

Thursday, 8 October 2026

(10.00 am)

(Proceedings delayed)

(10.05 am)

THE CHAIR: Ms Harris.

MS HARRIS: Good morning, Chair.

Chair, today we will be hearing from Professor Jasmeet Soar, who is a consultant anaesthetist and a national and international resuscitation expert.

Professor Soar is here to give expert evidence about the Quality Standards for Resuscitation, the special circumstances leading to cardiac arrest that might arise in mental health settings, and the clinical considerations and indications in relation to the prevention and treatment of cardiac arrest.

And he will later on today provide some further expert opinion on some of the guidelines, policies and procedures issued by the relevant authorities as well as relevant policies, procedures and training provision relating to emergency response and resuscitation in place at EPUT.

Before we start Professor Soar's evidence, can I just indicate that some of the evidence may be graphic from a clinical perspective, and therefore may be distressing and difficult to listen to. And once again,

1 it may not be possible for some of those here to sit
2 through the whole session, and I'd like to remind
3 everybody that anyone in the hearing room is welcome to
4 leave at any point, but we would of course ask people
5 not to re-enter until a scheduled break in the
6 proceedings.

7 I'd like to remind everybody also that emotional
8 support is available for anyone who would require it,
9 and once again, we have support staff here from Hestia,
10 an experienced provider of emotional support, and there
11 is a private room downstairs where you can talk to
12 Hestia support staff if you require emotional support
13 through the hearing. The Hestia support staff are, as
14 always, wearing orange-coloured lanyards and scarves, or
15 if there are any other issues, please speak to a member
16 of the Inquiry team and we can put you in touch with the
17 relevant people. We are wearing purple-coloured
18 lanyards.

19 If you're watching online, information about
20 available emotional support can be found on the Lampard
21 Inquiry website at lampardinquiry.org.uk under the
22 "support" tab, which is in the top right-hand corner.
23 We want all of those engaging with this Inquiry to feel
24 safe and supported.

25 That having been said, could we move, please, to the

1 evidence of Professor Soar, and may the witness please
2 be sworn.

3 **PROFESSOR JASMEET SOAR (affirmed)**

4 **Questioned by MS HARRIS KC**

5 **MS HARRIS:** Can you state your full name for the record,
6 please.

7 **A.** Jasmeet Soar.

8 **Q.** Professor Soar, you've provided a report to this Inquiry
9 and you've done so in two parts; is that right?

10 **A.** Yes, that's correct.

11 **Q.** The first part is dated 14 September and the second part
12 was dated 15 September?

13 **A.** Yes, that's correct.

14 **Q.** Can I just check, please, that you have a copy of both
15 parts of that report in front of you on the table?

16 **A.** Yes, I do.

17 **Q.** You signed the final page of each part?

18 **A.** Yes, I have. It's been redacted.

19 **Q.** It's been redacted in the copy you've got but you can
20 confirm you did, and that it had a declaration and
21 a statement of truth?

22 **A.** That is correct.

23 **Q.** Have you had an opportunity to read those reports
24 recently?

25 **A.** Yes, I've read them several times.

1 Q. And can you confirm that the opinions expressed
2 represent your own complete true professional opinions
3 on the matters to which they refer?

4 A. Yes, they do.

5 Q. I've set that out, Professor Soar, so you know where
6 we're going -- they are lengthy, I think there's over
7 100 pages in total -- and we won't be reading them out,
8 but do you stand by the contents of the reports?

9 A. Yes, I do.

10 Q. And so in their entirety, they are already part of the
11 evidence to this Inquiry. And I can indicate that
12 they've been disclosed, and the Chair has had them.

13 A. Thank you.

14 Q. Can I deal, then, straight away with your background and
15 your professional background, which you set out at
16 paragraph 1.1 and onwards of I think both parts of the
17 report but I'm looking at part 1 to begin with. You are
18 a consultant anaesthetist?

19 A. An anaesthetist in intensive care medicine.

20 Q. Sorry, I should have been more specific. And you've
21 been a consultant, I think, at the Southmead Hospital in
22 Bristol since 1999?

