and identifying which one is maybe the lead government
 22 department. Is that because, in our current system,
 23 there may, in the currency of a single emergency, even
 24 have to be a change of lead government department? So
 25 you might have flooding where DEFRA might be the lead

154

1 **(3.20 pm)**
 2 **LADY HALLETT:** Mr Keith.
 3 **MR KEITH:** Mr Mann, I think that we may have been at
 4 cross-purposes. What I was asking you was whether or
 5 not -- and I confess I haven't really reformulated the
 6 question. Are there ever occasions in which, in the
 7 course of an emergency, there may be a change in the
 8 nominated lead government department? So, for example,
 9 drawing on the witness statement of Mr Hargreaves, your
 10 successor as the director of the Civil Contingencies
 11 Secretariat, a flood may require DEFRA to be nominated
 12 as the lead government department for the purposes of
 13 the initial response, but, for the purposes of recovery,
 14 DLUHC, the Department for Levelling Up, Housing and
 15 Communities, may then become the lead government
 16 department?

17 **MR MANN:** Yes. I'm sorry if I misunderstood you, Mr Keith.
 18 Yes, there are two circumstances. First, because
 19 the immediate emergency has cascaded into another
 20 emergency. We had that at Buncefield, we had a fire
 21 explosion, and then we had an acute shortage of kerosene
 22 to Heathrow Airport. The leadership changed in that
 23 circumstance.

24 Secondly, then, for the recovery phase, absolutely,
 25 the instinct -- the usual preference would be to pass it

156

1 to DLUHC.

2 **MR KEITH:** All right.

3 A second question that I wanted to ask just by way

4 of clarification: do you happen to recall when EPRR,

5 emergency preparedness, resilience and response, became

6 devolved insofar as Wales was concerned?

7 **MR MANN:** Yes, the Transfer of Functions Order.

8 **MR KEITH:** The Transfer of Functions Order --

9 **MR MANN:** Functions Order.

10 **MR KEITH:** -- 2018.

11 **MR MANN:** 2018.

12 **MR KEITH:** I knew you would get that.

13 So, just to deal, then, with the lead government

14 department and to conclude that issue, the lead

15 government department, or at least a government

16 department will have a general responsibility for one or

17 more critical sectors, so there are obviously government

18 departments that deal with particular areas of the

19 infrastructure, particular areas of critical importance.

20 At the same time, there are different government

21 departments that own, to use that terrible word,

22 different risks. So in the course of a response to

23 an emergency, in reality more than one government

24 department is likely to be fully engaged, and as you

25 described, in the course of Covid a multitude of

157

1 on and so forth, to make it happen?

2 **MR MANN:** Yes, that is not the same as a rigorous

3 cross-check against standards -- Have you got in place

4 the capabilities you need? Are they well trained,

5 exercised and so on? -- either at the level of the

6 individual organisation or at the level of the whole.

7 In an area this important, it needs that forensic

8 checking, and that is not done.

9 **MR KEITH:** But I sense that you are focusing, with your

10 answer, upon the particular issue of standards, which

11 we'll come to in a moment, which is the general word

12 given to the system by which any body, whether it be

13 a local resilience forum or a regional resilience forum

14 or a strategic co-ordinating group or RED of DLUHC or

15 the lead government department, meets a certain

16 standard, that it's tested, it's validated, to use your

17 word, it's checked. There is no one body that is

18 responsible for checking the various moving parts.

19 **LADY HALLETT:** I think Professor Alexander physically had

20 his hand up.

21 **PROFESSOR ALEXANDER:** Yes, thank you.

22 I was just thinking that it's possible that one is

23 looking at this from the wrong perspective, in other

24 words back to front, because what really matters is

25 solving problems as they arrive. I would therefore

159

1 government departments were engaged.

2 What government body is responsible in advance of

3 an emergency for ensuring that each government

4 department's plans and procedures and policies are up to

5 date, correctly drawn up, properly written, and do the

6 right job, and ensuring that each of those government

7 departments has, to use seemingly the correct

8 nomenclature, assured itself, tested itself, and also

9 responsible for ensuring proper collaboration between

10 government departments and making sure they all work

11 smoothly together in the event of a crisis?

12 **MR MANN:** None, is the quick and simple answer.

13 Is there -- there are pieces of that jigsaw where

14 there can be that validation and assurance. Is there

15 anyone who is checking that that work is --

16 cross-checking that work is being done properly,

17 checking the whole system will work together? There is

18 no such department.

19 **MR KEITH:** Does not the Cabinet Office liaise at least with

20 government departments to ensure that they are doing

21 what they're meant to do in advance of a crisis,

22 brokering arrangements, ensuring proper co-operation

23 and, in the event of a crisis, both assisting government

24 departments to respond, collectively, as well as putting

25 into place the physical arrangements, like COBR and so

158

1 expect the system to be able to identify the problems

2 and allocate them to those who can solve them, in other

3 words the various departments, with a degree of

4 flexibility and general ability to respond rapidly,

5 rather than purely being aware beforehand of what is

6 likely to happen and who is likely to need to be

7 responsible. That certainly is what is done in

8 scenarios, but there is also a process, not merely of

9 prior planning but of adapting plans to dynamically

10 evolving circumstances. I think this was very, very

11 evident in Covid, because initially we didn't know what

12 was going on, because it was an emerging disease of

13 which the characteristics were partly or largely

14 unknown, and later we learn more about it and it becomes

15 more clear what is needed to be done, and problems also

16 arise out of that, out of the disruption that it causes,

17 that need to be allocated to departments. So perhaps we

18 should look at it from the point of view of the needs as

19 much as from the point of view of the needs of the

20 departments.

21 **MR KEITH:** Yes.

22 **PROFESSOR ALEXANDER:** Or of government.

23 **MR KEITH:** I don't think anyone would disagree with that,

24 Professor. I was asking Mr Mann, though, about which

25 entities the current structure provides for to do the

160

1 testing, the validating, and keeping the government
2 organisations in line.
3 Could I ask you one more time, therefore, in this
4 way: you have described for us how there is a system by
5 which local resilience forums are broadly but indirectly
6 connected through to a particular division, the
7 Resilience and Emergencies Division, in the Department
8 for Levelling Up, Housing and Communities. You've
9 described a system whereby, in terms of preparing,
10 analysing and identifying risks and in terms of being
11 responsible for response in the critical sectors,
12 a government department may have a great deal to do.
13 And in the context of a complex or cascading emergency,
14 a significant number of government departments may all
15 be reacting -- preparing and then reacting.

16 It appears that this is a very complex system with
17 a lot of moving parts, and that there is therefore
18 a need for a single body, whether it be external to
19 government or within government, to manage and control
20 these various moving parts.

21 Would you agree?

22 **MR MANN:** I would agree, and I believe there is no such
23 entity who is either checking the individual parts or --

24 **MR KEITH:** The whole.

25 **MR MANN:** -- the total system.

161

1 **LADY HALLETT:** Thank you.

2 **MR KEITH:** My Lady, we will come back to the question of
3 whether or not there should be an agency, a body,
4 internal or external, and how it should be headed.

5 But for present purposes, Mr Mann, do you understand
6 that the new head of resilience in relation to which --
7 at annex B of the December 2022 UK Government resilience
8 framework -- the United Kingdom Government says is
9 already taking action by creating a new head of
10 resilience.

11 Has a new head of resilience been appointed?

12 **MR MANN:** If a new head of resilience has been appointed,
13 I've not seen that announcement, I don't know who it is.

14 **MR KEITH:** Has the government identified a particular entity
15 or body within which a new head of resilience might even
16 operate?

17 **MR MANN:** Not as far as I'm aware.

18 **MR KEITH:** Is the government's current plan that a new head
19 of resilience is in fact somebody who would simply be
20 a new post within an existing government department?

21 **MR MANN:** The role of the head of resilience, the location
22 of the head of resilience is left quite vague in the
23 Resilience Framework, so I'm afraid I can't answer the
24 question, because the material there is vague and I have
25 seen no subsequent announcements.

163

1 **MR KEITH:** Professor, would you agree?

2 **PROFESSOR ALEXANDER:** Yes, I would agree. I would agree
3 exactly as Mr Mann has said.

4 **MR KEITH:** Right, thank you.

5 Now can we look, please, because a great deal of
6 your report properly deals with the devolved
7 administrations, at the position in Scotland, Wales and
8 Northern Ireland, and have, please, on the screen the
9 organogram INQ000204014.

10 **LADY HALLETT:** Whilst that is coming up on screen, if there
11 ought to be one entity, the framework that I criticised
12 earlier for its lack of using English, that talked about
13 appointing a national resilience officer. Would that
14 meet the bill or is that not going far enough?

15 **MR MANN:** No, it's a separate point, my Lady. I do believe
16 there needs to be a single person, the chief resilience
17 officer, as we've labelled him, in charge of making sure
18 that the system is good, and that chief resilience
19 officer should have available to him or her some form of
20 team that can make sure that that validation and
21 assurance is done.

22 **LADY HALLETT:** So the one officer is not enough, they've got
23 to have the backup to do the job?

24 **MR MANN:** They need to get out onto the ground and check
25 that what is being done in individual entities is right.

162

1 **MR KEITH:** Thank you.

2 So there is the organogram. Could we please have,
3 slowly, in relation to Scotland, please, page 8 --
4 I hope this will work -- then page 7, then page 6.

(Pause)

6 So this is 2010, page 8. Is this the position, that
7 towards the bottom of the page, we can see local
8 resilience partnerships and above them strategic
9 co-ordination groups that over time, I think -- the
10 strategic co-ordinating groups. I think it should be
11 strategic co-ordinating groups, not strategic
12 co-ordination groups -- became regional resilience
13 partnerships?

14 **MR MANN:** That's correct.

15 **MR KEITH:** If we go forward, please, to page 7, which
16 is 2017, we can see, in the bottom left, regional
17 resilience partnerships. Then, forward to page 6, 2019,
18 the position on the advent of Covid. There we are. So
19 still there, regional resilience partnerships.

20 Does everything that you have already said in
21 relation to the integrated emergency management
22 framework, in relation to the legal obligations under
23 the Civil Contingencies Act 2004, what you have said in
24 relation to the proper approach to identification of
25 group risks, as opposed to specific risks, or specific

164

1 risks as opposed to group risks, apply equally to the
 2 pandemic preparedness and response structures in
 3 Scotland?
 4 **MR MANN:** Yes. Is the integrated emergency management
 5 framework the same in all administrations in the UK?
 6 Yes. With one small exception, which is in Scotland
 7 they've got the anticipation of risk and the assessment
 8 of risk together, but otherwise it is the same.
 9 **MR KEITH:** One major difference, of course, is that in the
 10 Scottish system there is no Department for Levelling Up,
 11 Housing and Communities, because resilience is
 12 a devolved matter, and it is all therefore run by the
 13 Scottish Government and not, obviously, by a Westminster
 14 government department, and there is no the Resilience
 15 and Emergencies Division.
 16 If you look at the left-hand side of the page, the
 17 link between the local resilience partnerships and,
 18 below them, the category 1 and 2 responders comes up to
 19 the Scottish Government and ministers through the
 20 Scottish Resilience Partnership and the
 21 Scottish Government liaison officers. Is there anything
 22 you want to say about that system in the context of
 23 Scotland?
 24 **MR MANN:** I think it's a much preferable system, for the
 25 reasons I described earlier.

165

1 components: Cabinet Office, the lead department,
 2 Department of Levelling Up, and, actually, the
 3 Department for Culture, Media and Sport, who've got
 4 sponsorship for the --
 5 **MR KEITH:** Voluntary community.
 6 **MR MANN:** -- voluntary sector. That is very, very diffuse
 7 and federated leadership, it is not clarity of
 8 leadership, and it's especially not clarity of
 9 leadership in an emergency.
 10 **MR KEITH:** That is not something of which, you would say,
 11 from which the Scottish system suffers?
 12 **MR MANN:** That would be my view, yes.
 13 **MR KEITH:** All right. But if you look at the top of the
 14 page, plainly in relation to an emergency that affects
 15 the whole of the United Kingdom, including all its
 16 constituent parts, its countries, there is still that
 17 link there, is there not, up through SAGE, about which
 18 we'll hear great deal more in Module 2, COBR, the
 19 Cabinet Office Briefing Room, which are the physical
 20 emanations -- well, at least COBR is the physical
 21 emanation of the Cabinet Office in London.
 22 **MR MANN:** It ought to be the physical emanation of bringing
 23 everybody, together from whatever administration, in the
 24 management of the emergency.
 25 **MR KEITH:** Yes.

167

1 **PROFESSOR ALEXANDER:** Agreed.
 2 **MR KEITH:** Thank you, Professor.
 3 It is also evident in Scotland that there's one
 4 unitary government body identified here: the
 5 Scottish Government. So you don't have here the
 6 identification of a particular government department as
 7 you had on the UK chart, namely the Department of Health
 8 and Social Care.
 9 Is the Scottish structure better, insofar as you
 10 don't have the danger that you've identified a few
 11 moments ago of more than one government department
 12 attempting to lead the charge in response to a multiple
 13 or complex or cascading emergency?
 14 **MR MANN:** I'm not sure I see the distinction, Mr Keith.
 15 There is in the middle, the blue box, the health and
 16 social care directorates, which to me are the analogue
 17 of the Department of Health and Social Care. So --
 18 **MR KEITH:** But is the system, is the departmental system in
 19 Scotland as complex and, therefore, as diffuse and as
 20 liable, perhaps, to a lack of control as the
 21 United Kingdom model?
 22 **MR MANN:** The United Kingdom model has a wide range -- if
 23 you think about the various component parts of the
 24 response to a catastrophic emergency, the United Kingdom
 25 Government model has four or five leaders or particular

166

1 **MR MANN:** So it's not just the UK Government.
 2 **MR KEITH:** Right. But this is the link from Edinburgh to
 3 London, because the Cabinet Office is in London and COBR
 4 is in London, and in a national emergency that is where
 5 the link exists.
 6 **MR MANN:** Yes, this is the dominant link. There will be
 7 others on science and on -- between Chief Medical
 8 Officers and so on, but this is the dominant link.
 9 **MR KEITH:** All right.
 10 Then finally, in relation to the Scottish model, if
 11 you look at the top right-hand corner of the page,
 12 national security, risk assessment and National Risk
 13 Register, is the system for the identification of risk,
 14 the apportionment of risk to particular sectors, the
 15 grouping of risks, the analysis of planning assumptions
 16 as a result of those risks, and then the sending out to
 17 everybody of what those risks are and how they should
 18 respond, the same in Scotland as in Westminster? Did
 19 they use the same NRSA procedure?
 20 **MR MANN:** It starts from the same NRSA, which covers all
 21 administrations. It is then for each administration to
 22 choose to take the NRSA down into its own risk
 23 assessment and the administrations of Wales and Scotland
 24 do.
 25 **MR KEITH:** Is that why underneath the NRSA you can see

168

1 a line to Scottish risk assessment?

2 **MR MANN:** Exactly.

3 **MR KEITH:** Then that line is the line from there down to the

4 Scottish Government Resilience Room. Is that the

5 Scottish equivalent for assessing the impact of risks in

6 Scotland that is the equivalent of COBR, the

7 Cabinet Office Briefing Room, in London?

8 **MR MANN:** Yes, this chart does not cover all of the material

9 that it had in the UK Government chart. There will be

10 peacetime, as it were, non-crisis activity being taken

11 forward on the basis of the risk assessment, which is

12 not just about the Resilience Room.

13 **MR KEITH:** All right.

14 Could we have, please, page 10 of the organogram up,

15 please, in relation to Wales.

16 As you said a few moments ago, the resilience and

17 preparedness became a devolved issue, that is to say it

18 is a matter dealt with exclusively by the

19 Welsh Government and its First Minister in 2018 under

20 the Transfer of Functions Order, you can see in the

21 bottom left-hand corner of the page the Wales strategic

22 co-ordinating groups. That's the response function. To

23 the top right of that body, the local resilience forums,

24 of which there are four in Wales, by comparison to

25 a much larger number in England. And above that, going

169

1 detail tomorrow, the Civil Contingencies Group and the

2 Civil Contingencies Group for ministers and officials.

3 Then at the bottom of the page, there are three

4 emergency preparedness groups. I say at the bottom of

5 the page --

6 **MR MANN:** It's the pink box in the middle, Mr Keith.

7 **MR KEITH:** I've completely lost it.

8 **MR MANN:** Bottom of the pink box on the left-hand side.

9 **MR KEITH:** There we are, thank you very much.

10 Emergency preparedness groups, of which there are

11 three, and they feed up through the regional community

12 resilience groups, the regional recovery forum and up

13 through the Northern Ireland emergency preparedness

14 group into the ministerial and civil service functions

15 in the large yellow box.

16 So, again, broadly similar. There are differences,

17 are there not, in terms of the legal duties under the

18 Civil Contingencies Act, but they needn't trouble us.

19 There are differences in some non-devolved functions.

20 But do the broad points that you've made apply equally

21 to Northern Ireland?

22 **MR MANN:** Yes. Can you bring a range of bodies together in

23 partnership under clear leadership to try to avoid harm

24 and loss? The architecture will vary from

25 administration to administration, but the core

171

1 up the left-hand side of the page, the Wales Resilience

2 Partnership Team, the Joint Emergency Services Group,

3 the Emergency Coordination Centre, which all feeds into

4 the be Welsh Government.

5 Is there a regional structure in Wales in the same

6 way that there is a regional structure in England?

7 **MR MANN:** No.

8 **MR KEITH:** Does what you have said in relation to integrated

9 emergency management, in relation to the risk assessment

10 process, in relation to the need for a central

11 accountable and transparent body to lead the charge,

12 apply equally to the Welsh structure?

13 **MR MANN:** Yes, it does.

14 **MR KEITH:** In relation to Northern Ireland, page 14, please.

15 Civil contingencies are largely devolved in

16 Northern Ireland. It's not the same as Wales and

17 Scotland on account of the existence of the

18 Executive Office, but we can see at the top the

19 Cabinet Office again and the National Security

20 Secretariat, COBR, the briefing room. Top right, the

21 risk assessment process, which feeds in through the

22 Northern Ireland risk assessment process into the office

23 of the Northern Ireland Executive, which is the office

24 of the First Minister and Deputy First Minister, and you

25 can see something that we'll come to and address in more

170

1 principles are the same.

2 **MR KEITH:** All right.

3 In your report at page 56, and this is your division

4 between preparedness and response, you turn to

5 structures in the response phase, this is the report,

6 your report, INQ000203349, page 56. Thank you.

7 **PROFESSOR ALEXANDER:** Can I just add something about what we

8 were dealing with before, for the record.

9 I'm very much in favour of devolution in civil

10 protection. I am concerned about the grey areas which

11 are essentially two. One is the extent of

12 United Kingdom, that means Westminster, authority

13 particularly in Wales and Scotland; and the other is

14 cross-border events, that's to say emergencies which

15 involve both sides of the border and therefore both

16 systems.

17 I did gather from the witness statements that there

18 were some concerns among representatives of Scotland,

19 Wales and Northern Ireland about the extent of their

20 powers during a major emergency, something that the

21 Civil Contingencies Act is fairly clear on but not

22 completely clear, and which subsequent legislation and

23 organisation have apparently failed to clear up

24 completely.

25 The other is how well all of this would perform when

172

1 we have to have the English and, for example, the Welsh
2 systems functioning side by side in harmony, and I note
3 that, for example, in the diagram for Northern Ireland
4 there is apparently no reference to southern Ireland,
5 and the possibility of cross-border events there is also
6 very significant, and one would expect to see at least
7 an office of liaison with Dublin.

8 **MR KEITH:** Yes, Professor, thank you for that.

9 Of course the Republic of Ireland is not in that
10 chart because the chart represents schematically the
11 position in the United Kingdom, but my Lady will be
12 addressing the issue of cross-border communication,
13 given that Ireland, the island of Ireland, is a single
14 epidemiological entity in the course of Module 2C, which
15 is, happily, for the future.

16 **PROFESSOR ALEXANDER:** Thank you.

17 Thank you, my Lady.

18 **MR KEITH:** Page 56 at paragraph 163 you refer to
19 non-statutory guidance. Did the Civil Contingencies Act
20 provide for all the local bodies, the responders and so
21 on and so forth, to be the grateful recipient of a large
22 amount of statutory and non-statutory guidance?

23 **MR MANN:** Yes, it did. Whether grateful or not is another
24 matter, but yes, it did.

25 **MR KEITH:** Well, indeed.

173

1 guidance, paperwork and policy material?

2 **MR MANN:** Yes, it is. I'd just put an overlay on it: some
3 of that is statutory, and some of that is non-statutory,
4 and some is lower level guidance on best practice. So
5 there are a number of filters which they should use in
6 approaching those documents.

7 **MR KEITH:** You say at paragraph 354 on page 123, much
8 further into your report, that much of the guidance has
9 in fact not been updated and, moreover, that there is no
10 central directory.

11 Could we have page 123, paragraph 354, please.

12 If you go back one page, please, to 122, you will
13 start to see some of the material to which I've made
14 reference, and you say at paragraph 354:

15 "It is gravely disappointing that so much of the key
16 generic resilience and preparedness doctrine and
17 guidance was not updated by the UK government during the
18 relevant period."

19 Is it the position, in fact, that two of the most
20 essential documents, that's to say the guidance from the
21 Cabinet Office called Responding to Emergencies, Concept
22 of Operations -- which you will know of, Mr Mann, prior
23 to your role as an expert, because it was first
24 published in March 2010, shortly after you left the
25 Cabinet Office. It was last updated in which year, do

175

1 So just with a broad eye to the position, from the
2 viewpoint of a local resilience forum or a category 1
3 or 2 responder, is the following a broadly correct
4 identification of the sorts of documents which they
5 might have to have regard to under this system: they
6 will have to know and understand the government's
7 responding to emergency ConOps document, the revision to
8 emergency preparedness Cabinet Office document, all of
9 591 pages, the emergency response and recovery document
10 from the Cabinet Office, how to engage with and be
11 guided by the Resilience Capabilities Programme, they'd
12 have to engage with engagement and guidance material
13 from the DHSC on the Pandemic Influenza Preparedness
14 Programme, the material from the Pandemic Flu Readiness
15 Board, multiple successive editions of the National
16 Resilience Standards, the local risk management
17 guidance, *Humanitarian aspects in emergency management*,
18 Department of Health pandemic preparedness strategy,
19 Department of Health pandemic preparedness and response,
20 the 2014 Influenza Strategic Framework. They'd have to
21 compile community risk registers, and they would
22 obviously have to be familiar with each one of perhaps
23 22 or more risks identified by Westminster as being
24 risks to which they must have regard.

25 Is that a fair summary of the sort of level of

174

1 you recall?

2 **MR MANN:** 2013, I believe.

3 **MR KEITH:** And the emergency preparedness doctrine, which is
4 the general guidance from the Cabinet Office for local
5 authorities and local resilience forums and so on, the
6 591-page document to which I've made reference, was that
7 updated last in March 2012?

8 **MR MANN:** Yes, in a series of individual chapter updates,
9 yes.

10 **MR KEITH:** Yes, section 6 I think was updated.

11 Is there a very strong argument for having this
12 profusion of paperwork brought together in single
13 guidance, or at least in a single location?

14 **MR MANN:** I think there need to be two things.

15 First of all, a nice simple map as to where it all
16 is. People should not have to fight to discover it,
17 especially to fulfil their jobs effectively.

18 Secondly, in this day and age, it ought not to be
19 a 500-page document. There are different ways of
20 presenting and packaging these things so that people who
21 need specific aspects of a 500-page document can pull
22 down what they need on specific aspects.

23 **MR KEITH:** Professor, do you want to add anything to that?

24 If you say "yes" if you agree, then the transcript will
25 pick up your nod.

176

1 **PROFESSOR ALEXANDER:** There is simply one other aspect that
2 has to be dealt with, and that is secrecy. Information
3 that is classified is something of a problem. Studies
4 of recommendations have suggested that a good portion of
5 it could be declassified, and indeed some of it that is
6 classified as not for public consumption is nevertheless
7 in the public domain in other form. So that, I think,
8 needs to be part of the -- reviewing(?) the changes.

9 **MR KEITH:** Thank you.
10 Can we then move to the issue to which you referred
11 earlier, Mr Mann, and which I promised you we would come
12 back to, which is that of National Resilience Standards.

13 What are National Resilience Standards?

14 **MR MANN:** They are a series of standards in a particular
15 topic area, like risk assessment, for example, that set
16 out three levels of practice, what is necessary to be
17 compliant with the Civil Contingencies Act, and then two
18 further levels to, in the jargon, good and leading
19 practice.

20 **MR KEITH:** And is there a single document called National
21 Resilience Standards that if you are the chair --
22 for example, a senior member of the police in your
23 locality, and you're chairing a local resilience
24 forum -- you can go to and say, "Those are our National
25 Resilience Standards, they test, validate or assure,

177

1 December 2010; the role of LRFs in March 2011 have
2 either been withdrawn or updated?

3 **MR MANN:** To the best of my knowledge, no, they haven't, and
4 therefore if local resilience forums are trying to see
5 if they're either compliant or ready, they've got
6 a confusing picture to look at.

7 **MR KEITH:** By contrast, in Scotland is there a very useful
8 document called "Preparing Scotland" which sets out in
9 one place the principles and standards which must be
10 applied by the local bodies in Scotland?

11 **MR MANN:** It sets out in one place, with a very good map,
12 where all of the relevant guidance is, so that people do
13 not have to fight to access it. It does make clear that
14 regional bodies and local bodies should conduct their
15 own assessments of their compliance and readiness. What
16 it does not have, to the best of my knowledge, is a set
17 of standards against which those assessments should be
18 made.

19 **MR KEITH:** All right.
20 When the draft Civil Contingencies Bill came before
21 Parliament in 2003, the Bill that became the Civil
22 Contingencies Act 2004, did the parliamentary joint
23 committee recommend a dedicated inspectorate to ensure
24 adherence to standards which could be identified?

25 **MR MANN:** Yes.

179

1 whichever word you want to use, our functions"?

2 **MR MANN:** If I put myself in the shoes -- as indeed I have
3 done in separate work -- myself in the shoes of the
4 chairs of local resilience forums, there are 15
5 documents which can go into a loose leaf binder, they
6 will tell me eventually the answers to one question: am
7 I compliant with the duties in the Act? They will not
8 of themselves provide an answer to, "Yes, I am
9 compliant", but actually: is this local resilience forum
10 ready to respond to all of the risks on its risk
11 register? First point.

12 Second point, as well as the National Resilience
13 Standards there are two other excellent and rather
14 elderly documents which have not been -- I won't trouble
15 you with the details, but they have not been withdrawn.
16 So actually the standard set is confusing from the point
17 of view of, let's say, the chair of a local resilience
18 forum.

19 **MR KEITH:** And what are those two other documents? Could
20 I trouble you for them?

21 **MR MANN:** Yes, of course. The so-called expectation set and
22 the -- published a little before the National Resilience
23 Standards -- and then the roles and responsibilities of
24 LRFs.

25 **MR KEITH:** The expectation set was published in

178

1 **MR KEITH:** It's obvious, self-evident, that no inspectorate
2 was formed, but did the Civil Contingencies Act actually
3 provide for a system of monitoring and enforcement at
4 least by way of allowing ministers to call for
5 explanation?

6 **MR MANN:** Yes, it did. There are two sections that deal
7 with that.

8 **MR KEITH:** Have they ever been utilised?

9 **MR MANN:** As far as I know they have never been utilised and
10 they do involve taking cases to the High Court, which is
11 quite a dramatic intervention.

12 **MR KEITH:** Did the Audit Commission until March 2015
13 exercise some limited external audit activity and
14 assurance activity for public sectors in the emergency
15 services and wider NHS?

16 **MR MANN:** I believe the Audit Commission did, until it was
17 abolished, and so do some other bodies in this field in
18 the blue light services.

19 **MR KEITH:** There was something called the national
20 resilience capabilities survey, between 2007 and 2014,
21 every two years. Did that end?

22 **MR MANN:** Yes, in 2017.

23 **MR KEITH:** Do you know why it was discontinued?

24 **MR MANN:** No. I read that ministers thought that the money
25 could be spent better elsewhere. I do not know what

180

1 lies underneath that judgment.

2 **MR KEITH:** Was that a survey in fact directed to local
3 bodies on a self-assessment basis, so they were asked to
4 check their own homework?

5 **MR MANN:** That's correct.

6 **MR KEITH:** And in fact in 2014, was the take-up rate of
7 self-assured testing 29%?

8 **MR MANN:** Yes.

9 **MR KEITH:** So do you, at page 91 of your report, recommend
10 a systematic, new, rigorous, evidence-based process for
11 checking standards, for testing the policies and
12 procedures and the plans drawn up by various bodies are
13 adequate and proper?

14 **MR MANN:** Yes, I do. In a field of such significance, where
15 human life is at stake, then that checking -- that
16 capabilities are in place and that they are good
17 enough -- I believe to be fundamental.

18 **MR KEITH:** If we then go to page 92 -- sorry, yes,
19 Professor.

20 **PROFESSOR ALEXANDER:** If I might add to that very quickly.
21 Absolutely agreed, but I would add to that that the
22 procedures and so on are compatible. Given that we are
23 dealing with what is or should be a system that involves
24 devolved administrations, local administrations, local
25 resilience fora, and so on and so forth, then when

181

1 "All Compliance and Preparedness Reviews and their
2 resulting Action Plans should be brought together by the
3 Cabinet Office, the Resilience Division in the Scottish
4 Government, the Resilience Team in the Welsh Government
5 and the Civil Contingencies Policy Branch of the
6 Executive Office in Northern Ireland ... to provide an
7 overarching ... annual [report] of the ... state of
8 resilience and preparedness ..."

9 **MR MANN:** Yes, in an area of such importance where some of
10 the risks are catastrophic and have hideous
11 consequences, it seems to be a reasonable question that
12 senior leaders ought to ask: how ready are we to respond
13 to those risks? And indeed in the other countries in
14 which I have worked, including in preparing risk
15 assessment, it is normally the first question any senior
16 minister asks: "Thank you for the risk assessment, what
17 do we do with it, how ready are we as a country?"

18 **MR KEITH:** Because you referred earlier to the highly
19 distributed leadership or the diffuse leadership -- you
20 recall that we were debating and discussing the
21 multitude of government departments, and different parts
22 of different departments, and the Cabinet Office's
23 role -- do you go further, page 112, and suggest that,
24 for the purposes of accountability as well as management
25 and control of the various moving parts in this system,

183

1 procedures are applied in order to obtain results they
2 need to be compatible, unless we're dealing with the
3 very smallest class of emergency.

4 **MR KEITH:** Thank you.

5 Page 92, the following page, do you say that if the
6 government is to comply with its duty to protect its
7 citizens it is vital they have high quality assessments
8 of the preparedness of the whole system, and drawing on
9 good practice in a range of countries, you recommend
10 substantially bolstering those National Resilience
11 Standards, of which you've spoken, embedding them in
12 an inspection regime, developing new arrangements under
13 which the category 2 responders -- the responders to
14 whom you referred earlier as being the ones who
15 currently exist under a lesser legal duty -- should be
16 assessed against the revised national standards, the
17 Cabinet Office should approach a standard approach and
18 methodology for reviewing.

19 Over the page, you suggest a compliance and
20 preparedness review team in the Cabinet Office, and --
21 if we remind ourselves -- earlier you said that
22 government departments should themselves be subject to
23 an enhanced legal duty in the same way that local
24 authorities and their bodies are.

25 You say on page 94:

182

1 there should be a single body at UK level in order to
2 provide a proper, accountable, transparent strategy to
3 this hugely important area? And it should be, you
4 suggest, a self-standing body rather than part of a UK
5 Government department, in order that in part it can
6 bring control and management and supervision to the
7 government itself?

8 **MR MANN:** Yes, I do.

9 **MR KEITH:** Would such a body require clear and visible
10 leadership?

11 **MR MANN:** Yes, that goes to the question asked by my Lady.
12 I believe that there needs to be a single point of
13 focus, both in terms of a single body -- not the diffuse
14 arrangement as exist at present -- and a single
15 individual at official level, and most likely at
16 ministerial level, who has that visible responsibility
17 and accountability for the state of preparedness and
18 resilience more broadly inside the United Kingdom.

19 **PROFESSOR ALEXANDER:** I concur entirely.

20 **MR KEITH:** Yes, Professor, please.

21 **PROFESSOR ALEXANDER:** It may be necessary, if such a body
22 and a personage is created, to make the leader
23 responsible directly to the Cabinet and the
24 Prime Minister, which is another European recommendation
25 that various countries have taken up. It is, after all,

184

1 a matter of national emergencies.
 2 **MR KEITH:** The Inquiry is aware, Mr Mann and
 3 Professor Alexander, that there are currently a number
 4 of ministerial posts concerned with civil contingencies.
 5 There is a minister of implementation, there is the
 6 Chancellor of the Duchy of Lancaster, there are
 7 ministerial positions which have responsibility for
 8 certain aspects, not all aspects but certain aspects of
 9 the civil contingencies system. Is that current system
 10 too diffuse?

11 **MR MANN:** Yes.

12 **PROFESSOR ALEXANDER:** Yes.

13 **MR MANN:** The simple question I start from is: to whom does
 14 Parliament, to whom do the public look to keep them
 15 safe? To put it at the most simplest, who is in charge
 16 of making sure that this country is ready to respond to
 17 all natures of emergencies but especially catastrophic
 18 emergencies?

19 **MR KEITH:** The Inquiry is aware that in the field of
 20 national security there is, at a very high level in
 21 government, a National Security Adviser, but the
 22 evidence appears to suggest that national security has
 23 become over time much more focused -- for very obvious
 24 and perhaps sensible reasons -- on threats, terrorism is
 25 an obvious example, as opposed to hazards.

185

1 separation of the two. In other countries they are
 2 quite merged. But there is a distinct difference
 3 between the kind of management of threats that
 4 definitely requires a top-down approach based on central
 5 government, and the kind of management of other sorts of
 6 civil contingency that very much requires local
 7 participation.

8 **MR KEITH:** Thank you.

9 In your report, gentlemen, you suggest the creation
 10 of a role called the united government chief resilience
 11 officer. You referred, Mr Mann, yourself earlier to the
 12 government's proposal of head of resilience within
 13 annex B to the December 2022 the United Kingdom
 14 Government Resilience Framework. Wherein is the
 15 difference?

16 **MR MANN:** I can't answer that question because I don't know
 17 what is inside head of resilience. What is in the
 18 framework is vague, so I'm afraid I can't answer that.

19 **MR KEITH:** But would your proposal -- sorry, yes, Professor,
 20 do please answer orally if you can.

21 **PROFESSOR ALEXANDER:** No, I simply concur entirely with what
 22 Mr Mann says.

23 **MR KEITH:** But whatever post is created, must it be a post
 24 that is independent, that has serious political clout,
 25 is transparent and accountable, accountable to

187

1 Has over time -- in your opinion, has over time the
 2 focus in government on hazards in civil contingencies
 3 waned by comparison to the focus on malicious threats
 4 and national security matters in the way that we
 5 commonly understand them to be?

6 **MR MANN:** Yes, that is my belief. Indeed it's in
 7 Ms Hammond's witness statement as well. That is not in
 8 any way to diminish the work that is being done on
 9 threats, but our position is that substantially more
 10 work needs to be done on hazards.

11 **PROFESSOR ALEXANDER:** If I may add, conceptually speaking we
 12 have a difference between civil defence and civil
 13 protection.

14 Civil defence conceptually is a top-down procedure,
 15 organisation, dealing with threats which originally
 16 would have been armed aggression by a state-based power,
 17 and more frequently now is armed aggression by various
 18 dissident groups.

19 Civil protection, instead, which grew up decades
 20 later, is more about managing hazards such as floods and
 21 so on. It is a much more bottom-up sort of enterprise,
 22 because it has to be done and managed at the local
 23 level, albeit co-ordinated, harmonised regionally and
 24 nationally.

25 So in some countries there is a very distinct

186

1 Parliament and has the ability to be able to control the
 2 various parts of government over which it sits?

3 **MR MANN:** Yes, and that individual must feel that
 4 accountability.

5 **MR KEITH:** Must?

6 **MR MANN:** Feel that accountability.

7 **MR KEITH:** Right.

8 **LADY HALLETT:** If the devolved nations -- if civil
 9 contingency is a devolved matter, how would a UK chief
 10 resilience officer work?

11 **MR MANN:** I believe there would need to be similar chief
 12 resilience officers in each administration, and then
 13 they can collaborate together within the context of the
 14 various devolution settlements.

15 **LADY HALLETT:** So you're suggesting one for
 16 Northern Ireland, one for Scotland, one for Wales, and
 17 a UK one, or and an English and a UK one?

18 **MR MANN:** English and UK. There are some issues that need
 19 to be addressed at a UK level in collaboration with the
 20 devolved administrations. There are some issues which
 21 are England alone.

22 **PROFESSOR ALEXANDER:** Yes, there are also, my Lady, models
 23 of this in the European Union when we have union-wide
 24 co-ordination of emergency response planning,
 25 preparedness and so on, and national; and therefore it's

188

1 a much bigger problem in terms of having national
2 resilience officers and national advisers and so on.
3 But it is (inaudible) even at that level.

4 **MR KEITH:** How, gentlemen, would we avoid -- if the Inquiry
5 were to so recommend -- merely the replication of
6 another level of bureaucracy, another level of
7 governmental function being superimposed on top of this
8 already very diffuse, complex and -- one may suggest --
9 overmanaged process?

10 **MR MANN:** I believe it would clear bureaucracy by clearing
11 that diffuse picture on leadership; first point.

12 The second point is that I believe this role belongs
13 in the Cabinet Office, where there are presently two
14 entities who are dealing with resilience and
15 preparedness.

16 So this may be no more than the designation of
17 a senior officer who has that responsibility, clarifying
18 responsibilities and accountabilities, cleaning up the
19 overmanagement you describe, but drawing on existing
20 teams.

21 **MR KEITH:** And would you propose an annual statement to
22 Parliament for such a position?

23 **MR MANN:** Yes, I would. To actually each -- going back to
24 your question, my Lady -- to each Parliament, because
25 this is a devolved matter.

189

1 the primary decisions in the course of the government's
2 response, the country's response to the Covid pandemic?

3 Was it, in terms of applying and running this
4 system, in terms of making the decisions, in terms of
5 social restrictions, how the various governments would
6 respond and so on?

7 **MR MANN:** People at every level but starting in central
8 government, which I think is the point you're trying to
9 make, Mr Keith.

10 **MR KEITH:** Yes.

11 **MR MANN:** Then there would have been their equivalents at
12 local level and at regional level and at devolved
13 levels. So it is actually people at every level but
14 including especially the people making the biggest and
15 most critical decisions.

16 **MR KEITH:** And who took the biggest and most critical
17 decisions?

18 **MR MANN:** In the context of the Covid-19 pandemic, obviously
19 central governments in all four administrations.

20 **MR KEITH:** I'm pressing you, Mr Mann, because you know what
21 I'm driving at.

22 **MR MANN:** Ministers.

23 **MR KEITH:** Thank you. Professor Alexander?

24 **PROFESSOR ALEXANDER:** Yes. The status and standing of
25 emergency managers appears to have declined in Britain,

191

1 **MR KEITH:** All right.

2 Competence and training. We're now, my Lady, in the
3 final furlong. Page 131.

4 **(Pause)**

5 In summary, do you propose that in order to make
6 sure that the people at every level in this system are
7 skilled, effective and recognised, that -- I'm now
8 trying to find where the specific recommendations are.
9 I think paragraph 379 -- that all local resilience
10 forums and government departments should have suitably
11 qualified, experienced and empowered personnel?

12 There should be a single competent strategy, and
13 a framework to ensure proper training and the checking
14 of training. There needs to be a fundamental reboot,
15 you say, of the training ecosystem, and significantly --
16 page 134, please, paragraph 387 -- ministers and their
17 special advisers must have a proper understanding or
18 a basic understanding of resilience structures and the
19 basic principles of emergency management.

20 **MR MANN:** Yes. The root point here is those who are taking
21 critical decisions in a catastrophic emergency should
22 have the competence and training they need to fulfil
23 those roles well.

24 **MR KEITH:** At a necessarily superficial level for today's
25 purposes, what body of people took all the important,

190

1 at least that is what they say when one talks to them.

2 There is little or no career progression in this. There
3 is also a tendency to cycle people in government
4 departments through competencies that involve civil
5 protection and emergency preparedness and then cycle
6 them out of it again, such that expertise is lost.

7 What we need here is to ensure that there is
8 identifiable career -- there are identifiable career
9 paths and the means to pursue them. I think that's very
10 important, and also I believe there is now a growing
11 understanding of the value of involving universities in
12 providing basic training.

13 It is recognised that, in order to be a good
14 decision-maker or emergency manager, you need the
15 background and the understanding which you can get from,
16 for example, higher education, and you also need the
17 experience to combine with that in perhaps a 50/50
18 measure, which you can get from being on the job. But
19 purely being on the job will not give you an adequate
20 understanding of the dynamics of emergencies.

21 **MR KEITH:** Do you also refer at page 139 to -- page 137,
22 I apologise -- to the need for a new centre of
23 resilience excellence, that is to say a body to promote
24 the right principles, to train, and to provide
25 leadership to everybody who requires to be trained in

192

1 this system of civil contingencies?

2 **MR MANN:** Yes, it goes a little wider than that. What does
3 good look like? It starts with good guidance. It
4 includes training. It includes a process on learning
5 lessons, and it includes a function which is to pick up
6 good practice in higher education institutions, other
7 governments and so on, but its focus is on excellence.

8 **MR KEITH:** In the government's December 2022 Resilience
9 Framework at annex B -- we won't bring it up, but you
10 referred to it earlier, Mr Mann -- the United Kingdom
11 Government committed to taking the following actions by
12 2025, to include the delivery of a new UK resilience
13 academy built out from the Emergency Planning College.
14 The Emergency Planning College, is that a body that
15 currently exists, I think operated by a third party?

16 **MR MANN:** It currently exists, it's a joint venture between
17 the Cabinet Office and a private company, SERCO.

18 **MR KEITH:** Do you understand or do you know anything about
19 the proposals to be delivered by 2025 to deliver
20 an academy -- I don't know quite how one delivers
21 an academy -- built out from the Emergency Planning
22 College?

23 **MR MANN:** No, I've not seen any of the detail on that.

24 **PROFESSOR ALEXANDER:** Neither have I.

25 **MR KEITH:** Has the government published a single document
193

1 pandemic?" what was your conclusion?

2 **MR MANN:** Our conclusion, there is a figure -- figure 6 in
3 this table -- which breaks down what should be there and
4 what should be good, which I suggest we don't go back to
5 in the interests of time. I did an assessment against
6 every one of those components, and that led to my
7 conclusion -- which was recorded a bit later in this
8 document -- that the vast majority of those components
9 were poor or non-existent, and therefore it led to my
10 conclusion that the overall preparedness for the
11 pandemic was inadequate.

12 **MR KEITH:** Was your conclusion at paragraph 523 -- and,
13 Professor, I'll ask you to confirm it in terms as
14 well -- that influenza pandemic preparedness in England
15 and for areas of planning that were UK-wide in their
16 scope was poor, although the evidence suggests that
17 preparedness will have been stronger in Scotland and
18 especially Wales and Northern Ireland, which did sustain
19 activity to build pandemic preparedness throughout most
20 of the period?

21 The fact remains that three years after
22 Exercise Cygnus and almost ten years after the Hine
23 review -- the Hine review being the review by
24 Dame Deirdre Hine into the 2009 swine flu pandemic --
25 key areas of weakness in the United Kingdom Government's
195

1 stating the rubric or the aims or the outcome or the
2 structure of such a body?

3 **MR MANN:** No. I declare an interest, I am a senior
4 associate of the Emergency Planning College. I have not
5 seen such a document.

6 **MR KEITH:** All right.
7 In Scotland there is a National Centre for
8 Resilience. Is that an appropriate body, as you see it,
9 for the purposes of ensuring excellence and ensuring the
10 correct degree of training in Scotland?

11 **MR MANN:** Yes, Scotland has four bodies on training, on
12 exercising, centre of resilience and so on. If you were
13 to hypothetically stitch those together, that is pretty
14 much what we had in mind in writing our proposals on the
15 centre of resilience excellence.

16 **MR KEITH:** All right.
17 Drawing all those threads together, Mr Mann and
18 Professor Alexander, at page 179 of the report, having
19 examined all the structures of which you've spoken
20 today, having identified the correct doctrinal
21 foundations, the integrated emergency management, all
22 the structures and the policies currently in existence,
23 and asked yourself the question or the primary question,
24 "Were those structures, those policies, those schemes
25 suitable or effective in responding to the Covid
194

1 planning had not been fully addressed.
2 Do you both stand by those propositions?

3 **MR MANN:** Yes.
4 **PROFESSOR ALEXANDER:** Yes.
5 **MR KEITH:** Was preparedness for a novel infectious disease
6 pandemic adequate or inadequate?
7 **PROFESSOR ALEXANDER:** Inadequate.
8 **MR KEITH:** Had the response strategy put in place by the
9 United Kingdom Government been adequately tested in
10 advance of Covid-19?
11 **MR MANN:** In detail, forensic detail, to make sure that the
12 plans worked on the ground, no.
13 **MR KEITH:** Was it clear in fact that health and social care
14 sectors were liable to be overwhelmed?
15 **MR MANN:** That was the clear advice, not only from the
16 Hine review in 2010, it appears in the Cygnus report,
17 the report of Exercise Cygnus, it appears in officials'
18 advice to ministers, it's in Ms Hammond's statement that
19 they would be overwhelmed, which has to raise serious
20 questions about whether the plan would not -- would have
21 worked.
22 **MR KEITH:** Is, therefore, now radical innovation and change
23 required?
24 **PROFESSOR ALEXANDER:** Yes.
25 **MR MANN:** Yes, in structures and, yes, in the detail in
196

1 which plans, procedures, whatever is issued from
2 whatever organisation but especially the centre of
3 government, are followed through in detail to make sure
4 that they will work.

5 **MR KEITH:** To that end, gentlemen, do you set out, at
6 page 185 through to 199, 47 separate recommendations
7 which you invite my Lady to take account of?

8 **MR MANN:** Yes.

9 **PROFESSOR ALEXANDER:** Yes.

10 **MR KEITH:** Thank you.

11 My Lady, as with the previous witnesses, the
12 core participants, in particular Covid-19 Bereaved
13 Families for Justice, have indicated that there are some
14 questions that they would wish to put. You indicated
15 provisionally that you would be minded to allow them to
16 put them.

17 In light of the evidence that has been given, they
18 are all issues which remain outstanding, and so may we
19 have, please, your permission for them to put the
20 questions that they wish?

21 **LADY HALLETT:** Mr Weatherby, if we could make sure we stick
22 to the issues I have given permission on.

23 **MR WEATHERBY:** I shall certainly do that.

24 **LADY HALLETT:** Thank you.

25 **Questions from MR WEATHERBY KC**

197

1 In terms of the plan itself, you conclude that it's
2 a Department of Health plan which ostensibly deals with
3 health and social care, although you point out it's very
4 slim on the social care aspect of that.

5 **MR MANN:** Correct.

6 **MR WEATHERBY:** The further point is that by 2017, in the
7 light of the Cygnus learning, efforts were then made to
8 refresh that plan, but it came to nought because of the
9 Brexit pausing.

10 **MR MANN:** Exactly.

11 **MR WEATHERBY:** Yes. But in the course of that, the National
12 Security Council committee was specifically warned about
13 the state of capacity within healthcare, weren't they?

14 **MR MANN:** Healthcare and social care, yes.

15 **MR WEATHERBY:** I stand corrected, indeed.

16 So through this period, there was no whole-system
17 plan and the plan, such as it was, was deficient, known
18 to be deficient, and by January 2020 hadn't changed?

19 **MR MANN:** It was, in my view, deficient. I believe it was
20 known to be deficient in 2017. I wouldn't necessarily
21 say throughout the period.

22 **MR WEATHERBY:** Yes.

23 **PROFESSOR ALEXANDER:** Might I add here that there is
24 a considerable amount of academic work between 2003 and
25 2009 on developing the scenario for a generic viral

199

1 **MR WEATHERBY:** First of all, my name is Pete Weatherby, and
2 I'm representing the bereaved families. Mr Keith has
3 been through most of the issues that I wanted to deal
4 with, so I can be very brief.

5 In terms of what Mr Keith has just asked you, in
6 fact in the report you've referred to the novel disease
7 preparedness as being woefully -- sorry, wholly
8 inadequate. So it's quite a strong finding, isn't it?
9 And it's in the report, so I don't need to go through it
10 in any detail with you, but you identify the 2011 plan
11 as being very deficient in terms of being a whole-system
12 plan. So the 2011 flu pandemic plan is not
13 a whole-system plan, is it?

14 **MR MANN:** Yes, that's what we put in the report, absolutely.

15 **MR WEATHERBY:** The points that you make from that are that,
16 despite the fact of the Hine review referring to
17 a containment phase as being an important part of
18 a whole-system plan, that didn't find its way into the
19 2011 plan.

20 **MR MANN:** That's correct.

21 **MR WEATHERBY:** And in the decade or almost decade until
22 Covid struck, no change was made to the plan to include
23 a containment plan.

24 **MR MANN:** That's correct too.

25 **MR WEATHERBY:** Yes.

198

1 pandemic, and what makes this very particular is that
2 such an event is half a medical epidemiological problem
3 and half a socio-economic one. The planning tended not
4 to concentrate on the socio-economic implications, even
5 though these were well known.

6 **MR WEATHERBY:** Yes, thank you, Professor.

7 So what was really needed was this whole-system plan
8 that you talk about, or strategy that you talk about in
9 your report, which would have covered all of the issues
10 that we have been through beyond healthcare and
11 social care?

12 **MR MANN:** Yes. You might call that a war book, but it has
13 to cover all of the actions that are taken in all of the
14 sections, not just -- I can understand, Mr Weatherby,
15 you're focusing on health and social care -- there's a
16 range of other activity which needs to be there as well.

17 **MR WEATHERBY:** Yes, indeed. And in order to then make that
18 a whole-system strategy, that has to be brought
19 together.

20 **MR MANN:** Yes.

21 **MR WEATHERBY:** So whether we call the Department of Health
22 and Social Care the lead government department, it's
23 certainly going to be one of the main departments
24 involved in any pandemic strategy.

25 **MR MANN:** It has got a large part of the management of the

200

1 consequences but there are other parts, which is the
 2 point we explored with Mr Keith.
 3 **MR WEATHERBY:** Indeed.
 4 So in terms of the responsibility for the whole
 5 system -- a point that again you've just been dealing
 6 with, with Mr Keith -- the point of having a single
 7 point of responsibility is to ensure that the relevant
 8 departments and beyond departments, other organisations
 9 as well, their plans are integrated into this
 10 whole-system strategy and somebody is responsible for
 11 making that happen.
 12 **MR MANN:** Those two points are exactly my point, yes.
 13 Integrated, and responsibility and accountability, yes.
 14 **MR WEATHERBY:** Yes.
 15 So we learned yesterday that the Civil Contingencies
 16 Secretariat -- which of course you're very familiar
 17 with -- has been split and there is a Resilience
 18 Directorate now.
 19 Could that do the job of being single point of
 20 responsibility?
 21 **MR MANN:** No, I think you may have landed on the wrong part
 22 of the split. There is also the COBR unit which could
 23 be the single point of accountability. I would much
 24 prefer to see the shared accountability between the
 25 so-called lead government department, DHSC in this case,
 201

1 being located in the Cabinet Office, or even a different
 2 Ministry?
 3 **MR MANN:** I'm trying not to sound too geeky. The issue with
 4 Cabinet Office ministers is that they are rarely or have
 5 not historically been responsible for a particular piece
 6 of operational activity. So I think there would be
 7 a prior question: is this a separate minister, let's say
 8 a minister in charge of a separate government body --
 9 the conversation we were having with Mr Keith --
 10 **MR WEATHERBY:** Yes?
 11 **MR MANN:** -- or would we change the model of Cabinet Office
 12 ministers over many decades and have a minister with
 13 explicit operational responsibilities?
 14 **MR WEATHERBY:** Yes.
 15 I'll leave it there, thank you.
 16 **LADY HALLETT:** Thank you very much indeed, Mr Weatherby.
 17 Thank you, Professor Alexander, Mr Mann.
 18 Particularly you, if I may say so, Professor Alexander,
 19 given your bereavement and your heart problems. I hope
 20 the heart problems resolve soon.
 21 **PROFESSOR ALEXANDER:** That's very kind of you, my Lady.
 22 **LADY HALLETT:** And thank you too, Mr Mann, for being here
 23 too.
 24 **(The witnesses withdrew)**
 25 **MR KEITH:** Thank you, my Lady, that concludes today's
 203

1 and the Cabinet Office to use its power to bring
 2 everybody else together.
 3 **MR WEATHERBY:** Right.
 4 **PROFESSOR ALEXANDER:** My feeling about COBR is that it is
 5 too small. I think it might fit somewhere like the
 6 Netherlands, which in any case has highly devolved
 7 emergency response. But I think it is too small for
 8 a country as large and as complex as the UK.
 9 **MR WEATHERBY:** So the body that should be responsible for
 10 this whole-system strategy, should that be within the
 11 Cabinet Office or should it be elsewhere?
 12 **PROFESSOR ALEXANDER:** It's a European recommendation that it
 13 be in the Cabinet Office and countries have taken it up
 14 with a degree of success, so possibly, yes. The
 15 alternative is to have a completely independent agency,
 16 and that certainly has some advantages, if it is
 17 tolerated adequately as a solution by government.
 18 **MR WEATHERBY:** Yes.
 19 Is there a problem with that concept in terms of
 20 ministerial responsibility? Because sitting above the
 21 doers, the civil servants who are going to make this
 22 work, has to be somebody with democratic power and
 23 democratic responsibility, doesn't there?
 24 **MR MANN:** Yes, and accountability, yes.
 25 **MR WEATHERBY:** Yes. So does that work better with this
 202

1 evidence.
 2 **LADY HALLETT:** 10 o'clock tomorrow, please.
 3 **(4.30 pm)**
 4 **(The hearing adjourned until 10 am**
 5 **on Friday, 16 June 2023)**
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 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 204

	INDEX	
		PAGE
1		
2		
3	PROFESSOR DAVID HEYMANN (sworn)	1
4		
5	Questions from COUNSEL TO THE INQUIRY	1
6		
7	Questions from MS MUNROE KC	74
8		
9	PROFESSOR DAVID ALEXANDER (affirmed)	79
10		
11	MR BRUCE MANN (sworn)	79
12		
13	Questions from LEAD COUNSEL TO THE INQUIRY	79
14		
15	Questions from MR WEATHERBY KC	197
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

<p>LADY HALLETT: [42] 1/3 30/21 46/15 46/18 50/10 50/13 50/15 71/22 71/25 72/10 74/19 78/2 78/7 78/12 78/17 78/22 79/2 80/1 89/24 90/9 102/1 102/5 102/11 121/10 121/20 136/2 140/19 141/7 155/19 155/22 156/2 159/19 162/10 162/22 163/1 188/8 188/15 197/21 197/24 203/16 203/22 204/2</p> <p>MR KEITH: [205] 78/18 79/3 79/9 80/2 80/15 80/21 80/25 81/5 81/15 81/19 82/2 83/16 84/20 85/10 86/12 87/2 87/20 88/6 88/13 88/23 89/17 90/10 91/4 92/6 92/19 93/15 94/14 95/16 96/1 97/3 97/21 97/25 98/11 99/2 99/13 99/24 100/20 101/11 101/24 102/3 102/12 104/9 105/6 105/10 106/14 107/12 107/19 107/23 108/13 109/4 110/7 110/18 111/25 112/24 114/8 114/14 114/20 115/5 115/10 115/24 116/21 117/7 117/12 118/11 118/16 118/19 118/21 119/21 120/3 120/12 122/4 122/13 125/8 126/7 126/21 127/1 127/14 127/19 129/10 129/18 130/21 131/5 131/10 131/20 132/19 133/9 133/25 134/13 134/20 135/7 136/4 137/8 137/23 139/11 140/6 140/16 141/14 141/20 142/5 142/13 143/7 143/20 145/6 146/4 146/6 147/7 147/11 149/14 149/20 149/22 150/4 151/13 153/14 154/17 155/16 155/21 156/3 157/2 157/8 157/10 157/12 158/19 159/9 160/21 160/23 161/24 162/1 162/4 163/2 163/14 163/18 164/1 164/15 165/9 166/2 166/18 167/5 167/10 167/13 167/25 168/2 168/9 168/25</p>	<p>169/3 169/13 170/8 170/14 171/7 171/9 172/2 173/8 173/18 173/25 175/7 176/3 176/10 176/23 177/9 177/20 178/19 178/25 179/7 179/19 180/1 180/8 180/12 180/19 180/23 181/2 181/6 181/9 181/18 182/4 183/18 184/9 184/20 185/2 185/19 187/8 187/19 187/23 188/5 188/7 189/4 189/21 190/1 190/24 191/10 191/16 191/20 191/23 192/21 193/8 193/18 193/25 194/6 194/16 195/12 196/5 196/8 196/13 196/22 197/5 197/10 203/25</p> <p>MR MANN: [169] 81/4 81/14 81/18 81/25 83/15 84/6 84/25 86/10 86/19 87/15 88/4 88/10 88/14 89/4 90/2 91/2 91/23 92/18 94/20 95/24 97/11 100/15 101/18 103/4 104/21 105/8 107/3 107/18 107/20 108/10 108/14 110/2 110/8 113/1 114/11 114/15 114/25 115/8 116/18 117/22 119/20 119/25 120/10 120/13 121/15 121/22 124/22 127/13 127/17 128/21 130/7 131/19 131/24 134/11 134/17 137/6 137/14 138/5 140/14 140/25 141/12 141/23 142/10 142/19 143/11 144/9 145/22 146/5 148/14 149/19 149/21 149/25 152/21 153/22 155/7 156/17 157/7 157/9 157/11 158/12 159/2 161/22 161/25 162/15 162/24 163/12 163/17 163/21 164/14 165/4 165/24 166/14 166/22 167/6 167/12 167/22 168/1 168/6 168/20 169/2 169/8 170/7 170/13 171/6 171/8 171/22 173/23 175/2 176/2 176/8 176/14 177/14 178/2 178/21 179/3 179/11 179/25 180/6 180/9 180/16 180/22 180/24 181/5 181/8 181/14 183/9 184/8</p>	<p>184/11 185/11 185/13 186/6 187/16 188/3 188/6 188/11 188/18 189/10 189/23 190/20 191/7 191/11 191/18 191/22 193/2 193/16 193/23 194/3 194/11 195/2 196/3 196/11 196/15 196/25 197/8 198/14 198/20 198/24 199/5 199/10 199/14 199/19 200/12 200/20 200/25 201/12 201/21 202/24 203/3 203/11</p> <p>MR WEATHERBY: [20] 197/23 198/1 198/15 198/21 198/25 199/6 199/11 199/15 199/22 200/6 200/17 200/21 201/3 201/14 202/3 202/9 202/18 202/25 203/10 203/14</p> <p>MS BLACKWELL: [15] 1/4 1/9 31/7 46/17 46/21 50/12 50/14 50/17 50/21 71/19 71/23 72/11 74/6 78/5 78/13</p> <p>MS MUNROE: [3] 74/21 74/23 77/25</p> <p>PROFESSOR ALEXANDER: [73] 78/24 80/14 80/20 80/24 82/1 85/3 86/11 88/5 89/12 89/21 92/24 94/5 96/2 97/24 98/1 98/22 99/3 99/19 100/21 103/17 105/11 110/21 112/23 113/3 115/12 116/24 117/11 118/3 118/15 118/18 122/12 125/9 126/12 126/25 127/18 129/12 130/25 131/6 132/20 133/19 134/12 134/21 137/7 139/13 141/15 146/7 147/10 150/7 153/1 159/21 160/22 162/2 166/1 172/7 173/16 177/1 181/20 184/19 184/21 185/12 186/11 187/21 188/22 191/24 193/24 196/4 196/7 196/24 197/9 199/23 202/4 202/12 203/21</p> <p>PROFESSOR HEYMANN: [1] 78/10</p> <p>'horizon [1] 128/7</p>	<p>0 0.3 [1] 24/25 0021 [1] 47/20</p> <hr/> <p>1 1,500 [1] 110/25 1.45 [1] 102/7 1.45 pm [1] 102/10 10 [4] 22/9 24/25 27/6 169/14 10 am [1] 204/4 10 o'clock [1] 204/2 10.00 am [1] 1/2 100 [1] 48/11 101 [2] 47/18 48/19 106 [1] 77/2 11 [3] 87/20 139/16 146/9 11.06 am [1] 50/18 11.20 [1] 50/16 11.20 am [1] 50/20 112 [1] 183/23 113 [3] 56/12 56/15 56/18 114 [3] 56/13 56/15 57/1 12 [3] 85/25 86/1 88/13 12 months [1] 67/17 12 October 2008 [1] 113/16 12 years [2] 104/4 104/6 12.04 pm [1] 78/14 12.10 pm [1] 78/16 12.47 pm [1] 102/8 122 [1] 175/12 123 [2] 175/7 175/11 125 federal [1] 146/8 13 [2] 86/1 90/11 131 [1] 190/3 134 [1] 190/16 137 [1] 192/21 139 [1] 192/21 14 [1] 170/14 14 days [1] 51/6 15 [2] 29/19 178/4 15 February [1] 61/7 15 June 2023 [1] 1/1 16 [3] 61/4 61/14 91/7 16 June 2023 [1] 204/5 16 years [1] 77/16 163 [1] 173/18 17 [2] 135/24 136/7 17 years [1] 77/16 179 [1] 194/18 18 [1] 13/5 185 [1] 197/6 185 cases [1] 33/10 1850 [1] 14/18 1888/1889 [1] 14/19</p>	<p>1889 [1] 14/19 1890 [1] 14/18 19 [38] 4/13 4/15 13/5 15/12 16/1 22/13 26/14 27/16 27/21 36/18 36/20 39/12 41/9 42/2 45/8 46/3 46/24 47/9 47/23 50/22 52/4 53/8 53/25 54/4 56/7 56/18 56/19 57/2 57/12 63/20 72/19 73/18 74/12 103/21 137/22 191/18 196/10 197/12</p> <p>19 February 2023 [1] 57/11</p> <p>19 May [1] 2/3 1918 [2] 25/17 25/21 1950s [1] 13/24 1960s [1] 6/23 1976 [2] 2/17 2/19 1979 [1] 80/25 1982 [1] 80/6 1983 [1] 80/16 1989 [1] 2/21 199 [1] 197/6 1999 [1] 153/5</p> <hr/> <p>2 2,000 [1] 25/7 2,080 years [1] 105/12 20 [2] 33/11 150/20 20 regions [1] 150/22 20 years [1] 95/9 20-year [1] 2/22 200 coronaviruses [1] 6/3 200 different [1] 105/15 200 million [1] 24/25 2000s [1] 72/7 2002 [4] 16/5 76/13 77/6 80/6 2003 [9] 14/4 16/17 18/19 19/11 40/7 54/22 70/12 179/21 199/24 2004 [11] 13/16 81/13 93/1 93/19 94/4 95/15 135/12 142/16 149/17 164/23 179/22 2005 [2] 103/24 132/20 2007 [1] 180/20 2008 [2] 111/22 113/16 2009 [9] 2/21 2/25 24/23 81/13 136/4 136/6 149/17 195/24 199/25 201 [1] 82/5 2010 [4] 164/6</p>
--	---	---	--	--

2	3	91 [1] 181/9 92 [2] 181/18 182/5 94 [1] 182/25 99 [2] 47/18 47/24	131/15 absolute [2] 86/21 125/23 absolutely [16] 23/24 101/2 106/12 114/11 115/9 117/22 131/24 140/2 143/1 150/18 151/23 153/12 154/7 156/24 181/21 198/14 absorb [1] 102/20 absorbed [1] 17/13 academic [5] 68/4 68/7 135/3 135/4 199/24 academy [5] 113/7 123/21 193/13 193/20 193/21 access [1] 179/13 accessible [1] 124/3 accident [2] 37/7 81/6 accidents [2] 31/12 31/14 accompanied [2] 3/6 32/14 accomplished [1] 69/19 according [1] 24/24 account [11] 44/21 45/8 86/3 94/19 97/14 98/8 101/13 114/23 119/22 170/17 197/7 accountabilities [1] 189/18 accountability [11] 119/12 123/18 153/19 183/24 184/17 188/4 188/6 201/13 201/23 201/24 202/24 accountable [4] 170/11 184/2 187/25 187/25 accrued [1] 87/13 accuracy [2] 111/18 113/12 accurately [1] 116/12 accustomed [1] 73/16 ache [1] 48/9 achieve [3] 118/2 150/11 150/12 acid [1] 5/7 acknowledge [2] 86/2 114/22 acquainted [1] 76/3 acronyms [1] 72/2 across [6] 71/1 71/2 77/5 123/12 123/17 124/4 Act [28] 81/16 93/1 93/8 93/9 93/12 93/16 93/18 93/24 94/21 94/21 95/4 95/4 135/12 135/15 135/15	135/17 136/25 142/5 142/11 142/16 164/23 171/18 172/21 173/19 177/17 178/7 179/22 180/2 acted [1] 41/18 action [11] 61/17 61/24 69/22 85/2 119/10 122/17 122/23 123/1 123/2 163/9 183/2 actions [17] 61/11 61/15 117/16 119/18 119/18 121/12 121/14 121/19 121/24 122/6 122/15 123/9 128/9 128/12 128/23 193/11 200/13 active [2] 68/17 110/24 activities [16] 58/16 60/8 60/19 60/20 67/25 68/5 68/7 68/13 69/2 69/4 71/8 73/15 130/14 134/19 138/19 139/3 activity [14] 89/10 103/5 104/2 104/3 105/2 123/12 132/6 132/17 169/10 180/13 180/14 195/19 200/16 203/6 actual [1] 106/20 actually [20] 18/18 40/9 54/14 94/22 105/11 106/19 107/16 108/11 120/20 122/12 125/18 132/18 138/23 146/11 167/2 178/9 178/16 180/2 189/23 191/13 acute [4] 2/23 48/14 48/16 156/21 adapt [2] 102/20 104/18 adaptation [2] 99/12 105/17 adapted [3] 27/24 63/12 63/15 adapting [1] 160/9 add [17] 85/3 89/12 97/24 103/17 115/12 116/22 116/23 118/3 139/11 141/15 150/5 172/7 176/23 181/20 181/21 186/11 199/23 added [1] 53/22 addition [3] 27/6 58/24 64/18 additional [1] 4/1 address [10] 77/9 82/8 83/1 83/10 84/8 90/5 107/21 107/22 130/16 170/25
2010... [3] 175/24 179/1 196/16 2011 [7] 87/25 98/2 149/20 179/1 198/10 198/12 198/19 2012 [4] 31/17 32/10 98/2 176/7 2013 [3] 3/5 25/6 176/2 2014 [4] 3/7 174/20 180/20 181/6 2015 [2] 32/18 180/12 2016 [2] 61/7 80/25 2017 [7] 3/12 91/7 93/13 164/16 180/22 199/6 199/20 2018 [8] 24/7 25/6 77/3 77/8 136/10 157/10 157/11 169/19 2019 [8] 15/20 39/3 49/4 77/10 112/3 136/18 136/19 164/17 2020 [6] 43/14 44/17 73/25 91/7 92/1 199/18 2021 [2] 84/19 119/2 2022 [9] 44/5 81/17 118/5 118/14 119/5 122/7 163/7 187/13 193/8 2023 [3] 1/1 57/11 204/5 2025 [5] 119/18 120/24 123/8 193/12 193/19 2030 [4] 84/13 119/19 120/24 124/1 20th century [1] 15/25 21 [3] 16/2 18/9 20/2 21st [1] 7/3 22 [1] 174/23 22 different [1] 20/3 22 million [1] 53/16 229E [1] 10/18 23 [2] 117/8 127/6 25 [2] 127/23 127/24 25-70 [1] 29/11 262 [1] 66/18 264 [1] 67/21 266 [2] 68/24 68/25 268 [1] 69/8 27 [2] 133/25 134/1 270 [1] 71/4 275 peer reviewed [1] 3/19 29 [2] 29/6 181/7 29 January [2] 43/14 43/25 294 [1] 57/14 2C [1] 173/14	3,038 [1] 57/16 3,150 [1] 57/15 3,344 [1] 57/15 3.05 pm [1] 155/24 3.20 [1] 155/23 3.20 pm [1] 156/1 30 [1] 25/6 31 December [1] 39/2 321 pages [1] 79/21 33 [1] 47/24 35 [1] 22/13 354 [3] 175/7 175/11 175/14 36 [1] 111/23 379 [1] 190/9 38 [1] 149/11 38 deaths [1] 33/10 38 different [1] 139/20 387 [1] 190/16 4 4.30 pm [1] 204/3 44 [1] 127/7 47 [1] 197/6 48,324 [1] 115/19 5 50 [2] 131/12 192/17 50 years [1] 98/6 523 [1] 195/12 55 [1] 66/12 56 [3] 172/3 172/6 173/18 566 [1] 57/14 591 pages [1] 174/9 591-page [1] 176/6 6 62 [1] 134/22 66 [1] 122/14 67 [1] 123/6 680 [1] 57/14 69 [1] 123/24 7 7 July [1] 132/22 7 million [2] 52/6 53/18 7/7 [1] 133/11 70 [1] 29/11 700 [1] 94/10 72 [1] 122/7 73 [1] 123/7 74 [1] 123/24 767 million [1] 52/5 8 83 [1] 43/13 9 9/11 [1] 146/9	ability [12] 7/16 10/9 56/3 59/8 87/18 100/14 102/20 117/3 137/17 142/20 160/4 188/1 able [34] 4/18 6/14 7/12 10/3 17/24 26/13 27/15 35/20 35/23 37/11 38/4 38/7 38/13 40/18 41/24 45/19 45/23 46/2 47/1 49/6 49/15 55/15 58/22 68/5 74/10 77/15 100/14 108/6 116/3 119/21 150/11 151/21 160/1 188/1 abolished [1] 180/17 about [103] 9/13 11/16 12/8 13/4 15/20 15/24 19/12 19/23 21/19 22/13 22/14 24/14 25/18 30/7 33/15 36/25 38/20 39/3 39/4 39/18 40/23 40/24 41/10 41/12 42/5 43/24 45/11 46/22 49/3 50/22 50/25 51/1 51/11 52/8 54/3 58/13 58/18 59/4 59/6 59/7 60/5 60/16 62/12 62/13 63/16 63/22 63/25 72/1 72/24 74/15 75/8 79/14 82/17 85/17 85/18 85/20 94/6 94/10 97/16 101/13 102/16 102/18 104/17 105/12 106/9 111/23 112/11 116/7 121/16 125/14 132/6 132/7 136/10 136/17 139/19 139/23 141/8 142/8 142/8 143/15 143/23 146/20 146/21 147/18 148/16 150/6 160/14 160/24 162/12 165/22 166/23 167/17 169/12 172/7 172/10 172/19 186/20 193/18 196/20 199/12 200/8 200/8 202/4 about 35 [1] 22/13 above [6] 24/19 24/20 147/23 164/8 169/25 202/20 abridged [1] 76/17 abroad [1] 78/20 absence [2] 131/14		

A	aerosol [2] 17/2 17/18	162/2 176/24	165/12 167/13 167/15 168/9 168/20 169/8 169/13 170/3 172/2 172/25 173/20 174/8 176/15 176/15 178/10 179/12 179/19 183/1 184/25 185/8 185/17 190/1 190/9 190/25 191/19 194/6 194/16 194/17 194/19 194/21 197/18 198/1 200/9 200/13 200/13	147/21 151/4 158/8 160/8 160/15 166/3 173/5 188/22 192/3 192/10 192/16 192/21 201/22
addressed [6] 83/5 105/4 105/9 124/23 188/19 196/1	aerosolised [1] 12/5	agreed [5] 21/8 88/5 107/25 166/1 181/21	altered [3] 11/1 46/3 134/15	
addresses [1] 106/18	aerosols [5] 16/22 17/15 17/16 20/11 34/22	agreement [1] 91/21	alternative [1] 202/15	
addressing [2] 119/8 173/12	affairs [1] 100/8	agriculture [1] 69/21	although [13] 25/23 51/7 60/24 88/20 90/14 93/12 96/16 105/2 129/20 147/3 150/12 195/16 199/3	
adequate [8] 43/17 83/8 120/15 131/7 131/18 181/13 192/19 196/6	affect [1] 90/7	Ah [2] 102/3 108/13	always [6] 18/22 25/19 34/17 70/20 131/4 151/25	
adequately [3] 89/15 196/9 202/17	affected [5] 19/22 59/8 59/10 88/2 90/8	Ahead [2] 76/14 77/7	am [11] 1/2 50/18 50/20 80/24 111/13 121/11 172/10 178/6 178/8 194/3 204/4	
adhered [1] 38/3	affecting [1] 100/18	aim [4] 83/24 86/14 107/20 137/16	America [1] 80/10	
adherence [1] 179/24	affects [1] 167/14	aims [1] 194/1	Americans [1] 146/7	
adjourned [1] 204/4	affirmed [2] 79/5 205/9	air [2] 17/20 18/5	among [7] 36/10 47/6 72/5 93/4 93/5 111/23 172/18	
adjournment [1] 102/9	afraid [5] 116/1 126/7 126/10 163/23 187/18	air flow [1] 18/5	amongst [3] 9/11 16/19 72/3	
administration [10] 88/11 88/22 89/6 150/1 151/20 167/23 168/21 171/25 171/25 188/12	Africa [2] 20/6 30/17	airline [1] 70/10	amount [3] 44/21 173/22 199/24	
administrations [18] 64/19 72/9 89/16 89/22 101/7 127/11 140/17 141/22 142/4 142/7 162/7 165/5 168/21 168/23 181/24 181/24 188/20 191/19	after [32] 16/9 16/17 19/12 20/16 20/24 21/1 28/20 29/14 30/6 34/8 40/9 40/20 42/8 48/2 48/12 54/13 55/23 58/25 59/17 60/17 73/24 93/20 133/14 146/9 149/18 149/24 149/25 155/19 175/24 184/25 195/21 195/22	Airport [1] 156/22	analogue [1] 166/16	
administrative [2] 86/20 92/2	afternoon [3] 74/24 79/18 124/21	albeit [1] 186/23	analogy [1] 106/6	
admitted [1] 35/13	afterwards [1] 27/20	alertness [1] 75/19	analysing [1] 161/10	
adopted [4] 40/23 66/22 83/4 153/10	again [18] 3/5 3/11 4/8 32/23 38/17 45/12 46/1 52/23 71/10 79/15 82/19 88/20 149/8 151/18 170/19 171/16 192/6 201/5	Alexander [30] 78/19 78/20 78/22 79/4 79/5 79/11 80/4 85/11 89/17 92/20 95/24 102/5 102/12 108/10 113/2 114/10 114/12 114/19 118/21 124/18 145/9 148/16 149/14 159/19 185/3 191/23 194/18 203/17 203/18 205/9	analysis [14] 13/7 13/10 13/11 15/6 15/14 15/17 51/7 64/14 67/1 69/22 89/5 128/5 128/8 168/15	
adopts [1] 92/14	against [15] 10/12 10/13 12/14 12/16 15/5 30/2 42/15 43/17 113/5 116/19 150/24 159/3 179/17 182/16 195/5	align [1] 8/12	angle [1] 127/19	
adult [5] 29/22 29/25 30/24 30/25 87/22	age [3] 29/11 29/18 176/18	all [147] 1/10 4/22 4/22 5/21 6/18 7/7 8/9 8/24 9/2 9/10 9/23 11/5 11/20 12/23 13/9 13/22 18/8 18/12 22/8 22/21 23/6 23/17 24/1 26/12 29/5 31/21 33/4 36/2 36/14 36/18 37/18 38/4 39/11 41/22 45/1 46/1 46/21 47/8 49/10 51/9 52/18 54/2 56/3 56/12 58/4 60/11 60/16 61/1 61/10 61/23 62/4 69/16 75/13 77/15 83/11 87/10 90/5 92/6 93/15 96/3 96/15 98/23 99/20 99/24 101/15 101/22 102/14 105/3 105/10 106/4 107/5 107/25 108/2 108/15 108/23 111/19 113/9 113/24 114/8 115/24 116/21 117/7 118/8 121/23 124/22 125/2 126/7 129/2 129/14 130/6 132/17 134/5 134/20 143/20 145/11 145/23 146/1 146/18 147/2 147/13 148/7 148/20 149/23 149/25 150/4 151/13 152/23 154/15 157/2 158/10 161/14 165/5	alone [2] 43/15 188/21	
adults [3] 29/10 31/6 49/1	agencies [3] 71/14 129/15 132/25	algorithm [1] 115/19	along [4] 17/12 64/11 117/25 134/10	
advance [8] 108/1 110/1 110/3 116/13 116/17 158/2 158/21 196/10	agency [8] 3/1 69/13 70/4 72/6 146/23 147/3 163/3 202/15	Alice [2] 61/3 61/5	already [14] 34/11 102/15 107/25 122/16 122/23 123/2 124/20 125/10 125/12 135/9 151/15 163/9 164/20 189/8	
Advanced [1] 80/11	agent [1] 23/9	align [1] 8/12	also [60] 3/23 3/25 4/18 6/10 9/10 10/10 12/12 25/22 32/14 33/20 34/9 34/14 50/4 53/19 55/4 57/19 58/21 59/7 66/25 68/11 69/25 70/10 73/1 78/24 80/10 80/12 81/15 81/19 88/8 93/7 93/8 95/8 95/18 96/11 99/5 102/13 111/6 113/10 114/3 116/10 119/18 127/4 131/20 138/13 139/1 141/16 147/5	
advantages [1] 202/16	ageusia [1] 48/6	all [147] 1/10 4/22 4/22 5/21 6/18 7/7 8/9 8/24 9/2 9/10 9/23 11/5 11/20 12/23 13/9 13/22 18/8 18/12 22/8 22/21 23/6 23/17 24/1 26/12 29/5 31/21 33/4 36/2 36/14 36/18 37/18 38/4 39/11 41/22 45/1 46/1 46/21 47/8 49/10 51/9 52/18 54/2 56/3 56/12 58/4 60/11 60/16 61/1 61/10 61/23 62/4 69/16 75/13 77/15 83/11 87/10 90/5 92/6 93/15 96/3 96/15 98/23 99/20 99/24 101/15 101/22 102/14 105/3 105/10 106/4 107/5 107/25 108/2 108/15 108/23 111/19 113/9 113/24 114/8 115/24 116/21 117/7 118/8 121/23 124/22 125/2 126/7 129/2 129/14 130/6 132/17 134/5 134/20 143/20 145/11 145/23 146/1 146/18 147/2 147/13 148/7 148/20 149/23 149/25 150/4 151/13 152/23 154/15 157/2 158/10 161/14 165/5	allocated [1] 160/17	
advent [1] 164/18	aggregation [1] 114/17	all [147] 1/10 4/22 4/22 5/21 6/18 7/7 8/9 8/24 9/2 9/10 9/23 11/5 11/20 12/23 13/9 13/22 18/8 18/12 22/8 22/21 23/6 23/17 24/1 26/12 29/5 31/21 33/4 36/2 36/14 36/18 37/18 38/4 39/11 41/22 45/1 46/1 46/21 47/8 49/10 51/9 52/18 54/2 56/3 56/12 58/4 60/11 60/16 61/1 61/10 61/23 62/4 69/16 75/13 77/15 83/11 87/10 90/5 92/6 93/15 96/3 96/15 98/23 99/20 99/24 101/15 101/22 102/14 105/3 105/10 106/4 107/5 107/25 108/2 108/15 108/23 111/19 113/9 113/24 114/8 115/24 116/21 117/7 118/8 121/23 124/22 125/2 126/7 129/2 129/14 130/6 132/17 134/5 134/20 143/20 145/11 145/23 146/1 146/18 147/2 147/13 148/7 148/20 149/23 149/25 150/4 151/13 152/23 154/15 157/2 158/10 161/14 165/5	allow [2] 133/24 197/15	
adverse [1] 105/17	aggression [2] 186/16 186/17	all [147] 1/10 4/22 4/22 5/21 6/18 7/7 8/9 8/24 9/2 9/10 9/23 11/5 11/20 12/23 13/9 13/22 18/8 18/12 22/8 22/21 23/6 23/17 24/1 26/12 29/5 31/21 33/4 36/2 36/14 36/18 37/18 38/4 39/11 41/22 45/1 46/1 46/21 47/8 49/10 51/9 52/18 54/2 56/3 56/12 58/4 60/11 60/16 61/1 61/10 61/23 62/4 69/16 75/13 77/15 83/11 87/10 90/5 92/6 93/15 96/3 96/15 98/23 99/20 99/24 101/15 101/22 102/14 105/3 105/10 106/4 107/5 107/25 108/2 108/15 108/23 111/19 113/9 113/24 114/8 115/24 116/21 117/7 118/8 121/23 124/22 125/2 126/7 129/2 129/14 130/6 132/17 134/5 134/20 143/20 145/11 145/23 146/1 146/18 147/2 147/13 148/7 148/20 149/23 149/25 150/4 151/13 152/23 154/15 157/2 158/10 161/14 165/5	allowing [1] 180/4	
advertised [1] 121/2	ago [3] 69/11 166/11 169/16	all [147] 1/10 4/22 4/22 5/21 6/18 7/7 8/9 8/24 9/2 9/10 9/23 11/5 11/20 12/23 13/9 13/22 18/8 18/12 22/8 22/21 23/6 23/17 24/1 26/12 29/5 31/21 33/4 36/2 36/14 36/18 37/18 38/4 39/11 41/22 45/1 46/1 46/21 47/8 49/10 51/9 52/18 54/2 56/3 56/12 58/4 60/11 60/16 61/1 61/10 61/23 62/4 69/16 75/13 77/15 83/11 87/10 90/5 92/6 93/15 96/3 96/15 98/23 99/20 99/24 101/15 101/22 102/14 105/3 105/10 106/4 107/5 107/25 108/2 108/15 108/23 111/19 113/9 113/24 114/8 115/24 116/21 117/7 118/8 121/23 124/22 125/2 126/7 129/2 129/14 130/6 132/17 134/5 134/20 143/20 145/11 145/23 146/1 146/18 147/2 147/13 148/7 148/20 149/23 149/25 150/4 151/13 152/23 154/15 157/2 158/10 161/14 165/5	almost [4] 121/9 125/5 195/22 198/21	
advice [9] 39/8 42/13 43/10 43/24 44/1 44/17 72/12 196/15 196/18	agree [19] 9/8 9/13 24/21 44/16 62/14 63/14 75/22 100/21 108/10 109/22 113/9 114/11 114/18 161/21 161/22 162/1 162/2	all [147] 1/10 4/22 4/22 5/21 6/18 7/7 8/9 8/24 9/2 9/10 9/23 11/5 11/20 12/23 13/9 13/22 18/8 18/12 22/8 22/21 23/6 23/17 24/1 26/12 29/5 31/21 33/4 36/2 36/14 36/18 37/18 38/4 39/11 41/22 45/1 46/1 46/21 47/8 49/10 51/9 52/18 54/2 56/3 56/12 58/4 60/11 60/16 61/1 61/10 61/23 62/4 69/16 75/13 77/15 83/11 87/10 90/5 92/6 93/15 96/3 96/15 98/23 99/20 99/24 101/15 101/22 102/14 105/3 105/10 106/4 107/5 107/25 108/2 108/15 108/23 111/19 113/9 113/24 114/8 115/24 116/21 117/7 118/8 121/23 124/22 125/2 126/7 129/2 129/14 130/6 132/17 134/5 134/20 143/20 145/11 145/23 146/1 146/18 147/2 147/13 148/7 148/20 149/23 149/25 150/4 151/13 152/23 154/15 157/2 158/10 161/14 165/5	alone [2] 43/15 188/21	
advised [1] 72/18		all [147] 1/10 4/22 4/22 5/21 6/18 7/7 8/9 8/24 9/2 9/10 9/23 11/5 11/20 12/23 13/9 13/22 18/8 18/12 22/8 22/21 23/6 23/17 24/1 26/12 29/5 31/21 33/4 36/2 36/14 36/18 37/18 38/4 39/11 41/22 45/1 46/1 46/21 47/8 49/10 51/9 52/18 54/2 56/3 56/12 58/4 60/11 60/16 61/1 61/10 61/23 62/4 69/16 75/13 77/15 83/11 87/10 90/5 92/6 93/15 96/3 96/15 98/23 99/20 99/24 101/15 101/22 102/14 105/3 105/10 106/4 107/5 107/25 108/2 108/15 108/23 111/19 113/9 113/24 114/8 115/24 116/21 117/7 118/8 121/23 124/22 125/2 126/7 129/2 129/14 130/6 132/17 134/5 134/20 143/20 145/11 145/23 146/1 146/18 147/2 147/13 148/7 148/20 149/23 149/25 150/4 151/13 152/23 154/15 157/2 158/10 161/14 165/5	along [4] 17/12 64/11 117/25 134/10	
Adviser [1] 185/21		all [147] 1/10 4/22 4/22 5/21 6/18 7/7 8/9 8/24 9/2 9/10 9/23 11/5 11/20 12/23 13/9 13/22 18/8 18/12 22/8 22/21 23/6 23/17 24/1 26/12 29/5 31/21 33/4 36/2 36/14 36/18 37/18 38/4 39/11 41/22 45/1 46/1 46/21 47/8 49/10 51/9 52/18 54/2 56/3 56/12 58/4 60/11 60/16 61/1 61/10 61/23 62/4 69/16 75/13 77/15 83/11 87/10 90/5 92/6 93/15 96/3 96/15 98/23 99/20 99/24 101/15 101/22 102/14 105/3 105/10 106/4 107/5 107/25 108/2 108/15 108/23 111/19 113/9 113/24 114/8 115/24 116/21 117/7 118/8 121/23 124/22 125/2 126/7 129/2 129/14 130/6 132/17 134/5 134/20 143/20 145/11 145/23 146/1 146/18 147/2 147/13 148/7 148/20 149/23 149/25 150/4 151/13 152/23 154/15 157/2 158/10 161/14 165/5	already [14] 34/11 102/15 107/25 122/16 122/23 123/2 124/20 125/10 125/12 135/9 151/15 163/9 164/20 189/8	
advisers [2] 189/2 190/17		all [147] 1/10 4/22 4/22 5/21 6/18 7/7 8/9 8/24 9/2 9/10 9/23 11/5 11/20 12/23 13/9 13/22 18/8 18/12 22/8 22/21 23/6 23/17 24/1 26/12 29/5 31/21 33/4 36/2 36/14 36/18 37/18 38/4 39/11 41/22 45/1 46/1 46/21 47/8 49/10 51/9 52/18 54/2 56/3 56/12 58/4 60/11 60/16 61/1 61/10 61/23 62/4 69/16 75/13 77/15 83/11 87/10 90/5 92/6 93/15 96/3 96/15 98/23 99/20 99/24 101/15 101/22 102/14 105/3 105/10 106/4 107/5 107/25 108/2 108/15 108/23 111/19 113/9 113/24 114/8 115/24 116/21 117/7 118/8 121/23 124/22 125/2 126/7 129/2 129/14 130/6 132/17 134/5 134/20 143/20 145/11 145/23 146/1 146/18 147/2 147/13 148/7 148/20 149/23 149/25 150/4 151/13 152/23 154/15 157/2 158/10 161/14 165/5	also [60] 3/23 3/25 4/18 6/10 9/10 10/10 12/12 25/22 32/14 33/20 34/9 34/14 50/4 53/19 55/4 57/19 58/21 59/7 66/25 68/11 69/25 70/10 73/1 78/24 80/10 80/12 81/15 81/19 88/8 93/7 93/8 95/8 95/18 96/11 99/5 102/13 111/6 113/10 114/3 116/10 119/18 127/4 131/20 138/13 139/1 141/16 147/5	
advising [2] 44/18 73/19		all [147] 1/10 4/22 4/22 5/21 6/18 7/7 8/9 8/24 9/2 9/10 9/23 11/5 11/20 12/23 13/9 13/22 18/8 18/12 22/8 22/21 23/6 23/17 24/1 26/12 29/5 31/21 33/4 36/2 36/14 36/18 37/18 38/4 39/11 41/22 45/1 46/1 46/21 47/8 49/10 51/9 52/18 54/2 56/3 56/12 58/4 60/11 60/16 61/1 61/10 61/23 62/4 69/16 75/13 77/15 83/11 87/10 90/5 92/6 93/15 96/3 96/15 98/23 99/20 99/24 101/15 101/22 102/14 105/3 105/10 106/4 107/5 107/25 108/2 108/15 108/23 111/19 113/9 113/24 114/8 115/24 116/21 117/7 118/8 121/23 124/22 125/2 126/7 129/2 129/14 130/6 132/17 134/5 134/20 143/20 145/11 145/23 146/1 146/18 147/2 147/13 148/7 148/20 149/23 149/25 150/4 151/13 152/23 154/15 157/2 158/10 161		