23 A. Yes, that's correct.

24 Q. And you work full time there?

25 A. Yes, my full time role is clinical practice looking at

1 critically sick or injured people.

2 **Q.** You are a Fellow of the Royal College of Anaesthetists?

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

4 **Q.** The College of Intensive Care Medicine?

5 **A.** That is correct.

6 **Q.** And the Royal College of Physicians?

7 **A.** That's correct.

8 **Q.** And you describe yourself as a national and

9 international expert in cardiac arrest, treatments,

10 guidelines and outcomes?

11 **A.** Yes, I've had lead or chair roles in -- I was Chair of

12 the Resuscitation Council UK, we call it a president

13 now. I've chaired the European Resuscitation Council

14 group on advanced life support, and also the global

15 group, and I've been Chair or past Chair or immediate

16 past Chair and these things are always moving so I think

17 I'm -- as I get older I'm falling off some of these

18 Chair roles.

19 **Q.** But you've had a number of positions both nationally and

20 internationally?

21 **A.** Yes, I have. And I am editor of the main journal called

22 Resuscitation and in January I'll be the editor-in-chief

23 of that journal with a colleague, yes.

24 **Q.** You've already referenced your involvement with the

25 Resuscitation Council, as you just said, you were the

1 former president, it's now called, between 2009 and
2 2012?

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

4 **Q.** You're currently a member of the RCUK's Executive
5 Committee?

6 **A.** Yes, that's correct, because I chair some subcommittees,
7 so it gives me a place on the Executive Committee.

8 **Q.** You helped develop the Immediate Life Support course
9 from its inception, which I think was in the year 2000?

10 **A.** Yes, so it was piloted in my hospital. I was a new
11 consultant, 1999, I thought this would be a good idea so
12 I piloted it in my hospital with Bristol medical
13 students in 2000 and then it went from one hospital to
14 ten hospitals, to 100 hospitals, to lots of places. And
15 2002 was the official launch, I think.

16 **Q.** And I think up to 2016 you chaired the RCUK ILS
17 Subcommittee?

18 **A.** Yeah, I think I chaired it up until then and I may have
19 not chaired it for the first year or so, but for most of
20 that time.

21 **Q.** And since 2016 you've chaired the ALS Subcommittee?

22 **A.** Yes, which is the Advanced Life Support Subcommittee.

23 **Q.** And the roles have included developing course content,
24 training materials and regulations?

25 **A.** Yeah, so the actual course materials that people use,

1 and what they're taught, and what the outcomes are for
2 successful completion and hopefully that will improve
3 patient care and outcomes.

4 **Q.** And can I just clarify this with you. RCUK is
5 a charitable organisation, we've heard?

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

7 **Q.** And your roles with RCUK are voluntary?

8 **A.** Yes, they're on top of my full-time clinical role. So
9 there's full-time staff who work for the RCUK, and then
10 people like myself do a lot of checking, writing, but
11 the final outputs are from the RCUK.

12 **Q.** Understood. I think just again to make it clear for the
13 record, that whilst you retain an association with the
14 RCUK, as you've said, you're providing evidence today in
15 your personal capacity as an expert?

16 **A.** Yes, that's correct. And I've not discussed all the
17 contents of my reports with anybody at the RCUK.

18 **Q.** Because the views expressed are your own, not those of
19 the RCUK -- they may agree with them, but they're your
20 own views that you're giving.

21 **A.** That is correct.

22 **Q.** You also make clear at your paragraph 1.2 that you are
23 not a psychiatrist.

24 **A.** Yes, and -- yes.

25 **Q.** And you're careful, you indicate -- well, I think the

1 word "careful" is mine -- but you indicate you have not
2 commented on specific psychiatric diagnoses and mental
3 health issues?

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

5 **Q.** And, as you say, in your report you make clear which
6 issues fall within your usual expertise and which areas
7 fall outside of your expertise?

8 **A.** Yes, that's correct.

9 **Q.** And the opinion you have given, therefore, focuses on
10 resuscitation and physical health?

11 **A.** That is right, yes.

12 **Q.** And again, I think it's important to be clear for the
13 record that you have in the past provided expert reports
14 as an independent expert for solicitors and in inquests
15 at the request of the coroner?

16 **A.** That's correct, and irrespective of who instructed me,
17 I was independent, as in my expert opinion.

18 **Q.** You've also set out within your report, I can reassure
19 you I'm not going to take you to them, your full
20 instructions. They set out what the Inquiry asked you
21 to look at.

22 **A.** Yes, that's correct.

23 **Q.** Can I then begin with some of your opinions and I'd like
24 to begin, if I may, with cardiopulmonary resuscitation
25 or CPR, as I'm going to call it, please. And I'm

1 turning now, for those who are following and for you,
2 Professor Soar, to your page 3 and paragraph 2.1.

3 **A.** Okay.

4 **Q.** Can I begin, then, by asking you some clinical questions
5 about cardiac arrest. Looking at your paragraph 2.1 you
6 make clear at the outset, that cardiac arrest refers to
7 when the heart stops beating and the person collapses.
8 And you say:

9 "... without early treatments, death will be
10 certain, and even with treatments, death is common."

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

12 **Q.** And you move on to assist the Inquiry with the
13 differences between primary cardiac arrest and secondary
14 cardiac arrest. Now, by way of background,
15 Professor Soar, the Inquiry has heard some evidence
16 about that but as the expert can I just take you to
17 certain parts, please, in your report.

18 **A.** Sure.

19 **Q.** 2.1(a), you describe primary cardiac arrest as when the
20 heart stops beating first due to a primary heart problem
21 such as a blockage to the blood supply of the heart.
22 And you refer there to heart attack, is that right,
23 myocardial infarction?

24 **A.** Yes, and the classic example that people often use is
25 the middle aged or older man like me rushing for his

1 train in the morning, it's stress on my heart, I'm
2 turning up here this morning and the stress on my heart
3 causes a little blockage in a coronary artery that means
4 it's starved of oxygen and it stops beating, but in
5 a way that it's fibrillating like a worm, and that means
6 it's no longer pumping blood around my body but up until
7 that point I was physiologically normal, my oxygen
8 levels were normal, my brain was working, I was rushing
9 for my train, all my muscles were working, I had
10 collapsed and hopefully, if it's in a public place and
11 someone sees me, they'll call for help, shake me,
12 realise I'm unresponsive, unconscious, start some CPR
13 and if you get a defibrillator and get an early shock,
14 that will get that fibrillating heart, it will jolt it
15 with an electroshock and get it beating again, and
16 hopefully I'll wake up and be well, especially if that's
17 done in the first two or three minutes or after a period
18 in hospital, make a recovery.

19 So that's your best case scenario if you have
20 a cardiac arrest, a primary cardiac arrest, witnessed,
21 early CPR, early defibrillation.

22 **Q.** Can I just pause you there for a moment. As you say,
23 and you've just given your example of it, a primary
24 cardiac arrest is, I think you describe it at 2(a)(i) as
25 sudden and unexpected. That's the kind of event you're

1 describing.

2 **A.** Yeah, sure.

3 **Q.** You've gone on to give the evidence about it having

4 a shockable rhythm, and how it therefore responds to

5 defibrillation, particularly if that shock is given

6 early.

7 **A.** That's correct.

8 **Q.** And you've said, I think you've just described it as --

9 did you describe it as the best-case scenario or -- I

10 mean, if a cardiac arrest --

11 **A.** Best of a worst-case scenario.

12 **Q.** Yeah, I was just about to say -- (overspeaking).

13 **A.** -- (overspeaking) -- for survival.

14 **Q.** -- (overspeaking) -- described about that. But you go

15 on to exemplify that in your report by reference to the

16 casino study and give some information about a study

17 when, again, you say primary cardiac arrests were

18 witnessed and help was given straight away?

19 **A.** Sure. The important thing about that study, it was in

20 2000, so 26 years ago, that was when it was published in

21 the New England Journal, so these cardiac arrests

22 occurred in the late nineties, quite a long time ago,

23 and the important thing is that these are people who

24 went into casinos in Las Vegas or Atlantic City and the

25 security guards are watching them all very closely and

1 if they notice someone keel over they would get there
2 with their defibrillator, do CPR and give them a shock.
3 And if they got there and did that within a few minutes,
4 they had very good survival, 74%, if they arrived within
5 a few minutes.