A	<p>appeal [1] 147/8</p> <p>appear [7] 6/7 20/5 26/14 87/16 95/16 100/15 117/1</p> <p>appearance [1] 5/22</p> <p>appeared [1] 54/20</p> <p>appears [11] 4/7 25/12 27/21 55/14 102/16 102/19 161/16 185/22 191/25 196/16 196/17</p> <p>appendix [1] 61/15</p> <p>appendix A [1] 61/15</p> <p>appetite [1] 48/8</p> <p>application [1] 61/21</p> <p>applied [4] 127/21 135/4 179/10 182/1</p> <p>applies [1] 106/2</p> <p>apply [5] 118/1 142/23 165/1 170/12 171/20</p> <p>applying [1] 191/3</p> <p>appointed [2] 163/11 163/12</p> <p>appointing [1] 162/13</p> <p>apportionment [1] 168/14</p> <p>appreciate [1] 77/13</p> <p>approach [13] 82/9 82/15 83/4 84/21 124/11 125/15 127/15 127/21 128/3 164/24 182/17 182/17 187/4</p> <p>approached [1] 85/19</p> <p>approaching [1] 175/6</p> <p>appropriate [4] 44/19 61/24 155/5 194/8</p> <p>Arabia [3] 3/7 31/16 41/1</p> <p>architecture [1] 171/24</p> <p>ARDS [1] 48/14</p> <p>arduous [1] 136/9</p> <p>are [293]</p> <p>area [15] 27/10 83/10 103/9 103/10 103/12 106/15 107/24 145/14 147/17 147/17 148/21 159/7 177/15 183/9 184/3</p> <p>areas [18] 4/10 29/22 48/21 56/21 74/10 86/16 89/5 89/14 95/23 103/4 119/11 120/22 153/24 157/18 157/19 172/10 195/15 195/25</p> <p>aren't [1] 38/4</p> <p>Arena [1] 104/4</p> <p>arenas [1] 133/7</p> <p>argue [1] 96/3</p>	<p>argument [4] 137/8 143/7 145/17 176/11</p> <p>arguments [1] 144/21</p> <p>arise [1] 160/16</p> <p>arises [2] 76/2 103/6</p> <p>arising [2] 75/4 128/10</p> <p>armed [2] 186/16 186/17</p> <p>army [1] 126/10</p> <p>around [16] 6/3 18/20 20/3 22/14 25/7 25/17 38/16 45/10 55/17 59/14 61/9 68/18 74/14 96/18 100/22 136/10</p> <p>arrangement [1] 184/14</p> <p>arrangements [18] 81/17 82/12 82/20 83/8 94/22 95/3 95/5 97/13 98/9 98/16 98/19 100/6 100/7 100/18 102/6 158/22 158/25 182/12</p> <p>arrive [1] 159/25</p> <p>article [1] 45/16</p> <p>articles [2] 3/19 80/18</p> <p>as [238]</p> <p>Asia [3] 41/17 59/17 73/11</p> <p>Asian [6] 54/4 57/7 57/11 58/7 59/5 59/25</p> <p>aside [1] 101/6</p> <p>ask [28] 1/17 13/4 15/24 46/13 50/25 54/3 72/12 74/11 74/14 75/5 79/15 109/4 113/19 122/4 140/20 143/23 145/6 145/7 145/8 147/18 149/14 149/15 154/17 154/18 157/3 161/3 183/12 195/13</p> <p>asked [11] 4/9 79/14 82/7 82/9 83/1 92/11 141/20 181/3 184/11 194/23 198/5</p> <p>asking [4] 46/22 79/9 156/4 160/24</p> <p>asks [1] 183/16</p> <p>aspect [5] 89/4 105/7 105/8 177/1 199/4</p> <p>aspects [19] 50/23 85/12 87/10 88/15 88/17 99/25 120/6 126/21 142/5 143/20 143/21 147/13 148/15 174/17 176/21 176/22 185/8 185/8 185/8</p> <p>Assembly [2] 132/20 133/15</p>	<p>assess [4] 26/14 116/13 116/17 128/8</p> <p>assessed [2] 109/13 182/16</p> <p>assessing [2] 82/13 169/5</p> <p>assessment [35] 4/21 40/12 64/14 69/21 90/15 94/24 95/1 99/8 100/1 111/7 112/2 112/16 113/7 113/8 115/6 126/24 129/13 130/8 130/9 146/22 148/19 148/23 165/7 168/12 168/23 169/1 169/11 170/9 170/21 170/22 177/15 181/3 183/15 183/16 195/5</p> <p>assessments [4] 147/16 179/15 179/17 182/7</p> <p>assist [4] 4/9 18/5 36/21 77/15</p> <p>assistance [3] 1/11 68/11 75/5</p> <p>assistant [1] 133/10</p> <p>assisting [1] 158/23</p> <p>assists [1] 18/4</p> <p>associate [1] 194/4</p> <p>associated [2] 49/10 94/1</p> <p>assumed [2] 18/16 19/2</p> <p>assumption [2] 16/25 109/15</p> <p>assumptions [5] 109/14 109/16 111/19 111/19 168/15</p> <p>assurance [7] 89/7 132/4 140/15 149/7 158/14 162/21 180/14</p> <p>assure [2] 134/7 177/25</p> <p>assured [2] 158/8 181/7</p> <p>asymptomatic [12] 28/3 28/3 28/5 28/7 28/11 28/19 29/3 36/8 36/9 45/10 45/11 112/9</p> <p>asymptotically [2] 22/3 43/3</p> <p>at [211]</p> <p>at great [1] 11/17</p> <p>at present [1] 12/19</p> <p>attacks [2] 63/14 133/11</p> <p>attempt [5] 13/11 15/13 36/20 118/4 125/14</p> <p>attempting [1] 166/12</p> <p>attended [1] 113/16</p>	<p>attending [1] 78/4</p> <p>attention [6] 87/14 90/24 91/17 92/8 135/15 151/4</p> <p>attesting [1] 57/16</p> <p>attuned [1] 41/21</p> <p>audit [3] 180/12 180/13 180/16</p> <p>Audit Commission [2] 180/12 180/16</p> <p>August [2] 136/10 136/19</p> <p>August 2018 [1] 136/10</p> <p>August 2019 [1] 136/19</p> <p>auspices [1] 116/9</p> <p>Australia [1] 106/4</p> <p>author [1] 2/4</p> <p>authorities [8] 142/9 142/11 142/25 143/4 147/21 151/9 176/5 182/24</p> <p>authority [3] 148/10 150/10 172/12</p> <p>autumn [1] 77/10</p> <p>availability [1] 94/23</p> <p>available [14] 11/20 11/22 12/18 44/10 51/8 57/9 59/11 59/12 67/1 67/8 67/15 68/3 86/24 162/19</p> <p>avian [1] 25/6</p> <p>avian flu [1] 25/6</p> <p>avoid [8] 104/25 128/9 128/24 130/10 132/14 153/12 171/23 189/4</p> <p>avoided [1] 114/15</p> <p>avoiding [1] 100/15</p> <p>awaiting [1] 59/22</p> <p>aware [5] 45/9 160/5 163/17 185/2 185/19</p> <p>away [1] 62/4</p> <p>axis [2] 24/9 24/10</p>
			B	
			<p>BA [1] 2/14</p> <p>back [23] 6/23 30/21 38/25 44/17 49/3 54/22 59/3 66/8 72/6 76/25 101/18 105/12 107/6 137/15 147/16 148/2 149/5 159/24 163/2 175/12 177/12 189/23 195/4</p> <p>background [1] 192/15</p> <p>backgrounds [1] 48/22</p> <p>backup [1] 162/23</p> <p>backward [1] 56/20</p> <p>backwards [3] 14/14 15/17 55/5</p>	

B	30/20 36/14 37/23 40/20 47/1 47/12 51/7 51/20 53/11 65/5 67/8 136/11 156/15 185/23	10/22 71/24 133/1 154/16	4/11 7/7 7/8 7/9 7/15 7/17 9/8 12/21 14/18 24/25 28/3 29/10 31/19 31/22 32/4 37/17 38/4 51/6 53/7 71/14 87/6 89/15 89/16 91/7 101/22 101/24 103/25 104/10 106/16 110/2 110/15 129/7 139/15 142/6 144/4 144/7 144/16 145/1 145/18 147/20 148/10 154/19 158/9 165/17 168/7 172/4 180/20 186/12 187/3 193/16 199/24 201/24	132/22 book [6] 3/19 9/5 80/15 95/24 105/25 200/12 books [1] 80/18 boots [1] 149/4 border [5] 43/5 172/14 172/15 173/5 173/12 borders [2] 43/7 152/17 borne [1] 63/5 both [33] 14/16 38/9 38/10 66/1 66/7 68/12 69/16 70/1 72/16 79/9 81/20 101/11 102/7 104/9 105/19 109/22 111/8 111/10 111/24 120/21 124/20 133/5 134/2 140/6 145/16 147/18 151/1 151/11 158/23 172/15 172/15 184/13 196/2 bother [1] 52/17 bottom [12] 24/12 25/3 98/22 136/3 136/20 164/7 164/16 169/21 171/3 171/4 171/8 186/21 bottom-up [1] 186/21 boundaries [2] 148/21 148/22 box [12] 1/5 24/13 24/19 24/20 25/5 25/15 25/18 26/21 166/15 171/6 171/8 171/15 Branch [1] 183/5 break [9] 1/20 50/8 50/16 50/19 78/15 79/16 79/17 155/19 155/25 breaks [2] 1/19 195/3 breath [1] 48/8 breathe [3] 17/7 27/3 49/22 breathing [1] 27/10 Brexit [2] 91/10 199/9 brief [2] 111/2 198/4 briefing [5] 61/18 62/2 167/19 169/7 170/20 briefly [3] 78/5 82/4 115/12 bring [13] 76/23 88/10 88/11 91/25 101/13 107/7 137/10 141/18 146/8 171/22 184/6 193/9 202/1 bringing [3] 72/7 83/11 167/22 brings [2] 3/16 36/18 Britain [7] 101/5
bacteria [2] 5/1 26/8 bacterial [4] 25/24 26/2 26/6 50/4 bacterium [2] 28/11 47/2 bad [2] 93/9 125/25 ball [1] 5/9 banking [1] 139/22 barrier [4] 7/17 7/18 7/21 7/23 base [2] 44/12 45/1 based [15] 22/6 22/25 23/2 23/22 46/4 52/19 61/9 62/22 63/15 64/2 74/14 126/15 181/10 186/16 187/4 basic [4] 55/8 190/18 190/19 192/12 basically [1] 131/15 basics [1] 4/23 basis [5] 91/24 92/1 107/21 169/11 181/3 bat [1] 37/3 bats [3] 6/7 15/19 37/9 be [299] bear [2] 94/16 100/10 bearings [2] 122/10 136/8 became [11] 15/3 18/14 29/23 29/24 31/17 32/20 57/8 157/5 164/12 169/17 179/21 because [82] 11/14 14/7 14/21 15/4 18/5 18/22 19/3 19/24 22/2 34/15 35/14 35/23 38/7 39/25 41/6 43/3 44/24 46/9 53/2 53/12 54/21 55/1 55/20 56/3 58/13 59/13 60/4 64/1 65/10 67/13 67/14 70/4 70/10 70/17 73/6 73/16 87/8 91/8 91/19 94/9 96/5 96/24 100/5 100/25 101/15 104/11 105/14 105/20 106/23 110/16 112/24 119/7 127/3 127/4 131/3 133/5 138/3 141/10 143/16 151/19 153/8 153/20 154/22 155/1 155/15 156/18 159/24 160/11 160/12 162/5 163/24 165/11 168/3 173/10 175/23 183/18 186/22 187/16 189/24 191/20 199/8 202/20 become [19] 8/6 8/21 18/15 28/5 30/19	261/10 261/11 261/12 261/13 261/14 261/15 261/16 261/17 261/18 261/19 261/20 261/21 261/22 261/23 261/24 261/25 261/26 261/27 261/28 261/29 261/30 261/31 261/32 261/33 261/34 261/35 261/36 261/37 261/38 261/39 261/40 261/41 261/42 261/43 261/44 261/45 261/46 261/47 261/48 261/49 261/50 261/51 261/52 261/53 261/54 261/55 261/56 261/57 261/58 261/59 261/60 261/61 261/62 261/63 261/64 261/65 261/66 261/67 261/68 261/69 261/70 261/71 261/72 261/73 261/74 261/75 261/76 261/77 261/78 261/79 261/80 261/81 261/82 261/83 261/84 261/85 261/86 261/87 261/88 261/89 261/90 261/91 261/92 261/93 261/94 261/95 261/96 261/97 261/98 261/99 261/100 261/101 261/102 261/103 261/104 261/105 261/106 261/107 261/108 261/109 261/110 261/111 261/112 261/113 261/114 261/115 261/116 261/117 261/118 261/119 261/120 261/121 261/122 261/123 261/124 261/125 261/126 261/127 261/128 261/129 261/130 261/131 261/132 261/133 261/134 261/135 261/136 261/137 261/138 261/139 261/140 261/141 261/142 261/143 261/144 261/145 261/146 261/147 261/148 261/149 261/150 261/151 261/152 261/153 261/154 261/155 261/156 261/157 261/158 261/159 261/160 261/161 261/162 261/163 261/164 261/165 261/166 261/167 261/168 261/169 261/170 261/171 261/172 261/173 261/174 261/175 261/176 261/177 261/178 261/179 261/180 261/181 261/182 261/183 261/184 261/185 261/186 261/187 261/188 261/189 261/190 261/191 261/192 261/193 261/194 261/195 261/196 261/197 261/198 261/199 261/200 261/201 261/202 261/203 261/204 261/205 261/206 261/207 261/208 261/209 261/210 261/211 261/212 261/213 261/214 261/215 261/216 261/217 261/218 261/219 261/220 261/221 261/222 261/223 261/224 261/225 261/226 261/227 261/228 261/229 261/230 261/231 261/232 261/233 261/234 261/235 261/236 261/237 261/238 261/239 261/240 261/241 261/242 261/243 261/244 261/245 261/246 261/247 261/248 261/249 261/250 261/251 261/252 261/253 261/254 261/255 261/256 261/257 261/258 261/259 261/260 261/261 261/262 261/263 261/264 261/265 261/266 261/267 261/268 261/269 261/270 261/271 261/272 261/273 261/274 261/275 261/276 261/277 261/278 261/279 261/280 261/281 261/282 261/283 261/284 261/285 261/286 261/287 261/288 261/289 261/290 261/291 261/292 261/293 261/294 261/295 261/296 261/297 261/298 261/299 261/300 261/301 261/302 261/303 261/304 261/305 261/306 261/307 261/308 261/309 261/310 261/311 261/312 261/313 261/314 261/315 261/316 261/317 261/318 261/319 261/320 261/321 261/322 261/323 261/324 261/325 261/326 261/327 261/328 261/329 261/330 261/331 261/332 261/333 261/334 261/335 261/336 261/337 261/338 261/339 261/340 261/341 261/342 261/343 261/344 261/345 261/346 261/347 261/348 261/349 261/350 261/351 261/352 261/353 261/354 261/355 261/356 261/357 261/358 261/359 261/360 261/361 261/362 261/363 261/364 261/365 261/366 261/367 261/368 261/369 261/370 261/371 261/372 261/373 261/374 261/375 261/376 261/377 261/378 261/379 261/380 261/381 261/382 261/383 261/384 261/385 261/386 261/387 261/388 261/389 261/390 261/391 261/392 261/393 261/394 261/395 261/396 261/397 261/398 261/399 261/400 261/401 261/402 261/403 261/404 261/405 261/406 261/407 261/408 261/409 261/410 261/411 261/412 261/413 261/414 261/415 261/416 261/417 261/418 261/419 261/420 261/421 261/422 261/423 261/424 261/425 261/426 261/427 261/428 261/429 261/430 261/431 261/432 261/433 261/434 261/435 261/436 261/437 261/438 261/439 261/440 261/441 261/442 261/443 261/444 261/445 261/446 261/447 261/448 261/449 261/450 261/451 261/452 261/453 261/454 261/455 261/456 261/457 261/458 261/459 261/460 261/461 261/462 261/463 261/464 261/465 261/466 261/467 261/468 261/469 261/470 261/471 261/472 261/473 261/474 261/475 261/476 261/477 261/478 261/479 261/480 261/481 261/482 261/483 261/484 261/485 261/486 261/487 261/488 261/489 261/490 261/491 261/492 261/493 261/494 261/495 261/496 261/497 261/498 261/499 261/500 261/501 261/502 261/503 261/504 261/505 261/506 261/507 261/508 261/509 261/510 261/511 261/512 261/513 261/514 261/515 261/516 261/517 261/518 261/519 261/520 261/521 261/522 261/523 261/524 261/525 261/526 261/527 261/528 261/529 261/530 261/531 261/532 261/533 261/534 261/535 261/536 261/537 261/538 261/539 261/540 261/541 261/542 261/543 261/544 261/545 261/546 261/547 261/548 261/549 261/550 261/551 261/552 261/553 261/554 261/555 261/556 261/557 261/558 261/559 261/560 261/561 261/562 261/563 261/564 261/565 261/566 261/567 261/568 261/569 261/570 261/571 261/572 261/573 261/574 261/575 261/576 261/577 261/578 261/579 261/580 261/581 261/582 261/583 261/584 261/585 261/586 261/587 261/588 261/589 261/590 261/591 261/592 261/593 261/594 261/595 261/596 261/597 261/598 261/599 261/600 261/601 261/602 261/603 261/604 261/605 261/606 261/607 261/608 261/609 261/610 261/611 261/612 261/613 261/614 261/615 261/616 261/617 261/618 261/619 261/620 261/621 261/622 261/623 261/624 261/625 261/626 261/627 261/628 261/629 261/630 261/631 261/632 261/633 261/634 261/635 261/636 261/637 261/638 261/639 261/640 261/641 261/642 261/643 261/644 261/645 261/646 261/647 261/648 261/649 261/650 261/651 261/652 261/653 261/654 261/655 261/656 261/657 261/658 261/659 261/660 261/661 261/662 261/663 261/664 261/665 261/666 261/667 261/668 261/669 261/670 261/671 261/672 261/673 261/674 261/675 261/676 261/677 261/678 261/679 261/680 261/681 261/682 261/683 261/684 261/685 261/686 261/687 261/688 261/689 261/690 261/691 261/692 261/693 261/694 261/695 261/696 261/697 261/698 261/699 261/700 261/701 261/702 261/703 261/704 261/705 261/706 261/707 261/708 261/709 261/710 261/711 261/712 261/713 261/714 261/715 261/716 261/717 261/718 261/719 261/720 261/721 261/722 261/723 261/724 261/725 261/726 261/727 261/728 261/729 261/730 261/731 261/732 261/733 261/734 261/735 261/736 261/737 261/738 261/739 261/740 261/741 261/742 261/743 261/744 261/745 261/746 261/747 261/748 261/749 261/750 261/751 261/752 261/753 261/754 261/755 261/756 261/757 261/758 261/759 261/760 261/761 261/762 261/763 261/764 261/765 261/766 261/767 261/768 261/769 261/770 261/771 261/772 261/773 261/774 261/775 261/776 261/777 261/778 261/779 261/780 261/781 261/782 261/783 261/784 261/785 261/786 261/787 261/788 261/789 261/790 261/791 261/792 261/793 261/794 261/795 261/796 261/797 261/798 261/799 261/800 261/801 261/802 261/803 261/804 261/805 261/806 261/807 261/808 261/809 261/810 261/811 261/812 261/813 261/814 261/815 261/816 261/817 261/818 261/819 261/820 261/821 261/822 261/823 261/824 261/825 261/826 261/827 261/828 261/829 261/830 261/831 261/832 261/833 261/834 261/835 261/836 261/837 261/838 261/839 261/840 261/841 261/842 261/843 261/844 261/845 261/846 261/847 261/848 261/849 261/850 261/851 261/852 261/853 261/854 261/855 261/856 261/857 261/858 261/859 261/860 261/861 261/862 261/863 261/864 261/865 261/866 261/867 261/868 261/869 261/870 261/871 261/872 261/873 261/874 261/875 261/876 261/877 261/878 261/879 261/880 261/881 261/882 261/883 261/884 261/885 261/886 261/887 261/888 261/889 261/890 261/891 261/892 261/893 261/894 261/895 261/896 261/897 261/898 261/899 261/900 261/901 261/902 261/903 261/904 261/905 261/906 261/907 261/908 261/909 261/910 261/911 261/912 261/913 261/914 261/915 261/916 261/917 261/918 261/919 261/920 261/921 261/922 261/923 261/924 261/925 261/926 261/927 261/928 261/929 261/930 261/931 261/932 261/933 261/934 261/935 261/936 261/937 261/938 261/939 261/940 261/941 261/942 261/943 261/944 261/945 261/946 261/947 261/948 261/949 261/950 261/951 261/952 261/953 261/954 261/955 261/956 261/957 261/958 261/959 261/960 261/961 261/962 261/963 261/964 261/965 261/966 261/967 261/968 261/969 261/970 261/971 261/972 261/973 261/974 261/975 261/976 261/977 261/978 261/979 261/980 261/981 261/982 261/983 261/984 261/985 261/986 261/987 261/988 261/989 261/990 261/991 261/992 261/993 261/994 261/995 261/996 261/997 261/998 261/999 261/1000			

B	53/6 53/11 55/4 55/22 59/13 60/3 60/20 62/25 63/1 63/7 63/25 66/7 69/25 70/21 71/1 71/8 75/13 76/5 76/8 77/14 78/8 83/22 85/1 87/20 89/22 90/5 90/24 93/5 93/6 93/8 94/10 95/8 96/15 99/5 99/20 100/7 100/16 101/14 101/19 103/7 103/23 105/3 105/8 105/16 105/23 106/12 107/8 108/14 109/23 111/6 111/13 111/19 113/9 113/12 113/14 114/17 114/20 114/22 114/25 115/7 115/21 116/15 119/10 121/6 121/16 121/20 121/22 125/12 128/5 129/1 129/16 132/18 133/22 137/2 139/7 139/18 141/2 141/7 141/16 142/7 143/1 143/11 144/25 145/5 146/20 147/1 147/15 147/25 148/2 150/9 151/20 155/2 156/13 159/9 160/8 160/9 161/5 163/5 165/8 166/18 167/13 168/2 168/8 170/18 171/18 171/20 171/25 172/21 173/11 173/24 178/9 178/15 180/2 181/21 185/8 185/17 185/21 186/9 187/2 187/19 187/23 189/3 189/19 191/7 191/13 192/18 193/7 193/9 197/2 198/10 199/8 199/11 200/12 201/1 202/7 buy [1] 121/18	175/25 176/4 182/17 182/20 183/3 189/13 193/17 202/1 202/11 202/13 203/1 203/4 203/11 Cabinet Office's [1] 183/22 calculate [1] 15/14 calculated [5] 13/18 13/22 14/3 14/12 53/15 call [6] 25/9 67/15 78/18 180/4 200/12 200/21 called [24] 5/23 14/19 21/19 27/7 32/2 39/5 49/8 55/6 76/14 84/17 91/5 111/3 119/1 127/22 138/17 148/6 153/25 175/21 177/20 178/21 179/8 180/19 187/10 201/25 calls [1] 91/21 came [9] 15/10 15/20 18/18 37/3 45/18 86/23 117/5 179/20 199/8 camels [10] 6/8 7/11 31/18 36/10 36/11 36/15 65/18 65/21 65/22 65/23 can [133] 1/14 2/2 2/9 5/3 7/14 7/16 8/2 10/12 13/9 18/3 19/2 22/16 23/24 25/4 25/14 26/23 28/13 35/3 36/1 36/23 37/20 42/19 43/3 43/7 45/5 46/15 46/23 47/5 48/5 48/18 50/6 51/13 51/14 51/20 51/22 60/13 61/14 61/17 62/4 62/16 62/21 63/4 63/5 63/7 63/12 63/15 65/3 65/14 65/15 65/24 66/17 66/18 67/21 69/17 70/22 70/23 72/15 89/25 92/14 96/7 96/12 102/6 102/22 102/25 104/18 104/23 105/15 105/22 105/22 105/23 106/24 107/6 108/1 108/2 108/4 108/8 108/11 109/4 109/5 109/25 110/3 110/11 111/25 113/4 113/15 114/13 116/2 116/2 118/11 118/17 120/25 121/8 125/4 126/3 126/9 129/2 129/3 130/14 131/12 132/1 132/2 132/5 137/23 139/19 141/17 143/24	149/13 149/15 152/23 155/19 158/14 160/2 162/5 162/20 164/7 164/16 168/25 169/20 170/18 170/25 171/22 172/7 176/21 177/10 177/24 178/5 184/5 187/20 188/13 192/15 192/18 198/4 200/14 can't [14] 1/17 10/14 11/2 37/23 60/14 60/22 64/1 77/18 77/23 126/9 147/11 163/23 187/16 187/18 Canada [1] 21/13 candour [1] 39/14 cannot [9] 5/1 12/19 47/17 64/1 106/11 110/6 110/9 130/16 131/6 capabilities [6] 88/22 110/13 159/4 174/11 180/20 181/16 capability [3] 87/18 116/7 149/7 capable [4] 36/8 103/2 137/16 138/11 capacity [15] 54/17 54/23 58/21 59/21 60/16 60/17 60/23 66/24 67/14 68/16 71/10 86/24 100/14 102/19 199/13 cardiac [2] 48/17 78/25 care [21] 29/8 29/22 43/15 44/1 58/22 87/23 106/21 106/22 107/15 152/6 152/9 166/8 166/16 166/17 196/13 199/3 199/4 199/14 200/11 200/15 200/22 care homes [2] 106/22 107/15 career [5] 2/11 3/18 192/2 192/8 192/8 careful [1] 146/2 carefully [2] 121/17 145/5 caregivers [1] 33/21 carriage [1] 65/23 carried [3] 17/20 36/12 118/23 cascade [1] 139/14 cascaded [1] 156/19 cascading [9] 82/21 95/19 96/3 96/4 96/8 139/13 152/12 161/13 166/13 case [43] 2/7 2/8 13/1 21/20 22/8 22/11 22/13 22/18 22/24 23/1 23/2 23/2 23/4	23/6 23/11 23/13 23/17 23/19 23/21 27/5 28/12 33/11 41/7 45/9 45/12 46/1 46/3 46/5 46/6 49/6 60/1 106/8 109/18 115/17 115/18 115/18 120/17 121/23 134/23 140/25 142/3 201/25 202/6 cases [30] 21/24 21/25 22/6 23/6 25/1 25/7 29/18 30/5 32/7 32/8 33/10 35/12 46/9 46/10 52/4 52/5 52/13 52/14 52/18 52/19 52/21 52/22 52/22 52/23 52/24 53/5 61/13 61/20 113/14 180/10 cat [1] 16/4 catastrophic [14] 108/2 120/19 124/24 137/17 137/20 139/9 142/20 142/21 152/22 154/10 166/24 183/10 185/17 190/21 categories [3] 109/9 114/23 139/16 category [22] 109/11 135/19 135/19 136/22 136/22 137/1 137/2 137/4 137/4 137/9 137/9 137/10 137/12 137/19 137/24 138/5 138/17 140/23 142/1 165/18 174/2 182/13 category 1 [8] 135/19 136/22 137/1 137/4 137/9 137/12 138/17 142/1 category 2 [9] 135/19 136/22 137/2 137/4 137/9 137/10 137/19 138/5 140/23 cats [1] 6/8 cattle [3] 14/7 14/7 14/12 caught [1] 110/17 cause [13] 8/3 8/13 11/8 16/22 17/24 51/25 53/11 53/12 64/4 64/4 73/23 96/13 133/4 caused [11] 7/1 11/7 14/24 17/14 21/22 27/2 31/14 33/1 48/22 53/8 53/25 causes [4] 9/20 15/3 27/19 160/16 causing [3] 33/14 53/22 128/25 CBE [1] 1/5 ceding [1] 69/12 cell [3] 5/12 5/15
	C			
	cabinet [33] 81/3 81/10 81/11 119/8 153/7 154/4 154/7 154/14 158/19 167/1 167/19 167/21 168/3 169/7 170/19 174/8 174/10 175/21 175/25 176/4 182/17 182/20 183/3 183/22 184/23 189/13 193/17 202/1 202/11 202/13 203/1 203/4 203/11 Cabinet Office [28] 81/3 81/10 119/8 154/4 154/7 154/14 158/19 167/1 167/19 167/21 168/3 169/7 170/19 174/10 175/21			

C	170/11 185/15 203/8	193/1 201/15 202/21	145/3 147/22 147/23	committing [1] 123/9
cell... [1] 5/18	Charlotte [1] 6/5	civil service [1]	164/9 164/12 188/24	common [18] 6/4 6/7
cell's [1] 5/19	chart [9] 135/21	171/14	COBR [8] 158/25	6/11 6/13 6/15 8/11
Centers [1] 2/17	143/21 146/1 152/7	civilian [1] 126/16	167/18 167/20 168/3	8/12 11/8 11/10 11/18
central [22] 38/21	166/7 169/8 169/9	clarification [3] 75/4	169/6 170/20 201/22	11/19 11/25 15/3
87/25 89/15 99/22	173/10 173/10	75/8 157/4	202/4	89/13 94/9 94/11
106/13 140/3 140/16	check [3] 159/3	clarified [1] 89/15	cold [6] 11/8 11/10	115/2 117/16
141/21 141/23 142/1	162/24 181/4	clarifying [2] 123/10	12/1 15/4 81/11 93/3	commonly [1] 186/5
142/2 142/16 142/23	checked [1] 159/17	189/17	Cold War [2] 81/11	communicable [2]
143/8 148/10 150/23	checking [9] 158/15	167/8	93/3	3/20 3/21
152/3 170/10 175/10	158/16 158/17 159/8	class [1] 182/3	colds [2] 11/18 11/19	communication [3]
187/4 191/7 191/19	159/18 161/23 181/11	classified [2] 177/3	188/13	34/15 34/17 173/12
centralised [1] 60/7	181/15 190/13	177/6	collaborate [1]	communications [4]
centre [6] 170/3	chief [8] 3/2 76/18	cleaner [1] 69/20	158/9 188/19	88/2 124/2 138/2
192/22 194/7 194/12	162/16 162/18 168/7	cleaning [2] 29/21	collaborative [1]	138/8
194/15 197/2	187/10 188/9 188/11	189/18	147/5	communities [9]
century [3] 7/3 8/5	children [6] 11/16	clear [30] 25/23	collapse [1] 91/20	75/18 103/16 119/13
15/25	11/17 29/18 31/2 31/2	25/24 35/15 45/13	collect [1] 73/6	147/25 148/1 148/12
certain [10] 15/7 22/2	31/5	45/15 52/21 70/12	collection [1] 49/2	156/15 161/8 165/11
48/21 96/7 96/14	children's [1] 30/1	74/7 75/16 75/19 78/9	collective [1] 131/4	community [15] 23/5
114/6 114/7 159/15	China [10] 16/5	79/15 86/19 88/19	collectively [1]	42/21 43/16 43/21
185/8 185/8	31/14 38/15 40/10	89/13 106/14 114/3	158/24	44/8 55/21 73/23
certainly [9] 27/18	40/18 40/19 40/22	124/19 129/24 139/5	College [6] 24/6 80/6	75/18 103/15 121/8
55/14 66/7 71/22	41/11 45/9 46/5	160/15 171/23 172/21	193/13 193/14 193/22	123/4 125/4 167/5
138/5 160/7 197/23	Chinese [4] 16/17	172/22 172/23 179/13	194/4	171/11 174/21
200/23 202/16	16/23 18/12 19/3	184/9 189/10 196/13	combination [3]	comorbidities [7]
certainty [1] 53/25	choir [1] 73/25	196/15	16/20 26/7 31/21	11/13 48/3 49/18
certificate [1] 53/10	cholera [1] 39/21	clearing [1] 189/10	combine [1] 192/17	53/11 53/14 57/18
cetera [1] 22/4	choose [1] 168/22	clearly [7] 1/14 10/22	91/12 142/9 142/10	59/2
chains [2] 87/7 87/17	Chris [1] 24/6	36/10 85/1 88/12	142/25 143/4	companies [2] 70/8
chair [5] 3/1 3/5 3/13	chronic [1] 48/24	133/6 155/18	combined [6] 43/17	129/14
177/21 178/17	church [1] 55/17	climate [2] 138/22	91/12 142/9 142/10	company [1] 193/17
chaired [1] 67/17	circles [3] 59/14 74/3	138/22	142/25 143/4	comparable [3]
chairing [1] 177/23	128/2	clinical [3] 26/24	come [23] 6/18 8/10	117/6 140/18 141/21
chairman [1] 80/22	circulation [1]	26/25 45/21	9/7 33/6 37/22 39/7	compare [3] 25/20
chairs [1] 178/4	139/24	clip [1] 150/19	65/9 87/10 93/20	27/16 51/9
challenges [3] 76/21	circumstance [1]	clock [5] 13/7 13/10	107/3 115/10 126/21	compared [2] 9/11
91/9 98/15	156/23	13/11 15/6 15/14	129/2 130/4 137/15	57/15
chance [2] 155/20	circumstances [2]	close [8] 15/19 16/20	141/1 145/6 147/16	comparing [2] 52/25
155/21	156/18 160/10	21/6 22/9 30/10 31/17	149/14 159/11 163/2	117/5
Chancellor [1] 185/6	cited [1] 91/8	32/1 52/6	170/25 177/11	comparison [3]
change [21] 23/23	citizens [2] 141/4	closed [1] 35/22	comes [5] 14/6 16/16	22/11 169/24 186/3
23/24 23/25 34/4 40/4	182/7	closely [2] 3/2 90/16	44/15 149/10 165/18	compatible [2]
92/25 94/14 99/10	civet [1] 16/4	closer [1] 137/11	coming [6] 64/10	181/22 182/2
103/20 138/22 138/23	civil [65] 80/11 80/22	cloth [1] 73/25	93/20 95/20 111/4	competence [3]
148/9 149/17 149/17	81/1 81/12 81/16	clout [1] 187/24	127/19 162/10	97/19 190/2 190/22
149/22 154/24 155/7	85/22 86/8 87/8 87/21	clusters [1] 45/19	command [1] 149/12	competencies [1]
156/7 196/22 198/22	89/20 91/6 91/16 93/1	45/19	commence [2] 79/9	192/4
203/11	93/3 93/8 93/9 93/18	co [20] 75/17 76/24	82/25	competency [1]
changed [4] 4/17	94/11 96/4 98/3	103/25 124/11 144/8	commencing [1]	98/24
94/18 156/22 199/18	100/17 100/23 102/23	144/18 145/3 146/15	80/4	competent [1]
changes [5] 94/19	104/13 104/14 104/15	147/22 147/23 150/8	comment [5] 19/13	190/12
97/5 97/6 150/1 177/8	106/9 120/7 125/17	158/22 159/14 164/9	25/18 43/24 114/9	compile [1] 174/21
changing [1] 137/8	126/3 130/2 135/11	164/10 164/11 164/12	145/8	complement [1]
chapter [1] 176/8	142/15 149/16 151/1	169/22 186/23 188/24	commented [1]	126/6
chapters [1] 3/19	153/4 153/6 156/10	co-operation [1]	103/2	complete [2] 29/1
characteristic [1]	164/23 170/15 171/1	158/22	Commission [2]	48/18
10/7	171/2 171/14 171/18	co-ordinated [3]	180/12 180/16	completed [1] 67/16
characteristics [5]	172/9 172/21 173/19	146/15 150/8 186/23	commitments [1]	completely [6] 55/18
63/16 112/12 112/22	177/17 179/20 179/21	co-ordinating [5]	124/18	106/7 171/7 172/22
115/5 160/13	180/2 183/5 185/4	144/8 159/14 164/10	committed [2]	172/24 202/15
charge [7] 152/1	185/9 186/2 186/12	164/11 169/22	118/25 193/11	complex [13] 7/18
153/21 162/17 166/12	186/12 186/14 186/19	co-ordination [9]	committee [7] 42/8	91/12 95/21 136/11
	187/6 188/8 192/4	75/17 103/25 144/18	42/9 126/22 126/23	138/3 152/11 154/11

C	concrete [3] 124/19 125/1 129/24	85/20	3/21 18/10 20/12 24/7 32/23 33/4 33/16 34/8 43/19 55/9 67/4 77/20 161/19 166/20 183/25 184/6 188/1	34/23 54/1 55/25 56/2 58/3 67/12 80/14 80/20 81/4 81/14 115/15 137/6 158/7 164/14 174/3 181/5 194/10 194/20 198/20 198/24 199/5
complex... [6] 161/13 161/16 166/13 166/19 189/8 202/8	concur [3] 42/13 184/19 187/21	consist [2] 36/24 98/15	controlling [2] 42/25 55/13	corrected [1] 199/15 correctly [2] 131/23 158/5
complexity [2] 95/17 136/17	concurrent [1] 96/16	consistent [1] 75/16	controls [1] 34/6	cost [2] 69/20 132/3 cost-effective [2] 69/20 132/3
compliance [3] 179/15 182/19 183/1	conduct [6] 119/17 121/12 121/14 121/20 123/13 179/14	constancy [1] 146/13	controversial [1] 106/2	cough [3] 9/20 12/4 48/5
compliant [4] 177/17 178/7 178/9 179/5	conducted [3] 37/21 116/8 139/5	constantly [1] 146/18	convenient [4] 50/13 82/3 141/14 151/21	coughing [2] 20/9 21/6
complicated [1] 97/1	conference [1] 154/8	constituent [1] 167/16	convening [1] 154/14	could [69] 1/25 8/20 8/23 9/25 13/23 21/15 24/2 26/7 27/2 28/2 41/23 46/13 47/18 53/20 56/16 56/24 57/3 58/6 58/8 61/2 61/16 63/20 63/21 63/23 65/7 67/16 69/8 71/7 71/20 79/3 79/9 79/22 82/5 82/24 87/10 89/8 96/24 99/23 112/24 117/8 118/19 122/4 122/5 127/24 133/25 135/15 135/21 135/24 136/8 137/23 139/22 140/23 149/5 149/5 151/4 151/6 153/20 154/18 161/3 164/2 169/14 175/11 177/5 178/19 179/24 180/25 197/21 201/19 201/22
complication [1] 145/21	confess [1] 156/5	constraints [1] 135/13	conversation [1] 203/9	couldn't [1] 40/11
complications [1] 48/13	confidence [1] 98/18	construction [1] 92/25	Coordination [1] 170/3	Council [1] 199/12
comply [2] 98/20 182/6	confident [1] 15/7	consumption [1] 177/6	cope [2] 94/8 117/3	COUNSEL [5] 1/8 74/12 79/8 205/5 205/13
component [2] 49/21 166/23	confined [1] 148/20	contact [15] 16/21 21/6 30/10 31/17 32/1 54/19 54/24 55/3 55/4 56/5 59/23 60/1 60/8 60/9 60/12	copy [7] 117/9 122/11 122/12 122/13 123/7 123/24 134/1	counties [1] 150/9
components [6] 75/10 75/14 75/24 167/1 195/6 195/8	confirm [3] 43/13 56/17 195/13	contacted [1] 70/10	core [7] 4/3 74/9 126/4 138/11 151/23 171/25 197/12	countries [61] 19/22 19/23 20/3 20/3 21/8 30/14 39/16 39/22 39/24 40/2 40/5 40/21 41/15 41/17 41/20 41/23 42/12 42/18 52/13 52/16 52/17 52/17 52/20 53/3 53/7 53/10 54/4 54/8 54/11 54/12 54/14 54/18 55/2 55/10 55/19 56/3 56/11 57/7 57/11 58/8 59/5 59/10 59/16 59/25 60/7 62/10 64/17 65/10 82/17 117/6 117/6 148/17 150/15 153/11 167/16 182/9 183/13 184/25 186/25 187/1 202/13
composition [1] 106/11	confirmed [15] 21/22 21/23 21/24 21/25 22/6 25/7 29/18 39/10 52/14 52/19 52/22 52/23 53/4 53/18 81/20	contacts [3] 56/19 59/15 60/5	core participants [3] 4/3 74/9 197/12	
compound [1] 74/4	confirming [1] 2/5	contain [1] 17/22	corner [6] 24/12 25/3 25/14 26/21 168/11 169/21	
concentrate [2] 2/11 200/4	conflict [3] 69/5 70/17 70/20	contained [5] 21/14 34/1 36/6 55/18 57/3	corona [1] 5/25	
concentration [1] 95/12	conflicts [1] 81/8	containment [5] 30/6 34/4 57/17 198/17 198/23	coronavirus [40] 4/10 5/5 5/11 5/23 6/1 7/4 7/16 11/19 12/17 12/20 13/1 13/8 13/19 13/19 13/20 15/15 17/4 19/11 19/14 19/21 20/14 20/18 21/10 26/16 26/16 31/9 31/10 31/11 31/12 31/24 32/6 37/10 41/4 65/17 65/25 73/8 73/9 82/14 93/12 93/16	
concept [10] 65/10 102/13 102/14 105/11 105/14 105/24 106/1 146/23 175/21 202/19	confronting [1] 110/5	context [9] 45/24 76/1 85/21 91/12 154/20 161/13 165/22 188/13 191/18	coronavirus 2 [7] 12/17 12/20 13/1 15/15 20/18 26/16 31/9	
conceptual [4] 117/20 127/20 128/5 134/2	confuse [1] 105/16	contingencies [34] 81/13 81/16 93/1 93/8 93/9 93/18 96/4 98/3 99/9 100/17 100/24 106/9 126/3 135/12 142/15 149/16 156/10 164/23 170/15 171/1 171/2 171/18 172/21 173/19 177/17 179/20 179/22 180/2 183/5 185/4 185/9 186/2 193/1 201/15	Coronavirus Act [2] 93/12 93/16	
conceptually [2] 186/11 186/14	confusing [2] 178/16 179/6	contingency [4] 94/11 130/2 187/6 188/9	coronaviruses [25] 4/24 4/25 6/3 6/7 6/11 6/21 7/3 7/13 7/22 9/10 9/16 10/17 11/7 11/8 11/18 11/21 12/7 15/25 16/14 39/11 41/21 54/8 63/23 63/24 72/16	
concern [5] 41/12 63/22 63/25 70/20 74/2	confusion [1] 72/23	continue [9] 5/13 40/21 66/20 66/24 68/3 68/11 69/1 69/16 86/25	correct [36] 15/9 16/6 16/11 16/16 16/23 18/7 22/5 22/7 22/10 28/22 30/18 32/25 33/23 34/3 34/7	
conceptually [2] 186/11 186/14	congestion [1] 48/9	continued [5] 18/15 39/4 57/7 67/11 68/17		
concern [5] 41/12 63/22 63/25 70/20 74/2	Congo [1] 2/19	continuing [5] 56/6 122/22 122/25 123/3 141/5		
concerned [11] 4/19 6/7 91/1 112/4 112/15 129/14 144/2 151/15 157/6 172/10 185/4	connect [1] 111/12	continuous [1] 48/5		
concerning [2] 91/20 155/2	connected [2] 125/20 161/6	contrary [1] 126/1		
concerns [7] 40/24 41/9 101/24 102/20 107/24 124/20 172/18	connection [1] 51/18	contrast [2] 90/12 179/7		
conclude [2] 157/14 199/1	ConOps [1] 174/7	contribute [2] 10/5 119/2		
concluded [2] 66/15 90/24	conscious [2] 50/8 83/22	contributed [1] 67/12		
concludes [2] 37/13 203/25	consequence [1] 86/6	control [18] 2/18		
conclusion [8] 66/14 67/23 71/5 195/1 195/2 195/7 195/10 195/12	consequences [11] 27/13 82/22 86/16 88/7 88/11 89/10 105/1 109/15 139/20 183/11 201/1			
conclusions [4] 66/10 83/12 97/21 97/22	consider [8] 3/25 36/22 61/21 61/23 82/9 113/13 124/14 139/21			