6 And so the three minutes is often mentioned about --
7 give a shock within three minutes, comes from this study
8 in 2000. But it's important to remember, these were
9 security guards. They weren't even HCAs or clinicians
10 working in a hospital.

11 **Q.** Sorry, again, to just interrupt you, but we're still of
12 course focusing here on primary cardiac arrest?

13 **A.** Yes.

14 **Q.** If we move to your page 5, and it's the top of your
15 page 5 at subparagraph (iv), you explain, because of the
16 prospect, if I can put it that way, of more successful
17 outcomes, that resuscitation guidelines have prioritised
18 this group of primary cardiac arrests because, as you
19 say, they occur in public places, they have the best
20 chance of a good outcome if witnessed, and they can be
21 treated by a wide range of non-clinical responders if
22 they are there and available and particularly if they
23 have got access to a defibrillator.

24 **A.** That's correct.

25 **Q.** I think it's well known what a defibrillator is, but

1 just in terms of an AED, an automated external
2 defibrillator, that's one that's often available in
3 public places, is that right?

4 **A.** That's correct.

5 **Q.** And that a member of the public could access and it
6 gives prompts?

7 **A.** Yes, so if you switch it on, it tells you what to do:
8 stick the pads on the patient chest and it says "on the
9 bare chest", then it analyses the rhythm and tells you
10 to press a button, if it's a fibrillating heart, and
11 that's called defibrillation, and if you just follow
12 what it says, it works, you know. And what training
13 allows you to do, if you've been trained to do use it,
14 do all those steps a bit quicker and get the pads maybe
15 better positioned, and that's what, you know, that's the
16 optimal treatment for primary cardiac arrest. You don't
17 want to wait for some expert to come because they'll
18 arrive too late.

19 **Q.** So we contrast that, as you do in your report, to
20 secondary cardiac arrest?

21 **A.** Sure.

22 **Q.** And you pick this up at your 2(b) on our page 5. With
23 secondary cardiac arrest you explain that this is when
24 the heart stops beating, secondary to causes which lead
25 to a process of physiological changes in the body and

1 the heart stops beating at the end of the process.

2 And again, I think you're aware that the Inquiry has
3 already heard some evidence about this.

4 But you go on to say, at your (b) (i), that:

5 "Cardiac arrests in these circumstances [these
6 circumstances following a trigger] represent an
7 increasing proportion of all treated cardiac arrests,
8 often have a preventable cause, and require additional
9 interventions to correct a reversible cause during
10 resuscitation."

11 Then you go on to say that the evidence for treating
12 cardiac arrest in those conditions is mostly -- sorry,
13 for treating the conditions is mostly of low or very low
14 certainty.

15 What do you mean by that?

16 **A.** Yeah, so just going back, so I've quoted a paper I've
17 written in The Lancet in 2021 where this issue where
18 a much larger proportion of cardiac arrests are the
19 secondary arrests and The Lancet picked it out as
20 "that's an important topic" so I led a group from the
21 US, China, all over the world, you know, just to write
22 this little summary.

23 And we wrote about -- so as part of that we looked
24 at all of the evidence of these things, and for most of
25 these circumstances, prevention is the key intervention,

1 because once you've had a cardiac arrest, there's
2 already been quite a lot of damage to the person.

3 **Q.** I'm going to pause you because we're going to come on to
4 that in a moment.

5 **A.** That's why the evidence of treating cardiac arrests in
6 these conditions is low certainty. We don't know what
7 works well, once you've arrested. So things that work
8 well before you've arrested don't necessarily work well
9 after you've had a cardiac arrest.

10 **Q.** But what you do say and pick up at the bottom of that
11 same paragraph is that irrespective of the cause,
12 treatments for cardiac arrest are time sensitive and
13 most effective when given early, every minute counts.

14 **A.** Yeah, and you could almost say every second counts. If
15 I was writing it again, I'd probably change that, in
16 hindsight.

17 **Q.** Right.

18 **A.** Because speed is of the essence. So the first person
19 who gets to you has the best chance of saving your life,
20 and if I turn up 20 minutes later with all my fancy kit
21 and skills, I'm not going to be able to do things or get
22 as good an outcome as maybe simpler interventions done
23 very early.

24 **Q.** All right, as I say, we'll come on to those in just
25 a moment.

1 The Inquiry has already heard some evidence about
2 what you describe as "special circumstances". I'm
3 looking at your 2(b)(ii), and special circumstances,
4 just so we understand the position, is the name given to
5 the causes for secondary cardiac arrest, and they
6 include a lot or many of the causes that the Inquiry
7 asked you to provide opinion about.

8 **A.** Yeah, I think the term came because someone wrote
9 a chapter in a manual years ago, it was all the ones
10 that weren't primary cardiac arrests, and we were, oh,
11 let's call those special circumstances, and that
12 includes, you know, cardiac arrest in pregnancy,
13 ligature, all sorts of settings.

14 **Q.** Can I just ask you to turn back very quickly to page 2
15 of your report and paragraph 1.4 so we understand what
16 you looked at. The Inquiry provided a list of some of
17 those special circumstances and asked you for your
18 opinion on them. And if we just look at that paragraph,
19 and we'll look a little bit more at them later, they are
20 the ones that you have considered are: hanging and/or
21 asphyxiation by ligature, choking and/or airway
22 obstruction, overdose, medication errors as may occur in
23 rapid tranquilisation, administration of
24 electroconvulsive therapy, serious self-harm by cutting,
25 burns, falls from height, drowning, headbanging,

1 physical restraint, electrolyte abnormalities resulting
2 from eating disorders and/or malnutrition, sepsis,
3 seizures, and diabetes.

4 And those are the types of events that lead to
5 cardiac arrests potentially in mental health settings.

6 **A.** Yes, that's correct and there's probably a lot of other
7 ones that aren't on that list that aren't necessarily
8 relevant to mental health settings.

9 **Q.** And that's why you were asked to look at those in
10 particular.

11 **A.** Yes, sure.

12 **Q.** Sorry to have made you turn back. Can we go back to
13 your page 5, please. I'm now looking towards the bottom
14 of page 5 at (b)(iii). You explain, give a little bit
15 of further physiological explanation there, 5 over to 6,
16 that secondary cardiac arrest will occur because the
17 conditions for the heart to pump blood effectively and
18 meet the body's demands have not been met?

19 **A.** That's correct.

20 **Q.** And you give two examples, I think. The first one is
21 a lack of oxygen in the blood.

22 **A.** Sure, that's correct. So these are -- the reason these
23 are called secondary cardiac arrests, so the scenario
24 I gave earlier of someone having a primary arrest, the
25 primary issue is a problem with the heart, primary

1 cardiac arrest. These are all where something else has
2 happened, and I give the example of a lack of oxygen in
3 the blood, and that's normally because you've stopped
4 breathing. And there are a lot of causes of stopping
5 breathing, you know, it could be a brain problem, it
6 could be choking, it could be ligature. All sorts of
7 things. And the heart stops at the end of a process
8 where all your organs have been starved of oxygen and
9 the most sensitive of all is your brain. So you've
10 probably already lost consciousness and your brain is
11 starting to become damaged, and then all your tissues
12 are failing and your heart is a really good muscle,
13 because basically it beats for your whole life and it's
14 designed to beat for 80-odd years and it beats 60 times
15 a minute and to do that it needs oxygen, and it needs
16 blood flow. And when it's starved of oxygen it just
17 runs out of -- it's like your car running out of petrol.
18 It just runs out of fuel and it beats -- and initially
19 it tries harder and harder and might beat a bit faster
20 but it just sort of beats slower and weaker and weaker
21 and weaker and weaker and weaker to the point when it
22 stops, the whole person is in a bad way in that their
23 brain's been starved of oxygen, their kidneys have been
24 starved of oxygen, their heart's been -- and your heart
25 is, sort of, the last thing to stop because it's been

1 designed to last forever, you know, for your whole
2 lifetime, whereas all these other organs have all -- so
3 it means that it happens at the end of the process -- of
4 a sort of dying process.