C	36/18 36/20 39/12 41/9 42/2 45/8 46/3 46/24 47/9 47/23 50/22 52/4 53/8 53/25 54/4 56/7 56/18 56/19 57/2 57/12 63/20 72/19 73/18 74/12 103/21 137/22 191/18 196/10 197/12 create [5] 20/10 69/12 70/3 91/12 95/21 created [3] 118/9 184/22 187/23 creating [2] 122/19 163/9 creation [4] 114/2 143/4 146/9 187/9 crises [2] 87/19 152/11 crisis [7] 95/23 116/13 130/3 158/11 158/21 158/23 169/10 critical [11] 87/23 89/3 139/15 140/2 141/1 157/17 157/19 161/11 190/21 191/15 191/16 criticised [1] 162/11 criticism [1] 133/20 criticisms [3] 113/4 113/7 132/15 cross [18] 69/1 69/10 69/14 69/21 69/25 107/12 110/18 113/16 125/12 131/9 148/22 155/17 156/4 158/16 159/3 172/14 173/5 173/12 cross-border [3] 172/14 173/5 173/12 cross-check [1] 159/3 cross-checking [1] 158/16 cross-government [4] 69/1 69/10 69/14 69/25 cross-purposes [5] 107/12 110/18 131/9 155/17 156/4 crossed [1] 43/5 crowded [1] 33/24 crowd [2] 5/22 5/25 cruise [2] 59/17 59/19 cultural [1] 118/7 culture [2] 145/1 167/3 currency [1] 154/23 current [12] 25/20 52/3 54/13 60/21 99/14 109/8 112/1 112/18 154/22 160/25	163/18 185/9 currently [10] 3/14 47/24 94/16 99/2 99/15 182/15 185/3 193/15 193/16 194/22 Curve [2] 76/14 77/7 cutting [1] 66/15 cutting-edge [1] 66/15 cycle [4] 107/6 132/8 192/3 192/5 Cygnus [4] 195/22 196/16 196/17 199/7	23/12 48/22 48/25 53/4 53/8 53/9 53/11 53/12 53/13 53/23 66/24 deaths [19] 14/23 14/23 21/22 22/25 33/10 52/4 52/6 53/1 53/2 53/6 53/15 53/18 53/19 53/19 53/24 53/25 57/12 115/20 133/11 debate [5] 36/19 93/14 104/17 109/6 127/2 debating [1] 183/20 debilitated [1] 11/13 decade [2] 198/21 198/21 decades [2] 186/19 203/12 December [10] 39/2 49/4 118/5 118/14 119/5 122/7 163/7 179/1 187/13 193/8 December 2010 [1] 179/1 December 2022 [7] 118/5 118/14 119/5 122/7 163/7 187/13 193/8 decision [3] 69/7 146/5 192/14 decision-maker [1] 192/14 decision-making [1] 69/7 decisions [6] 77/14 190/21 191/1 191/4 191/15 191/17 declaration [1] 104/1 declare [2] 111/19 194/3 declassified [1] 177/5 declined [1] 191/25 decrease [1] 44/8 Decreased [1] 48/11 decreases [1] 50/2 dedicated [2] 109/2 179/23 deep [6] 9/19 20/8 20/9 21/4 21/6 62/24 deepen [1] 123/3 defence [7] 42/14 81/2 81/6 84/18 93/3 186/12 186/14 deferred [1] 114/9 deficiencies [1] 143/15 deficient [5] 198/11 199/17 199/18 199/19 199/20 definitely [3] 103/21 105/18 187/4	definition [11] 23/2 23/2 23/4 23/6 23/21 45/13 46/2 46/3 46/5 46/6 49/6 DEFRA [2] 154/25 156/11 degraded [1] 149/1 degree [6] 88/3 114/12 143/16 160/3 194/10 202/14 Deirdre [1] 195/24 deliver [3] 123/21 123/22 193/19 deliverables [3] 119/15 119/19 120/6 delivered [2] 61/6 193/19 delivers [1] 193/20 delivery [1] 193/12 delve [1] 147/14 demands [1] 90/18 democratic [3] 2/19 202/22 202/23 demonstrated [1] 57/2 department [64] 42/22 61/7 90/3 141/24 141/25 146/9 146/24 147/24 148/1 148/11 149/13 151/17 151/25 152/4 152/5 152/9 152/9 152/14 152/20 152/22 153/16 153/21 154/1 154/3 154/6 154/13 154/20 154/22 154/24 155/1 155/4 155/5 155/6 155/14 155/14 156/8 156/12 156/14 156/16 157/14 157/15 157/16 157/24 158/18 159/15 161/7 161/12 163/20 165/10 165/14 166/6 166/7 166/11 166/17 167/1 167/2 167/3 174/18 174/19 184/5 199/2 200/21 200/22 201/25 department's [1] 158/4 departmental [1] 166/18 departments [30] 33/24 90/4 141/24 142/3 142/18 142/24 143/19 147/2 152/13 153/13 153/15 157/18 157/21 158/1 158/7 158/10 158/20 158/24 160/3 160/17 160/20 161/14 182/22 183/21 183/22 190/10 192/4 200/23 201/8 201/8 depend [3] 8/15
	D	DA [1] 151/19 Dame [4] 76/4 76/9 77/1 195/24 Dame Deirdre Hine [1] 195/24 Dame Jenny Harries [1] 77/1 Dame Jenny Harries' [1] 76/9 danger [3] 22/16 52/8 166/10 dangerous [1] 138/4 data [1] 3/8 date [3] 3/17 119/19 158/5 David [9] 1/5 1/7 78/19 79/5 91/5 91/21 115/1 205/3 205/9 day [7] 39/3 107/16 107/16 132/22 134/18 134/18 176/18 days [6] 20/16 28/16 41/11 51/6 51/12 51/12 deadlines [1] 119/17 deal [26] 6/18 39/1 41/22 52/3 69/8 85/10 86/5 86/7 86/23 87/4 87/11 91/18 102/18 109/17 120/15 120/19 128/12 137/18 147/13 157/13 157/18 161/12 162/5 167/18 180/6 198/3 dealing [25] 2/10 4/20 30/25 37/9 47/22 76/22 81/11 93/21 96/8 96/19 96/20 98/9 100/11 100/12 137/17 139/9 143/25 144/6 151/18 172/8 181/23 182/2 186/15 189/14 201/5 deals [5] 88/6 145/12 152/7 162/6 199/2 dealt [6] 4/22 61/10 118/9 145/13 169/18 177/2 death [13] 13/2 15/5		

D	determining [1] 22/18	149/18 160/11 198/18	180/23	42/17 43/24 46/15
depend... [2] 52/23 93/2	develop [11] 23/4 28/21 28/24 43/4	died [2] 23/13 133/11	discover [1] 176/16	47/25 51/1 53/3 54/7
dependence [1] 33/21	45/24 48/1 64/17	difference [10] 4/11 12/21 13/25 28/2 53/7	discuss [1] 3/7	57/21 61/23 62/1 62/3
dependency [1] 153/7	65/22 113/14 123/15 124/2	101/24 165/9 186/12 187/2 187/15	discussed [1] 34/11	62/14 63/14 63/19
dependent [2] 101/3 139/25	developed [8] 12/10 21/2 23/22 28/9 38/2	differences [6] 144/23 144/23 144/24	discussing [1] 183/20	65/7 68/21 72/13
depending [2] 63/12 144/5	77/21 95/7 144/12	145/1 171/16 171/19	discussions [2] 39/25 70/15	78/25 79/12 81/20
depends [9] 9/18 10/22 49/15 52/12	developing [5] 54/17 95/22 139/6 182/12	12/13 15/9 20/3 33/3 35/12 45/19 52/13	disease [40] 2/17 3/15 15/8 18/23 23/3	87/20 92/20 98/23
52/14 52/19 53/9 116/25 138/7	199/25	58/1 62/22 63/7 63/15 70/8 75/10 77/11	23/21 25/10 25/11 36/11 39/18 45/9	99/15 99/16 99/23
deploy [1] 110/14	development [5] 28/8 68/10 68/16	91/19 95/14 95/20 96/12 96/19 98/10	47/13 48/24 48/25 51/20 62/9 62/12	104/15 107/4 110/9
deputy [2] 133/10 170/24	127/9 128/11	105/15 120/18 122/13 127/19 136/1 139/20	62/18 62/19 63/1 63/2 63/8 63/13 66/4 75/6	110/11 110/17 110/19
derived [1] 48/21	developments [1] 95/13	144/5 144/5 150/15 150/22 155/4 157/20	77/17 77/20 84/4 84/12 84/24 96/20	114/9 114/17 114/24
descend [1] 111/25	devolution [4] 100/4 143/3 172/9 188/14	157/22 176/19 183/21 183/22 203/1	109/13 112/5 112/8 112/9 152/5 155/12	116/16 117/11 117/11
describe [9] 10/17 35/3 39/13 87/16	devolved [26] 64/19 72/8 89/16 89/22	differing [1] 136/24	160/12 196/5 198/6 63/1 63/8	120/5 120/19 122/12
91/23 94/15 95/19 113/21 189/19	100/17 101/6 101/15 127/11 140/17 141/22	difficult [11] 21/5 22/21 30/9 49/21	Disease X [3] 62/9 63/1 63/8	125/2 129/17 129/22
described [19] 5/21 20/8 20/11 23/17	142/4 142/7 151/19 157/6 162/6 165/12	49/23 50/11 72/21 73/5 79/11 91/12	diseases [11] 3/20 3/21 8/11 59/10 64/9	129/22 129/23 130/10
34/24 36/2 36/3 57/24 62/8 69/11 70/1 95/16	169/17 170/15 171/19 181/24 188/8 188/9	105/13 167/6 183/19 184/13	75/9 75/19 76/21 77/6 77/10 77/12	131/2 131/3 131/12
107/5 108/23 113/24 157/25 161/4 161/9	188/20 189/25 191/12 202/6	185/10 189/8 189/11 60/14	display [3] 24/2 47/18 61/3	132/5 133/23 134/1
165/25	devotion [1] 86/6	diffuse [7] 166/19 167/6 183/19 184/13	displays [1] 44/17	134/5 137/1 137/2
describes [1] 23/3	DHSC [3] 71/13 174/13 201/25	185/10 189/8 189/11 60/14	disrupted [1] 96/7	139/11 140/9 140/13
describing [2] 85/6 115/22	diabetes [3] 48/23 50/2 50/2	digitally [1] 60/14	disruption [1] 160/16	140/14 141/17 142/13
description [6] 23/18 23/19 44/16 111/2	diagnosis [1] 49/14	diminish [1] 186/8	disseminated [1] 109/16	144/21 145/22 150/5
111/3 128/3	diagnostic [1] 125/21	diploma [1] 2/15	dissident [1] 186/18	151/7 157/4 158/5
descriptions [1] 4/19	diagram [7] 101/19 125/20 136/13 146/21	diplomatic [1] 68/20	distinct [3] 105/2 186/25 187/2	158/21 160/25 161/12
design [1] 87/24	147/19 148/3 173/3	direct [2] 61/21 152/25	distinction [12] 104/10 106/16 110/2	162/15 162/23 163/5
designated [2] 141/24 141/25	Diamond [1] 59/17	directed [1] 181/2	110/15 142/19 142/25 144/7 144/9 144/16	168/24 171/20 175/25
designation [1] 189/16	diarrhoea [1] 48/10	96/16 111/12 134/24 135/5 184/23	145/18 154/19 166/14	176/23 179/12 180/10
desirable [1] 83/24	did [53] 14/6 20/7 29/13 30/2 30/20 31/4	director [7] 40/6 40/17 80/10 81/6	distinctive [1] 106/3	180/17 180/23 180/25
despite [3] 125/20 125/23 198/16	31/4 31/7 31/8 38/21 39/3 40/6 40/8 40/13	81/12 149/16 156/10	distinguish [1] 144/3 142/6	181/9 181/14 182/5
detail [16] 106/18 107/13 109/21 109/25	41/4 41/14 41/14 45/24 55/2 55/6 55/10	Director-General [1] 40/17	distress [1] 48/14	183/17 183/17 183/23
111/25 113/25 115/25 116/19 119/7 171/1	60/25 80/7 81/9 97/10 116/14 117/1 119/10	Directorate [1] 201/18	distributed [1] 183/19	184/8 185/14 187/20
116/19 119/7 171/1 193/23 196/11 196/11	119/20 133/8 133/21 133/23 139/6 139/7	directorates [1] 166/16	diversion [1] 90/23	190/5 192/21 193/18
196/25 197/3 198/10	143/16 146/7 149/19 150/12 155/8 155/8	directory [1] 175/10	diverted [1] 86/18	193/18 196/2 197/5
detailed [3] 77/17 85/11 112/17	168/18 172/17 173/19 173/23 173/24 179/22	disabilities [1] 118/6	divided [1] 83/2	197/23 201/19
details [4] 61/20 62/12 63/13 178/15	180/2 180/6 180/12 180/16 180/21 195/5	disagree [1] 160/23	division [7] 147/20 148/13 161/6 161/7	doctor [1] 2/13
detect [1] 42/19	195/18	disappear [1] 8/4	165/15 172/3 183/3	doctors [1] 41/2
detected [2] 20/6 30/15	didn't [17] 20/5 27/11 30/14 30/19 44/23	disappointing [1] 175/15	DLUHC [3] 156/14 157/1 159/14	doctrinal [1] 194/20
detection [5] 4/14 42/16 65/7 65/11 66/5	44/24 52/17 59/20 59/21 59/23 93/6	disaster [4] 80/5 80/8 94/9 117/19	do [125] 1/17 5/21 7/7 7/22 7/23 7/24 9/8	doctrinally [1] 128/15
determine [2] 36/20 72/21	96/23 116/16 117/4	disasters [4] 80/15 94/7 96/3 139/14	9/9 9/13 9/15 10/20 11/1 11/3 11/18 15/14	doctrine [3] 128/5 128/15

D	168/22 169/3 176/22 186/14 187/4 195/3 downside [2] 73/17 73/20 downsized [1] 126/5 Dr [3] 6/5 21/19 62/8 Dr Charlotte Hammer [1] 6/5 Dr Hammer [2] 21/19 62/8 draft [2] 93/16 179/20 drafted [2] 93/13 121/17 dramatic [1] 180/11 draw [7] 92/7 114/24 129/23 129/24 140/10 142/19 145/18 drawing [5] 127/2 156/9 182/8 189/19 194/17 drawn [4] 131/23 154/19 158/5 181/12 dried [1] 34/10 dries [1] 18/3 drive [1] 123/11 drivers [3] 94/15 94/19 95/10 driving [1] 191/21 drop [1] 47/11 droplet [1] 30/10 droplets [8] 9/20 12/5 17/14 17/19 20/10 31/20 31/25 34/22 dropped [2] 47/10 47/13 drying [1] 18/5 Dublin [1] 173/7 Duchy [1] 185/6 due [6] 26/2 35/21 76/4 93/16 97/21 100/1 during [25] 1/12 1/19 1/23 2/21 3/2 3/6 3/10 4/2 4/4 21/18 40/7 43/15 53/21 54/12 70/7 70/11 74/9 79/17 93/11 96/17 96/24 140/21 150/16 172/20 175/17 duties [18] 93/4 93/25 135/17 136/25 137/9 138/16 138/19 140/7 141/21 142/15 143/5 143/8 143/16 144/5 144/25 145/20 171/17 178/7 duty [9] 81/24 140/18 140/22 141/9 141/10 142/22 182/6 182/15 182/23 dynamically [1] 160/9	dynamics [1] 192/20	E	each [21] 7/13 11/2 13/24 15/10 66/13 88/11 105/1 123/11 128/2 132/17 138/19 150/20 150/21 150/22 158/3 158/6 168/21 174/22 188/12 189/23 189/24 ear [1] 149/6 earlier [13] 30/8 44/24 51/3 62/23 136/13 162/12 165/25 177/11 182/14 182/21 183/18 187/11 193/10 early [16] 18/14 19/2 20/24 27/17 41/11 42/19 45/11 45/15 46/5 55/1 56/6 56/18 57/5 67/17 72/7 75/18 ears [1] 149/4 earthquakes [1] 96/18 easier [2] 17/8 73/15 easily [12] 7/7 7/9 7/14 9/15 9/16 36/13 37/17 96/7 96/25 105/15 124/3 139/19 East [4] 3/8 32/19 32/20 150/8 easy [2] 9/22 132/12 eating [1] 114/21 Ebola [2] 2/18 8/2 economic [7] 39/19 69/16 113/24 123/15 125/11 200/3 200/4 economics [1] 106/2 Economist [1] 53/15 economy [2] 141/5 153/9 ecosystem [1] 190/15 edge [1] 66/15 Edinburgh [1] 168/2 editions [1] 174/15 editor [1] 3/20 education [4] 106/19 152/15 192/16 193/6 educational [1] 107/15 effect [9] 26/10 40/14 40/15 54/7 54/11 58/7 98/17 127/14 139/21 effective [13] 55/13 55/14 55/22 60/10 60/15 69/20 75/21 82/15 94/18 132/3 138/12 190/7 194/25 effectively [3] 70/4 76/18 176/17 effectiveness [3] 57/16 72/22 131/15	effects [4] 27/17 49/2 128/13 138/22 effort [4] 34/17 86/17 131/4 147/6 efforts [1] 199/7 eight [1] 139/16 either [10] 12/17 16/8 22/18 37/11 47/12 144/21 159/5 161/23 179/2 179/5 elaborate [1] 131/21 elderly [4] 11/13 48/20 118/7 178/14 electricity [7] 138/8 138/25 139/17 139/19 139/22 139/25 141/6 electron [1] 5/2 element [3] 54/25 55/1 72/20 elements [1] 114/4 else [7] 97/1 107/9 129/21 131/3 131/8 154/3 202/2 elsewhere [3] 127/20 180/25 202/11 emanation [2] 167/21 167/22 emanations [1] 167/20 embedded [1] 97/16 embedding [1] 182/11 emerge [2] 8/4 8/5 emerged [1] 16/3 emergence [6] 14/21 15/2 16/10 19/12 36/25 64/4 emergencies [28] 4/21 87/19 90/18 120/20 124/25 130/16 137/17 137/18 138/4 138/24 144/3 146/13 146/15 147/20 148/12 152/2 152/11 152/12 154/11 155/12 161/7 165/15 172/14 175/21 185/1 185/17 185/18 192/20 emergency [106] 33/24 42/7 42/8 42/9 42/22 80/19 80/23 82/10 85/22 85/22 86/8 87/21 90/8 95/21 95/22 97/7 102/23 103/6 103/8 103/25 104/3 104/14 104/14 104/15 104/19 104/22 106/20 107/14 107/17 108/5 108/9 109/2 114/3 120/7 127/23 128/1 128/11 128/13 128/16 128/19 129/6 129/20 130/3 130/25 131/13 132/23 133/4	134/14 135/1 135/10 136/15 137/20 139/10 139/18 140/3 142/20 142/21 143/13 144/20 145/4 149/10 151/23 152/22 154/23 155/3 156/7 156/19 156/20 157/5 157/23 158/3 161/13 164/21 165/4 166/13 166/24 167/9 167/14 167/24 168/4 170/2 170/3 170/9 171/4 171/10 171/13 172/20 174/7 174/8 174/9 174/17 176/3 180/14 182/3 188/24 190/19 190/21 191/25 192/5 192/14 193/13 193/14 193/21 194/4 194/21 202/7 emerging [7] 18/22 109/12 112/5 112/6 112/8 112/19 160/12 eminently [1] 133/5 emphasis [1] 58/15 emphasise [1] 133/19 employees [1] 89/20 empowered [1] 190/11 enable [1] 102/24 enabler [1] 141/17 encompasses [1] 151/11 encountered [1] 106/5 encourage [1] 114/2 encouraged [1] 102/2 end [7] 3/23 26/19 52/4 117/16 132/12 180/21 197/5 endeavour [1] 119/16 endeavours [1] 101/9 endemic [12] 8/6 10/1 10/2 10/6 10/17 30/19 30/20 36/11 36/14 36/15 63/24 65/17 energy [1] 86/6 enforcement [2] 152/17 180/3 engage [3] 140/11 174/10 174/12 engaged [3] 153/15 157/24 158/1 engagement [1] 174/12 engages [1] 104/16 Engineering [1] 113/8 England [12] 3/5
----------	---	----------------------------	----------	---	---	---

<p>E</p> <p>England... [11] 61/8 61/8 77/4 100/8 136/6 150/2 150/8 169/25 170/6 188/21 195/14</p> <p>English [6] 121/13 147/8 162/12 173/1 188/17 188/18</p> <p>enhanced [1] 182/23</p> <p>enough [9] 3/25 9/3 10/16 93/6 129/25 155/18 162/14 162/22 181/17</p> <p>enquire [1] 84/23</p> <p>enquiring [1] 100/6</p> <p>ensue [1] 108/5</p> <p>ensues [1] 108/9</p> <p>ensure [10] 79/10 98/16 98/18 130/23 140/8 158/20 179/23 190/13 192/7 201/7</p> <p>ensuring [10] 69/5 104/12 131/16 140/4 158/3 158/6 158/9 158/22 194/9 194/9</p> <p>enter [3] 5/15 8/2 55/20</p> <p>enteric [1] 63/4</p> <p>enterprise [1] 186/21</p> <p>enters [1] 7/25</p> <p>entire [2] 22/22 132/8</p> <p>entirely [7] 100/21 114/5 139/25 149/24 149/25 184/19 187/21</p> <p>entities [9] 87/6 103/14 137/25 144/1 149/11 154/16 160/25 162/25 189/14</p> <p>entity [5] 151/22 161/23 162/11 163/14 173/14</p> <p>entry [1] 61/22</p> <p>enunciated [1] 105/24</p> <p>envelope [1] 115/16</p> <p>environment [2] 65/13 155/2</p> <p>environmental [4] 64/13 64/24 65/1 66/1</p> <p>epidemic [7] 53/21 68/6 68/15 69/2 69/15 71/6 71/16</p> <p>epidemics [3] 65/14 68/1 70/11</p> <p>epidemiological [3] 113/23 173/14 200/2</p> <p>epidemiologist [1] 113/17</p> <p>epidemiology [4] 2/15 3/15 4/13 55/8</p> <p>EPRR [1] 157/4</p> <p>equal [3] 139/7 139/8 139/8</p>	<p>equally [3] 165/1 170/12 171/20</p> <p>equipment [2] 32/4 42/12</p> <p>equivalent [2] 169/5 169/6</p> <p>equivalents [1] 191/11</p> <p>era [1] 25/22</p> <p>eradicated [1] 21/16</p> <p>erroneous [1] 131/11</p> <p>escalation [1] 96/11</p> <p>escape [1] 37/11</p> <p>especially [13] 42/11 49/22 59/17 126/4 138/21 141/2 143/2 167/8 176/17 185/17 191/14 195/18 197/2</p> <p>essence [1] 129/18</p> <p>essential [11] 89/2 93/5 99/21 118/8 130/22 134/5 138/6 138/24 141/4 141/18 175/20</p> <p>essentially [6] 93/10 93/11 93/13 119/10 133/12 172/11</p> <p>established [5] 12/19 54/14 72/2 72/6 93/4</p> <p>estimated [1] 47/24</p> <p>et [1] 22/4</p> <p>et cetera [1] 22/4</p> <p>ethnic [2] 48/21 118/7</p> <p>EU [4] 67/6 90/12 90/16 90/24</p> <p>Europe [2] 111/1 153/5</p> <p>European [8] 56/11 86/5 86/22 110/22 153/6 184/24 188/23 202/12</p> <p>European Union [4] 86/5 86/22 153/6 188/23</p> <p>Europeans [1] 106/4</p> <p>evaluate [2] 73/5 73/10</p> <p>evaluating [1] 52/24</p> <p>evaluation [4] 116/8 116/14 117/1 117/3</p> <p>even [16] 6/10 20/7 36/6 45/8 53/6 84/22 95/21 97/1 106/10 121/13 135/14 154/23 163/15 189/3 200/4 203/1</p> <p>event [18] 35/4 35/17 35/19 36/4 36/5 55/17 59/18 94/8 94/11 96/19 101/1 102/17 102/21 106/11 111/16 158/11 158/23 200/2</p> <p>events [22] 35/2 35/5</p>	<p>35/8 35/11 35/25 35/25 38/12 42/19 94/2 94/9 95/19 96/5 96/9 96/16 98/9 103/22 105/17 105/21 106/7 108/2 172/14 173/5</p> <p>eventually [2] 101/19 178/6</p> <p>eventuate [1] 109/11</p> <p>ever [4] 62/2 116/16 156/6 180/8</p> <p>every [16] 83/20 88/25 88/25 109/20 109/24 128/25 129/1 145/25 145/25 145/25 154/8 180/21 190/6 191/7 191/13 195/6</p> <p>everybody [7] 99/17 121/8 130/1 167/23 168/17 192/25 202/2</p> <p>everybody's [1] 131/16</p> <p>everyone [5] 109/16 129/21 130/22 131/3 131/8</p> <p>everything [4] 105/22 106/9 139/23 164/20</p> <p>evidence [41] 1/15 1/20 4/4 21/18 29/1 38/8 38/18 43/21 44/10 44/12 44/14 44/19 44/21 44/24 45/1 45/18 46/4 57/24 59/4 62/7 72/17 73/6 73/7 76/5 79/18 81/24 82/18 90/19 91/8 91/24 95/11 112/7 116/7 116/15 119/1 133/13 181/10 185/22 195/16 197/17 204/1</p> <p>evidence-based [1] 181/10</p> <p>evident [3] 160/11 166/3 180/1</p> <p>evolved [1] 132/24</p> <p>evolving [1] 160/10</p> <p>exact [5] 106/10 106/10 114/18 115/19 136/14</p> <p>exactly [19] 5/24 6/2 11/2 14/22 87/15 89/9 89/21 91/2 104/5 118/18 121/12 133/19 139/9 142/19 155/22 162/3 169/2 199/10 201/12</p> <p>examination [1] 5/1</p> <p>examine [1] 127/20</p> <p>examined [1] 194/19</p> <p>example [38] 6/10 6/23 7/3 7/11 8/1 24/23 25/5 25/16</p>	<p>27/19 28/15 35/9 39/21 46/6 47/14 55/2 65/15 69/19 75/14 87/4 96/23 106/18 110/9 113/6 125/10 125/22 134/24 140/24 144/7 150/15 151/10 152/13 156/8 173/1 173/3 177/15 177/22 185/25 192/16</p> <p>examples [4] 140/21 141/1 141/8 141/13</p> <p>excellence [4] 192/23 193/7 194/9 194/15</p> <p>excellent [5] 67/14 67/19 90/5 102/3 178/13</p> <p>except [3] 6/16 11/12 48/2</p> <p>exception [1] 165/6</p> <p>excess [4] 53/15 53/19 53/23 53/24</p> <p>exchange [3] 27/10 27/12 49/24</p> <p>exchanged [1] 59/14</p> <p>exclusively [2] 29/8 169/18</p> <p>executed [1] 124/23</p> <p>executive [11] 3/1 3/2 3/5 90/12 90/21 90/22 91/3 91/15 170/18 170/23 183/6</p> <p>Executive Office [1] 170/18</p> <p>exercise [8] 61/3 61/5 61/6 61/6 85/19 180/13 195/22 196/17</p> <p>Exercise Alice [2] 61/3 61/5</p> <p>Exercise Cygnus [2] 195/22 196/17</p> <p>exercised [2] 103/19 159/5</p> <p>exercises [2] 98/8 99/6</p> <p>exercising [3] 123/23 148/25 194/12</p> <p>exhaustive [1] 75/13</p> <p>exhibit [1] 76/11</p> <p>exhibits [1] 76/6</p> <p>exist [2] 182/15 184/14</p> <p>existence [3] 116/6 170/17 194/22</p> <p>existent [1] 195/9</p> <p>existing [4] 124/9 127/4 163/20 189/19</p> <p>exists [3] 168/5 193/15 193/16</p> <p>exit [9] 86/5 86/21 86/24 87/4 87/11 90/13 90/16 90/24 91/18</p>	<p>expand [2] 49/7 89/25</p> <p>expanded [1] 124/15</p> <p>expect [3] 62/10 160/1 173/6</p> <p>expectation [3] 97/9 178/21 178/25</p> <p>expected [4] 14/7 40/5 40/21 140/10</p> <p>experience [8] 54/5 59/5 59/24 72/16 81/10 148/16 148/25 192/17</p> <p>experienced [2] 92/3 190/11</p> <p>experiences [1] 41/24</p> <p>expert [2] 79/19 175/23</p> <p>expertise [7] 76/23 81/24 129/19 134/23 135/3 135/4 192/6</p> <p>experts [4] 68/4 68/9 72/4 72/5</p> <p>explain [11] 9/25 13/9 22/16 28/2 36/23 38/14 46/13 46/23 62/16 72/15 137/25</p> <p>explained [1] 51/17</p> <p>explanation [3] 4/11 4/15 180/5</p> <p>explicit [1] 203/13</p> <p>explored [2] 144/22 201/2</p> <p>explosion [1] 156/21</p> <p>exposed [1] 47/7</p> <p>express [1] 134/6</p> <p>expressed [2] 41/10 124/20</p> <p>expressing [1] 58/2</p> <p>expressly [1] 134/14</p> <p>extensive [1] 2/10</p> <p>extent [9] 82/16 94/2 98/7 102/22 102/25 140/16 141/20 172/11 172/19</p> <p>external [4] 116/8 161/18 163/4 180/13</p> <p>extremely [6] 33/24 45/2 94/10 104/7 150/10 151/3</p> <p>eye [1] 174/1</p> <p>eyes [2] 73/2 149/4</p> <hr/> <p>F</p> <p>face [9] 19/1 73/25 95/4 97/17 98/16 99/9 111/8 120/16 138/4</p> <p>faced [3] 76/20 91/25 106/6</p> <p>faces [2] 94/17 111/1</p> <p>facets [1] 50/22</p> <p>facilities [8] 16/20 18/11 32/21 32/24</p>
--	--	--	--	--

F	130/14 132/3 162/14 163/17 180/9	find [8] 13/23 55/5 59/9 94/6 122/10 133/7 190/8 198/18	133/1 133/16 133/22 135/15 184/13 186/2 186/3 193/7	178/4 179/4 190/10
facilities... [4] 33/3 33/5 90/4 107/15	farms [4] 6/17 6/18 8/18 8/20	finding [2] 46/9 198/8	focused [4] 88/20 88/21 133/18 185/23	forward [8] 14/4 55/3 56/19 104/20 127/16 164/15 164/17 169/11
facing [11] 88/15 88/16 88/17 88/21 89/9 90/1 90/1 90/2 98/5 98/6 112/2	fatality [13] 21/20 22/2 22/8 22/11 22/13 22/18 22/19 22/20 22/24 23/1 23/15 27/6 33/11	finish [2] 16/1 72/11	focuses [1] 135/7	forwards [1] 62/11
fact [44] 8/9 11/22 12/18 13/17 19/19 30/8 33/2 35/21 42/14 44/20 51/21 53/9 54/12 55/14 58/14 59/20 60/2 67/12 67/17 70/7 72/23 73/20 86/13 87/3 89/18 90/6 90/19 93/9 103/20 119/7 132/12 137/1 140/1 143/23 151/16 163/19 175/9 175/19 181/2 181/6 195/21 196/13 198/6 198/16	fatigue [1] 48/8	finished [2] 74/8 110/25	focusing [4] 71/7 77/5 159/9 200/15	found [4] 55/6 76/10 131/17 149/8
factor [2] 8/16 20/12	fatigued [1] 27/20	fire [2] 134/25 156/20	fold [3] 53/17 137/11 138/3	foundation [1] 127/8
factored [1] 22/17	fatty [2] 5/5 5/9	Fire Service [1] 134/25	follow [9] 34/20 72/12 98/21 100/20 101/11 104/9 109/5 131/12 145/7	foundations [1] 194/21
factors [16] 7/20 8/12 8/15 8/24 10/5 12/18 20/13 20/23 30/6 30/8 32/25 33/14 36/1 57/17 64/3 97/11	favour [1] 172/9	firmly [2] 141/19 146/8	followed [4] 45/16 85/1 115/8 197/3	four [12] 10/17 11/21 12/7 24/17 40/9 47/5 51/12 120/10 166/25 169/24 191/19 194/11
facts [1] 81/22	fear [3] 70/17 98/25 101/18	first [62] 2/2 2/18 2/20 4/14 6/22 13/9 15/18 19/10 19/15 31/16 32/10 42/7 61/10 61/23 64/17 66/11 66/18 80/5 83/16 84/11 85/25 89/6 92/7 94/20 94/23 95/6 103/5 103/9 104/25 105/13 108/15 110/16 113/2 120/10 120/19 124/22 125/2 128/21 129/4 130/11 130/20 131/24 132/24 135/17 137/15 138/20 141/3 143/12 148/19 149/2 149/6 154/4 156/18 169/19 170/24 170/24 175/23 176/15 178/11 183/15 189/11 198/1	following [7] 4/9 91/4 123/9 134/8 174/3 182/5 193/11	four days [1] 51/12
faeces [1] 31/20	feature [1] 151/23	First Minister [3] 169/19 170/24 170/24	follows [2] 84/9 94/8	four months [1] 40/9
failed [1] 172/23	features [4] 85/16 115/3 127/21 134/15	firstly [2] 124/17 143/24	food [2] 63/4 141/6	fourth [2] 69/9 100/3
fails [1] 112/21	February [5] 18/19 19/16 19/18 57/11 61/7	fit [3] 23/6 101/23 202/5	foot [1] 93/22	fragments [1] 125/19
failure [11] 27/2 48/14 48/16 111/19 113/11 113/13 138/25 139/15 140/2 140/25 141/2	fed [1] 171/11	fitted [1] 143/6	fora [2] 146/14 181/25	framework [29] 118/5 118/17 119/4 119/14 119/22 120/2 122/6 122/15 128/1 128/16 128/20 130/21 130/21 131/10 131/14 131/22 134/14 135/8 135/11 162/11 163/8 163/23 164/22 165/5 174/20 187/14 187/18 190/13 193/9
failures [1] 71/6	feeds [2] 170/3 170/21	five [4] 32/8 97/18 113/6 166/25	force [3] 40/1 93/20 124/14	freeze [1] 139/22
fair [2] 137/4 174/25	feel [5] 125/7 139/6 139/8 188/3 188/6	flaw [1] 153/16	forces [1] 126/2	frequency [4] 84/4 84/8 95/12 95/18
fairly [11] 7/9 7/14 9/15 11/11 11/12 36/6 45/8 132/23 139/19 150/24 172/21	feeling [3] 89/13 125/13 202/4	flaws [1] 152/19	fore [1] 111/5	frequent [1] 84/13
faith [1] 98/19	felt [1] 38/18	flexibility [2] 112/21 160/4	forensic [3] 136/16 159/7 196/11	frequently [1] 186/17
Falklands [1] 81/7	few [6] 29/17 30/4 45/16 127/3 166/10 169/16	flexible [1] 108/7	foreseen [2] 105/22 108/11	Friday [1] 204/5
fall [3] 17/19 138/16 138/20	fewer [3] 55/21 57/12 59/1	flood [1] 156/11	form [7] 92/12 108/12 109/7 128/15 131/13 162/19 177/7	front [4] 117/10 122/11 150/20 159/24
fallible [1] 108/15	fibres [1] 27/11	flooding [12] 93/22 96/23 109/12 110/9 110/10 110/11 110/12 112/19 139/1 154/25 155/2 155/12	formal [1] 127/12	frustrating [1] 150/11
falls [1] 120/21	fibrosis [1] 27/7	flows [1] 186/20	formalised [1] 69/13	frustration [1] 70/16
false [1] 43/7	field [6] 84/24 85/21 87/21 180/17 181/14 185/19	Florence [1] 80/13	format [3] 10/21 10/22 10/23	fuel [1] 93/22
familiar [5] 76/15 105/23 150/14 174/22 201/16	fields [2] 80/7 87/1	flow [1] 18/5	formed [1] 180/2	fulfil [2] 176/17 190/22
familiarise [1] 24/8	fifth [2] 71/5 101/24	flu [8] 3/4 24/24 25/6 25/17 26/5 174/14 195/24 198/12	forms [1] 132/17	full [4] 40/12 138/12 138/18 153/8
families [5] 74/13 75/2 103/16 197/13 198/2	fight [2] 176/16 179/13	flushed [1] 17/11	forth [7] 118/25 138/1 140/13 152/18 159/1 173/21 181/25	fuller [1] 137/21
family [4] 7/10 18/16 33/19 45/17	figure [8] 53/1 53/17 104/24 104/24 127/25 127/25 195/2 195/2	focus [18] 49/12 58/20 71/16 106/25 107/3 112/21 131/14 131/15 131/20 132/16	formatting [1] 16/23	function [4] 37/16 169/22 189/7 193/5
far [14] 1/11 6/6 51/1 60/18 90/25 92/13 93/6 105/20 126/18	figure 1 [2] 104/24 127/25		fortunately [2] 41/5 121/11	functioning [1] 173/2
	figure 2 [1] 104/24		forum [12] 145/2 145/25 146/3 148/21 150/8 159/13 159/13 171/12 174/2 177/24 178/9 178/18	functions [9] 128/18 145/16 157/7 157/8 157/9 169/20 171/14 171/19 178/1
	figure 6 [1] 195/2		forums [16] 124/6 136/3 136/21 144/8 144/17 144/19 144/25 147/21 148/6 149/11 161/5 169/23 176/5	fundamental [7] 95/10 97/19 99/21 106/12 149/17 181/17 190/14
	figured [1] 111/24			fundamentally [1] 95/14
	figures [7] 52/3 52/7 52/9 52/10 52/12 57/13 57/21			funding [7] 66/20 66/25 67/7 67/11 67/14 68/3 124/14
	film [1] 150/19			
	filters [1] 175/5			
	final [2] 151/14 190/3			
	finally [10] 8/5 18/13 19/3 21/7 25/14 61/2 71/4 118/3 121/9 168/10			
	financial [1] 152/16			

<p>F</p> <p>funds [1] 68/7</p> <p>furlong [1] 190/3</p> <p>further [15] 7/25 10/14 20/7 30/16 56/1 97/1 104/19 113/10 114/21 134/5 137/11 175/8 177/18 183/23 199/6</p> <p>furthermore [1] 134/21</p> <p>future [14] 62/6 65/13 65/24 71/17 84/4 92/10 92/13 94/17 97/5 98/14 120/15 124/15 138/21 173/15</p>	<p>get [28] 11/18 17/7 30/14 31/2 59/13 65/20 73/22 83/17 97/21 102/6 110/17 116/3 117/24 117/24 121/4 121/4 122/5 125/3 125/6 126/3 132/10 132/16 136/8 154/15 157/12 162/24 192/15 192/18</p> <p>gets [1] 56/1</p> <p>Getting [2] 76/14 77/7</p> <p>give [13] 57/13 60/5 60/6 65/15 82/18 98/17 103/8 137/23 140/23 141/8 153/8 155/20 192/19</p> <p>given [19] 1/11 24/23 25/5 25/16 59/4 71/23 74/16 85/7 101/4 142/14 143/2 151/4 154/8 159/12 173/13 181/22 197/17 197/22 203/19</p> <p>gives [2] 115/19 155/21</p> <p>giving [3] 57/24 76/5 133/13</p> <p>global [5] 2/23 4/21 38/13 68/14 116/10</p> <p>globally [3] 52/5 53/16 53/18</p> <p>go [26] 3/24 4/8 25/3 31/4 61/4 66/17 85/20 89/24 93/6 97/20 102/1 113/2 113/9 127/20 134/4 135/24 148/2 150/13 164/15 175/12 177/24 178/5 181/18 183/23 195/4 198/9</p> <p>goal [1] 83/23</p> <p>goes [5] 7/25 105/12 144/13 184/11 193/2</p> <p>going [42] 2/11 14/4 15/24 22/12 30/21 31/1 33/6 37/12 38/22 39/13 39/23 40/12 47/21 58/17 60/5 60/6 76/25 79/10 86/15 86/17 98/13 99/10 114/4 115/24 116/23 118/16 119/6 126/7 127/15 129/10 135/13 144/13 147/14 149/5 149/12 152/5 160/12 162/14 169/25 189/23 200/23 202/21</p> <p>gone [5] 16/15 21/15 85/17 141/10 149/9</p> <p>good [35] 1/3 1/4 3/25 8/1 9/3 10/16 20/4 20/4 34/15 42/15</p>	<p>52/24 55/8 60/1 72/19 74/25 75/15 75/15 93/9 98/1 98/13 121/6 122/13 140/3 145/5 162/18 177/4 177/18 179/11 181/16 182/9 192/13 193/3 193/3 193/6 195/4</p> <p>goods [1] 42/12</p> <p>got [17] 30/24 97/13 97/15 97/17 105/5 113/20 114/1 136/2 137/20 152/15 152/16 159/3 162/22 165/7 167/3 179/5 200/25</p> <p>governance [1] 150/2</p> <p>government [162] 38/21 41/1 64/25 68/8 68/17 69/1 69/10 69/14 69/25 70/2 70/13 70/14 70/17 70/23 71/1 71/14 72/2 72/8 80/12 84/3 84/7 85/4 86/16 87/2 88/7 89/15 89/20 90/3 90/3 93/5 93/20 98/24 99/6 99/21 101/4 118/4 118/13 118/17 118/23 118/25 119/11 119/16 122/16 122/20 123/8 123/11 124/1 127/10 127/22 135/3 140/16 140/17 141/21 141/22 141/23 141/23 142/2 142/2 142/2 142/6 142/9 142/10 142/16 142/17 142/23 143/8 146/24 147/24 147/25 148/4 148/4 148/10 149/12 150/23 151/16 151/25 152/3 152/4 152/8 152/20 152/22 153/13 153/15 153/16 153/21 153/25 154/3 154/6 154/13 154/20 154/21 154/24 155/1 155/4 155/5 155/14 156/8 156/12 156/15 157/13 157/15 157/15 157/17 157/20 157/23 158/1 158/2 158/3 158/6 158/10 158/20 158/23 159/15 160/22 161/1 161/12 161/14 161/19 161/19 163/7 163/8 163/14 163/20 165/13 165/14 165/19 165/21 166/4 166/5 166/6 166/11 166/25 168/1 169/4 169/9 169/19 170/4 175/17 182/6 182/22 183/4 183/4 183/21 184/5</p>	<p>184/7 185/21 186/2 187/5 187/10 187/14 188/2 190/10 191/8 192/3 193/11 193/25 196/9 197/3 200/22 201/25 202/17 203/8</p> <p>government's [10] 120/1 127/5 143/3 143/9 163/18 174/6 187/12 191/1 193/8 195/25</p> <p>governmental [1] 189/7</p> <p>governmentally [1] 75/17</p> <p>governments [8] 72/24 77/5 83/5 127/22 129/15 191/5 191/19 193/7</p> <p>grant [1] 71/20</p> <p>graph [1] 18/12</p> <p>grateful [3] 77/25 173/21 173/23</p> <p>gravely [1] 175/15</p> <p>great [8] 11/17 72/22 85/10 141/17 150/9 161/12 162/5 167/18</p> <p>greater [13] 29/14 50/1 84/22 84/23 95/17 95/18 95/18 103/25 114/12 126/19 137/3 140/4 140/5</p> <p>green [1] 24/13</p> <p>Gresham [1] 24/6</p> <p>grew [1] 186/19</p> <p>grey [1] 172/10</p> <p>ground [3] 149/4 162/24 196/12</p> <p>groundwork [1] 43/12</p> <p>group [18] 3/13 10/25 13/17 64/6 64/8 64/12 64/12 64/24 96/2 110/8 145/3 159/14 164/25 165/1 170/2 171/1 171/2 171/14</p> <p>grouping [1] 168/15</p> <p>groups [18] 29/13 123/20 135/19 144/8 144/18 146/15 147/22 147/23 149/12 164/9 164/10 164/11 164/12 169/22 171/4 171/10 171/12 186/18</p> <p>grow [2] 99/10 123/20</p> <p>growing [1] 192/10</p> <p>Guangdong [4] 16/4 16/18 18/11 18/18</p> <p>guaranteed [1] 118/10</p> <p>guidance [17] 68/14 94/1 124/8 124/16</p>	<p>173/19 173/22 174/12 174/17 175/1 175/4 175/8 175/17 175/20 176/4 176/13 179/12 193/3</p> <p>guided [1] 174/11</p> <p>guidelines [1] 65/4</p> <p>Gulf [1] 81/7</p> <p>gyms [1] 56/23</p> <hr/> <p>H</p> <p>H1N1 [4] 3/3 24/23 25/16 26/4</p> <p>H7N9 [1] 25/5</p> <p>had [76] 12/10 13/25 16/10 16/13 16/15 21/5 23/9 24/3 27/7 27/13 27/24 32/14 37/9 40/10 40/15 41/2 41/7 41/20 41/20 45/21 54/5 54/8 54/11 54/14 54/21 56/3 57/11 58/6 58/7 58/7 59/5 59/5 59/10 60/1 60/19 61/12 63/24 66/23 70/7 70/12 70/13 70/16 77/4 77/6 78/24 82/16 86/7 86/15 88/17 89/19 91/18 92/3 93/14 93/19 93/21 93/22 94/3 95/3 96/20 104/3 104/8 141/10 150/9 150/9 152/14 153/17 155/19 156/20 156/20 156/21 159/19 166/7 169/9 194/14 196/1 196/8</p> <p>hadn't [2] 59/24 199/18</p> <p>HAIRS [4] 64/7 64/12 64/24 72/1</p> <p>half [6] 113/22 113/23 131/1 131/2 200/2 200/3</p> <p>hallmark [1] 48/12</p> <p>Hammer [3] 6/5 21/19 62/8</p> <p>Hammond's [2] 186/7 196/18</p> <p>hand [17] 24/12 25/3 25/14 26/21 43/18 130/23 140/13 144/17 145/2 145/23 147/18 159/20 165/16 168/11 169/21 170/1 171/8</p> <p>handle [1] 124/24</p> <p>hands [1] 32/3</p> <p>hangs [1] 130/6</p> <p>happen [8] 60/23 113/21 114/4 133/8 157/4 159/1 160/6 201/11</p> <p>happened [5] 38/14</p>
---	--	---	--	--

H	hazard [2] 80/8 96/25	help [3] 17/7 46/2	HIV [1] 8/5	174/10 183/12 183/17
happened... [4] 38/25	hazards [6] 3/14 99/5	106/19	HKU1 [1] 10/19	188/9 189/4 191/5
40/13 66/6 104/3	185/25 186/2 186/10	helpful [3] 78/8	HMT [1] 152/15	193/20
happening [2] 36/2	186/20	115/21 151/10	hold [1] 118/16	however [8] 53/1
130/11	he [10] 1/5 9/6 9/10	helping [2] 117/15	holistically [2]	98/7 100/22 101/3
happens [2] 75/20	35/23 40/8 41/4 91/7	133/3	129/16 130/5	108/24 111/9 125/13
104/22	113/18 113/21 113/24	helps [1] 111/5	home [6] 31/1 31/4	135/2
happily [1] 173/15	head [13] 81/5 91/6	her [4] 76/12 77/1	32/19 43/15 152/17	hugely [2] 135/18
happy [2] 72/13	122/19 163/6 163/9	133/14 162/19	153/3	184/3
97/20	163/11 163/12 163/15	herd [5] 12/12 12/13	Home Office [2]	human [37] 5/12 8/1
hard [8] 73/6 101/8	163/18 163/21 163/22	12/18 51/16 51/18	152/17 153/3	8/25 9/6 9/16 9/17
117/9 122/11 122/13	187/12 187/17	here [20] 24/18 24/23	Homeland [1] 146/10	9/18 10/2 10/4 10/4
123/6 123/24 134/1	headache [1] 48/9	61/14 66/18 68/2 85/1	homes [2] 106/22	11/18 13/13 13/14
Hargreaves [1] 156/9	headed [2] 2/22	85/3 94/20 103/17	107/15	13/15 13/18 13/20
harm [9] 107/5 107/7	163/4	118/3 125/3 132/15	homework [1] 181/4	15/8 16/15 16/15
107/9 128/25 129/3	health [85] 2/20 2/22	135/18 138/10 166/4	Hong [4] 18/18 21/11	21/16 30/9 30/10 31/7
129/4 132/14 132/14	3/1 3/4 3/12 4/21	166/5 190/20 192/7	54/10 59/18	31/9 31/11 37/1 37/12
171/23	16/19 16/20 18/11	199/23 203/22	Hong Kong [4] 18/18	64/6 64/13 64/23
harmonised [1]	18/13 18/15 18/17	herself [1] 92/15	21/11 54/10 59/18	64/25 66/1 85/8 97/17
186/23	18/21 18/25 23/5 29/8	hesitancy [2] 41/1	hooks [1] 5/12	108/15 126/5 181/15
harmony [1] 173/2	29/23 32/2 32/21 33/3	44/17	hope [4] 84/25 102/5	humanitarian [2]
Harries [2] 76/4 77/1	39/5 39/8 42/5 42/22	hesitating [1] 144/9	164/4 203/19	42/11 174/17
Harries' [1] 76/9	43/14 44/3 44/6 44/18	Heymann [18] 1/5	hopefully [2] 65/6	humans [31] 6/23
has [92] 4/1 4/3 4/16	45/4 48/23 54/19	1/7 2/3 4/23 24/4	65/13	7/17 7/24 7/25 8/2 8/6
5/13 9/4 10/13 12/10	54/24 58/19 58/22	30/21 34/2 38/14	horizon [3] 64/21	8/7 8/9 8/14 9/8 9/11
12/10 15/11 22/17	58/24 59/1 59/15 61/7	47/22 62/1 72/15	65/2 67/6	10/1 10/18 14/10 16/9
23/1 24/4 24/14 24/24	61/8 61/11 64/12	74/25 76/7 77/13 78/8	horizons [2] 99/8	16/9 25/12 27/25
32/4 36/14 39/19	64/12 64/25 65/13	82/18 103/7 205/3	111/18	30/19 31/17 31/22
44/23 47/9 47/13 50/9	67/4 68/18 69/10	Heymann's [2] 47/19	horizontal [1] 24/10	36/10 36/11 36/13
51/11 53/15 55/22	69/12 69/14 70/1 70/3	71/21	horses [1] 155/7	36/16 36/17 37/4
55/23 64/3 66/6 66/23	71/9 71/14 71/15	hideous [1] 183/10	hospital [12] 29/8	37/17 65/20 66/4
67/12 73/13 76/5	71/16 72/6 72/18	hideous [1] 183/10	29/20 30/23 30/24	69/20
83/22 94/14 94/17	73/17 73/23 75/15	high [19] 9/13 24/20	31/1 32/1 33/15 34/5	Humphrey [1] 121/16
95/4 95/24 97/17	75/15 75/18 76/20	25/1 25/4 25/15 25/16	34/8 36/3 53/2 60/18	hundreds [2] 54/15
99/21 100/16 101/23	77/3 116/6 116/9	26/1 26/18 26/19	hospitalisation [1]	83/21
105/12 105/14 106/9	116/10 117/2 135/1	26/20 27/5 38/1 66/16	46/7	hygiene [3] 2/16 3/16
108/21 114/16 114/22	141/24 150/25 151/2	70/15 75/16 120/4	hospitals [7] 34/9	43/18
114/25 115/1 115/2	152/6 152/9 153/9	180/10 182/7 185/20	35/12 54/16 54/24	hypotheses [6] 15/21
125/12 130/19 131/3	166/7 166/15 166/17	High Court [1]	59/21 60/23 106/21	37/18 38/4 38/10
134/3 136/1 136/11	174/18 174/19 196/13	180/10	host [1] 16/8	38/17 38/23
139/15 143/7 143/11	199/2 199/3 200/15	higher [8] 52/11	hotel [2] 18/20 19/25	hypothesis [4] 37/5
148/25 149/1 149/9	200/21	52/16 53/17 53/17	House [3] 126/17	37/10 37/13 37/14
156/19 158/7 162/3	healthcare [10]	53/22 101/4 192/16	126/22 126/23	hypothesised [2]
163/11 163/12 163/14	43/16 53/20 56/4	193/6	household [2] 31/5	14/20 15/2
166/22 166/25 175/8	66/25 87/22 106/21	highest [2] 109/1	45/12	hypothetically [1]
177/2 184/16 185/22	139/18 199/13 199/14	109/1	Housing [6] 147/24	194/13
186/1 186/1 186/22	200/10	highlight [3] 56/16	148/1 148/11 156/14	
187/24 188/1 189/17	healthy [2] 58/24	61/16 85/23	161/8 165/11	I
193/25 194/11 196/19	104/18	highlighted [1] 82/20	how [61] 4/16 6/1	I absolutely [1]
197/17 198/2 198/5	hear [5] 1/14 1/17	highlights [1] 2/12	6/21 7/7 11/6 11/6	114/11
200/12 200/18 200/25	79/12 96/1 167/18	highly [5] 20/15 37/8	12/6 18/11 22/17 24/7	I add [3] 97/24 118/3
201/17 202/6 202/16	heard [10] 6/5 21/19	47/25 183/18 202/6	25/19 27/15 31/8 32/7	199/23
202/22	31/18 82/18 95/10	him [4] 18/19 95/25	34/16 38/14 38/15	I agree [3] 100/21
hasn't [1] 35/14	103/6 112/7 116/7	162/17 162/19	40/8 41/6 46/3 46/23	108/10 113/9
have [270]	116/10 143/15	Hine [5] 195/22	50/9 51/9 51/19 51/19	I also [1] 78/24
haven't [3] 113/20	hearing [1] 204/4	195/23 195/24 196/16	51/19 53/7 58/8 63/17	I am [5] 80/24 111/13
156/5 179/3	hearings [1] 4/2	198/16	72/4 80/18 85/19 94/7	172/10 178/8 194/3
having [17] 4/22	heart [3] 135/10	Hine review [2]	104/17 104/18 106/18	I apologise [2]
27/13 54/7 59/8 70/11	203/19 203/20	196/16 198/16	107/6 107/13 110/10	119/14 192/22
77/7 91/14 100/13	Heathrow [1] 156/22	his [6] 9/5 47/19	113/13 117/24 121/4	I appear [1] 100/15
132/7 139/22 146/14	heavily [1] 125/24	63/11 91/8 105/25	125/3 129/2 130/6	I appreciate [1]
176/11 189/1 194/18	heavy [2] 17/19	159/20	130/10 133/23 140/14	77/13
194/20 201/6 203/9	125/23	historically [1] 203/5	141/3 143/6 161/4	I ask [6] 46/13 109/4
	hefty [1] 79/20	history [6] 2/11 49/8	163/4 168/17 172/25	145/6 149/14 154/17
		54/6 85/7 85/9 105/12		

I	I might [4] 85/3 103/17 115/12 181/20	202/5 202/7 203/6	ideal [1] 66/7	if it's [1] 53/4
I ask... [1] 161/3	I misunderstood [1] 156/17	I thought [2] 133/3 141/7	ideally [1] 120/25	ill [2] 32/20 49/13
I attended [1] 113/16	I need [1] 26/17	I trouble [1] 178/20	ideas [1] 121/6	illness [7] 13/2 15/5 46/7 48/12 48/22 49/14 58/25
I believe [21] 20/13 26/18 54/11 63/22 74/2 110/2 115/15 116/18 116/20 137/14 142/3 161/22 176/2 180/16 181/17 184/12 188/11 189/10 189/12 192/10 199/19	I note [1] 173/2	I turn [2] 85/23 109/4	identifiable [2] 192/8 192/8	illustration [2] 99/3 103/23
I can [4] 65/15 139/19 198/4 200/14	I please [2] 78/18 145/7	I understand [3] 60/19 78/22 141/7	identification [8] 112/17 134/3 138/14 144/1 164/24 166/6 168/13 174/4	immediacy [1] 39/9
I can't [5] 11/2 60/22 77/23 163/23 187/16	I presume [2] 44/9 117/9	I understood [1] 113/1	identified [28] 6/22 15/18 19/10 31/16 61/16 77/4 97/18 108/1 108/16 108/21 109/10 109/21 110/1 110/3 115/3 115/6 128/8 128/22 135/9 145/15 151/25 152/19 163/14 166/4 166/10 174/23 179/24 194/20	immediate [5] 38/15 40/15 49/3 128/13 156/19
I chaired [1] 67/17	I promised [1] 177/11	I visited [1] 54/12	identifies [2] 112/3 128/22	immediately [2] 40/16 111/25
I commence [1] 79/9	I put [1] 178/2	I want [2] 122/4 143/23	identify [13] 4/18 19/14 29/13 49/15 69/3 85/17 87/20 104/24 108/5 151/21 152/10 160/1 198/10	immune [6] 11/14 12/24 47/12 50/2 51/20 51/25
I compliant [1] 178/7	I rather [1] 146/24	I wished [5] 92/7 106/15 147/17 157/3 198/3	identifying [9] 77/11 82/13 102/17 110/16 112/18 134/4 145/19 154/21 161/10	immunity [16] 10/13 12/7 12/9 12/9 12/12 12/13 12/13 12/18 12/22 12/23 13/1 15/4 30/2 47/6 51/16 51/18
I concur [1] 184/19	I read [1] 180/24	I was [10] 46/22 50/10 81/18 126/12 133/7 150/7 150/12 156/4 159/22 160/24	identifies [2] 112/3 128/22	impact [15] 66/23 67/3 86/7 88/24 89/5 90/23 91/18 92/17 96/10 96/13 96/25 109/1 109/14 130/12 169/5
I conducted [1] 139/5	I really [1] 77/18	I wasn't [1] 141/12	identifying [9] 77/11 82/13 102/17 110/16 112/18 134/4 145/19 154/21 161/10	impacts [1] 96/8
I confess [1] 156/5	I recognise [2] 84/25 87/15	I will [3] 26/17 50/16 148/15	IEM [1] 127/23	imperfectly [1] 129/19
I continue [1] 5/13	I represent [1] 75/1	I wish [1] 76/10	if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 136/4 136/9 137/15 137/16 139/18 139/21 143/5 146/7 147/7 147/18 148/2 148/9 152/3 156/17 162/10 163/12 164/15 165/16 166/22 167/13 168/10 175/12 176/24 176/24 177/21 178/2 179/4 179/5 181/18 181/20 182/5 182/21 184/21 186/11 187/20 188/8 188/8 189/4 194/12 197/21 202/16 203/18	importance [3] 64/8 157/19 183/9
I criticised [1] 162/11	I reviewed [1] 30/8	I would [20] 26/16 26/18 26/19 29/4 77/22 85/5 108/24 113/9 126/1 141/15 144/22 146/20 155/7 159/25 161/22 162/2 162/2 181/21 189/23 201/23	if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 136/4 136/9 137/15 137/16 139/18 139/21 143/5 146/7 147/7 147/18 148/2 148/9 152/3 156/17 162/10 163/12 164/15 165/16 166/22 167/13 168/10 175/12 176/24 176/24 177/21 178/2 179/4 179/5 181/18 181/20 182/5 182/21 184/21 186/11 187/20 188/8 188/8 189/4 194/12 197/21 202/16 203/18	important [51] 13/17 18/21 20/14 34/17 37/19 44/2 45/2 45/3 50/23 54/25 55/1 60/4 62/10 62/16 63/11 64/16 64/18 64/21 65/10 65/25 66/7 67/19 70/21 75/10 75/24 79/12 85/17 86/2 87/3 87/21 88/15 88/16 88/20 100/4 104/7 118/12 129/2 130/20 134/15 135/14 144/3 147/3 147/5 151/1 151/20 153/17 159/7 184/3 190/25 192/10 198/17
I declare [1] 194/3	I say [3] 1/16 102/3 171/4	I wouldn't [3] 25/9 84/7 199/20	if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 136/4 136/9 137/15 137/16 139/18 139/21 143/5 146/7 147/7 147/18 148/2 148/9 152/3 156/17 162/10 163/12 164/15 165/16 166/22 167/13 168/10 175/12 176/24 176/24 177/21 178/2 179/4 179/5 181/18 181/20 182/5 182/21 184/21 186/11 187/20 188/8 188/8 189/4 194/12 197/21 202/16 203/18	implied [2] 104/5 136/12
I described [1] 165/25	I see [1] 166/14	I'd [14] 1/10 12/8 13/4 39/9 50/25 54/3 61/16 75/4 107/3 133/19 141/12 141/20 142/25 175/2	IEM [1] 127/23	implies [1] 120/14
I did [2] 172/17 195/5	I seem [1] 46/18	I'll [8] 1/17 84/9 95/25 113/2 133/13 145/7 195/13 203/15	if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 136/4 136/9 137/15 137/16 139/18 139/21 143/5 146/7 147/7 147/18 148/2 148/9 152/3 156/17 162/10 163/12 164/15 165/16 166/22 167/13 168/10 175/12 176/24 176/24 177/21 178/2 179/4 179/5 181/18 181/20 182/5 182/21 184/21 186/11 187/20 188/8 188/8 189/4 194/12 197/21 202/16 203/18	importance [3] 64/8 157/19 183/9
I do [15] 9/9 42/14 62/3 78/25 114/17 117/11 117/11 122/12 144/21 145/22 151/7 162/15 180/25 181/14 184/8	I shall [1] 197/23	I'm [49] 2/11 13/19 15/24 38/7 39/13 47/21 50/8 60/21 71/23 72/11 72/13 77/24 77/25 78/23 79/20 85/3 89/21 97/19 100/15 102/2 103/12 116/1 118/16 121/25 125/21 126/1 126/7 126/7 126/10 135/13 135/18 135/25 144/9 146/10 146/25 147/14 150/14 155/16 156/17 163/17 163/23 166/14 172/9 187/18 190/7 191/20 191/21 198/2 203/3	if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 136/4 136/9 137/15 137/16 139/18 139/21 143/5 146/7 147/7 147/18 148/2 148/9 152/3 156/17 162/10 163/12 164/15 165/16 166/22 167/13 168/10 175/12 176/24 176/24 177/21 178/2 179/4 179/5 181/18 181/20 182/5 182/21 184/21 186/11 187/20 188/8 188/8 189/4 194/12 197/21 202/16 203/18	important [51] 13/17 18/21 20/14 34/17 37/19 44/2 45/2 45/3 50/23 54/25 55/1 60/4 62/10 62/16 63/11 64/16 64/18 64/21 65/10 65/25 66/7 67/19 70/21 75/10 75/24 79/12 85/17 86/2 87/3 87/21 88/15 88/16 88/20 100/4 104/7 118/12 129/2 130/20 134/15 135/14 144/3 147/3 147/5 151/1 151/20 153/17 159/7 184/3 190/25 192/10 198/17
I don't [17] 38/7 41/13 63/21 76/7 77/21 77/22 109/11 119/6 120/17 121/16 121/22 147/1 151/8 160/23 163/13 187/16 198/9	I simply [1] 187/21	I'm afraid [3] 116/1 126/10 163/23	if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 136/4 136/9 137/15 137/16 139/18 139/21 143/5 146/7 147/7 147/18 148/2 148/9 152/3 156/17 162/10 163/12 164/15 165/16 166/22 167/13 168/10 175/12 176/24 176/24 177/21 178/2 179/4 179/5 181/18 181/20 182/5 182/21 184/21 186/11 187/20 188/8 188/8 189/4 194/12 197/21 202/16 203/18	importantly [3] 83/9 118/1 145/1
I draw [1] 142/19	I stand [2] 68/22 199/15	I've [7] 20/2 136/2 163/13 171/7 175/13 176/6 193/23	if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 136/4 136/9 137/15 137/16 139/18 139/21 143/5 146/7 147/7 147/18 148/2 148/9 152/3 156/17 162/10 163/12 164/15 165/16 166/22 167/13 168/10 175/12 176/24 176/24 177/21 178/2 179/4 179/5 181/18 181/20 182/5 182/21 184/21 186/11 187/20 188/8 188/8 189/4 194/12 197/21 202/16 203/18	importance [3] 64/8 157/19 183/9
I fear [2] 98/25 101/18	I start [1] 185/13	idea [1] 106/3	if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 136/4 136/9 137/15 137/16 139/18 139/21 143/5 146/7 147/7 147/18 148/2 148/9 152/3 156/17 162/10 163/12 164/15 165/16 166/22 167/13 168/10 175/12 176/24 176/24 177/21 178/2 179/4 179/5 181/18 181/20 182/5 182/21 184/21 186/11 187/20 188/8 188/8 189/4 194/12 197/21 202/16 203/18	imported [2] 32/10 41/7
I finish [1] 72/11	I suggest [1] 195/4		if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 136/4 136/9 137/15 137/16 139/18 139/21 143/5 146/7 147/7 147/18 148/2 148/9 152/3 156/17 162/10 163/12 164/15 165/16 166/22 167/13 168/10 175/12 176/24 176/24 177/21 178/2 179/4 179/5 181/18 181/20 182/5 182/21 184/21 186/11 187/20 188/8 188/8 189/4 194/12 197/21 202/16 203/18	importing [1] 39/22
I had [1] 70/7	I summarise [1] 129/19		if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 136/4 136/9 137/15 137/16 139/18 139/21 143/5 146/7 147/7 147/18 148/2 148/9 152/3 156/17 162/10 163/12 164/15 165/16 166/22 167/13 168/10 175/12 176/24 176/24 177/21 178/2 179/4 179/5 181/18 181/20 182/5 182/21 184/21 186/11 187/20 188/8 188/8 189/4 194/12 197/21 202/16 203/18	
I have [7] 74/8 116/24 163/24 178/2 183/14 194/4 197/22	I suppose [1] 92/24		if [103] 1/16 1/20 8/21 9/18 9/21 10/11 10/12 18/3 20/4 24/8 24/11 24/15 25/3 39/21 42/11 43/12 43/17 47/4 48/18 53/4 56/8 56/15 60/4 60/23 61/16 62/18 63/14 65/4 66/17 69/8 73/21 79/14 85/3 85/7 86/23 89/12 92/14 94/5 97/20 100/15 100/22 100/24 101/5 103/17 104/21 105/7 110/12 110/16 115/12 116/2 118/9 120/14 123/6 124/22 129/18 131/10 133/25 134/13 134/13 135/21 135/24 13	

I	51/15 51/18 51/22 63/18 112/10 indeed [19] 78/7 79/19 82/23 95/2 95/4 98/22 99/19 105/23 110/7 125/21 173/25 177/5 178/2 183/13 186/6 199/15 200/17 201/3 203/16 independent [8] 81/15 81/24 93/7 139/4 143/14 149/9 187/24 202/15 Index [2] 116/11 204/6 indicate [1] 59/23 indicated [4] 19/3 99/5 197/13 197/14 indication [5] 7/15 53/4 53/24 74/17 137/24 indications [2] 111/4 149/22 indicative [1] 115/21 indices [1] 116/6 indirectly [1] 161/5 individual [8] 131/7 147/2 159/6 161/23 162/25 176/8 184/15 188/3 individuals [3] 43/20 103/16 133/20 industry [2] 67/5 70/10 inevitability [1] 85/7 inevitable [4] 86/5 89/10 108/14 108/14 inevitably [1] 86/15 infect [5] 6/14 18/3 35/20 47/5 55/21 infected [36] 8/17 8/21 8/23 10/10 16/14 16/21 18/14 18/15 18/16 19/24 22/3 23/12 28/5 29/23 29/24 30/25 31/2 31/5 31/6 31/17 32/18 35/19 37/12 37/23 45/20 47/1 47/25 52/1 55/21 58/23 59/19 73/1 73/4 73/7 73/12 74/1 infecting [1] 51/14 infection [57] 7/1 12/10 12/16 17/3 17/24 18/10 19/8 20/21 22/2 22/19 22/20 22/24 22/25 23/1 27/1 27/14 28/4 28/5 28/7 28/16 29/14 29/18 30/2 31/7 32/2 32/23 32/24 33/3 33/14 33/16 33/19 34/5 34/7 34/16 43/10	43/18 48/1 48/12 49/8 49/11 49/15 49/23 51/3 53/13 55/5 55/8 56/21 58/25 62/19 62/21 63/1 63/4 63/8 63/9 64/4 65/23 73/13 infections [22] 8/9 11/7 18/22 21/23 22/21 25/24 26/3 28/17 31/9 31/11 42/15 43/3 43/8 48/20 50/3 50/4 50/5 63/4 63/7 64/6 64/22 65/9 infectious [16] 3/14 3/15 23/9 75/6 75/9 75/19 76/21 77/5 77/9 77/12 77/17 77/20 84/4 84/12 96/20 196/5 infectivity [1] 114/6 influenza [23] 3/3 4/12 14/20 14/23 19/5 25/21 25/23 26/1 51/10 51/11 57/2 58/11 58/16 60/17 60/20 82/13 88/2 109/12 112/5 112/19 174/13 174/20 195/14 informal [1] 59/15 information [24] 16/24 19/4 35/15 38/20 39/3 39/4 39/14 39/15 39/18 40/11 40/17 40/24 41/11 41/13 41/14 41/17 49/12 51/8 59/7 59/11 60/5 67/13 67/19 177/2 informed [3] 74/15 94/2 124/12 infrastructure [5] 89/3 139/15 140/2 141/2 157/19 infusion [1] 17/8 initial [8] 41/3 42/3 43/1 43/1 44/16 57/2 61/10 156/13 initially [2] 19/23 160/11 injury [2] 48/16 48/17 innovation [1] 196/22 innovations [1] 70/12 input [1] 126/16 INQ00022732 [1] 61/4 INQ000090317 [1] 76/11 INQ000097685 [1] 118/19 INQ000195846 [2] 2/1 47/20 INQ000198953 [1]	24/2 INQ000203349 [2] 79/23 172/6 INQ000204014 [2] 135/22 162/9 inquest [1] 133/15 inquests [1] 133/10 inquire [1] 126/9 inquiry [25] 1/8 1/11 1/24 2/13 4/1 9/5 36/19 43/9 76/5 79/8 82/8 83/22 85/20 89/19 90/20 100/5 103/1 126/9 147/12 147/12 185/2 185/19 189/4 205/5 205/13 insects [1] 63/6 inserted [1] 134/6 inside [7] 5/6 92/2 120/1 132/10 143/6 184/18 187/17 insofar [3] 88/24 157/6 166/9 inspected [1] 65/20 inspection [1] 182/12 inspectorate [2] 179/23 180/1 instability [2] 91/10 91/22 instance [2] 18/24 51/9 instances [3] 9/15 35/16 37/14 instead [4] 111/13 115/18 126/14 186/19 instinct [1] 156/25 Institute [1] 80/22 institutions [4] 57/6 68/8 98/13 193/6 instructions [3] 4/7 71/23 71/25 insuring [1] 87/10 integrated [17] 84/17 118/24 127/22 128/1 128/19 130/19 130/21 131/10 131/13 134/4 134/14 164/21 165/4 170/8 194/21 201/9 201/13 integration [2] 123/19 131/7 intensively [2] 7/6 8/17 interact [2] 60/14 96/6 interaction [2] 69/2 96/12 interconnections [1] 129/7 interest [4] 69/5 70/18 70/21 194/3 interesting [2] 25/19 98/4 interests [1] 195/5	interfaces [1] 101/22 interior [1] 153/2 interleave [1] 120/1 intermediary [1] 37/3 intermediate [1] 101/7 internal [1] 163/4 international [14] 4/20 10/25 39/5 40/1 42/15 43/5 67/25 68/5 68/13 68/18 95/2 116/6 120/20 122/25 internationally [3] 41/10 42/5 95/9 interpret [1] 53/7 interrupt [1] 155/16 interrupted [1] 57/4 interruption [1] 42/10 intervals [1] 146/14 intervened [1] 104/6 intervention [1] 180/11 into [58] 1/13 8/6 8/13 13/13 15/8 18/18 20/6 30/14 37/3 37/4 44/20 45/8 66/4 83/2 84/23 85/2 89/5 92/13 93/20 97/14 98/8 98/17 100/6 100/8 101/13 104/2 107/9 110/4 110/13 118/23 121/7 126/9 126/18 128/24 130/4 132/17 132/18 133/10 134/4 137/11 138/2 141/19 144/13 145/25 147/15 148/11 149/12 156/19 158/25 168/22 170/3 170/22 171/14 175/8 178/5 195/24 198/18 201/9 intra [1] 75/17 intra-governmentally [1] 75/17 Introduce [2] 123/14 124/7 introduced [1] 118/12 introduction [1] 97/5 introductory [1] 84/21 invariably [1] 100/25 investigating [1] 2/18 investigation [3] 3/10 23/20 57/9 investigations [1] 29/13 investment [3] 119/13 124/10 124/12 invite [1] 197/7 invited [1] 72/11 inviting [1] 127/14
----------	--	---	---	--

I	36/9 36/15 36/19 38/18 40/20 40/20 42/21 43/7 45/3 46/18 47/14 49/20 49/21 50/3 51/6 51/12 53/3 53/4 53/13 56/8 62/9 62/16 62/22 62/25 63/11 64/16 64/18 64/20 64/24 65/6 65/9 65/17 65/25 66/7 70/20 70/21 72/5 72/21 73/5 73/6 74/24 76/11 77/1 77/18 79/10 79/12 80/16 82/3 85/25 86/2 97/16 106/25 112/7 120/23 121/2 121/13 121/16 122/13 122/23 129/2 132/11 134/1 135/22 135/25 137/2 140/25 148/18 151/20 152/5 153/1 159/16 159/16 159/17 159/22 162/15 165/24 167/8 168/1 170/16 171/6 180/1 186/6 188/25 193/16 196/18 198/8 198/9 199/1 199/3 200/22 202/12	JEE [1] 116/14 Jenny [3] 76/4 76/9 77/1 Jenny Harries [1] 76/4 JH [1] 76/11 JH/M10009 [1] 76/11 jigsaw [1] 158/13 Jimmy [1] 6/6 job [8] 113/18 140/13 140/14 158/6 162/23 192/18 192/19 201/19 jobs [1] 176/17 Joined [2] 70/25 71/1 Joined-up [2] 70/25 71/1 joining [2] 67/5 78/20 joint [7] 69/21 79/19 116/8 127/5 170/2 179/22 193/16 judgement [1] 114/25 judgment [5] 84/3 91/5 92/1 124/25 181/1 July [2] 119/2 132/22 July 2021 [1] 119/2 jump [2] 7/16 7/22 jumped [3] 15/8 136/1 136/1 jumping [1] 7/18 jumps [2] 7/20 66/4 June [3] 1/1 31/17 204/5 just [68] 1/21 15/21 24/8 26/13 29/1 30/22 34/20 39/9 45/1 46/15 46/18 46/20 47/21 48/18 50/8 56/17 57/7 58/19 59/3 59/4 60/20 62/22 71/23 74/25 75/3 82/17 82/25 85/23 89/24 89/25 92/19 97/16 100/6 101/14 103/14 105/6 106/9 116/12 118/11 121/14 122/8 126/7 127/2 128/20 135/25 136/8 137/23 139/23 140/7 140/19 140/20 142/23 145/7 147/14 149/13 154/18 154/19 157/3 157/13 159/22 168/1 169/12 172/7 174/1 175/2 198/5 200/14 201/5 Justice [3] 74/13 75/2 197/13 Justice UK [1] 75/2	79/10 79/12 99/16 99/16 116/1 116/2 138/7 138/10 141/4 141/5 185/14 keeping [1] 161/1 keeps [1] 98/25 Keith [19] 78/17 102/1 102/11 113/2 125/2 132/9 140/19 144/10 155/20 156/2 156/17 166/14 171/6 191/9 198/2 198/5 201/2 201/6 203/9 kerosene [1] 156/21 key [14] 83/6 83/7 84/6 84/8 92/1 110/21 111/11 123/17 124/4 138/14 141/2 141/3 175/15 195/25 kicking [1] 147/9 kidney [1] 48/16 kind [8] 113/3 114/16 121/11 125/5 125/6 187/3 187/5 203/21 kindly [1] 81/21 kinds [1] 96/12 King's [1] 74/12 kingdom [51] 2/25 3/7 6/4 6/12 7/14 31/16 32/7 32/8 43/11 58/6 59/8 59/20 60/7 64/9 67/24 81/1 82/21 84/2 85/13 87/2 88/7 89/20 94/3 94/16 100/5 100/7 109/8 116/14 117/17 118/13 120/4 122/16 123/8 123/11 127/10 127/21 142/6 151/18 151/24 163/8 166/21 166/22 166/24 167/15 172/12 173/11 184/18 187/13 193/10 195/25 196/9 Kingdom's [3] 86/7 92/21 144/2 kingdoms [1] 8/25 knew [4] 41/6 60/12 149/4 157/12 knits [1] 128/23 know [46] 3/3 3/9 7/10 15/12 15/22 18/12 18/24 22/21 26/4 26/5 28/14 37/9 39/12 51/1 61/5 62/1 62/3 63/2 63/16 65/17 65/20 73/6 73/24 74/11 77/21 77/22 78/12 99/9 109/11 113/19 117/24 121/4 129/22 133/9 136/14 160/11 163/13 174/6 175/22 180/9 180/23 180/25 187/16 191/20 193/18 193/20	knowing [1] 65/8 knowledge [7] 2/6 55/23 58/5 58/8 81/23 179/3 179/16 known [30] 6/2 6/22 6/25 7/13 7/24 8/24 8/25 12/12 13/23 23/22 30/4 30/4 31/7 31/9 32/8 36/9 49/3 50/3 57/25 62/9 62/12 62/13 63/16 64/7 105/13 128/19 148/4 199/17 199/20 200/5 knows [2] 74/8 109/17 Kong [4] 18/18 21/11 54/10 59/18 Korea [10] 32/18 33/12 35/9 36/3 54/9 55/11 55/16 57/5 57/14 61/19 Kosovo [1] 81/7
involve [4] 105/19 172/15 180/10 192/4 involved [7] 45/17 90/16 101/20 117/14 152/13 155/9 200/24 involves [2] 132/8 181/23 involving [2] 61/7 192/11 inward [1] 88/21 inward-facing [1] 88/21 Ireland [34] 64/20 64/20 72/9 88/9 88/18 89/23 90/10 90/12 90/17 90/21 91/1 91/14 91/16 91/19 91/25 92/2 100/9 100/19 162/8 170/14 170/16 170/22 170/23 171/13 171/21 172/19 173/3 173/4 173/9 173/13 173/13 183/6 188/16 195/18 Irish [2] 91/6 91/15 is [707] is 2017 [1] 164/16 is: [2] 104/24 132/16 is: get [1] 132/16 is: identify [1] 104/24 island [1] 173/13 isn't [4] 6/17 24/15 125/19 198/8 isolated [1] 19/15 isolation [4] 33/16 33/25 54/15 56/20 issue [16] 7/19 75/6 77/9 91/20 98/21 114/24 116/5 127/19 134/2 152/21 157/14 159/10 169/17 173/12 177/10 203/3 issued [2] 43/10 197/1 issues [21] 58/24 63/18 82/10 84/23 90/7 91/11 91/24 92/2 107/21 107/22 110/21 118/8 141/3 152/24 152/24 188/18 188/20 197/18 197/22 198/3 200/9 it [439] it's [125] 2/1 2/3 2/5 2/5 2/8 5/23 6/2 6/3 6/15 6/22 6/25 7/2 7/6 7/13 7/24 8/17 8/24 9/22 10/7 10/10 10/11 12/16 13/6 17/18 17/21 18/16 21/16 22/20 25/19 27/17 27/25 30/4 30/4 35/13	Italians [1] 153/4 Italy [3] 57/15 150/16 150/25 its [50] 4/2 4/14 4/14 10/3 10/9 10/9 13/25 19/12 20/5 30/6 42/7 43/22 58/9 60/24 66/16 68/19 81/16 84/3 93/19 94/17 94/21 98/12 98/24 99/22 104/25 109/21 109/25 111/8 112/2 112/10 112/17 123/3 130/7 135/17 140/4 142/12 148/12 152/25 154/14 162/12 167/15 167/16 168/22 169/19 178/10 182/6 182/6 193/7 198/18 202/1 itself [11] 5/19 27/25 53/24 81/19 83/22 86/14 104/12 158/8 158/8 184/7 199/1	J January [4] 43/14 43/25 44/17 199/18 January 2020 [1] 199/18 Japan [6] 54/9 55/2 55/11 56/19 57/10 57/14 jargon [5] 103/13 122/1 128/20 142/1 177/18	labelling [1] 162/17 laboratories [2] 38/1 38/1 laboratory [10] 23/10 23/11 31/12 31/14 37/7 37/8 37/9 37/10 49/16 52/23 lack [11] 39/14 39/14 39/14 40/24 41/10 41/12 59/6 60/16 60/17 162/12 166/20 lacks [1] 125/22 Lady [39] 1/4 46/17 50/9 50/21 71/20 72/5 72/11 74/8 74/8 74/16 74/21 76/7 77/2 78/1 78/6 78/18 79/24 85/20 92/14 119/7 119/23 121/15 133/9 133/14 134/13 141/12 141/14 162/15 163/2 173/11 173/17 184/11 188/22 189/24 190/2 197/7 197/11 203/21 203/25 Lancaster [1] 185/6 landed [1] 201/21 language [5] 121/11 121/17 122/9 125/1 147/13 large [9] 61/9 85/10 96/25 114/4 153/14 171/15 173/21 200/25 202/8 largely [2] 160/13 170/15 larger [1] 169/25 last [11] 8/5 31/7 31/9 31/11 92/22 92/24 95/9 127/3	
	K KC [4] 74/22 197/25 205/7 205/15 keep [13] 1/13 57/8			

L	leaves [1] 122/2	148/11 156/14 161/8	113/10 115/25 178/22	165/16 167/13 168/11
last... [3] 149/1	lectern [1] 154/8	165/10 167/2	192/2 193/2	179/6 185/14 193/3
175/25 176/7	lecture [2] 24/5	Levelling Up [1]	live [8] 8/22 16/4	looked [3] 14/16 55/4
lasting [1] 147/12	113/18	167/2	16/13 16/18 37/5	76/21
late [2] 16/5 19/18	led [5] 30/6 32/24	levels [8] 57/8 75/16	37/21 96/5 139/13	looking [12] 24/3
later [14] 43/9 44/5	33/20 195/6 195/9	101/4 126/10 150/2	lived [1] 139/21	46/10 55/3 64/21
45/24 58/18 104/4	leeway [1] 133/23	177/16 177/18 191/13	Liverpool [1] 151/11	64/22 65/25 104/21
115/11 115/25 119/9	left [13] 24/12 37/12	liable [2] 166/20	lives [1] 104/7	106/23 106/24 131/25
119/19 126/21 136/10	136/3 136/20 143/24	196/14	local [52] 60/2 60/3	132/8 159/23
160/14 186/20 195/7	147/18 163/22 164/16	liaise [1] 158/19	61/11 95/5 100/24	loose [1] 178/5
latterly [1] 83/10	165/16 169/21 170/1	liaison [4] 147/20	101/2 101/9 101/15	Lords [2] 126/22
law [4] 97/13 97/16	171/8 175/24	148/7 165/21 173/7	124/5 125/24 126/15	126/23
100/17 141/15	left-hand [6] 24/12	Liam [1] 76/19	135/18 136/2 136/20	Lords' [1] 126/17
laying [1] 43/11	147/18 165/16 169/21	liberated [1] 126/2	137/18 144/7 144/17	lose [2] 132/12
lead [36] 69/2 79/8	170/1 171/8	lies [2] 22/16 181/1	144/25 145/2 147/21	139/18
147/3 151/16 151/25	legal [16] 136/24	life [2] 139/20 181/15	147/21 147/25 148/7	loss [11] 48/5 48/6
152/1 152/3 152/4	137/3 137/9 140/5	lifecycle [1] 123/12	148/10 148/21 149/11	48/8 107/5 107/8
152/8 152/20 152/22	140/7 140/18 141/21	light [7] 5/2 17/21	150/1 159/13 161/5	107/10 128/25 129/4
153/16 153/20 153/24	142/14 143/7 143/16	135/13 143/3 180/18	164/7 165/17 169/23	129/4 132/14 171/24
153/25 154/3 154/6	144/24 144/25 164/22	197/17 199/7	173/20 174/2 174/16	lost [2] 171/7 192/6
154/13 154/20 154/21	171/17 182/15 182/23	lighter [2] 17/16	176/4 176/5 177/23	lot [7] 17/4 72/1
154/24 154/25 155/4	legislation [6] 93/2	17/20	178/4 178/9 178/17	107/9 115/2 120/25
155/13 156/8 156/12	94/7 94/13 94/21	like [36] 1/10 5/5 8/2	179/4 179/10 179/14	121/6 161/17
156/15 157/13 157/14	135/10 172/22	8/5 13/4 23/3 25/20	181/2 181/24 181/24	loudly [1] 17/17
159/15 166/12 167/1	legislative [3] 93/25	27/18 39/9 39/24	182/23 186/22 187/6	low [9] 9/19 24/12
170/11 200/22 201/25	135/8 135/11	44/11 44/13 50/25	190/9 191/12	24/13 24/16 24/16
205/13	length [1] 19/13	54/3 61/16 63/14 75/4	locality [1] 177/23	24/20 25/4 25/7 57/8
leader [3] 67/7 81/15	less [9] 22/2 33/21	96/24 105/7 121/4	locally [1] 151/5	lower [3] 55/20 56/10
184/22	47/14 49/14 60/9	125/7 126/1 133/19	located [1] 203/1	175/4
leaders [3] 143/18	60/10 147/13 151/20	139/6 139/8 139/16	location [2] 163/21	LRFs [2] 178/24
166/25 183/12	153/11	143/5 146/20 146/24	176/13	179/1
leadership [15]	lesser [1] 182/15	148/9 151/12 154/4	lockdown [5] 55/7	lucky [2] 96/22 96/23
123/18 132/1 142/21	lesson [4] 60/11	158/25 177/15 193/3	55/22 56/5 57/25 58/1	lunch [1] 102/6
143/12 153/19 156/22	61/24 103/19 104/6	202/5	lockdowns [3] 57/1	lunchtime [2] 79/16
167/7 167/8 167/9	lessons [11] 61/15	likelihood [4] 7/16	57/10 66/22	79/16
171/23 183/19 183/19	70/22 82/16 83/25	109/1 109/14 128/10	locked [1] 55/7	lungs [10] 9/19 17/5
184/10 189/11 192/25	84/24 103/18 103/21	106/6 111/23 112/11	Lombardy [1] 80/12	17/11 20/9 21/4 25/25
leading [5] 33/19	103/24 132/5 134/9	138/4 157/24 160/6	London [13] 2/15	27/9 27/10 29/22
94/12 138/22 143/13	193/5	160/6 184/15	3/15 24/6 80/6 80/16	62/24
177/18	let [4] 55/19 78/12	likewise [1] 48/24	103/24 132/20 133/15	lynchpin [1] 150/18
leads [1] 96/10	86/19 113/2	limit [1] 30/11	167/21 168/3 168/3	
leaf [1] 178/5	let's [11] 4/23 26/17	160/6 184/15	168/4 169/7	M
learn [5] 61/24 84/24	31/15 56/12 66/10	limited [4] 44/21 71/9	London Assembly [2]	M10009 [1] 76/11
132/5 134/8 160/14	111/6 111/21 113/22	91/24 180/13	132/20 133/15	Mad [1] 9/6
learned [11] 41/23	129/5 178/17 203/7	limits [1] 98/24	long [15] 6/21 12/6	Madam [1] 40/16
54/21 60/11 70/22	lethality [1] 114/6	line [12] 7/20 25/3	12/6 12/8 17/25 27/17	Madam Wu Yi [1]
83/25 103/18 103/19	letters [1] 10/20	36/1 64/3 64/11 98/22	50/9 63/15 65/22 67/1	40/16
103/21 104/8 134/9	level [45] 24/9 24/10	114/24 149/6 161/2	67/2 83/12 92/17	made [26] 45/5 45/6
201/15	26/15 53/18 54/4	169/1 169/3 169/3	99/11 148/2	45/6 66/25 67/15 68/3
learning [4] 134/3	57/18 60/2 60/4 70/15	lines [1] 153/18	long Covid [1] 67/2	69/17 83/21 85/24
135/6 193/4 199/7	77/3 100/25 114/7	lining [1] 25/25	long term [1] 99/11	86/24 99/25 103/3
learnt [2] 59/24 82/17	115/25 120/4 125/24	link [9] 45/20 45/23	long-term [5] 12/6	109/14 109/15 113/7
least [23] 24/11	126/15 126/16 128/4	148/9 165/17 167/17	12/8 27/17 67/1 92/17	114/18 118/4 142/18
24/15 24/17 52/25	131/7 131/25 132/1	168/2 168/5 168/6	longer [4] 18/3 27/2	147/15 150/1 171/20
93/4 93/23 105/14	135/16 135/18 148/23	168/8	51/15 144/16	175/13 176/6 179/18
112/3 128/3 130/11	148/24 151/5 159/5	linked [1] 144/10	look [34] 9/4 13/6	198/22 199/7
134/21 146/2 146/8	159/6 174/25 175/4	links [1] 87/6	17/18 23/3 39/7 43/9	main [2] 34/20
146/25 147/12 148/7	184/1 184/15 184/16	list [6] 3/24 4/2 9/13	45/19 56/8 56/12	200/23
157/15 158/19 167/20	185/20 186/23 188/19	75/13 83/12 97/12	62/11 62/18 62/19	mainly [2] 58/13
173/6 176/13 180/4	189/3 189/6 189/6	literature [1] 67/13	65/2 66/11 85/7 92/10	58/20
192/1	190/6 190/24 191/7	little [10] 79/11 89/25	92/13 94/6 100/22	maintain [2] 66/16
leave [5] 26/13 61/2	191/12 191/12 191/13	93/14 104/11 106/17	115/10 122/8 125/7	152/1
101/6 121/18 203/15	levelled [1] 113/5		136/4 143/5 147/18	maintained [2] 9/1
	Levelling [6] 148/1		155/13 160/18 162/5	118/9