5 And so it means a person's sustained considerable
6 whole-body damage at the point the heart stops as
7 opposed to the heart stopping early where I was, you
8 know, the person was well.

9 **Q.** We'll come on to that in a moment. That was your
10 running for the train example, wasn't it?

11 **A.** Yes, yes.

12 **Q.** If the heart stops then, everything else is still going
13 as opposed to the heart stopping at the end of it?

14 **A.** Yes, and if you get the started again, it'll carry on
15 going.

16 **Q.** Coming back to that in a moment, your second example you
17 give there is if the blood is too acidic such as after
18 restraint and a struggle against restraint.

19 **A.** Yeah.

20 **Q.** Tell us about that.

21 **A.** So the heart needs oxygen to beat, it needs sugar to
22 beat. It also needs to be in an optimum environment,
23 you know, if it's too hot, too cold. And acidity is the
24 other thing and the body works really hard to keep the
25 acidity level in the blood a constant pH, that's what

1 acidity is, and if the acidity gets worse and the blood
2 gets more acidic, and that can happen when you're -- it
3 happens normally during exercise, yeah, but then you
4 rest and the acid levels recover because you breathe out
5 carbon dioxide. But during something like restraint
6 where you're struggling and struggling and struggling
7 and not recovering, those acid levels can build up to
8 very high levels and in someone where the heart is
9 vulnerable, it can also beat weaker and weaker and
10 weaker. So it's a contributing factor in what's called
11 a severe metabolic acidosis, when your muscles and body
12 is making toxins.

13 **Q.** You go on to describe some of what you've just put -- so
14 you set out some of what you've described at 2.1(b) (iv)
15 and you say, you explain how the heart weakens
16 particularly if the blood becomes too acidic, but what
17 you say about halfway down, I think we should note, is
18 that survival is often poor as the brain and the other
19 organs that are also vulnerable to lack of oxygen will
20 become irreversibly damaged even if a heartbeat is
21 restored with CPR.

22 **A.** That's correct and that means the heart is far more
23 sturdy than the brain. So by the time the heart stops
24 beating the brain has had quite a significant insult, so
25 it means that it's been starved of oxygen before the

1 heart even stopped beating, and then the heart stops
2 beating, and then it's starved of blood flow as well.
3 And that is a very potent combination for damaging
4 braincells irreversibly.

5 And in these patients, if they do, if their heart is
6 restarted, the commonest mode of death in an Intensive
7 Care Unit is a severe hypoxic lack of oxygen followed by
8 ischaemia, lack of blood flow brain injury.

9 **Q.** Moving on, you've already told us, and I'm now looking
10 the your paragraph (vii) on that same page, you've
11 already told us that, sorry, it's (vi) and (vii), you've
12 already told us that primary cardiac arrests will
13 normally have shockable rhythms which is why your man
14 running to the station collapsing on the street had, you
15 explained, a better chance of survival. But that's not
16 usually the case, then, with secondary cardiac arrest?

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

18 **Q.** You say I think at your paragraph 2.1(b) (vi) that they
19 are either electrical -- the rhythm, sorry,
20 non-shockable rhythm are either electrical complexes
21 that can be compatible with a pulse but when there is no
22 pulse the rhythm is, have I got this right, pulseless
23 electrical activity?

24 **A.** Yeah.

25 **Q.** Or a flatline, known as asystole.

1 **A.** That's correct. So the man running to the station has
2 a fibrillating heart that you treat with
3 a defibrillator, and that's called a shockable rhythm,
4 because you can shock it, and jump start it back. The
5 other rhythms you see or the other heart conditions you
6 see in cardiac arrest, because they don't respond to
7 a shock, are called non-shockable rhythms, because if
8 you turn the defibrillator on, it'll tell you not to
9 give a shock, it'll just tell you to carry on chest
10 compressions, and the two shockable rhythms are
11 pulseless electrical activity. And if you break that
12 down it means a person is pulseless, so the heart's not
13 beating, but the heart still has electrical activity.

14 So this is a scenario I describe where the heart's
15 still beating slower and slower and weaker and weaker
16 but it's still got some electrical activity such that if
17 you monitor it you can see blips on the heart tracing,
18 but it's not pumping. So it's exactly what it says on
19 the packet: pulseless electrical activity.

20 When the heart completely runs out of energy, those
21 blips get less and less and less and less until they get
22 too flatline, which is called asystole. And so
23 asystole, normally if someone is found in asystole in
24 normally means they've already been through that
25 weakening, weakening, weakening, slowing, slowing,

1 slowing, slowing and to a flatline.

2 Q. And I think, as you state, on paragraph (vii) on the
3 same page, bottom of page 6, and it's important to
4 understand, that cardiac arrest with non-shockable
5 rhythm tends to have a very poor outcome?

6 A. That's correct.

7 Q. And you go on to give us some ideas of the figures for
8 survival are for out-of-hospital cardiac arrests, so
9 that survival -- sorry, after an out-of-hospital cardiac
10 arrest treated by an ambulance service for
11 a non-shockable rhythm, have I got that right?

12 A. Yes.

13 Q. I think you say that the survival rate for a PEA is 5%?

14 A. That's correct.

15 Q. And the survival rate if the rhythm is -- or it's
16 a flatline, if it's asystole, is 1-2%?

17 A. Yeah, and I mentioned it earlier that when people have
18 a cardiac arrest with PEA, the point at which a heart
19 stops beating is hard to define because, as the heart
20 beats weaker and weaker and weaker, the patient looks
21 like they're lifeless and you wouldn't be able to feel
22 a pulse but it may still be beating at a very low rate
23 and most rescuers won't be able to tell the difference
24 so many of those people who survive after a PEA arrest
25 probably their heart, they probably got their chest

1 compressions and oxygen and stuff before their heart
2 completely stopped, you know, pumping. But it was
3 pumping so weak, it was pumping weak enough that, unless
4 you were me with lots of fancy kit, you wouldn't notice,
5 and that's why resuscitation guidelines treat everybody
6 the same, and so a lot of those people with PEA who are
7 survivors probably never -- probably never were in
8 a true cardiac arrest, but for the intents and purposes
9 of resuscitation you would give them CPR.

10 **Q.** And as I say, I think we'll come back to that in
11 a moment, as well, which is how people should react when
12 they can't tell the difference.

13 **A.** Sure, yeah.

14 **Q.** Just on the question of out-of-hospital cardiac arrest,
15 we heard some evidence, and I think you're aware because
16 you have looked at it and referenced it in your report,
17 from Adam Benson Clarke from RCUK?

18 **A.** Yes.

19 **Q.** And he confirmed, is this right, that cardiac arrests
20 that take place on mental health units are classified as
21 out-of-hospital cardiac arrests for the most part?

22 **A.** I think if they're attended by the Ambulance Service,
23 they fall under that umbrella. If they were attended by
24 an acute hospital cardiac arrest team, they would be,
25 they would be an in-hospital cardiac arrest. And

1 I think the main -- the main differentiator, and it's
2 the biggest impact on the outcome, is time for that team
3 to arrive.

4 So when we're in hospital, you know, depending on
5 the size of the hospital, all these team members are
6 spread round the hospital so if you're in luck one of
7 them will be very close and the team arrives very
8 quickly. When it's an out-of-hospital cardiac arrest,
9 relying on an ambulance response, the time for
10 a response tends to be longer.

11 **Q.** Can we move, please, to page 7 and to subheading (viii)
12 which is at the top of page 7 where you indicate and
13 I think you've already touched on this, that in case of
14 secondary cardiac arrest, it's the prevention of the
15 cardiac arrest that is the key intervention?

16 **A.** Yes, that's correct, because I've described this process
17 of dying. If you can intervene before the heart stops
18 you get a good outcome.

19 **Q.** And we'll come on to the interventions in a moment.

20 **A.** But it's a very, depending on the cause, that could be
21 a short period or a relatively long period.

22 **Q.** We'll come on to timings in a moment.

23 **A.** Sure.

24 **Q.** But I think you say that there is a just a -- there is
25 a window of opportunity.

1 **A.** That is correct.