M	manipulated [1] 37/15	5/6 5/9 17/25 91/15 163/24 169/8 174/12 174/14 175/1 175/13	measurement [2] 123/15 125/11	15/10
maintenance [1] 151/2	Mann [38] 78/19 79/7 80/25 83/14 83/25 85/11 89/25 94/14 100/22 102/6 102/12 109/5 112/24 114/9 118/21 121/10 122/5 124/17 130/1 145/9 149/15 154/18 155/16 156/3 160/24 162/3 163/5 175/22 177/11 185/2 187/11 187/22 191/20 193/10 194/17 203/17 203/22 205/11	matter [11] 38/25 98/10 100/25 104/11 114/25 165/12 169/18 173/24 185/1 188/9 189/25	measures [10] 33/4 43/19 45/5 56/24 67/4 70/9 120/13 120/14 120/24 122/3	metrics [2] 116/20 125/6
major [25] 20/12 32/5 32/17 34/16 36/25 37/8 55/16 55/16 87/19 90/8 90/18 94/11 94/11 96/3 96/17 96/23 98/2 104/1 107/25 108/2 113/6 143/17 144/20 165/9 172/20	manner [1] 60/15	matters [9] 82/7 83/1 90/14 93/21 104/12 105/16 155/1 159/24 186/4	meat [1] 116/3	metropolitan [2] 134/25 151/9
majority [5] 12/9 29/10 31/6 148/8 195/8	manning [1] 126/10	may [66] 1/5 2/3 8/16 22/3 28/21 35/21 39/22 39/23 43/12 46/3 49/17 52/4 52/20 52/21 57/18 59/8 60/9 62/23 62/24 66/11 72/17 74/18 78/18 79/24 83/25 85/23 89/12 94/8 97/24 98/15 99/13 102/3 104/11 105/23 107/12 107/14 108/5 109/23 110/18 116/15 121/24 122/6 129/18 133/9 138/24 140/19 141/15 145/7 147/7 154/23 155/5 155/16 155/17 156/3 156/7 156/11 156/15 161/12 161/14 184/21 186/11 189/8 189/16 197/18 201/21 203/18	mechanism [5] 5/18 40/1 64/16 64/18 65/6 42/16	Mexico [1] 116/25
make [38] 19/13 20/5 25/18 37/20 43/24 44/11 44/13 44/24 69/1 83/17 85/25 86/12 86/22 88/19 92/9 97/4 112/21 114/17 116/4 124/2 132/15 132/16 136/16 137/10 142/25 154/1 159/1 162/20 179/13 184/22 190/5 191/9 196/11 197/3 197/21 198/15 200/17 202/21	Manual [1] 3/21	may add [1] 89/12	mechanisms [2] 5/20 42/16	microscope [2] 5/2 5/3
making [12] 49/23 69/7 74/3 111/13 117/21 146/5 158/10 162/17 185/16 191/4 191/14 201/11	many [43] 6/1 6/9 6/9 8/11 8/15 14/23 15/21 17/14 17/25 27/6 27/22 27/22 28/17 32/7 32/25 35/15 35/20 35/20 35/22 38/23 52/12 53/3 53/10 56/22 57/7 58/20 60/12 63/6 70/8 70/12 73/12 73/12 73/13 74/2 96/4 99/9 105/9 126/21 133/21 145/11 145/13 145/15 203/12	maybe [2] 46/18 154/21	medium [1] 99/11	mid [1] 155/7
maker [1] 192/14	map [2] 176/15 179/11	mayors [1] 142/9	meet [3] 124/19 146/14 162/14	mid-stream [1] 155/7
makes [3] 77/14 144/16 200/1	March [7] 19/11 73/25 92/1 175/24 176/7 179/1 180/12	MD [1] 2/14	meeting [2] 42/8 145/2	middle [6] 3/8 32/19 32/20 125/22 166/15 171/6
making [12] 49/23 69/7 74/3 111/13 117/21 146/5 158/10 162/17 185/16 191/4 191/14 201/11	March 2010 [1] 175/24	me [16] 1/17 25/19 46/18 46/20 46/20 63/8 70/11 78/12 86/19 102/5 105/16 114/1 143/12 155/21 166/16 178/6	meets [3] 64/24 65/1 159/15	Middle East [3] 3/8 32/19 32/20
malicious [1] 186/3	March 2011 [1] 179/1	mean [10] 10/20 42/17 42/18 90/2 97/10 106/12 114/21 121/13 121/14 121/20	member [3] 81/1 150/7 177/22	might [38] 10/5 11/12 15/18 20/6 20/7 26/14 30/15 60/23 62/20 64/10 64/23 65/9 69/18 70/13 73/23 85/3 93/10 103/17 108/19 109/10 109/19 111/4 113/14 115/12 118/3 132/6 132/7 141/1 151/10 153/10 154/25 154/25 163/15 174/5 181/20 199/23 200/12 202/5
manage [8] 87/18 90/18 101/8 101/9 142/20 144/19 146/15 161/19	March 2012 [1] 176/7	means [19] 11/2 27/9 32/5 37/13 47/4 63/2 64/13 69/4 72/7 73/2 95/13 101/21 107/8 107/9 138/13 138/23 141/16 172/12 192/9	members [5] 18/16 33/20 45/17 55/21 89/22	mind [5] 11/6 11/11 11/12 11/23 48/4
manageable [1] 114/17	March 2015 [1] 180/12	meaning [1] 66/3	membership [1] 144/23	military [5] 87/24 125/25 126/1 126/2 126/13
managed [4] 110/23 146/13 151/6 186/22	March 2020 [1] 92/1	meant [7] 90/1 90/17 97/11 113/1 134/5 151/4 158/21	ment [3] 71/10 118/6 146/20	million [7] 14/23 24/25 52/5 52/6 53/16 53/18 57/12
management [27] 64/15 71/15 80/23 82/10 100/23 127/23 128/1 128/19 129/14 130/3 130/25 131/13 133/4 134/14 164/21 165/4 167/24 170/9 174/16 174/17 183/24 184/6 187/3 187/5 190/19 194/21 200/25	marginalisation [1] 153/13	measurable [1] 103/20	mentioned [2] 46/1 54/23	mind [1] 194/14
manager [1] 192/14	mark [3] 9/5 22/14 140/9	measure [2] 103/19 192/18	merely [4] 93/4 139/21 160/8 189/5	mindful [1] 197/15
managers [1] 191/25	market [4] 8/22 16/4 16/18 37/5	measles [1] 28/15	merge [1] 146/8	mine [1] 46/17
managing [2] 132/23 186/20	markets [4] 6/19 16/13 37/21 37/22	measurement [2] 15/9	merged [3] 145/24 145/25 187/2	minimise [3] 104/25 129/3 130/12
Manchester [4] 104/4 110/24 134/25 151/12	mask [13] 43/12 43/15 43/19 44/7 44/18 72/19 72/22 72/24 72/25 73/1 73/2 73/14 73/15	MERS [24] 3/9 16/1 22/11 31/15 31/24 32/5 34/21 35/3 35/6 35/7 35/8 36/8 39/11 40/23 54/5 58/7 59/6 59/25 61/9 61/20 65/17 65/24 72/16 73/8	merge [1] 146/8	minister [12] 150/20 153/3 154/9 169/19 170/24 170/24 183/16 184/24 185/5 203/7 203/8 203/12
Manchester Arena [1] 104/4	masks [9] 19/1 44/2 72/13 73/11 73/19 73/21 73/22 74/4 74/5	message [1] 37/20	merged [3] 145/24 145/25 187/2	ministerial [5] 171/14 184/16 185/4 185/7 202/20

M	133/16 135/4 136/11 137/1 137/2 138/3 138/3 138/4 141/19 143/2 143/4 146/12 153/11 153/16 155/5 157/17 157/23 160/14 160/15 161/3 166/11 167/18 170/25 174/23 184/18 185/23 186/9 186/17 186/20 186/21 189/16	203/9 203/16 203/17 203/22 205/11 205/15 Mr Hargreaves [1] 156/9 Mr Keith [19] 78/17 102/1 102/11 113/2 125/2 132/9 140/19 144/10 155/20 156/2 156/17 166/14 171/6 191/9 198/2 198/5 201/2 201/6 203/9 Mr Mann [34] 80/25 83/14 83/25 85/11 89/25 94/14 100/22 102/6 102/12 109/5 112/24 114/9 118/21 121/10 122/5 124/17 130/1 145/9 154/18 155/16 156/3 160/24 162/3 163/5 175/22 177/11 185/2 187/11 187/22 191/20 193/10 194/17 203/17 203/22 Mr Weatherby [3] 197/21 200/14 203/16 Ms [6] 74/20 74/22 78/2 186/7 196/18 205/7 Ms Hammond's [2] 186/7 196/18 Ms Munroe [2] 74/20 78/2 much [60] 2/1 2/9 26/1 44/5 44/10 50/6 51/12 51/14 52/16 53/1 53/17 54/20 55/20 56/10 56/10 57/20 58/15 62/4 67/12 67/13 69/24 70/5 71/19 73/14 74/6 74/21 78/2 78/7 78/10 78/24 79/2 79/19 92/6 94/5 102/7 104/19 105/23 112/16 115/22 116/25 132/1 132/2 133/23 140/25 150/12 160/19 165/24 169/25 171/9 172/9 175/7 175/8 175/15 185/23 186/21 187/6 189/1 194/14 201/23 203/16 mucus [4] 17/4 17/7 17/13 18/1 multi [1] 48/16 multi-organ [1] 48/16 multilateral [1] 123/1 multiple [2] 166/12 174/15 multitude [2] 157/25 183/21 Munroe [5] 74/12 74/20 74/22 78/2 205/7 muscle [1] 48/8	must [17] 5/15 23/6 23/9 60/13 97/7 101/12 114/22 116/1 116/2 128/4 152/1 174/24 179/9 187/23 188/3 188/5 190/17 mutated [1] 14/17 mutation [9] 13/12 13/14 13/18 13/22 14/1 14/3 14/12 14/13 16/7 my [70] 1/4 1/12 20/2 46/17 50/9 50/21 56/8 63/1 71/20 72/5 72/11 74/8 74/8 74/16 74/21 74/25 76/7 77/2 77/18 78/1 78/6 78/18 79/24 85/20 88/14 92/14 93/6 94/25 95/14 98/25 113/18 119/7 119/15 119/23 120/10 121/15 124/25 125/13 125/17 133/9 133/14 134/13 141/12 141/14 148/14 149/25 154/10 155/11 162/15 163/2 167/12 173/11 173/17 179/3 179/16 184/11 186/6 188/22 189/24 190/2 195/6 195/9 197/7 197/11 198/1 199/19 201/12 202/4 203/21 203/25 my Lady [39] 1/4 46/17 50/9 50/21 71/20 72/5 72/11 74/8 74/8 74/16 74/21 76/7 77/2 78/1 78/6 78/18 79/24 85/20 92/14 119/7 119/23 121/15 133/9 133/14 134/13 141/12 141/14 162/15 163/2 173/11 173/17 184/11 188/22 189/24 190/2 197/7 197/11 203/21 203/25 myalgia [1] 48/8 myself [2] 178/2 178/3	111/7 112/1 112/2 113/8 118/23 123/23 130/9 135/1 146/22 152/11 162/13 168/4 168/12 168/12 170/19 174/15 177/12 177/13 177/20 177/24 178/12 178/22 180/19 182/10 182/16 185/1 185/20 185/21 185/22 186/4 188/25 189/1 189/2 194/7 199/11 nationally [4] 67/9 68/9 151/6 186/24 nations [1] 188/8 natural [4] 49/8 80/8 80/15 96/25 naturally [1] 155/13 nature [3] 96/5 130/22 135/5 natures [1] 185/17 nausea [1] 48/10 necessarily [3] 84/21 190/24 199/20 necessary [12] 86/3 86/14 92/12 105/20 106/25 128/17 128/18 129/15 140/8 153/12 177/16 184/21 need [67] 3/24 4/8 5/2 8/12 13/6 26/17 37/20 37/25 38/2 44/8 65/11 76/22 77/22 78/5 83/16 84/23 85/1 86/21 92/10 93/2 94/17 101/13 103/10 103/12 103/13 103/25 105/3 105/9 108/5 110/8 115/22 118/8 120/19 125/23 129/6 129/22 129/23 129/24 130/4 131/1 134/19 135/3 138/2 138/11 138/13 143/1 144/10 145/4 153/8 159/4 160/6 160/17 161/18 162/24 170/10 176/14 176/21 176/22 182/2 188/11 188/18 190/22 192/7 192/14 192/16 192/22 198/9 needed [9] 65/12 68/20 107/7 133/1 133/6 139/9 154/2 160/15 200/7 needn't [2] 142/7 171/18 needs [24] 66/15 66/16 68/10 114/15 124/23 130/3 130/23 133/16 143/2 144/22 146/1 146/12 148/22 148/23 151/8 159/7 160/18 160/19 162/16
----------	---	--	---	---

N	141/12 147/11 148/14 150/10 150/10 155/7 158/18 159/17 161/22 162/15 163/25 165/10 165/14 170/7 173/4 175/9 179/3 180/1 180/24 187/21 189/16 192/2 193/23 194/3 196/12 198/22 199/16 201/21	91/6 91/15 nose [4] 12/3 17/8 48/10 48/10 nosocomial [1] 32/2 not [199] 6/2 6/15 6/22 7/24 8/24 9/23 11/14 11/17 14/22 16/15 18/25 19/7 20/6 20/14 21/8 22/6 23/23 24/14 25/10 25/11 25/23 29/7 29/13 29/25 30/4 30/4 30/15 30/20 32/4 34/1 36/9 36/16 36/17 38/7 40/10 42/10 43/19 45/6 45/13 45/14 46/16 46/21 47/25 49/3 49/12 52/9 52/21 52/24 53/20 53/24 55/2 57/22 60/20 60/21 60/22 60/22 62/1 62/3 62/12 62/13 62/22 65/3 65/4 69/24 69/24 71/1 71/8 72/17 73/7 75/13 76/17 77/14 78/8 79/1 79/14 82/14 86/19 89/3 89/14 93/4 95/8 96/8 96/16 97/16 99/1 99/15 99/16 100/6 101/13 103/5 103/14 104/3 104/8 105/22 106/8 107/25 108/2 108/10 108/15 108/18 109/10 109/20 109/22 109/24 111/5 112/9 117/22 119/15 120/8 121/2 121/3 121/6 121/13 121/19 122/2 125/18 126/1 126/11 126/12 128/20 128/25 129/8 129/25 131/23 132/17 133/8 135/13 135/25 136/9 136/13 139/6 139/7 140/25 142/3 142/10 142/11 142/23 143/16 143/17 145/18 145/22 146/2 146/7 146/10 148/20 151/6 151/19 154/12 155/17 156/5 158/19 159/2 159/8 160/8 162/14 162/22 163/3 163/13 163/17 164/11 165/13 166/14 167/7 167/8 167/10 167/17 168/1 169/8 169/12 170/16 171/17 172/21 173/9 173/23 175/9 175/17 176/16 176/18 177/6 178/7 178/14 178/15 179/13 179/16 180/25 184/13 185/8 186/7 192/19 193/23	194/4 196/1 196/15 196/20 198/12 200/3 200/14 203/3 203/5 notable [1] 150/17 note [3] 13/17 86/2 173/2 noted [1] 91/17 noticed [1] 121/25 notions [1] 104/17 Nottingham [1] 134/24 Nottingham Trent [1] 134/24 nought [1] 199/8 novel [6] 19/10 19/14 84/15 85/4 196/5 198/6 now [52] 3/24 4/8 13/4 13/16 15/12 15/24 21/15 22/8 23/17 24/8 27/25 30/22 36/11 38/25 39/10 39/12 40/21 43/12 47/14 49/2 50/7 50/13 54/3 74/8 74/18 74/24 76/12 77/13 78/3 82/3 84/22 94/8 95/14 95/18 98/4 98/5 111/5 130/16 134/23 141/7 142/8 145/21 147/14 147/25 151/18 162/5 186/17 190/2 190/7 192/10 196/22 201/18 nowadays [1] 139/25 NRSA [5] 123/11 168/19 168/20 168/22 168/25 NSRA [1] 122/18 Nuclear [1] 81/5 number [37] 20/14 21/22 21/23 22/25 23/13 23/15 23/16 45/16 46/14 46/23 46/25 46/25 47/4 47/9 47/11 47/13 53/5 61/12 61/17 61/17 76/6 76/20 76/23 80/18 82/10 92/3 108/17 119/11 129/12 150/1 152/12 153/11 153/15 161/14 169/25 175/5 185/3 number 5 [2] 61/17 61/17 Number one [1] 20/14 numbers [3] 10/20 47/11 53/6 nurses [1] 29/23 nursing [1] 33/20	obese [2] 49/22 50/1 obesity [5] 48/3 48/24 49/19 49/20 57/18 obligation [1] 134/6 obligations [1] 164/22 obliged [1] 137/2 obliges [1] 136/25 obsessed [1] 133/17 obtain [2] 53/20 182/1 obtained [4] 4/1 49/12 89/19 90/19 obtaining [1] 2/14 obvious [7] 65/21 112/7 152/21 155/14 180/1 185/23 185/25 obviously [8] 79/4 101/14 105/22 128/4 157/17 165/13 174/22 191/18 OC43 [7] 10/18 13/8 13/20 13/23 14/8 14/21 15/3 occasionally [1] 25/11 occasions [3] 96/14 108/17 156/6 occur [13] 25/11 25/24 31/8 31/8 35/25 36/1 53/2 60/3 60/3 62/20 105/21 115/20 146/16 occurred [5] 14/18 14/22 16/10 31/12 57/5 occurring [8] 27/22 30/12 46/11 53/5 56/22 64/22 74/5 102/17 occurs [11] 14/22 27/11 28/14 28/16 32/1 36/10 36/10 50/3 50/4 66/4 139/14 October [2] 15/20 113/16 October 2019 [1] 15/20 ODA [1] 68/11 off [2] 50/6 96/14 offer [2] 3/9 124/16 offered [1] 43/16 office [39] 81/3 81/10 90/21 91/15 119/8 149/23 152/17 153/3 154/4 154/7 154/14 158/19 167/1 167/19 167/21 168/3 169/7 170/18 170/19 170/22 170/23 173/7 174/8 174/10 175/21 175/25 176/4 182/17 182/20 183/3 183/6 189/13
----------	--	--	--	--

<p>O</p> <p>office... [7] 193/17 202/1 202/11 202/13 203/1 203/4 203/11</p> <p>Office's [2] 90/23 183/22</p> <p>officer [8] 76/19 162/13 162/17 162/19 162/22 187/11 188/10 189/17</p> <p>officers [4] 165/21 168/8 188/12 189/2</p> <p>Offices [1] 148/4</p> <p>official [5] 52/6 52/9 68/10 90/16 184/15</p> <p>officials [2] 89/8 171/2</p> <p>officials' [1] 196/17</p> <p>often [5] 39/19 49/14 51/19 103/19 139/14</p> <p>oftentimes [1] 18/23</p> <p>oh [2] 74/24 122/13</p> <p>okay [10] 6/20 10/5 13/15 19/9 20/19 26/7 28/1 33/8 125/6 130/10</p> <p>old [1] 76/13</p> <p>omnibus [1] 105/6</p> <p>on [289]</p> <p>once [5] 65/1 66/5 73/18 93/14 114/5</p> <p>one [119] 8/10 9/3 10/7 11/2 13/25 15/21 16/7 18/17 20/14 20/23 21/14 31/12 31/13 32/13 33/1 35/9 35/12 37/3 37/5 38/5 38/5 38/23 41/2 47/4 49/10 51/11 51/14 52/25 53/13 62/22 62/24 64/2 64/12 64/12 64/17 65/12 67/24 69/10 69/12 69/14 70/1 70/3 73/20 74/14 75/3 75/3 75/3 75/8 76/13 78/3 83/24 86/14 91/19 91/25 96/10 96/13 101/5 103/23 103/24 105/8 110/21 111/11 113/10 115/13 120/3 125/9 126/11 129/1 129/6 129/12 132/15 132/15 134/6 134/8 136/2 139/25 141/17 143/17 144/17 145/2 145/14 146/20 147/17 149/12 150/3 151/7 153/16 153/20 154/21 157/16 157/23 159/17 159/22 161/3 162/11 162/22 165/6 165/9 166/3 166/11 172/11 173/6</p>	<p>174/22 175/12 177/1 178/6 179/9 179/11 188/15 188/16 188/16 188/17 188/17 189/8 192/1 193/20 195/6 200/3 200/23</p> <p>One Health [2] 69/12 70/1</p> <p>one page [1] 175/12</p> <p>ones [2] 96/4 182/14</p> <p>ongoing [1] 27/15</p> <p>online [2] 123/7 123/25</p> <p>only [18] 2/11 5/3 7/2 21/1 26/5 46/9 55/2 64/2 69/25 71/1 78/8 95/8 96/8 100/24 103/5 114/15 132/17 196/15</p> <p>onset [7] 20/16 20/21 20/22 28/13 28/18 51/3 103/8</p> <p>onto [2] 12/4 162/24</p> <p>onward [1] 13/24</p> <p>open [4] 95/23 121/18 122/2 147/9</p> <p>opened [1] 19/4</p> <p>operate [1] 163/16</p> <p>operated [2] 72/4 193/15</p> <p>operation [1] 158/22</p> <p>operational [5] 106/17 107/2 107/22 203/6 203/13</p> <p>operationally [1] 107/13</p> <p>operations [2] 101/1 175/22</p> <p>operators [2] 138/9 140/4</p> <p>opinion [8] 42/24 52/8 58/5 63/11 124/17 125/17 127/5 186/1</p> <p>opportunities [1] 140/1</p> <p>opportunity [2] 24/3 70/7</p> <p>opposed [5] 88/16 102/23 164/25 165/1 185/25</p> <p>option [2] 121/18 122/2</p> <p>options [1] 124/14</p> <p>or [213]</p> <p>or 2 [1] 174/3</p> <p>or pulmonary [1] 20/10</p> <p>orally [1] 187/20</p> <p>order [16] 8/13 23/19 66/20 80/3 104/13 130/22 157/7 157/8 157/9 169/20 182/1 184/1 184/5 190/5</p>	<p>192/13 200/17</p> <p>ordained [5] 76/24 124/11 146/15 150/8 186/23</p> <p>ordinating [5] 144/8 159/14 164/10 164/11 169/22</p> <p>ordination [9] 75/17 103/25 144/18 145/3 147/22 147/23 164/9 164/12 188/24</p> <p>organ [1] 48/16</p> <p>organisation [26] 2/21 2/22 3/12 39/8 42/5 43/14 44/6 44/18 45/4 72/3 72/3 72/5 72/18 73/18 81/6 101/2 116/9 117/2 125/24 129/1 145/25 146/3 159/6 172/23 186/15 197/2</p> <p>organisations [15] 4/20 61/11 68/14 76/24 101/20 101/22 107/7 117/14 128/24 133/1 144/19 146/9 149/7 161/2 201/8</p> <p>organism [1] 28/6</p> <p>organogram [3] 162/9 164/2 169/14</p> <p>origin [3] 4/14 36/20 36/22</p> <p>Original [1] 127/25</p> <p>originally [2] 14/9 186/15</p> <p>ostensibly [1] 199/2</p> <p>other [79] 4/12 7/13 7/23 8/2 8/3 9/12 16/14 18/17 27/18 32/12 33/19 35/21 37/7 37/13 37/14 39/22 42/12 43/18 46/10 47/5 50/24 52/17 52/20 55/11 56/23 57/17 63/2 63/6 63/18 67/2 68/12 82/17 86/16 86/25 90/15 91/16 93/11 95/22 106/2 106/5 107/21 108/22 111/17 115/14 117/6 122/1 127/22 131/2 138/10 140/1 140/12 141/1 141/9 141/12 142/5 143/20 144/19 145/15 146/20 148/17 153/2 153/8 154/16 159/23 160/2 172/13 172/25 177/1 177/7 178/13 178/19 180/17 183/13 187/1 187/5 193/6 200/16 201/1 201/8</p> <p>others [16] 21/6 25/20 28/14 29/24</p>	<p>48/20 70/23 72/25 73/3 73/14 74/2 75/11 97/20 105/9 129/8 141/18 168/7</p> <p>otherwise [2] 131/8 165/8</p> <p>ought [9] 115/3 121/22 130/10 130/13 155/9 162/11 167/22 176/18 183/12</p> <p>our [29] 4/16 62/11 79/16 81/9 85/21 87/11 97/19 99/20 103/1 104/10 105/5 107/20 115/22 116/1 117/19 119/25 122/10 127/15 135/15 135/21 136/8 136/15 139/1 154/22 177/24 178/1 186/9 194/14 195/2</p> <p>ourselves [3] 24/8 142/8 182/21</p> <p>out [61] 4/7 13/5 15/10 17/7 17/11 17/12 18/3 18/6 18/18 29/21 34/10 36/21 41/14 56/1 59/9 59/13 75/4 82/7 82/25 83/4 85/11 85/16 85/18 88/11 90/22 91/25 93/10 97/22 104/23 107/16 108/18 108/19 110/17 117/5 117/19 117/23 118/23 119/10 119/13 120/4 120/13 121/3 125/3 128/17 143/11 145/10 145/18 146/11 151/3 160/16 160/16 162/24 168/16 177/16 179/8 179/11 192/6 193/13 193/21 197/5 199/3</p> <p>outage [1] 139/1</p> <p>outbreak [34] 2/18 3/9 8/3 16/17 18/13 18/14 20/5 21/14 23/20 32/17 33/10 33/12 38/15 38/19 39/9 40/7 40/10 40/18 42/4 43/1 43/1 54/7 54/16 55/1 55/9 55/17 57/9 59/17 61/9 61/19 63/25 64/2 72/19 73/24</p> <p>outbreaks [20] 7/1 21/9 25/10 30/12 31/13 34/19 40/19 54/21 55/15 55/16 55/18 57/3 57/5 60/3 65/24 73/8 84/5 84/12 84/24 155/12</p> <p>outcome [4] 27/5 107/4 134/16 194/1</p> <p>outcomes [7] 26/24</p>	<p>26/25 27/15 29/14 62/20 67/1 133/22</p> <p>outdated [1] 93/2</p> <p>outside [3] 125/12 152/25 153/24</p> <p>outstanding [1] 197/18</p> <p>over [27] 3/18 3/18 4/17 5/18 6/3 23/23 23/24 23/25 46/4 47/10 49/4 83/6 88/23 95/9 98/6 123/6 123/24 130/17 130/18 146/25 164/9 182/19 185/23 186/1 186/1 188/2 203/12</p> <p>overall [9] 82/9 82/19 91/4 101/16 130/24 131/25 132/8 132/18 195/10</p> <p>overarching [1] 183/7</p> <p>overlaps [1] 105/3</p> <p>overlay [1] 175/2</p> <p>overly [1] 133/17</p> <p>overmanaged [1] 189/9</p> <p>overmanagement [1] 189/19</p> <p>overseas [1] 68/10</p> <p>oversee [1] 152/23</p> <p>oversight [1] 71/13</p> <p>overview [1] 89/2</p> <p>overwhelmed [3] 60/24 196/14 196/19</p> <p>own [11] 2/5 81/22 81/23 91/11 99/20 129/8 145/9 157/21 168/22 179/15 181/4</p> <p>owned [2] 147/1 147/2</p> <p>owns [1] 146/23</p> <p>oxygen [4] 27/10 27/12 48/11 49/24</p> <hr/> <p>P</p> <p>packaging [1] 176/20</p> <p>page [73] 2/2 56/15 61/4 61/14 66/12 80/2 82/5 82/24 83/2 83/7 85/25 87/20 88/13 88/24 90/11 90/11 91/4 117/8 122/7 122/14 123/6 123/6 123/24 123/24 127/6 127/23 127/24 133/25 135/24 136/1 136/7 136/8 136/9 136/18 164/3 164/4 164/4 164/6 164/7 164/15 164/17 165/16 167/14 168/11 169/14 169/21 170/1 170/14 171/3 171/5 172/3 172/6</p>
---	--	---	---	--

P	25/11 25/15 25/21 38/13 53/21 54/13 56/18 58/9 58/10 60/17 60/21 62/11 62/17 63/13 63/19 66/21 67/3 67/17 68/6 68/12 68/15 68/19 70/7 71/6 71/17 82/11 82/14 82/14 82/19 82/22 83/11 83/19 84/15 85/5 88/1 88/2 89/11 92/5 93/14 93/16 109/12 112/4 112/5 112/15 112/19 113/22 114/2 114/5 115/2 115/15 116/15 117/2 117/3 136/5 137/22 140/22 141/3 143/10 143/22 143/24 165/2 174/13 174/14 174/18 174/19 191/2 191/18 195/1 195/11 195/14 195/19 195/24 196/6 198/12 200/1 200/24	175/7 175/11 175/14 paragraph 379 [1] 190/9 paragraph 387 [1] 190/16 paragraph 44 [1] 127/7 paragraph 50 [1] 131/12 paragraph 523 [1] 195/12 paragraph 83 [1] 43/13 paragraphs [5] 13/5 47/18 56/12 56/16 86/1 paragraphs 113 [1] 56/12 paragraphs 12 [1] 86/1 paragraphs 18 [1] 13/5 paragraphs 99 [1] 47/18 parameters [1] 109/6 paramount [1] 101/3 Parliament [6] 123/14 179/21 185/14 188/1 189/22 189/24 parliamentary [1] 179/22 part [27] 24/15 29/1 36/19 62/17 76/9 76/12 83/16 85/10 98/12 101/16 107/10 111/14 129/6 130/2 134/17 134/18 135/7 135/17 137/12 143/1 153/23 177/8 184/4 184/5 198/17 200/25 201/21 partially [1] 69/19 participants [3] 4/3 74/9 197/12 participation [2] 68/17 187/7 particles [8] 5/3 12/5 12/5 17/20 17/21 17/22 18/6 34/10 particular [29] 49/18 76/8 82/11 82/19 87/14 100/1 100/18 104/6 109/18 109/25 111/1 111/4 112/13 112/21 113/14 119/9 153/13 157/18 157/19 159/10 161/6 163/14 166/6 166/25 168/14 177/14 197/12 200/1 203/5 particularly [7] 104/1 112/14 135/4 150/16 152/12 172/13 203/18 partly [1] 160/13	partnership [11] 71/13 107/9 129/3 139/7 139/8 139/8 142/22 143/13 165/20 170/2 171/23 partnerships [7] 119/12 127/11 164/8 164/13 164/17 164/19 165/17 parts [14] 131/16 135/14 153/18 153/22 159/18 161/17 161/20 161/23 166/23 167/16 183/21 183/25 188/2 201/1 party [1] 193/15 pass [2] 130/18 156/25 passage [2] 93/19 94/12 passages [3] 9/22 12/4 36/12 passed [3] 93/13 93/19 114/6 passengers [1] 59/19 passing [2] 92/25 130/16 past [2] 67/7 97/8 patchwork [1] 35/13 pathfinders [1] 122/1 pathogen [1] 112/6 paths [1] 192/9 pathway [1] 123/22 patient [9] 17/7 19/15 29/22 29/25 32/14 32/15 33/2 33/16 41/3 patients [8] 16/21 18/17 29/10 30/24 32/5 33/19 58/22 58/23 pause [10] 46/15 56/14 102/4 118/11 118/20 126/8 135/23 137/23 164/5 190/4 paused [3] 88/17 90/8 90/15 pausing [1] 199/9 pdf [1] 122/12 peacetime [2] 144/18 169/10 peer [3] 3/19 45/14 59/12 peer reviewed [2] 45/14 59/12 people [68] 8/20 8/22 11/12 13/2 18/20 19/24 23/12 27/2 27/6 27/12 27/20 27/23 28/5 31/6 35/21 35/22 38/2 38/23 45/20 45/23 46/25 47/11 51/14 51/25 53/20 55/21 60/4 60/6 60/14	72/8 73/12 95/12 97/14 97/15 103/9 118/6 128/24 129/21 129/22 129/23 130/7 131/1 131/21 132/9 132/11 132/13 132/17 133/2 133/17 133/21 133/22 134/17 138/6 144/13 149/7 155/8 155/8 155/9 155/13 176/16 176/20 179/12 190/6 190/25 191/7 191/13 191/14 192/3 per [1] 57/12 perceived [2] 69/6 70/17 perform [1] 172/25 perhaps [25] 41/23 50/24 58/6 83/9 92/19 95/17 96/1 97/8 104/19 109/23 111/11 111/25 122/5 125/21 128/15 133/17 135/21 146/25 147/3 147/11 160/17 166/20 174/22 185/24 192/17 period [28] 2/22 15/7 15/20 20/19 20/20 20/20 20/21 27/20 30/6 51/1 51/2 51/2 51/10 51/11 51/13 51/15 51/18 51/22 54/13 67/16 77/16 93/3 112/11 120/24 175/18 195/20 199/16 199/21 periodically [1] 11/2 periods [1] 63/18 permanent [3] 69/1 69/14 90/20 Permanent Secretary [1] 90/20 permission [6] 71/20 72/14 74/17 79/24 197/19 197/22 permit [2] 27/11 68/8 permitted [2] 30/16 55/19 persistent [1] 91/9 person [24] 12/5 28/13 28/20 31/25 31/25 32/6 32/6 32/14 32/18 35/12 35/19 35/23 47/1 47/5 47/6 49/22 55/4 59/18 73/3 73/13 74/1 77/14 79/1 162/16 personage [1] 184/22 personal [1] 154/10 personnel [1] 190/11 persons [11] 14/25 23/4 43/4 43/22 45/19 47/5 47/6 49/12 49/13
----------	--	--	---	---

P	planning [41] 58/9 58/10 58/13 62/11 62/17 81/12 86/3 86/4 86/7 86/25 87/23 90/13 90/16 90/25 105/18 106/12 108/20 108/22 109/2 109/15 109/17 110/4 112/15 126/24 138/12 138/15 140/9 146/18 148/19 148/24 155/8 160/9 168/15 188/24 193/13 193/14 193/21 194/4 195/15 196/1 200/3	141/2 147/15 149/2 149/3 150/5 151/14 155/11 160/18 160/19 162/15 178/11 178/12 178/16 184/12 189/11 189/12 190/20 191/8 199/3 199/6 201/2 201/5 201/6 201/7 201/12 201/19 201/23	111/2 116/12 116/16 159/22	67/25 86/21 92/11 102/23 103/9 105/1 108/4 112/22 128/11
persons... [2] 50/1 56/19	plans [18] 58/20 75/9 77/19 90/6 111/12 111/13 114/3 114/16 128/11 140/10 144/12 158/4 160/9 181/12 183/2 196/12 197/1 201/9	points [15] 84/6 84/9 85/18 85/18 85/24 94/20 96/11 97/23 114/18 120/1 120/10 139/12 171/20 198/15 201/12	possibly [3] 37/4 58/18 202/14	prepared [6] 54/20 62/2 65/4 65/5 77/23 82/21
perspective [1] 159/23	play [1] 101/16	police [2] 87/24 177/22	post [7] 94/25 122/8 127/6 149/23 163/20 187/23 187/23	preparedness [113] 54/4 58/16 58/18 58/20 59/4 68/6 68/13 68/15 69/3 69/15 71/7 71/8 71/17 82/11 82/16 82/19 83/6 83/7 83/11 83/19 85/13 85/21 86/9 86/25 87/12 88/1 88/15 88/16 88/17 89/6 89/8 90/2 90/6 90/6 90/14 92/22 97/7 97/12 100/12 101/16 101/20 101/25 102/13 102/16 103/11 103/14 104/10 105/7 105/8 105/18 105/19 106/24 108/22 109/8 115/7 116/13 116/17 117/15 127/9 128/16 129/6 129/21 130/17 130/18 132/7 135/11 136/5 136/15 138/15 143/15 143/22 143/25 144/4 144/6 144/11 145/10 145/12 145/16 145/19 145/24 151/24 152/8 152/23 153/23 154/15 154/19 157/5 165/2 169/17 171/4 171/10 171/13 172/4 174/8 174/13 174/18 174/19 175/16 176/3 182/8 182/20 183/1 183/8 184/17 188/25 189/15 192/5 195/10 195/14 195/17 195/19 196/5 198/7
Pete [1] 198/1	played [2] 57/19 138/14	policies [10] 34/4 77/14 107/1 107/10 129/24 129/25 158/4 181/11 194/22 194/24	post-Covid [2] 122/8 127/6	
Pete Weatherby [1] 198/1	playing [2] 130/1 138/12	poling [1] 40/1	posts [1] 185/4	
phase [7] 35/24 154/5 154/15 154/15 156/24 172/5 198/17	please [76] 1/6 1/13 1/17 1/20 1/25 4/23 5/14 9/25 22/19 24/2 28/2 31/15 35/4 36/23 42/3 46/13 46/24 47/18 48/18 50/25 56/12 56/15 56/16 61/2 61/4 61/16 62/5 64/7 65/16 66/10 66/11 66/17 67/21 68/24 71/20 75/5 78/5 78/18 79/15 79/22 80/4 82/5 82/24 88/13 97/25 100/20 102/7 106/16 109/5 116/22 117/8 118/19 127/24 135/15 135/24 137/24 145/7 149/15 150/7 154/18 155/23 162/5 162/8 164/2 164/3 164/15 169/14 169/15 170/14 175/11 175/12 184/20 187/20 190/16 197/19 204/2	political [6] 86/12 86/19 91/9 91/21 94/2 187/24	potential [4] 84/4 86/4 130/15 150/9	
phases [2] 128/6 129/1	play [1] 101/16	politics [6] 86/12 86/19 91/9 91/21 94/2 187/24	power [6] 68/20 91/20 154/14 186/16 202/1 202/22	
PHE [1] 3/6	played [2] 57/19 138/14	poor [4] 30/14 33/6 195/9 195/16	powers [2] 140/4 172/20	
phenomenon [2] 22/16 62/9	playing [2] 130/1 138/12	population [21] 10/10 10/13 12/8 12/9 12/10 12/21 12/23 12/24 12/25 15/4 15/8 22/22 23/1 34/14 47/12 51/20 57/12 66/22 73/16 95/11 99/22	PPE [1] 18/25	
phrase [1] 103/18	place [29] 26/16 26/18 26/19 55/23 63/12 74/9 82/12 94/3 94/18 95/3 96/21 98/17 99/15 104/25 110/13 110/16 120/11 120/18 124/24 130/11 131/6 149/18 154/2 158/25 159/3 179/9 179/11 181/16 196/8	populations [8] 10/3 21/16 37/1 47/25 58/24 59/1 63/24 64/23	practicable [2] 84/1 132/3	
physical [7] 16/21 49/20 80/7 158/25 167/19 167/20 167/22	places [2] 21/9 55/11	port [1] 61/22	practical [2] 117/22 134/16	
physically [1] 159/19	plain [1] 147/8	Portugal [1] 150/15	practice [10] 32/3 60/19 108/24 120/21 133/5 175/4 177/16 177/19 182/9 193/6	
pick [3] 120/20 176/25 193/5	plainly [1] 167/14	posed [2] 76/25 119/3	pre [1] 29/2	
picture [5] 49/4 138/21 139/7 179/6 189/11	planned [3] 108/3 115/3 154/1	position [24] 41/13 61/12 84/2 87/2 90/17 91/18 95/14 99/14 100/13 104/13 112/4 118/22 128/22 136/11 136/17 136/24 162/7 164/6 164/18 173/11 174/1 175/19 186/9 189/22	pre-symptomatic [1] 29/2	
pictures [1] 98/5	plan [26] 63/11 80/19 108/6 110/6 110/12 111/14 111/15 115/1 115/1 119/10 163/18 196/20 198/10 198/12 198/12 198/13 198/18 198/19 198/22 198/23 199/1 199/2 199/8 199/17 199/17 200/7	positions [1] 185/7	precaution [1] 73/18	
piece [3] 117/18 135/10 203/5	planners [3] 130/17 130/18 130/19	positive [2] 49/13 103/20	precautionary [3] 44/13 45/5 72/20	
pieces [1] 158/13		possibility [6] 37/16 84/16 85/5 96/15 98/14 173/5	preceded [1] 66/13	
pillars [2] 123/17 124/4		possible [11] 9/1 38/18 92/17 104/13 105/20 109/23 109/23	precedence [1] 106/10	
pilot [1] 123/17			precise [4] 51/7 116/19 116/19 124/19	
pilots [1] 122/1			precisely [4] 63/21 64/1 106/11 133/21	
pink [4] 25/15 26/21 171/6 171/8			precision [6] 55/7 55/22 56/5 57/1 57/9 58/1	
place [29] 26/16 26/18 26/19 55/23 63/12 74/9 82/12 94/3 94/18 95/3 96/21 98/17 99/15 104/25 110/13 110/16 120/11 120/18 124/24 130/11 131/6 149/18 154/2 158/25 159/3 179/9 179/11 181/16 196/8			predict [2] 64/1 110/10	
placed [1] 58/16			predictable [2] 114/5 115/2	
places [2] 21/9 55/11			predicted [4] 63/20 63/21 64/1 106/11	
plain [1] 147/8			Predicting [1] 62/6	
plainly [1] 167/14			prediction [1] 64/10	
plan [26] 63/11 80/19 108/6 110/6 110/12 111/14 111/15 115/1 115/1 119/10 163/18 196/20 198/10 198/12 198/12 198/13 198/18 198/19 198/22 198/23 199/1 199/2 199/8 199/17 199/17 200/7			predictions [1] 115/19	
planned [3] 108/3 115/3 154/1			prefer [1] 201/24	
planners [3] 130/17 130/18 130/19			preferable [1] 165/24	

P	116/10 168/19 186/14	162/1 166/2 173/8	36/4 82/20 108/8	23/5 41/6 44/7 56/23
pressures [2] 91/10 91/13	procedures [14] 16/22 17/1 20/10	176/23 181/19 184/20	131/17 134/19 154/2	58/19 61/8 68/12
presume [2] 44/9 117/9	29/21 33/16 54/19	185/3 187/19 191/23	158/5 158/16 162/6	69/17 70/2 71/9 71/16
pretty [2] 59/11 194/13	85/22 86/8 115/7	194/18 195/13 200/6	proposal [2] 187/12 187/19	72/23 73/22 75/15
prevent [7] 34/16 44/1 65/24 72/25 74/1 104/13 128/9	158/4 181/12 181/22 182/1 197/1	203/17 203/18 205/3 205/9	proposals [5] 67/18 124/2 143/3 193/19 194/14	75/15 76/20 77/3
preventative [5] 56/24 70/9 103/5 130/14 132/6	proceed [1] 79/18	Professor Alexander [27] 78/20 78/22	propose [4] 76/7 137/15 189/21 190/5	88/15 88/17 89/9 90/1 90/7 97/9 98/18 98/18
prevented [2] 65/14 71/7	proceeding [2] 121/19 122/2	79/4 79/11 80/4 85/11	proposed [2] 121/19 121/24	98/25 103/14 111/8 112/2 119/2 138/17
preventing [3] 18/4 43/10 73/3	process [13] 9/25 96/14 122/18 126/5	89/17 92/20 95/24	proposes [1] 120/5	140/12 153/9 177/6 177/7 180/14 185/14
prevention [11] 18/10 33/4 43/18 65/8	128/23 132/18 160/8	102/5 102/12 108/10	proposition [3] 105/5 110/20 140/6	public-facing [4] 88/15 88/17 90/1 112/2
66/3 66/8 68/15 69/3 69/15 69/18 77/20	170/10 170/21 170/22	113/2 114/10 114/12	propositions [2] 122/9 196/2	public-private [1] 68/12
prevents [3] 13/2 65/23 65/23	181/10 189/9 193/4	114/19 118/21 124/18	protect [4] 43/22 73/14 97/14 182/6	publicly [2] 40/9 41/5
previous [4] 54/8 59/24 103/22 197/11	processes [6] 97/16 116/11 131/20 133/2 133/18 135/5	145/9 148/16 149/14	protecting [1] 15/5	published [18] 3/18 45/14 71/21 77/10
previously [2] 16/14 41/20	159/19 185/3 191/23	159/19 185/3 191/23	protection [15] 3/1 10/12 43/17 71/16	79/25 80/15 80/16
primarily [2] 29/7 152/7	194/18 203/17 203/18	194/18 203/17 203/18	72/6 80/11 80/23	80/17 83/20 84/7
primary [5] 34/21 93/24 100/11 191/1 194/23	Professor Chris Whitty [1] 24/6	Professor Chris Whitty [1] 24/6	125/17 151/2 153/4	84/18 89/3 118/13
Prime [3] 150/20 154/9 184/24	Professor Dame [1] 76/4	Professor Dame [1] 76/4	153/6 172/10 186/13	119/4 175/24 178/22
Prime Minister [3] 150/20 154/9 184/24	Professor David Alexander [1] 78/19	Professor David Alexander [1] 78/19	186/19 192/5	178/25 193/25
principles [4] 172/1 179/9 190/19 192/24	Professor David Heymann [1] 1/5	Professor David Heymann [1] 1/5	protection/public [1] 71/16	publishing [1] 119/1
prior [4] 116/15 160/9 175/22 203/7	Professor Heymann [15] 2/3 4/23 24/4	Professor Heymann [15] 2/3 4/23 24/4	protective [1] 73/1	pudding [1] 114/20
prioritise [1] 111/21	30/21 34/2 38/14	30/21 34/2 38/14	protects [2] 12/14 12/16	pull [1] 176/21
prioritised [1] 124/11	47/22 62/1 72/15	47/22 62/1 72/15	protein [2] 5/10 5/11	pulled [1] 17/12
private [7] 33/21 68/12 69/4 69/17 70/2 70/22 193/17	74/25 76/7 77/13 78/8 82/18 103/7	74/25 76/7 77/13 78/8 82/18 103/7	protests [1] 93/23	pulmonary [5] 16/22 17/2 20/10 27/7 49/23
probable [1] 38/6	Professor Heymann's [2] 47/19 71/21	Professor Heymann's [2] 47/19 71/21	proud [1] 79/20	punishment [1] 141/16
probably [10] 6/2 50/15 76/3 76/15 82/3 98/6 121/10 144/11 144/12 148/16	Professor Jimmy Whitworth [1] 6/6	Professor Jimmy Whitworth [1] 6/6	proved [1] 137/22	purchase [1] 8/22
problem [12] 39/17 73/24 104/5 113/23	Professor of [1] 3/14	Professor of [1] 3/14	provide [17] 4/18 30/2 39/3 39/4 68/14	purely [2] 160/5 192/19
113/23 113/24 115/13 131/1 177/3 189/1 200/2 202/19	Professor Whitworth [3] 21/18 62/8 63/10	Professor Whitworth [3] 21/18 62/8 63/10	74/17 81/24 107/13	purpose [2] 146/2 150/23
problems [11] 46/16 53/21 78/25 101/5 113/10 132/23 159/25 160/1 160/15 203/19 203/20	profound [1] 54/11	profound [1] 54/11	124/8 134/22 138/6	purposes [19] 42/11 74/13 76/9 81/9 83/9
procedure [10] 9/20 13/5 15/11 17/15 40/23 74/9 113/9	profusely [1] 78/25	profusely [1] 78/25	173/20 178/8 180/3	87/9 104/10 107/12 110/18 119/23 131/9

Q	rapid [6] 19/18 51/21 63/8 65/7 65/11 66/5	reasons [7] 83/24 90/15 137/14 142/20 148/18 165/25 185/24	recover [2] 104/14 128/14	150/17 150/22 150/25 150/25
quality [5] 101/2 101/3 116/25 131/14 182/7	rapidly [15] 21/14 23/21 33/1 34/1 40/19 41/18 51/14 51/19 51/22 60/24 63/17 63/23 65/12 75/21 160/4	reboot [1] 190/14	recovered [1] 27/7	register [6] 58/15 99/7 111/7 112/2 168/13 178/11
quarters [1] 94/7	rarely [1] 203/4	recall [3] 157/4 176/1 183/20	recovery [5] 134/8 156/13 156/24 171/12 174/9	registers [1] 174/21
question [45] 74/14 75/3 76/1 76/25 77/18 77/24 78/1 79/15 84/8 93/15 98/7 100/15 101/6 103/18 109/5 110/4 113/1 119/3 124/23 130/10 132/2 133/23 136/13 140/20 144/15 145/5 145/7 153/23 154/4 154/5 155/17 156/6 157/3 163/2 163/24 178/6 183/11 183/15 184/11 185/13 187/16 189/24 194/23 194/23 203/7	rate [25] 13/12 13/14 13/18 13/22 14/3 14/12 21/20 22/2 22/8 22/13 22/18 22/19 22/20 22/24 22/24 23/12 24/21 24/25 25/16 27/6 33/11 52/16 55/20 66/16 181/6	receive [1] 41/14	recruitment [2] 126/10 126/13	regular [1] 8/7
questionable [1] 111/18	rates [7] 14/13 22/11 23/1 53/22 56/10 56/10 56/11	received [1] 39/2	recurrent [1] 85/8	Regulations [2] 39/6 68/19
questioning [1] 1/12	rather [17] 12/8 66/5 105/13 106/3 107/1 125/15 126/14 131/20 133/7 133/17 135/2 136/11 146/14 146/24 160/5 178/13 184/4	recent [2] 45/9 54/6	Red [4] 113/16 125/12 150/6 159/14	reinfection [3] 12/14 30/3 48/2
questions [18] 1/8 13/4 15/24 54/3 66/21 72/12 74/10 74/10 74/22 79/8 196/20 197/14 197/20 197/25 205/5 205/7 205/13 205/15	re [1] 8/4	recently [5] 3/11 7/2 41/9 53/15 78/23	reduce [6] 107/4 107/7 107/9 128/25 132/3 132/6	reinforced [1] 56/24
quibbling [1] 146/25	re-emerge [1] 8/4	receptive [1] 10/11	reduction [2] 80/5 117/19	reinforcement [1] 87/5
quick [2] 99/3 158/12	reached [1] 114/7	receptor [3] 5/12 5/13 5/16	referred [12] 39/13 102/14 126/22 136/17 145/14 151/16 177/10 182/14 183/18 187/11 193/10 198/6	Reinvigorate [1] 123/23
quickly [6] 41/25 51/19 55/23 83/23 93/13 181/20	react [1] 41/24	recipient [1] 173/21	reference [13] 30/17 76/9 77/2 90/19 97/22 99/25 112/8 119/17 142/18 145/10 173/4 175/14 176/6	relate [1] 102/19
quiet [1] 149/6	reacting [3] 43/1 161/15 161/15	recognisable [1] 48/1	referring [4] 77/21 89/18 89/21 198/16	related [4] 60/20 66/21 104/3 116/7
quite [17] 36/13 59/16 60/1 70/15 76/13 85/12 96/22 106/1 108/10 114/3 126/17 135/25 163/22 180/11 187/2 193/20 198/8	read [4] 47/21 71/25 87/17 180/24	recognise [6] 18/23 71/5 84/25 87/15 103/10 103/13	refers [1] 76/12	relates [1] 46/23
quote [1] 84/9	readiness [3] 152/1 174/14 179/15	recognised [10] 76/19 76/22 77/8 84/22 84/25 133/13 133/14 134/19 190/7 192/13	reflect [3] 97/8 98/18 98/18	relating [1] 82/10
R	ready [8] 54/16 78/12 102/16 178/10 179/5 183/12 183/17 185/16	recommend [11] 44/23 65/4 65/5 92/14 127/6 134/2 142/13 179/23 181/9 182/9 189/5	reform [3] 123/18 124/4 145/17	relation [46] 15/11 21/23 26/14 35/2 39/10 40/24 47/9 53/6 66/14 67/10 72/12 84/3 87/4 87/6 87/8 88/8 88/13 88/14 88/23 90/10 91/14 98/14 119/11 120/5 120/6 124/10 151/14 152/4 152/10 152/14 152/15 152/16 152/17 152/19 163/6 164/3 164/21 164/22 164/24 167/14 168/10 169/15 170/8 170/9 170/10 170/14
Rabies [1] 8/1	real [1] 69/6	recommendation [18] 42/9 44/25 66/12 66/14 66/18 67/22 68/2 68/21 68/22 68/25 69/9 71/4 71/12 74/4 102/25 132/24 184/24 202/12	reformulated [1] 155/21	relationships [2] 87/5 123/4
radar [1] 143/18	realisation [4] 94/24 94/25 95/1 135/2	Recommendation 1 [1] 66/14	refresh [1] 199/8	relatively [2] 73/8 91/24
radical [4] 92/23 127/14 145/17 196/22	realistic [2] 84/15 85/5	Recommendation 2 [1] 67/22	refreshing [3] 87/25 88/1 122/18	relevant [8] 2/12 96/17 119/25 120/1 124/3 175/18 179/12 201/7
radically [1] 125/15	reality [5] 52/10 116/16 136/14 136/15 157/23	Recommendation 3 [1] 68/25	regard [5] 126/5 131/11 147/4 174/5 174/24	relevantly [1] 81/9
raft [1] 75/10	really [22] 6/22 7/6 7/19 8/16 21/6 26/4 30/5 38/25 45/14 45/15 45/18 57/21 77/18 92/24 130/20 146/17 147/1 151/1 153/7 156/5 159/24 200/7	Recommendation 5 [2] 71/4 71/12	regarding [1] 98/3	reliance [1] 126/19
raise [3] 61/24 100/3 196/19	realism [1] 69/6	Recommendation 5 [2] 71/4 71/12	regime [1] 182/12	relies [1] 125/24
raised [4] 6/16 8/17 37/22 122/4	realisation [4] 94/24 94/25 95/1 135/2	Recommendation 5 [2] 71/4 71/12	regimes [1] 140/15	religious [1] 57/6
range [17] 17/21 48/4 48/6 97/11 101/20 101/21 117/14 119/3 120/13 120/23 128/23 152/24 155/11 166/22 171/22 182/9 200/16	realistic [2] 84/15 85/5	Recommendation 5 [2] 71/4 71/12	region [2] 53/16 150/22	rely [1] 108/20
ranging [1] 118/22	reality [5] 52/10 116/16 136/14 136/15 157/23	Recommendation 5 [2] 71/4 71/12	regional [26] 80/11 126/16 137/18 140/16 141/22 142/8 142/10 142/17 148/6 148/23 148/24 149/3 150/2 150/14 151/8 151/11 159/13 164/12 164/16 164/19 170/5 170/6 171/11 171/12 179/14 191/12	relying [1] 52/9
	reappraisal [1] 94/12	Recommendation 5 [2] 71/4 71/12	regional [26] 80/11 126/16 137/18 140/16 141/22 142/8 142/10 142/17 148/6 148/23 148/24 149/3 150/2 150/14 151/8 151/11 159/13 164/12 164/16 164/19 170/5 170/6 171/11 171/12 179/14 191/12	remain [2] 112/13 197/18
	reason [6] 5/23 35/20 38/20 44/23 139/23 140/3	Recommendation 5 [2] 71/4 71/12	regional [26] 80/11 126/16 137/18 140/16 141/22 142/8 142/10 142/17 148/6 148/23 148/24 149/3 150/2 150/14 151/8 151/11 159/13 164/12 164/16 164/19 170/5 170/6 171/11 171/12 179/14 191/12	remains [4] 84/15 85/5 98/7 195/21
	reasonable [2] 109/18 183/11	Recommendation 5 [2] 71/4 71/12	regional [26] 80/11 126/16 137/18 140/16 141/22 142/8 142/10 142/17 148/6 148/23 148/24 149/3 150/2 150/14 151/8 151/11 159/13 164/12 164/16 164/19 170/5 170/6 171/11 171/12 179/14 191/12	remedies [1] 11/25
	reasonably [1] 116/19	Recommendation 5 [2] 71/4 71/12	regional [26] 80/11 126/16 137/18 140/16 141/22 142/8 142/10 142/17 148/6 148/23 148/24 149/3 150/2 150/14 151/8 151/11 159/13 164/12 164/16 164/19 170/5 170/6 171/11 171/12 179/14 191/12	remember [4] 27/24 111/6 111/21 113/22
		Recommendation 5 [2] 71/4 71/12	regional [26] 80/11 126/16 137/18 140/16 141/22 142/8 142/10 142/17 148/6 148/23 148/24 149/3 150/2 150/14 151/8 151/11 159/13 164/12 164/16 164/19 170/5 170/6 171/11 171/12 179/14 191/12	remembering [1] 106/1
		Recommendation 5 [2] 71/4 71/12	regional [26] 80/11 126/16 137/18 140/16 141/22 142/8 142/10 142/17 148/6 148/23 148/24 149/3 150/2 150/14 151/8 151/11 159/13 164/12 164/16 164/19 170/5 170/6 171/11 171/12 179/14 191/12	remind [2] 130/22 182/21
		Recommendation 5 [2] 71/4 71/12	regional [26] 80/11 126/16 137/18 140/16 141/22 142/8 142/10 142/17 148/6 148/23 148/24 149/3 150/2 150/14 151/8 151/11 159/13 164/12 164/16 164/19 170/5 170/6 171/11 171/12 179/14 191/12	remotely [1] 79/4

R	reprinted [1] 80/17 reproduce [6] 5/12 5/15 9/18 9/19 9/21 63/17 reproduced [2] 16/8 21/4 reproduces [1] 5/19 reproducing [1] 20/8 reproductive [8] 5/19 46/14 46/22 46/25 47/4 47/9 47/11 47/13 Republic [5] 2/19 32/18 64/20 72/9 173/9 require [8] 1/20 20/9 96/6 99/11 114/21 129/17 156/11 184/9 required [9] 30/10 42/12 43/20 46/7 96/18 96/19 97/2 151/5 196/23 requirements [1] 140/5 requires [3] 187/4 187/6 192/25 research [8] 66/15 66/20 67/6 67/14 67/16 67/18 96/2 116/24 residual [1] 130/15 resilience [130] 58/21 66/24 82/20 84/18 85/13 87/23 89/2 90/14 97/7 100/11 100/13 101/17 101/25 102/14 102/19 103/1 104/11 104/17 105/6 105/8 105/11 105/19 117/15 118/5 118/9 118/17 119/4 119/22 120/2 122/19 122/20 123/16 123/19 123/21 124/5 124/7 124/9 124/12 125/11 127/8 127/11 127/12 128/17 136/2 136/21 144/8 144/17 144/25 145/2 147/19 147/21 148/6 148/12 148/21 149/3 149/11 150/6 150/8 157/5 159/13 159/13 161/5 161/7 162/13 162/16 162/18 163/6 163/7 163/10 163/11 163/12 163/15 163/19 163/21 163/22 163/23 164/8 164/12 164/17 164/19 165/11 165/14 165/17 165/20 169/4 169/12 169/16 169/23 170/1 171/12 174/2 174/11 174/16 175/16 176/5 177/12 177/13 177/21 177/23	177/25 178/4 178/9 178/12 178/17 178/22 179/4 180/20 181/25 182/10 183/3 183/4 183/8 184/18 187/10 187/12 187/14 187/17 188/10 188/12 189/2 189/14 190/9 190/18 192/23 193/8 193/12 194/8 194/12 194/15 201/17 resilient [2] 102/24 105/4 resist [2] 58/25 102/20 resistance [1] 105/17 resolve [1] 203/20 resource [2] 91/10 91/13 resources [4] 86/17 90/24 118/1 150/10 resourcing [1] 121/9 respected [4] 40/5 40/21 67/24 69/6 respirators [1] 60/18 respiratory [17] 2/24 3/8 11/6 17/3 27/1 27/2 28/15 43/20 48/13 48/14 62/18 62/19 62/21 62/23 63/1 63/9 73/13 respond [17] 65/12 70/9 100/13 100/14 104/14 105/1 108/8 128/12 129/23 153/17 158/24 160/4 168/18 178/10 183/12 185/16 191/6 responded [1] 60/24 responder [2] 121/8 174/3 responders [26] 107/14 125/4 132/25 135/19 135/20 136/22 136/22 136/23 137/1 137/2 137/4 137/10 137/11 137/12 137/19 137/24 138/5 138/17 140/8 140/12 140/23 142/1 165/18 173/20 182/13 182/13 responding [8] 11/14 68/10 107/16 111/16 137/20 174/7 175/21 194/25 responds [2] 111/15 155/1 response [70] 2/23 3/3 12/11 12/24 50/3 51/25 61/20 65/8 66/5 68/6 68/16 69/3 69/15 81/6 83/3 85/14 87/25 92/4 97/2 97/7 101/21 106/17 117/5 127/6	128/16 130/19 133/16 135/1 136/5 138/13 139/18 143/9 143/22 143/25 144/3 144/4 144/6 144/14 145/11 145/13 145/16 145/19 145/24 152/2 152/23 153/18 154/5 154/15 154/16 154/17 154/20 155/3 155/10 156/13 157/5 157/22 161/11 165/2 166/12 166/24 169/22 172/4 172/5 174/9 174/19 188/24 191/2 191/2 196/8 202/7 responses [2] 106/20 107/2 responsibilities [8] 89/14 119/12 123/10 124/15 137/21 178/23 189/18 203/13 responsibility [20] 100/11 100/16 139/2 144/24 152/25 153/17 153/25 154/12 154/12 154/13 157/16 184/16 185/7 189/17 201/4 201/7 201/13 201/20 202/20 202/23 responsible [11] 71/14 99/20 158/2 158/9 159/18 160/7 161/11 184/23 201/10 202/9 203/5 rest [2] 48/3 142/1 restrictions [3] 42/6 43/2 191/5 rests [1] 109/9 result [6] 17/14 87/13 108/3 118/22 143/9 168/16 resulted [3] 16/7 131/14 131/22 resulting [1] 183/2 results [5] 56/9 98/8 117/4 131/8 182/1 retraining [1] 34/8 retrograde [3] 148/13 148/14 148/18 return [6] 39/9 41/22 50/16 93/15 99/24 115/24 returned [1] 32/19 returning [1] 42/3 review [15] 3/8 81/16 84/17 92/23 93/7 139/4 139/4 143/14 149/9 182/20 195/23 195/23 195/23 196/16 198/16 reviewed [6] 3/19 30/8 45/14 59/12 67/18 91/14	reviewing [2] 177/8 182/18 reviews [3] 118/23 118/24 183/1 revised [3] 68/18 126/14 182/16 revision [1] 174/7 revolution [1] 133/4 rewriting [1] 127/15 ribonucleic [1] 5/7 right [147] 4/22 5/21 5/24 5/25 6/8 6/9 6/18 7/7 8/8 8/19 9/2 9/10 9/24 10/15 10/24 11/5 11/9 11/20 13/3 13/15 15/1 15/11 16/5 16/12 16/18 16/22 17/1 17/23 18/2 18/8 19/6 20/17 20/25 21/3 22/8 23/17 23/20 24/1 25/3 25/13 25/14 26/12 26/21 26/21 27/8 28/1 28/19 29/5 29/15 31/15 32/16 32/23 33/17 33/22 34/18 35/17 35/24 36/2 36/14 36/18 36/18 37/6 37/21 37/24 38/4 41/8 41/19 41/22 42/17 44/11 45/1 45/22 46/1 46/12 47/3 47/8 49/9 49/17 49/25 50/6 51/9 51/16 52/15 53/24 54/2 56/3 56/12 58/4 59/3 59/20 60/16 61/1 62/4 74/6 78/3 83/14 86/9 86/10 91/11 92/6 93/15 99/24 105/10 107/19 107/20 114/8 114/14 115/10 115/24 116/21 117/7 126/7 127/1 130/24 131/5 131/24 133/25 134/20 136/20 143/20 145/20 145/20 146/4 150/4 151/4 151/13 155/15 155/23 157/2 158/6 162/4 162/25 167/13 168/2 168/9 168/11 169/13 169/23 170/20 172/2 179/19 188/7 190/1 192/24 194/6 194/16 202/3 right-hand [4] 25/3 25/14 26/21 168/11 rigorous [2] 159/2 181/10 rise [1] 78/5 risk [97] 7/19 8/12 8/15 8/16 8/24 11/16 11/17 29/14 36/1 40/12 48/25 50/2 58/14 64/3 64/6 64/14
----------	--	---	--	--

<p>R</p> <p>risk... [81] 64/14 64/15 64/23 65/3 69/21 80/5 82/9 82/13 94/15 94/19 94/23 95/1 95/18 99/7 99/7 100/1 102/17 102/17 104/21 104/23 107/24 108/18 109/10 109/10 109/11 109/21 109/25 111/4 111/7 111/7 112/1 112/2 112/13 112/16 112/17 112/22 113/8 114/23 115/6 117/19 119/11 123/11 123/12 124/3 124/13 126/23 126/24 128/10 128/10 129/4 129/13 129/13 130/8 130/9 132/3 132/6 138/14 138/21 146/22 146/23 147/16 148/19 148/23 165/7 165/8 168/12 168/12 168/13 168/14 168/22 169/1 169/11 170/9 170/21 170/22 174/16 174/21 177/15 178/10 183/14 183/16</p> <p>risks [51] 94/17 95/2 95/16 95/20 98/14 107/25 108/6 108/7 108/11 108/15 108/21 108/23 108/25 108/25 109/3 109/13 110/3 110/5 110/6 110/16 110/25 111/21 111/23 112/19 128/8 128/22 128/25 129/16 130/10 130/15 138/3 147/1 147/4 148/20 148/20 148/22 157/22 161/10 164/25 164/25 165/1 165/1 168/15 168/16 168/17 169/5 174/23 174/24 178/10 183/10 183/13</p> <p>RNA [1] 5/7</p> <p>roadmap [1] 121/7</p> <p>robbed [1] 25/25</p> <p>robust [1] 127/8</p> <p>role [15] 57/19 99/22 138/12 138/14 138/18 142/21 143/12 143/13 144/24 163/21 175/23 179/1 183/23 187/10 189/12</p> <p>roles [5] 81/5 81/7 123/10 178/23 190/23</p> <p>rolling [2] 46/19 67/15</p> <p>room [5] 167/19 169/4 169/7 169/12 170/20</p>	<p>root [1] 190/20</p> <p>route [2] 31/19 34/21</p> <p>routes [2] 12/2 12/3</p> <p>routine [4] 5/1 53/20 58/23 66/25</p> <p>routinely [1] 18/25</p> <p>Royal [1] 113/7</p> <p>rubric [1] 194/1</p> <p>run [4] 94/3 123/17 150/25 165/12</p> <p>run-up [1] 94/3</p> <p>running [5] 46/16 138/7 138/10 141/6 191/3</p> <p>runny [1] 48/10</p> <p>runs [1] 153/4</p> <p>Russia [1] 14/19</p> <hr/> <p>S</p> <p>safe [4] 98/25 99/16 99/16 185/15</p> <p>safety [4] 94/13 99/20 99/22 132/13</p> <p>SAGE [1] 167/17</p> <p>said [24] 20/2 24/14 30/7 30/22 30/22 34/20 42/9 44/23 45/1 67/23 76/2 85/4 99/13 101/12 104/9 115/1 140/7 140/21 162/3 164/20 164/23 169/16 170/8 182/21</p> <p>saline [1] 17/9</p> <p>salt [2] 17/9 17/11</p> <p>same [39] 1/18 7/9 9/23 14/6 14/17 15/10 17/15 18/20 19/25 29/2 29/4 34/24 37/25 40/23 50/1 54/18 57/4 57/25 58/2 66/2 88/14 91/2 101/8 104/5 113/13 142/19 144/13 145/13 157/20 159/2 165/5 165/8 168/18 168/19 168/20 170/5 170/16 172/1 182/23</p> <p>sanitation [1] 6/17</p> <p>SARS [48] 2/23 4/11 4/13 7/3 7/4 12/17 12/19 13/1 13/19 15/15 15/25 16/2 16/17 16/18 17/3 19/10 19/22 20/12 20/14 20/18 21/10 22/8 26/16 26/24 27/1 27/15 29/7 30/2 31/9 31/10 31/11 31/12 34/24 34/25 39/11 40/7 41/4 41/20 48/13 54/5 54/13 54/21 58/7 59/6 59/25 70/11 72/16 73/9</p> <p>SARS Coronavirus [3] 31/10 31/12 41/4</p>	<p>SARS-CoV-1 [3] 2/23 19/10 29/7</p> <p>SARS-CoV-2 [2] 4/13 48/13</p> <p>saturation [1] 48/11</p> <p>Saudi [3] 3/7 31/16 41/1</p> <p>Saudi Arabia [3] 3/7 31/16 41/1</p> <p>saving [1] 104/7</p> <p>saw [1] 137/22</p> <p>say [59] 1/16 1/21 18/9 21/15 27/15 27/17 29/4 29/6 38/5 38/7 44/8 60/22 79/20 84/7 86/1 89/17 90/10 93/18 95/19 100/12 102/3 107/20 108/4 108/24 109/20 109/23 109/24 110/19 112/11 112/24 117/12 129/6 129/10 130/5 131/12 131/22 134/7 144/22 147/7 153/20 165/22 167/10 169/17 171/4 172/14 175/7 175/14 175/20 176/24 177/24 178/17 182/5 182/25 190/15 192/1 192/23 199/21 203/7 203/18</p> <p>saying [12] 98/11 112/14 113/18 115/5 117/17 125/19 125/21 130/13 133/12 141/8 141/11 141/12</p> <p>says [11] 9/6 9/10 39/21 77/1 91/7 100/22 110/12 114/12 120/13 163/8 187/22</p> <p>scale [6] 36/6 61/9 63/19 94/6 95/3 155/12</p> <p>scanning [1] 64/21</p> <p>scanning' [1] 128/7</p> <p>scenario [9] 62/23 99/6 109/19 111/14 111/15 111/15 115/15 115/23 199/25</p> <p>scenario-building [1] 99/6</p> <p>scenarios [9] 62/22 110/22 111/2 111/8 111/11 113/11 115/17 147/4 160/8</p> <p>schematically [1] 173/10</p> <p>scheme [2] 92/21 130/4</p> <p>schemes [1] 194/24</p> <p>School [3] 2/16 3/15 80/11</p> <p>schools [1] 152/15</p> <p>science [1] 168/7</p> <p>scientific [3] 35/17</p>	<p>75/18 80/10</p> <p>scope [6] 4/6 82/4 82/6 82/23 152/25 195/16</p> <p>Scotland [26] 88/8 88/23 89/23 100/8 100/17 162/7 164/3 165/3 165/6 165/23 166/3 166/19 168/18 168/23 169/6 170/17 172/13 172/18 179/7 179/8 179/10 188/16 194/7 194/10 194/11 195/17</p> <p>Scottish [14] 89/1 165/10 165/13 165/19 165/20 165/21 166/5 166/9 167/11 168/10 169/1 169/4 169/5 183/3</p> <p>Scottish Government [4] 165/13 165/19 165/21 166/5</p> <p>Scottish Ministers [1] 89/1</p> <p>screen [9] 1/25 50/7 79/22 82/24 83/17 122/6 127/25 162/8 162/10</p> <p>screening [1] 61/22</p> <p>screens [3] 143/18 150/20 150/21</p> <p>seafood [1] 39/22</p> <p>second [23] 21/4 32/17 42/7 54/25 67/23 84/14 89/7 92/9 95/7 103/10 108/18 116/10 120/23 129/5 130/1 134/8 138/21 147/17 149/3 154/5 157/3 178/12 189/12</p> <p>secondary [1] 96/13</p> <p>secondly [10] 61/11 103/7 108/24 120/20 125/1 125/5 132/5 143/13 156/24 176/18</p> <p>secrecy [1] 177/2</p> <p>secretariat [7] 81/11 81/13 148/5 149/16 156/11 170/20 201/16</p> <p>Secretary [1] 90/20</p> <p>secretions [2] 31/20 31/25</p> <p>section [7] 83/4 83/5 105/5 135/8 145/12 145/12 176/10</p> <p>section 2 [2] 83/4 105/5</p> <p>section 3 [2] 83/5 135/8</p> <p>section 4 [1] 145/12</p> <p>section 5 [1] 145/12</p> <p>section 6 [1] 176/10</p> <p>sections [5] 83/2</p>	<p>83/6 119/25 180/6 200/14</p> <p>Sections 4 [1] 83/6</p> <p>sector [19] 64/25 64/25 64/25 65/1 66/1 66/2 67/5 69/4 69/21 70/2 70/23 103/14 103/15 103/16 123/5 126/18 126/20 138/17 167/6</p> <p>sectors [9] 64/13 69/16 71/2 87/23 157/17 161/11 168/14 180/14 196/14</p> <p>secure [1] 37/8</p> <p>securely [1] 126/15</p> <p>security [21] 38/1 43/7 84/18 99/7 100/1 111/7 112/1 113/8 116/6 116/11 118/24 118/24 146/10 146/22 168/12 170/19 185/20 185/21 185/22 186/4 199/12</p> <p>see [41] 2/2 24/18 24/24 25/4 25/14 25/19 26/17 49/6 55/3 56/9 61/14 61/17 65/2 66/18 70/8 77/22 80/2 100/23 102/7 106/24 118/17 125/7 126/2 129/2 129/7 143/24 147/19 150/13 150/19 164/7 164/16 166/14 168/25 169/20 170/18 170/25 173/6 175/13 179/4 194/8 201/24</p> <p>seek [9] 75/5 86/12 86/22 103/8 104/25 107/13 121/18 128/9 130/11</p> <p>seeking [2] 107/4 136/16</p> <p>seem [1] 46/18</p> <p>seemed [1] 133/5</p> <p>seemingly [1] 158/7</p> <p>seems [1] 183/11</p> <p>seen [7] 5/1 32/20 82/25 163/13 163/25 193/23 194/5</p> <p>segment [1] 91/8</p> <p>segments [1] 134/6</p> <p>Select [1] 126/23</p> <p>self [4] 180/1 181/3 181/7 184/4</p> <p>self-assured [1] 181/7</p> <p>self-evident [1] 180/1</p> <p>semantics [1] 147/1</p> <p>sending [1] 168/16</p> <p>senior [7] 89/7 143/18 177/22 183/12 183/15 189/17 194/3</p> <p>sense [13] 75/8 88/6</p>
--	---	---	--	--

S	sets [8] 85/11 90/22 117/19 117/23 120/4 120/13 179/8 179/11	69/16 69/25 73/19 85/20 86/24 107/3 107/16 109/1 112/16 115/5 120/18 121/1 126/13 126/14 136/18 138/18 138/20 140/22 141/9 142/22 143/6 145/22 146/17 153/6 153/24 154/11 160/18 162/19 163/3 163/4 164/10 168/17 175/5 176/16 179/14 179/17 181/23 182/15 182/17 182/22 183/2 184/1 184/3 190/10 190/12 190/21 195/3 195/4 202/9 202/10 202/11	163/19 177/1 187/21 simultaneously [2] 95/20 96/21 since [5] 7/2 32/12 77/6 111/21 122/4 Singapore [8] 21/10 31/13 45/18 54/9 55/10 55/18 57/4 57/14 singing [1] 17/17 single [25] 109/21 109/24 117/18 117/18 117/18 120/8 121/7 153/20 154/12 154/23 161/18 162/16 173/13 176/12 176/13 177/20 184/1 184/12 184/13 184/14 190/12 193/25 201/6 201/19 201/23 Sir [4] 76/19 91/5 91/21 121/16 Sir David [1] 91/21 Sir David Sterling [1] 91/5 Sir Humphrey [1] 121/16 Sir Liam Donaldson [1] 76/19 sites [1] 56/25 sits [1] 188/2 sitting [1] 202/20 situation [3] 25/21 103/23 111/14 situations [1] 8/16 six [3] 30/7 113/6 150/9 six months [1] 30/7 size [1] 101/1 skilled [1] 190/7 skills [4] 68/9 76/23 119/13 123/22 slight [1] 13/25 slightly [1] 85/3 slim [1] 199/4 slow [3] 103/8 120/23 135/2 slowly [1] 164/3 small [9] 8/3 14/24 35/22 36/6 73/8 103/23 165/6 202/5 202/7 smaller [2] 17/16 155/11 smallest [1] 182/3 smell [1] 48/6 smoothly [2] 101/23 158/11 sneeze [1] 12/4 so [274] so-called [6] 84/17 111/3 138/17 153/25 178/21 201/25 social [15] 87/22 106/21 152/6 152/9	166/8 166/16 166/17 191/5 196/13 199/3 199/4 199/14 200/11 200/15 200/22 social care [10] 106/21 166/8 166/16 166/17 196/13 199/3 199/4 199/14 200/11 200/22 societal [2] 97/9 97/11 societies [1] 96/6 society [3] 95/7 103/13 104/16 socio [5] 113/24 123/15 125/11 200/3 200/4 socio-economic [3] 123/15 125/11 200/4 soft [1] 68/19 softened [1] 17/13 solid [4] 10/13 44/1 44/20 53/1 solidifying [1] 87/7 solution [2] 65/21 202/17 solve [1] 160/2 solving [1] 159/25 some [81] 4/3 4/19 4/20 8/3 8/5 9/15 9/16 11/12 13/4 15/13 27/12 31/5 35/8 35/20 37/13 37/14 38/17 38/17 38/20 39/15 45/24 50/10 52/16 52/17 53/7 54/3 54/12 54/14 70/14 71/6 71/23 72/23 75/10 75/14 75/24 77/16 85/16 85/18 85/23 88/3 90/14 91/18 93/23 95/2 95/10 97/23 98/4 99/25 102/6 105/3 108/11 109/7 111/18 114/16 121/24 122/8 126/2 126/8 126/9 131/11 132/23 134/23 137/24 138/23 143/14 162/19 171/19 172/18 175/2 175/3 175/4 175/13 177/5 180/13 180/17 183/9 186/25 188/18 188/20 197/13 202/16 somebody [5] 76/2 154/3 163/19 201/10 202/22 something [27] 1/16 21/19 30/22 36/6 39/10 62/6 76/2 80/2 96/24 97/1 102/18 103/1 110/11 113/19 113/20 129/11 133/6 146/17 148/5 150/12
sense... [11] 92/10 92/19 100/10 115/21 116/12 121/23 142/22 143/8 144/16 146/12 159/9 senses [1] 124/22 sensible [5] 101/12 110/9 112/16 133/5 185/24 sensibly [1] 99/17 sent [1] 8/21 separate [12] 9/1 23/15 69/12 76/24 105/2 128/17 145/10 162/15 178/3 197/6 203/7 203/8 separated [1] 97/22 separately [1] 70/16 separation [1] 187/1 sepsis [1] 48/15 septic [1] 48/15 sequelae [1] 67/2 sequence [3] 38/12 41/4 41/5 sequenced [1] 13/24 sequencing [1] 19/11 SERCO [1] 193/17 series [8] 4/7 7/19 15/24 33/13 63/18 90/3 176/8 177/14 serious [20] 13/2 15/5 24/11 24/12 24/15 24/17 29/14 46/6 46/9 48/12 48/22 49/14 54/7 58/25 59/16 73/23 111/9 111/23 187/24 196/19 seriously [1] 49/13 seriousness [1] 24/19 servants [4] 87/8 89/20 91/16 202/21 service [6] 81/1 91/6 134/25 135/1 151/1 171/14 services [13] 89/2 93/6 104/1 106/18 106/20 107/14 138/6 138/25 141/4 141/18 170/2 180/15 180/18 serving [2] 81/2 81/10 set [28] 4/6 13/5 50/24 56/5 59/23 60/25 72/21 73/5 73/10 82/7 83/4 83/22 85/16 85/18 104/23 117/13 119/10 119/13 121/3 125/2 125/18 130/15 177/15 178/16 178/21 178/25 179/16 197/5 sets [8] 85/11 90/22 117/19 117/23 120/4 120/13 179/8 179/11 setting [6] 34/5 36/3 36/21 43/21 53/2 82/25 settings [6] 29/8 29/21 30/23 32/1 43/16 44/2 settlements [1] 188/14 seven [2] 19/23 45/19 several [4] 20/13 31/13 35/11 77/19 severe [14] 2/23 11/6 17/3 27/1 27/13 48/4 48/25 49/18 59/5 89/11 110/10 111/9 115/1 132/23 severity [2] 63/19 112/12 sewage [1] 139/17 shall [2] 5/13 197/23 shape [2] 108/11 109/7 share [2] 39/15 40/17 shared [6] 100/16 124/12 147/6 154/11 154/13 201/24 shares [1] 39/18 sharing [7] 35/15 40/10 40/25 41/11 41/12 59/7 91/20 sharpen [1] 137/12 she [3] 35/23 40/9 76/12 she's [1] 77/21 shed [1] 28/12 shields [1] 19/1 shift [5] 65/7 66/8 69/17 69/18 133/1 ship [3] 42/12 59/18 59/19 shock [1] 48/15 shoes [2] 178/2 178/3 short [13] 50/19 57/1 73/21 78/15 80/3 99/8 99/10 102/9 111/17 116/1 116/2 120/21 155/25 short-term [1] 57/1 shortage [3] 33/20 74/5 156/21 shorter [3] 51/11 51/12 51/21 shorthand [1] 138/6 shortly [1] 175/24 shortness [1] 48/7 should [62] 11/15 42/10 54/16 58/6 58/8 66/20 66/25 68/3 68/11 68/16 69/13	should [62] 11/15 42/10 54/16 58/6 58/8 66/20 66/25 68/3 68/11 68/16 69/13 shoulder [1] 154/7 show [2] 28/6 116/15 showed [1] 7/12 shown [5] 6/14 23/9 23/12 56/22 149/1 shows [3] 18/13 24/9 24/10 shut [1] 56/21 shutting [1] 75/21 sic [1] 56/6 sick [3] 27/21 43/22 55/4 sickness [1] 66/23 side [7] 132/9 147/19 165/16 170/1 171/8 173/2 173/2 sides [1] 172/15 sight [1] 132/12 signals [1] 111/3 signed [2] 2/3 2/4 significance [1] 181/14 significant [10] 91/11 91/13 92/25 94/14 97/6 108/25 111/9 138/23 161/14 173/6 significantly [2] 124/5 190/15 signifies [1] 128/3 signs [18] 20/16 21/1 28/6 28/8 28/9 28/13 28/18 28/20 28/21 28/24 43/4 45/21 45/24 48/1 48/4 48/7 49/10 51/4 silent [1] 121/9 silos [1] 70/5 silos [1] 129/9 similar [5] 15/19 32/1 57/10 171/16 188/11 simple [4] 139/23 158/12 176/15 185/13 simplest [2] 130/7 185/15 simply [11] 58/1 76/8 86/13 96/22 117/4 129/12 133/8 151/6			

S	113/14 115/14 121/23 147/4 147/4 164/25 164/25 176/21 176/22 190/8 specifically [4] 88/8 89/21 115/4 199/12 specification [1] 142/17 specificity [2] 114/13 114/21 specifics [2] 107/1 108/4 specimens [1] 13/23 spectrum [1] 17/19 speed [1] 95/12 spend [2] 113/20 119/6 spent [1] 180/25 sphere [2] 5/5 5/6 spike [1] 5/10 spikes [3] 5/10 5/11 5/21 spillover [1] 8/13 split [2] 201/17 201/22 spoke [1] 72/1 spoken [2] 182/11 194/19 sponsorship [1] 167/4 sporadically [1] 65/20 Sport [1] 167/3 spread [26] 9/8 16/19 18/19 18/20 20/7 30/11 30/16 33/1 33/14 38/13 42/2 42/15 44/8 51/23 55/13 56/6 61/12 63/2 63/4 63/5 63/7 63/8 63/23 64/5 73/19 103/8 spreading [3] 17/23 43/11 55/24 spreads [1] 10/2 spurious [2] 111/18 113/12 staff [3] 34/8 90/4 92/3 stage [2] 108/20 155/3 stages [2] 61/10 107/5 stake [1] 181/15 stand [6] 68/21 68/22 92/16 92/20 196/2 199/15 standard [4] 129/13 159/16 178/16 182/17 standards [20] 37/25 38/2 124/7 124/9 159/3 159/10 174/16 177/12 177/13 177/14 177/21 177/25 178/13	178/23 179/9 179/17 179/24 181/11 182/11 182/16 standing [2] 184/4 191/24 start [10] 4/23 15/25 24/11 38/12 41/2 82/3 138/24 148/15 175/13 185/13 started [7] 42/2 77/8 93/14 95/3 96/13 113/18 120/18 starting [3] 109/20 128/21 191/7 starts [3] 120/10 168/20 193/3 state [5] 152/1 183/7 184/17 186/16 199/13 stated [1] 81/22 statement [13] 2/4 9/4 47/19 76/6 76/12 77/1 86/13 90/22 123/14 156/9 186/7 189/21 196/18 statements [8] 85/1 87/17 88/10 88/19 89/13 89/18 89/19 172/17 States [2] 2/14 80/9 stating [1] 194/1 statistics [1] 52/21 status [1] 191/24 statutory [7] 93/4 126/20 173/19 173/22 173/22 175/3 175/3 stay [1] 148/20 stayed [1] 19/24 staying [1] 18/20 stenographer [1] 50/9 stenographers [1] 1/14 step [4] 140/9 148/13 148/14 148/18 steps [2] 117/25 121/5 sterilised [1] 32/4 Sterling [1] 91/5 stick [1] 197/21 still [12] 2/6 2/8 27/12 27/20 27/21 74/24 80/21 110/24 114/22 149/23 164/19 167/16 stimulus [1] 94/12 stint [2] 2/20 3/6 stitch [1] 194/13 stone [1] 127/8 stood [1] 113/17 stop [6] 39/22 39/23 40/18 43/7 55/15 139/20 stopped [2] 46/18 55/19	stopping [1] 75/21 stops [1] 17/23 strategic [17] 3/13 83/4 107/21 127/15 131/11 144/8 144/18 145/3 147/22 149/12 159/14 164/8 164/10 164/11 164/11 169/21 174/20 strategically [1] 131/22 strategies [3] 57/17 77/11 127/4 strategy [32] 52/14 52/20 52/24 66/21 66/23 75/7 75/9 75/11 77/5 77/9 77/12 77/17 88/1 88/2 117/18 117/20 119/1 120/3 120/8 121/2 121/3 127/12 146/21 174/18 184/2 190/12 196/8 200/8 200/18 200/24 201/10 202/10 stream [1] 155/7 strengthen [3] 68/5 123/3 124/5 strengthened [1] 143/9 Strengthening [1] 122/20 strong [6] 42/16 58/10 58/19 128/4 176/11 198/8 stronger [2] 69/2 195/17 strongly [1] 126/17 struck [3] 112/5 153/14 198/22 structural [2] 97/6 143/21 structure [13] 13/25 93/25 97/13 129/17 151/19 151/20 151/21 160/25 166/9 170/5 170/6 170/12 194/2 structures [31] 83/6 83/7 87/12 87/25 92/22 97/17 99/15 100/10 101/14 101/15 101/15 102/22 106/16 106/25 107/8 120/5 120/7 122/21 135/8 136/5 143/22 143/25 145/11 151/15 165/2 172/5 190/18 194/19 194/22 194/24 196/25 studied [1] 7/6 studies [8] 7/10 7/11 37/11 45/9 56/18 73/9 80/8 177/3 study [5] 16/16 30/5 45/11 72/21 73/5 stuffy [1] 48/9	subject [6] 92/22 103/3 121/25 140/15 140/17 182/22 subsequent [3] 80/18 163/25 172/22 subsequently [2] 80/17 81/12 substandard [3] 18/10 32/23 33/5 substantially [3] 125/13 182/10 186/9 success [1] 202/14 successful [1] 56/6 successive [2] 83/5 174/15 successor [1] 156/10 such [40] 7/20 17/3 17/17 18/25 25/11 29/21 36/1 37/15 39/17 48/23 54/9 54/17 54/19 55/2 55/10 57/1 59/22 63/25 64/17 69/4 69/18 75/11 75/14 82/14 93/21 96/7 98/8 158/18 161/22 181/14 183/9 184/9 184/21 186/20 189/22 192/6 194/2 194/5 199/17 200/2 suddenly [1] 135/25 suffers [1] 167/11 suffice [1] 120/8 sufficient [3] 72/17 116/19 151/9 sufficiently [5] 99/1 108/7 113/12 120/15 124/19 suggest [8] 145/22 182/19 183/23 184/4 185/22 187/9 189/8 195/4 suggested [2] 126/17 177/4 suggesting [2] 126/12 188/15 suggestions [1] 132/16 suggests [3] 16/13 120/23 195/16 suitable [2] 82/12 194/25 suitably [1] 190/10 suite [1] 115/16 summarise [2] 129/18 129/19 summarised [1] 128/6 summarising [1] 135/18 summary [8] 4/9 61/15 76/18 122/5 122/15 137/5 174/25 190/5
----------	---	---	--	--

S	79/3 79/7 205/3 205/11 symposium [1] 113/16 symptomatic [2] 29/2 112/10 symptoms [27] 14/24 20/16 20/22 21/1 23/18 26/24 26/25 27/22 28/6 28/9 28/13 28/18 28/20 28/21 28/24 43/4 43/20 45/21 45/25 47/22 48/1 48/4 48/7 49/2 49/10 49/17 51/4 syndrome [3] 2/24 3/8 48/14 system [80] 11/14 39/6 42/22 58/22 59/23 65/11 71/9 75/15 82/15 85/13 94/18 97/6 101/16 103/11 104/16 106/23 109/8 112/1 112/16 112/18 112/18 114/22 120/15 125/13 125/15 125/17 125/18 126/14 126/19 129/20 129/20 130/2 130/24 131/10 131/17 131/25 133/23 134/4 134/9 137/13 137/16 141/19 143/1 143/6 147/14 154/22 158/17 159/12 160/1 161/4 161/9 161/16 161/25 162/18 165/10 165/22 165/24 166/18 166/18 167/11 168/13 174/5 180/3 181/23 182/8 183/25 185/9 185/9 190/6 191/4 193/1 198/11 198/13 198/18 199/16 200/7 200/18 201/5 201/10 202/10 systematic [1] 181/10 systemic [1] 152/21 systems [9] 12/24 42/19 59/15 60/1 86/8 136/15 151/24 172/16 173/2	54/9 55/11 take [32] 2/9 4/4 12/6 26/23 41/13 50/6 50/15 55/22 56/12 58/22 72/20 76/7 89/8 96/21 97/13 99/13 101/12 104/19 114/23 117/25 119/21 121/5 122/25 123/9 131/6 135/14 142/21 148/2 153/17 168/22 181/6 197/7 take-up [1] 181/6 taken [13] 13/7 24/5 94/3 94/22 98/8 110/4 120/14 128/12 130/13 169/10 184/25 200/13 202/13 takes [4] 5/18 9/19 59/13 152/4 taking [12] 13/22 44/20 45/8 59/3 69/23 122/16 122/23 123/2 163/9 180/10 190/20 193/11 Taleb [1] 105/25 talk [5] 12/8 58/18 148/16 200/8 200/8 talked [4] 51/2 51/16 62/23 162/12 talking [1] 50/22 talks [1] 192/1 task [2] 114/17 130/23 tasks [1] 149/8 taste [1] 48/6 taxonomy [1] 10/25 teach [1] 80/7 teaching [1] 114/1 team [5] 3/6 162/20 170/2 182/20 183/4 teams [2] 149/3 189/20 technical [5] 3/10 3/13 68/4 72/7 148/15 technically [1] 100/16 technological [1] 95/13 technologically [1] 95/8 telecommunications [1] 138/25 Television [1] 150/18 tell [12] 16/2 22/9 33/13 33/15 64/7 112/8 112/10 113/19 129/21 129/22 134/17 178/6 tells [1] 33/9 temptation [1] 69/12 tempted [1] 70/3 ten [5] 77/11 114/1 148/3 149/2 195/22	ten years [3] 114/1 149/2 195/22 tend [1] 94/6 tended [1] 200/3 tendency [1] 192/3 term [8] 12/6 12/8 27/17 57/1 67/1 92/17 99/10 99/11 terminology [1] 146/25 terms [40] 4/6 35/18 38/12 43/12 49/6 64/9 77/15 82/8 87/11 92/21 94/16 95/11 104/7 106/8 108/6 109/9 109/13 111/1 114/5 119/21 126/20 142/16 145/17 145/19 151/2 152/2 161/9 161/10 171/17 184/13 189/1 191/3 191/4 191/4 195/13 198/5 198/11 199/1 201/4 202/19 terrible [2] 133/11 157/21 terribly [2] 125/20 146/11 terrorism [2] 81/11 185/24 test [7] 22/21 23/10 23/11 49/16 92/16 134/7 177/25 tested [6] 23/7 131/17 140/11 158/8 159/16 196/9 testimony [1] 20/2 testing [7] 52/14 52/16 52/18 52/20 161/1 181/7 181/11 than [30] 17/16 20/7 43/2 47/14 51/14 52/16 53/17 56/10 66/5 75/11 97/8 107/1 112/17 113/10 121/11 125/15 131/20 133/17 137/1 137/4 137/21 146/14 147/13 153/16 157/23 160/5 166/11 184/4 189/16 193/2 thank [81] 1/9 1/22 1/25 2/9 3/17 5/25 9/2 11/5 15/23 19/9 21/17 25/13 26/12 26/23 26/23 28/23 38/11 47/20 50/6 50/17 50/21 52/2 56/15 57/20 61/17 62/4 66/9 67/20 67/22 68/23 71/3 71/19 72/10 74/6 74/19 74/21 74/23 75/25 78/2 78/7 78/9 78/10 78/13 78/24 79/2 79/19 82/2 90/9	92/6 96/2 97/3 100/21 101/10 102/7 106/14 107/23 113/3 117/7 159/21 162/4 163/1 164/1 166/2 171/9 172/6 173/8 173/16 173/17 177/9 182/4 183/16 187/8 191/23 197/10 197/24 200/6 203/15 203/16 203/17 203/22 203/25 thank you [63] 1/9 1/22 3/17 5/25 9/2 11/5 15/23 19/9 21/17 25/13 26/12 26/23 26/23 28/23 38/11 47/20 50/17 50/21 52/2 56/15 61/17 66/9 67/20 67/22 68/23 71/3 72/10 74/19 75/25 78/7 78/13 82/2 90/9 96/2 97/3 100/21 101/10 102/7 106/14 107/23 113/3 117/7 159/21 162/4 163/1 164/1 166/2 172/6 173/8 173/16 173/17 177/9 182/4 183/16 187/8 191/23 197/10 197/24 200/6 203/15 203/17 203/22 203/25 thanking [1] 1/10 that [1008] that's [72] 4/13 5/24 6/9 14/1 15/9 15/19 16/6 16/11 16/16 16/23 17/13 18/7 20/20 22/5 22/7 22/10 23/20 24/17 24/23 26/9 28/7 28/22 30/18 32/5 32/25 33/10 33/23 34/3 34/7 34/23 36/5 37/5 38/23 38/23 40/6 41/6 44/11 46/10 53/17 54/1 55/8 55/25 56/2 58/3 65/25 67/12 74/6 78/1 80/20 95/6 99/14 102/3 103/9 103/14 105/4 106/14 126/16 129/4 129/25 136/7 136/9 154/4 164/14 169/22 172/14 175/20 181/5 192/9 198/14 198/20 198/24 203/21 theatre [1] 101/1 their [53] 11/14 15/17 16/24 18/16 25/25 27/9 32/3 41/24 52/14 54/5 54/15 54/19 56/4 56/9 57/17 58/13 58/14 58/20 60/5 60/8 64/23 67/13 70/9 70/14 91/11 96/5
----------	---	---	---	--

T	200/17	60/12 62/16 63/19	89/22 92/15 92/16	12/4 16/20 17/8 31/20
their... [27] 101/16	theories [2] 36/22	63/24 65/11 70/15	94/19 95/2 95/10	34/21 37/13 39/5
103/16 117/15 126/4	36/25	70/21 76/3 78/3 83/17	98/19 101/22 102/15	47/21 79/18 85/2
126/5 129/8 130/2	there [342]	84/6 84/8 88/10 88/23	105/2 108/6 109/2	94/22 97/20 119/6
130/9 130/12 132/13	there's [7] 10/12 17/3	91/6 93/7 93/22 94/5	109/13 109/16 110/3	135/14 139/14 145/4
132/13 133/1 134/17	23/21 60/13 121/5	94/20 96/22 98/1	111/13 115/5 120/14	146/1 148/12 161/6
134/18 143/15 154/7	166/3 200/15	98/22 98/23 99/23	120/21 120/25 121/19	165/19 167/17 170/21
172/19 176/17 179/14	thereabouts [1]	100/22 102/1 102/3	122/2 124/18 124/22	171/11 171/13 192/4
179/15 181/4 182/24	33/11	103/4 104/21 104/22	126/21 128/25 129/1	197/3 197/6 198/3
183/1 190/16 191/11	thereby [1] 57/16	106/8 107/12 110/2	129/5 131/21 133/11	198/9 199/16 200/10
195/15 201/9	therefore [35] 12/25	110/15 110/18 110/21	134/15 134/18 138/19	throughout [7] 10/2
them [58] 9/7 10/22	19/7 21/5 29/22 40/11	111/8 112/23 113/4	139/2 139/11 140/24	40/19 43/11 85/8
11/3 12/1 12/2 13/6	51/13 51/25 53/3	113/21 115/22 118/21	142/23 143/5 143/18	125/4 195/19 199/21
13/24 14/13 37/19	53/22 79/3 85/15	120/10 120/17 120/21	145/4 149/3 154/1	thrown [1] 93/10
38/3 45/20 45/23	87/12 98/20 101/1	120/25 121/22 124/23	158/6 160/2 168/16	Thursday [1] 1/1
45/24 70/11 70/14	101/11 104/11 105/19	125/25 128/21 132/9	168/17 175/6 177/24	thus [1] 117/13
73/15 92/15 94/8	106/7 108/8 112/12	133/25 134/22 135/22	178/19 179/17 182/10	tier [4] 101/7 125/22
97/12 98/20 98/21	112/22 131/12 138/19	136/7 139/19 140/22	183/13 190/20 190/23	151/8 151/11
99/12 104/2 104/23	143/17 150/11 159/25	141/20 143/2 144/21	194/13 194/17 194/24	time [61] 1/20 2/12
110/8 113/9 121/24	161/3 161/17 165/12	144/21 145/5 145/11	194/24 194/24 195/6	4/17 7/22 7/22 8/10
126/11 129/22 131/2	166/19 172/15 179/4	146/1 146/12 146/17	195/8 196/2 201/12	14/14 15/7 15/18 16/7
133/1 133/24 134/24	188/25 195/9 196/22	147/1 147/7 147/11	though [7] 25/9	19/13 21/8 23/22
136/25 137/11 138/20	thereof [1] 142/15	148/18 149/13 151/3	57/17 58/19 106/10	23/23 23/24 23/25
139/2 139/6 140/10	these [30] 4/2 14/20	151/8 153/22 155/11	110/24 160/24 200/5	37/25 43/22 44/9
140/11 140/11 145/20	15/10 17/22 19/24	155/16 156/3 159/19	thought [23] 8/9 16/3	44/22 45/7 46/4 47/10
148/8 150/3 160/2	27/22 37/18 39/11	160/10 160/23 164/9	16/7 19/4 23/3 24/16	49/5 50/1 50/8 51/3
160/2 164/8 165/18	41/20 65/9 69/9 72/1	164/10 165/24 166/23	28/17 30/23 33/1 41/3	51/3 54/18 59/13
178/20 182/11 185/14	73/7 73/22 84/23	176/10 176/14 177/7	47/14 49/20 51/6	65/20 65/21 66/2
186/5 192/1 192/6	84/25 97/23 97/23	190/9 191/8 192/9	59/18 85/6 108/19	79/16 86/6 86/17
192/9 197/15 197/16	99/4 105/22 110/13	193/15 201/21 202/5	133/3 141/7 143/2	92/16 93/20 94/25
197/19	118/8 121/5 125/9	202/7 203/6	145/4 146/2 146/11	99/8 101/8 102/4
themselves [4] 57/21	128/17 130/10 145/24	thinking [6] 26/11	180/24	103/9 111/17 113/13
133/18 178/8 182/22	161/20 176/20 200/5	70/25 71/1 98/13	thousand [1] 114/16	117/2 119/6 121/18
then [97] 2/19 2/25	they [208]	155/9 159/22	thousands [2] 110/5	133/3 135/13 137/19
3/4 5/18 6/25 8/4 8/6	they'd [2] 174/11	thinks [1] 75/8	110/6	146/18 149/24 149/25
8/20 8/22 9/19 9/22	174/20	third [5] 89/4 97/4	thread [1] 89/13	157/20 161/3 164/9
10/14 14/13 15/3 16/1	they're [23] 1/14 5/3	103/12 121/2 193/15	threads [2] 127/2	185/23 186/1 186/1
17/11 18/15 23/6	6/9 6/11 9/22 11/10	Thirdly [2] 139/4	194/17	195/5
23/11 25/14 26/8	11/12 11/22 12/13	149/10	threats [6] 4/20	times [10] 8/2 17/14
28/14 29/2 30/25 31/1	18/23 23/13 23/15	this [206]	185/24 186/3 186/9	17/25 49/22 53/3
32/12 32/12 32/17	29/4 32/3 38/10 60/2	those [138] 5/10 5/11	186/15 187/3	56/22 73/13 79/11
35/24 37/13 39/1 39/4	60/6 109/17 121/6	6/18 8/15 8/20 8/22	three [31] 15/9 19/12	105/15 150/19
39/22 41/9 55/6 56/5	130/24 147/2 158/21	10/20 11/7 11/8 11/19	20/16 28/16 31/21	tinker [1] 125/14
56/21 61/8 62/21	179/5	11/21 12/7 12/18	32/9 33/2 39/11 51/12	tiny [1] 5/3
65/12 66/10 76/1	they've [6] 25/25	14/13 14/16 18/15	53/17 89/5 91/9 91/24	tipping [1] 114/6
76/18 76/25 77/8	43/5 97/15 162/22	18/17 18/25 22/3	93/24 94/7 96/17	today [9] 11/4 15/4
81/12 83/8 84/22	165/7 179/5	23/12 27/12 27/16	103/4 123/17 124/4	27/13 39/1 56/9 57/24
86/17 89/9 95/23	thing [10] 10/7 14/6	30/8 32/13 32/24 33/2	124/22 132/21 137/14	65/10 83/9 194/20
98/11 102/18 104/3	21/4 64/2 86/14	33/4 34/10 36/23	139/11 143/23 147/13	today's [3] 74/13
105/6 106/5 108/20	114/15 121/21 125/25	37/22 38/1 38/4 41/23	148/18 150/19 171/3	190/24 203/25
109/13 109/15 113/21	141/17 146/20	46/9 47/25 48/2 49/18	171/11 177/16 195/21	together [32] 21/8
118/11 129/5 130/18	things [22] 17/21	52/6 52/10 52/21	three days [3] 20/16	30/11 64/14 69/9
132/21 136/9 136/18	52/13 54/23 65/5	53/14 53/19 54/5 54/8	28/16 51/12	69/23 72/7 76/23
136/21 137/18 145/7	75/14 92/21 108/14	54/11 54/12 54/14	three months [1]	83/12 91/11 95/20
145/10 154/5 155/3	113/14 122/1 126/8	54/18 55/18 55/19	19/12	101/23 107/8 110/8
156/15 156/21 156/24	128/21 130/4 130/24	56/3 56/16 56/21	three years [3] 93/24	121/7 127/2 128/15
157/13 161/15 164/4	137/1 139/16 141/10	56/24 57/10 57/21	147/13 195/21	128/23 129/3 130/6
164/4 164/17 168/10	143/12 143/17 151/7	58/7 59/1 59/5 59/9	three-fold [1] 53/17	146/8 158/11 158/17
168/16 168/21 169/3	151/12 176/14 176/20	59/10 59/13 59/25	three-quarters [1]	165/8 167/23 171/22
171/3 176/24 177/10	think [111] 17/18	61/18 64/3 67/18	94/7	176/12 183/2 188/13
177/17 178/23 181/15	19/2 20/2 21/15 24/3	69/23 71/25 75/14	throat [1] 48/9	194/13 194/17 200/19
181/18 181/25 188/12	26/17 29/17 30/7 43/7	75/24 76/17 84/9	thromboembolism	202/2
191/11 192/5 199/7	44/5 46/17 50/15 54/7	87/15 88/11 88/19	[1] 48/15	told [5] 56/17 57/7
	59/11 59/15 60/11		through [33] 4/4 5/15	59/7 63/10 129/23

T	20/24 21/1	146/7 171/23	144/10	85/13 86/7 87/2 88/7
tolerated [1] 202/17	transmission [41]	trying [12] 73/22	unable [1] 45/20	89/20 92/21 94/3
tome [1] 81/19	10/3 12/2 12/3 16/9	85/17 85/23 114/2	uncertain [1] 95/17	94/16 100/5 100/7
tomorrow [2] 171/1	18/5 24/9 24/12 24/16	117/24 118/1 128/24	uncontrolled [1] 21/9	109/8 116/14 117/17
204/2	24/20 25/1 25/4 25/7	145/18 179/4 190/8	under [13] 5/1 22/17	118/13 120/4 122/16
too [15] 27/17 30/4	25/15 26/15 26/20	191/8 203/3	29/18 112/1 116/8	123/8 123/11 127/10
50/2 78/9 112/20	28/3 28/11 28/19	tube [1] 17/8	116/10 164/22 169/19	127/21 142/6 144/2
120/23 136/9 148/2	28/19 29/2 29/3 30/22	tuberculosis [1] 8/11	171/17 171/23 174/5	151/18 151/24 163/8
185/10 198/24 202/5	31/19 31/24 34/21	turn [9] 50/25 85/23	182/12 182/15	166/21 166/22 166/24
202/7 203/3 203/22	35/24 36/8 36/9 43/17	95/25 108/18 108/19	under-reporting [1]	167/15 172/12 173/11
203/23	44/1 45/10 45/12	109/4 117/8 123/6	22/17	184/18 187/10 187/13
took [7] 14/13 19/14	47/17 49/3 49/5 56/22	172/4	undergo [1] 56/4	193/10 195/25 196/9
41/17 42/8 149/17	57/3 57/8 73/3 74/1	turning [2] 80/25	undergone [1] 78/23	United Kingdom [36]
190/25 191/16	75/20	98/4	Underlying [1] 48/23	2/25 32/7 32/8 43/11
top [18] 25/14 26/6	transmit [21] 7/7 7/9	two [47] 20/15 28/16	underneath [2]	58/6 59/8 59/20 60/7
26/10 26/21 58/14	7/14 9/15 9/16 9/21	32/12 36/25 51/6 54/8	168/25 181/1	67/24 81/1 82/21 84/2
90/11 125/22 125/23	9/22 10/10 10/12	54/23 56/16 61/10	underpinning [1]	85/13 87/2 89/20 94/3
136/4 143/24 167/13	10/14 16/15 17/24	69/23 72/12 84/6 84/8	140/6	94/16 100/7 109/8
168/11 169/23 170/18	21/5 28/14 28/17 30/9	87/15 88/25 88/25	understand [23] 1/16	116/14 117/17 120/4
170/20 186/14 187/4	31/4 35/23 35/24 47/1	93/24 94/20 102/15	13/12 29/20 38/22	122/16 123/8 123/11
189/7	63/17	108/14 119/17 125/9	42/13 59/9 60/19	127/10 151/18 151/24
top-down [1] 125/23	transmits [2] 32/6	128/21 131/21 134/5	78/22 79/2 81/23	163/8 166/21 166/22
topic [8] 61/2 74/14	36/12	134/18 135/19 136/21	109/6 109/24 125/4	167/15 172/12 173/11
75/3 75/4 75/6 82/11	transmitted [5] 4/16	141/23 142/17 142/24	128/2 130/3 130/5	184/18 196/9
122/5 177/15	29/7 29/20 29/24	143/12 143/20 144/10	131/3 141/7 163/5	United Kingdom's [3]
topics [1] 119/3	32/13	153/22 156/18 172/11	174/6 186/5 193/18	86/7 92/21 144/2
toppling [1] 96/9	transmitting [2]	175/19 176/14 177/17	200/14	United States [2]
total [3] 33/9 66/22	29/25 37/16	178/13 178/19 180/6	understanding [14]	2/14 80/9
161/25	transparency [1]	180/21 187/1 189/13	4/16 12/23 34/14	units [1] 60/25
Totally [1] 79/2	153/19	201/12	35/14 67/2 67/3 75/20	universities [2]
touch [1] 106/15	transparent [5] 35/15	two years [3] 88/25	77/19 124/13 190/17	134/22 192/11
touched [3] 51/16	129/25 170/11 184/2	88/25 180/21	190/18 192/11 192/15	University [5] 80/6
62/7 107/24	187/25	type [2] 4/11 72/2	192/20	80/9 80/13 110/23
tourists [1] 39/23	transport [2] 138/8	types [2] 6/1 136/21	understood [7] 19/21	134/25
towards [2] 117/16	141/25	U	39/25 40/5 40/20	unknown [2] 112/13
164/7	transportation [2]	UK [59] 4/19 41/6	59/16 69/6 113/1	160/14
traced [1] 56/19	139/17 141/6	47/14 57/16 58/10	undertake [1] 139/2	unless [3] 22/21 73/1
tracing [9] 54/20	travel [9] 21/9 30/11	58/15 60/1 60/24	undertaken [2] 15/11	182/2
54/25 55/3 56/5 59/23	42/6 42/6 42/10 43/2	61/21 64/16 64/17	128/9	unlike [3] 4/25 20/18
60/1 60/8 60/9 60/12	43/3 67/5 95/13	65/3 66/16 66/22 67/7	undertaking [1]	57/2
trade [1] 42/11	travelled [2] 38/15	67/12 68/9 68/17 70/8	149/8	unnecessary [1]
train [3] 131/1 131/2	40/16	75/2 77/3 83/5 88/1	undoubtedly [2] 86/3	145/21
192/24	treat [2] 11/25 12/1	95/8 96/17 96/22 98/1	87/13	Unquestionably [1]
trained [6] 2/13	treating [2] 30/24	108/17 110/5 111/1	unexpected [2]	143/11
33/21 87/9 90/4 159/4	41/3	113/6 118/4 118/17	62/10 95/22	unreservedly [1]
192/25	treatments [1] 11/20	119/22 122/20 123/21	unforeseeable [1]	44/6
training [17] 54/18	treaty [1] 68/19	124/1 124/24 127/12	106/7	until [9] 20/15 43/4
54/24 56/4 87/8	Trent [1] 134/24	136/6 140/22 142/2	unforeseen [1] 106/8	44/5 56/23 80/6
123/22 130/25 134/18	Tribunal [1] 147/8	151/21 163/7 165/5	unfortunate [1]	180/12 180/16 198/21
148/25 190/2 190/13	trick [1] 98/16	166/7 168/1 169/9	147/15	204/4
190/14 190/15 190/22	tried [2] 91/23 91/25	175/17 184/1 184/4	uniformly [1] 142/23	unusual [1] 42/19
192/12 193/4 194/10	tries [1] 121/18	188/9 188/17 188/17	unify [1] 117/15	up [71] 1/13 1/25
194/11	Tropical [2] 2/16	188/18 188/19 193/12	unifying [1] 121/7	3/16 7/20 17/4 19/4
transcribe [1] 50/11	3/16	195/15 202/8	unintended [1] 87/11	24/11 36/1 47/24
transcript [4] 1/15	trouble [4] 142/7	UK Government [8]	union [5] 86/5 86/22	48/18 56/5 59/23
46/16 112/25 176/24	171/18 178/14 178/20	68/17 118/4 118/17	153/6 188/23 188/23	60/25 64/3 70/25 71/1
transfer [4] 7/12	true [3] 2/5 57/4	124/1 142/2 163/7	union-wide [1]	72/12 72/21 73/5
157/7 157/8 169/20	99/19	168/1 169/9	188/23	73/10 79/10 79/13
transferred [1] 3/4	trust [5] 60/4 60/6	UK's [1] 65/4	unit [1] 201/22	82/5 82/24 83/17 94/3
transmissibility [2]	60/9 60/13 98/18	UK-wide [2] 127/12	unitary [1] 166/4	98/4 109/5 113/17
7/15 10/9	Trustees [1] 80/22	195/15	united [51] 2/14 2/25	115/8 117/4 118/16
transmissible [5]	truth [1] 82/23	UKRI [1] 67/15	32/7 32/8 43/11 58/6	120/20 127/24 129/24
9/11 20/15 20/15	try [7] 55/5 92/12	umbilically [1]	59/8 59/20 60/7 67/24	129/24 131/23 133/25
	92/13 116/1 119/25		80/9 81/1 82/21 84/2	135/21 137/12 139/22

U	using [7] 5/19 15/6 32/3 68/19 119/14 154/14 162/12 usual [2] 11/25 156/25 usually [10] 9/7 12/25 23/4 52/18 53/2 62/25 63/9 121/20 146/24 153/1 utilised [2] 180/8 180/9 utilities [1] 138/1 utterly [1] 115/14	41/17 41/21 42/19 44/2 44/21 45/3 45/16 46/6 49/21 49/23 50/6 50/15 55/23 57/20 58/10 58/15 60/4 62/4 64/16 64/18 64/20 65/6 65/10 67/19 69/24 70/5 70/21 71/19 72/21 73/5 73/21 73/23 74/6 74/6 74/21 76/3 76/15 76/17 76/17 77/25 78/2 78/5 78/7 78/8 78/9 78/10 78/23 78/24 79/2 79/19 81/21 82/4 82/8 82/23 83/12 84/20 85/11 86/2 88/6 88/12 88/19 92/4 92/6 92/19 92/24 93/13 94/5 94/9 96/5 96/18 98/1 98/4 98/10 99/3 99/8 99/9 101/8 102/7 104/19 105/18 105/23 106/14 106/17 113/3 115/2 115/2 115/12 117/22 120/4 121/6 121/15 121/15 121/17 121/17 122/13 125/22 125/23 125/25 132/10 132/11 132/12 132/24 136/14 139/5 140/3 144/15 145/5 146/1 146/8 150/11 150/22 153/14 160/10 160/10 161/16 167/6 167/6 171/9 172/9 173/6 176/11 179/7 179/11 181/20 182/3 185/20 185/23 186/25 187/6 189/8 192/9 198/4 198/11 199/3 200/1 201/16 203/16 203/21 via [1] 78/4 vice [3] 40/15 70/24 80/21 vice president [1] 80/21 vice versa [1] 70/24 video [1] 24/5 videolink [2] 78/4 78/21 view [22] 56/8 63/1 69/24 88/15 90/23 92/13 93/6 93/7 95/14 97/19 99/14 99/18 120/3 120/10 125/16 139/1 154/10 160/18 160/19 167/12 178/17 199/19 viewers [1] 150/18 viewpoint [1] 174/2 views [1] 85/12 viral [4] 50/4 111/22	113/21 199/25 virologists [1] 25/20 virology [1] 4/10 virus [70] 4/13 5/7 5/13 5/15 6/4 6/11 7/25 8/2 8/3 8/3 8/7 10/1 10/2 10/5 10/7 10/9 10/11 10/13 12/24 13/12 13/23 14/3 14/6 15/3 15/19 16/8 17/22 17/23 17/24 18/3 18/19 19/15 20/8 21/15 21/22 26/1 26/5 26/7 26/18 27/19 27/24 28/9 28/11 28/12 28/12 28/17 32/9 32/9 34/10 34/15 35/5 35/14 36/12 37/1 37/11 37/15 39/1 39/5 45/10 47/2 51/13 51/22 55/20 55/24 59/22 61/12 62/24 64/3 65/24 112/20 viruses [17] 4/10 4/12 4/12 4/25 4/25 7/23 9/7 9/12 9/13 11/1 11/10 11/23 14/16 27/18 38/3 50/24 63/16 visible [2] 184/9 184/16 visited [1] 54/12 visitor [1] 32/15 visualised [1] 5/4 vital [2] 127/7 182/7 voice [3] 1/13 17/17 79/12 voices [1] 79/10 volume [1] 132/21 voluntary [7] 72/3 103/15 123/4 126/18 126/20 167/5 167/6 vomiting [1] 48/10 vulnerability [1] 96/12	war [3] 81/11 93/3 200/12 wards [4] 29/25 30/1 30/25 54/15 warn [1] 74/10 warned [1] 199/12 warrant [1] 23/19 was [288] washing [1] 32/3 wasn't [7] 20/23 44/5 45/15 59/12 141/10 141/12 150/11 watch [1] 149/18 water [8] 17/9 17/11 17/12 17/13 63/5 138/7 139/16 141/6 wave [1] 141/3 way [57] 5/4 7/20 11/1 11/14 20/5 31/3 34/24 36/1 37/15 37/21 40/4 52/24 58/1 59/9 64/21 75/7 75/13 75/21 76/17 76/24 83/3 85/6 85/16 85/19 88/14 92/8 92/12 96/19 102/25 104/15 106/19 107/3 108/7 108/18 108/23 115/22 117/25 121/5 125/3 125/19 128/18 129/16 133/20 134/10 139/25 142/11 144/21 146/1 146/13 157/3 161/4 170/6 180/4 182/23 186/4 186/8 198/18 ways [9] 63/7 70/22 76/22 87/16 95/22 96/7 104/23 105/15 176/19 we [235] we'd [1] 121/3 we'll [22] 6/18 15/25 39/7 41/22 58/18 65/12 93/15 96/1 97/21 99/24 115/10 115/10 121/4 121/5 122/8 125/3 125/7 137/15 147/16 159/11 167/18 170/25 we're [13] 22/12 33/6 74/24 96/8 112/3 112/14 115/24 116/3 117/23 130/16 138/4 182/2 190/2 we've [13] 34/11 34/24 51/16 60/11 82/25 97/18 102/14 105/5 107/5 112/7 116/7 116/9 162/17 weak [3] 33/15 33/16 111/3 weakness [1] 195/25 weaknesses [4] 111/10 111/17 131/11

W	29/17 29/24 30/4	58/5 58/13 60/16	132/22 137/19 143/25	56/3 58/22 58/23 59/5
weaknesses... [1]	30/12 30/25 31/2 31/5	60/23 61/14 62/20	144/13 146/15 149/10	59/14 60/6 72/2 73/3
131/21	31/6 31/6 32/7 32/25	63/10 63/16 64/7	153/14 153/16 155/3	74/3 76/4 76/17 77/14
wealthy [1] 104/17	32/25 33/6 33/9 33/13	64/10 64/22 64/23	157/4 172/25 179/20	90/7 90/21 91/5
wear [2] 73/14 74/4	35/2 35/5 37/12 41/20	65/6 65/11 65/12	181/25 188/23 192/1	100/10 111/13 129/5
wearing [12] 18/25	41/21 41/24 42/4 44/3	67/10 69/25 70/5 70/8	whenever [2] 23/20	129/21 129/22 129/23
43/12 43/15 44/7	45/6 45/16 45/19	72/24 77/21 77/22	44/7	130/8 133/11 133/21
44/19 72/13 72/19	45/20 45/20 45/23	84/2 84/3 89/25 91/21	where [54] 6/17 9/18	137/24 138/2 138/6
72/22 72/24 72/25	46/9 46/10 46/10 49/2	94/1 94/15 95/19	14/16 14/17 15/18	141/25 153/5 153/24
73/2 73/15	50/22 52/5 53/12	97/10 98/5 98/14	20/6 21/9 25/22 26/14	155/8 155/8 155/9
Weatherby [6]	54/17 54/18 55/15	98/15 98/16 99/5	27/10 27/20 30/12	158/15 160/2 160/6
197/21 197/25 198/1	55/15 55/18 55/20	99/13 100/22 100/25	30/14 31/2 35/11	161/23 163/13 163/19
200/14 203/16 205/15	56/6 56/8 58/16 60/20	101/11 102/22 102/25	35/12 37/23 38/19	176/20 182/14 184/16
website [2] 110/22	60/21 67/19 70/8 73/8	104/9 104/11 107/4	49/21 55/7 56/21	185/15 189/14 189/17
110/24	73/9 73/21 73/22	109/17 109/17 109/18	59/18 60/4 60/13	190/20 191/16 192/25
week [2] 83/20	77/19 77/20 77/23	110/4 110/11 110/19	60/13 63/17 65/9	202/21
150/19	78/8 78/9 80/10 80/21	112/10 114/11 115/18	65/13 75/20 77/17	who's [2] 43/23 73/7
weighing [1] 79/20	80/25 81/15 82/7 82/8	116/22 117/25 118/1	92/20 96/9 96/10	who've [1] 167/3
weight [1] 153/8	82/12 83/1 83/7 86/17	120/4 120/18 121/11	96/11 102/6 105/21	whoever [1] 140/8
weighty [1] 81/19	87/12 88/7 88/18 89/3	125/2 125/7 125/7	106/24 110/8 110/10	whole [27] 17/21
welfare [1] 132/14	89/4 89/14 89/14 90/8	125/21 128/4 128/18	114/24 117/23 121/3	22/25 63/18 70/6
well [76] 4/22 4/25	90/14 91/10 92/22	129/7 129/8 129/21	130/3 132/5 154/25	82/15 96/14 103/11
6/2 6/18 6/22 7/18	93/25 94/2 94/5 94/22	129/22 129/23 130/23	155/13 158/13 168/4	103/13 104/16 104/16
7/24 8/15 9/1 9/8	95/2 96/17 106/5	131/1 131/3 131/8	176/15 179/12 181/14	131/25 137/19 153/7
11/22 12/8 14/12	111/22 114/4 114/18	133/12 134/4 139/9	183/9 189/13 190/8	158/17 159/6 161/24
18/12 19/15 19/23	116/22 124/22 129/10	140/6 140/16 141/7	whereby [2] 148/9	167/15 182/8 198/11
22/20 23/16 28/21	131/16 132/22 133/3	141/20 142/8 143/5	161/9	198/13 198/18 199/16
30/8 33/21 36/18	133/21 140/21 141/3	143/11 149/4 149/10	Wherein [1] 187/14	200/7 200/18 201/4
38/17 39/18 41/22	141/8 141/8 143/5	152/19 154/2 156/4	whether [24] 18/24	201/10 202/10
42/7 46/11 48/24	144/17 145/14 145/23	158/2 158/21 159/24	36/9 42/21 52/9 60/22	whole-system [6]
50/15 51/2 52/12	148/2 148/6 149/3	160/5 160/7 160/11	60/22 62/1 65/2 69/5	82/15 103/11 199/16
55/12 58/23 59/11	149/6 149/8 149/15	160/15 162/25 164/23	82/12 82/14 82/18	200/7 201/10 202/10
65/11 68/13 72/21	149/22 149/23 150/17	168/17 170/8 172/7	111/5 112/9 144/6	wholesale [1] 127/14
73/22 76/3 84/21	150/21 153/15 158/1	176/22 177/13 177/16	144/15 152/21 156/4	wholly [1] 198/7
86/23 91/16 93/15	160/13 169/10 172/8	178/19 179/15 180/25	159/12 161/18 163/3	whom [3] 182/14
94/8 97/21 99/9 99/24	172/18 181/3 183/20	181/23 183/16 187/17	173/23 196/20 200/21	185/13 185/14
100/14 104/18 115/24	189/5 194/12 194/24	187/17 187/21 190/25	which [255]	why [25] 5/23 9/12
116/14 116/16 125/20	195/9 195/15 196/14	191/20 192/1 192/7	whichever [1] 178/1	18/4 29/17 31/1 39/17
136/14 139/13 140/14	199/7 200/5 203/9	193/2 194/14 195/1	While [1] 71/25	41/24 49/17 54/25
146/7 146/11 147/15	weren't [6] 19/2 31/1	195/3 195/4 198/5	whilst [5] 91/17	62/9 62/16 65/25
148/24 149/8 151/3	73/9 115/7 141/11	198/14 200/1 200/7	98/11 112/20 149/22	72/15 77/15 83/24
153/12 158/24 159/4	199/13	what's [7] 12/21	162/10	120/7 120/12 128/17
167/20 172/25 173/25	Westminster [6]	23/22 27/7 37/19 39/5	white [2] 48/21 106/5	128/18 137/25 140/22
178/12 183/24 186/7	100/7 101/9 165/13	53/9 65/2	Whitehall [3] 88/16	141/9 152/6 168/25
190/23 195/14 200/5	168/18 172/12 174/23	whatever [12] 92/14	90/1 90/2	180/23
200/16 201/9	wet [1] 6/19	108/5 108/8 118/10	Whitehall-facing [3]	wide [12] 82/23 92/8
well known [1] 200/5	whales [1] 6/10	130/9 144/11 153/9	88/16 90/1 90/2	101/20 101/21 117/14
Welsh [5] 169/19	what [185] 4/24 5/11	153/10 167/23 187/23	Whitty [2] 24/6 24/13	127/12 128/23 133/6
170/4 170/12 173/1	7/24 8/12 8/24 8/25	197/1 197/2	Whitworth [4] 6/6	152/24 166/22 188/23
183/4	10/5 10/20 10/23 11/2	when [63] 7/23 10/2	21/18 62/8 63/10	195/15
Welsh Government	11/16 11/20 12/2 13/9	10/23 12/9 15/7 15/18	who [96] 8/20 8/22	wider [4] 61/12
[2] 169/19 170/4	13/16 14/22 15/12	17/3 19/3 25/25 28/11	11/12 11/13 19/24	118/22 180/15 193/2
went [7] 9/6 15/17	17/1 17/23 19/3 22/16	28/12 31/7 32/2 32/3	22/3 23/4 23/12 23/13	widespread [1] 93/21
16/19 20/2 33/2 106/4	23/3 24/8 26/24 26/25	32/18 35/19 35/25	27/6 28/5 29/23 29/23	will [70] 1/19 4/4 7/24
113/21	29/1 30/6 34/15 34/20	38/21 39/2 39/18 42/2	31/6 32/14 35/19	18/5 25/23 25/24
were [157] 6/22 6/25	35/3 35/17 36/2 36/21	45/18 46/10 49/22	37/12 38/22 39/2	26/17 28/24 28/25
7/12 9/12 10/16 10/23	36/23 38/23 38/25	52/12 54/16 55/6	39/25 40/6 40/11	43/9 50/15 50/16 51/7
14/7 14/23 15/6 16/23	39/11 39/13 40/6	57/24 61/12 68/9	40/11 41/2 41/14 42/7	56/9 61/5 76/4 79/16
18/25 19/7 19/22	40/12 40/13 40/23	68/20 72/1 73/11	42/8 43/4 44/11 44/23	79/17 92/16 92/17
19/23 19/23 19/24	41/9 41/23 42/4 42/17	73/12 75/8 78/12	45/7 45/20 45/21	98/5 98/16 99/11
19/24 20/13 20/14	42/18 45/13 46/10	89/17 92/11 92/22	45/23 46/25 47/1	107/22 108/16 108/18
21/9 23/12 25/22 26/6	46/23 47/17 51/1	93/18 93/20 106/23	49/12 49/13 49/18	110/10 110/11 110/13
26/25 27/9 29/10	51/17 52/8 54/7 54/21	112/4 117/24 118/3	50/1 52/1 52/21 52/22	110/13 110/17 113/21
	55/6 56/17 57/6 57/25	125/6 129/2 130/7	53/20 54/5 55/3 55/4	114/20 114/24 115/20

W	70/16 76/24 77/8 81/22 87/3 87/21 87/22 107/6 114/23 115/8 124/4 126/3 129/8 134/3 134/18 150/9 150/14 150/24 151/5 158/10 158/15 158/16 158/17 164/4 178/3 186/8 186/10 188/10 197/4 199/24 202/22 202/25 worked [10] 2/17 2/20 2/25 14/13 30/11 70/11 151/3 183/14 196/12 196/21 workers [15] 16/13 16/19 18/14 18/15 18/17 18/21 18/25 29/23 30/24 31/1 32/2 44/4 54/19 54/24 56/4 working [12] 3/2 3/11 8/20 38/2 50/9 64/14 69/10 70/4 70/5 127/10 131/9 131/16 works [3] 64/8 100/24 153/9 world [27] 2/20 2/22 3/12 6/3 9/6 14/24 18/21 20/4 21/7 30/11 38/16 39/8 42/5 43/13 44/6 44/18 45/4 59/14 68/1 72/17 73/17 94/6 96/18 100/23 116/9 117/2 139/13 worldwide [2] 94/9 153/1 worn [2] 73/11 73/19 worried [1] 19/7 worry [1] 9/13 worrying [1] 24/14 worse [1] 96/13 worst [3] 87/10 109/18 115/17 worst-case [1] 109/18 worth [2] 24/14 105/25 worthwhile [1] 86/4 would [95] 12/6 14/16 20/9 22/24 23/23 23/23 26/16 26/18 26/19 29/4 31/2 36/3 36/4 44/8 44/14 44/16 53/19 64/2 67/7 70/4 73/17 73/20 74/4 74/17 75/9 75/14 75/22 77/22 85/5 87/9 90/7 90/7 94/15 96/3 97/1 99/16 99/17 100/23 108/24 109/22 113/9 115/16 119/15 119/16 124/24 126/1 130/5 131/21 133/3 139/20 141/15 143/5	144/22 146/20 150/19 152/14 155/7 156/25 157/12 159/25 160/23 161/21 161/22 162/1 162/2 162/2 162/13 163/19 167/10 167/12 172/25 173/6 174/21 177/11 181/21 184/9 186/16 187/19 188/9 188/11 189/4 189/10 189/21 189/23 191/5 191/11 196/19 196/20 196/20 197/14 197/15 200/9 201/23 203/6 203/11 wouldn't [5] 14/17 25/9 75/11 84/7 199/20 Write [1] 80/19 writing [2] 127/15 194/14 written [3] 76/6 95/24 158/5 wrong [6] 117/4 120/11 131/11 141/10 159/23 201/21 Wu [1] 40/16 Wuhan [1] 37/8	85/18 85/19 85/24 91/8 95/16 97/22 99/13 99/25 101/11 107/24 108/23 118/11 121/21 122/4 124/20 126/22 128/5 140/6 145/15 151/15 152/15 152/16 155/19 161/8 166/10 171/20 182/11 194/19 198/6 201/5 young [2] 11/16 11/17 your [127] 1/13 1/15 1/19 2/2 2/5 2/6 2/10 2/14 2/20 3/6 3/18 3/22 4/4 4/6 10/16 13/6 16/2 18/9 22/9 29/1 29/6 33/9 33/13 36/21 42/24 43/13 44/19 52/8 56/13 58/5 66/10 66/12 66/13 66/18 67/23 68/1 69/9 71/5 71/12 72/13 74/17 75/5 77/23 79/10 79/12 79/18 79/19 79/24 80/3 81/5 81/9 81/22 81/23 81/23 82/4 82/25 83/2 83/10 83/16 85/10 85/15 85/19 85/24 86/1 91/7 92/7 92/9 97/4 97/22 99/14 99/18 101/19 102/12 106/17 107/12 112/25 113/1 116/2 116/4 116/5 117/9 124/17 125/1 127/5 127/7 127/20 127/23 128/6 129/19 130/1 131/24 132/9 135/7 136/12 142/13 144/9 145/9 145/11 145/12 146/21 147/7 149/18 149/24 152/10 154/17 156/9 159/9 159/16 162/6 172/3 172/3 172/6 175/8 175/23 176/25 177/22 181/9 186/1 187/9 187/19 189/24 195/1 195/12 197/19 200/9 203/19 203/19 yourself [3] 154/18 187/11 194/23 youth [1] 67/4
		Y	
		year [6] 2/4 2/22 9/6 52/5 94/10 175/25 years [21] 29/11 73/12 77/16 77/16 88/25 88/25 93/23 93/24 95/9 98/6 104/4 104/6 105/12 114/1 136/10 147/13 148/3 149/2 180/21 195/21 195/22 yellow [2] 24/20 171/15 yes [250] yesterday [6] 6/5 21/19 31/18 62/7 63/10 201/15 yet [8] 27/17 36/9 53/13 59/12 62/12 96/20 99/8 118/8 Yi [1] 40/16 York [1] 80/16 you [487] you're [16] 76/3 76/14 76/15 77/13 78/12 79/14 104/21 117/20 121/10 133/12 144/6 177/23 188/15 191/8 200/15 201/16 you've [51] 1/11 3/18 9/3 20/11 23/17 24/3 33/14 34/20 39/10 39/13 45/1 46/1 51/17 57/7 59/4 59/7 69/11 70/1 83/2 83/3 85/15	
		Z	
		zoonosis [3] 8/13 64/10 66/4 zoonotic [2] 4/14 9/12	