2 **Q.** And you go on at your paragraph (ix) to give some
3 examples of those preventative interventions and you say
4 they can range from system-based interventions such as
5 removing ligature points and that's to stop the incident
6 in the first place -- (overspeaking) --

7 **A.** Yes, so the earlier in the chain the prevention, the
8 less -- the more effective it tends to be. So I gave an
9 example of removing ligature points never gets you to
10 the point of, you know, suspension or something, you
11 know, whereas the closer you get to that cardiac arrest,
12 the harder it gets to treat.

13 **Q.** And as you say, they range from those types of
14 interventions to clinical interventions during a period
15 of deterioration, so that's after the event, but before
16 cardiac arrest, using the ABCDE approach, which we'll
17 come on to in just a moment, to identify and treat
18 life-threatening problems early?

19 **A.** That's correct.

20 **Q.** So can we go on, then, to look at prevention and
21 treatment of cardiac arrest and can I ask you, then,
22 about the ABCDE approach. And to do that I think we
23 have to move, please, to page 29 of your report. And
24 it's about halfway down. I'm looking at your
25 paragraph 3 and 3.1. Have you got it?

1 **A.** Sure. Yes, I have.

2 **Q.** You say, can I pick up at paragraph 3.1 -- and you
3 reiterate, I think, the message you've already impressed
4 upon us -- and you put it again there quite simply,
5 which is that prevention is the best method for
6 preventing death.

7 **A.** Mm.

8 **Q.** This applies to all settings, including mental health
9 inpatient settings, when a patient becomes unwell with
10 a condition that could progress to cardiac arrest, the
11 best prospect of survival depends on identifying
12 deterioration and intervening to prevent cardiac arrest.

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

14 **Q.** And you go on, then, to explain the ABCDE approach.
15 Now, we've heard some evidence about the importance and
16 the significance of the ABCDE approach. Can you help us
17 with what it actually is?

18 **A.** Yes.

19 **Q.** We'll go through your report. So if you look at your
20 paragraph 3.3, which is at the top of page 30, you say
21 there:

22 "The ABCDE approach refers to the order for
23 identifying and treating the problems most likely to
24 cause cardiac arrest."

25 **A.** Yes, and I think the important thing is it's quite easy

1 to remember, isn't it? And, you know, so it's a good
2 way of remembering what to do when -- I think it's
3 harder for people who English isn't their first language
4 and then it may not quite line up, but for everybody,
5 you know, it's an easy, ABCDE, that's what you need to
6 -- you know, if I'm running to an emergency, I'm always
7 thinking: ABCDE, and when I normally turn up and it's
8 a bit chaotic, I always go "Have we done A? Have we
9 done B?" And that's quite easy to do.

10 And the reason we use ABCDE is because, for me to be
11 sitting here alive right now, I need to have an intact
12 airway because there's oxygen in the room air and
13 there's 21%, and it has to get to every cell in my body
14 to make it work. My braincells, my heart cells, and
15 I've spoken about this. The brain needs oxygen, the
16 heart needs oxygen, the kidneys need oxygen, and the way
17 they get from that room air to those cells in my heart,
18 my brain, my kidneys, my little finger and so on, is
19 through my mouth, which is my airway, and then -- but I,
20 actually -- they don't get in unless I actually breathe
21 so even though my airway is contact, unless I'm
22 breathing [indicates], you know, and it gets into my
23 lungs, and so the air is going in and out of my lungs,
24 and that's A and B, and then they've got to meet the
25 blood. And the blood is pumped round the heart -- by

1 the heart around the body, and through the lungs. And
2 in the lungs that oxygen meets the blood and gets into
3 the blood, and that's C.

4 So airway, breathing, circulation. So I've got to
5 have a heartbeat and I've got to have a circulation, so
6 I've got to have blood around the body. So air goes in
7 and out, blood goes round and round, and oxygen moves
8 from the air into the blood and that blood is carried
9 around the body in all the blood vessels to all these
10 important organs like my brain, my kidneys, my heart, my
11 liver, my -- and all the way to my little fingers and
12 toes. So that's ABC.

13 D stands for disability, but it's the brain. And
14 the reason the brain is important is that the brain
15 controls a lot of this stuff. So if your brain stops
16 working, you might stop breathing, and so on. So you
17 become unconscious. And so that's where the D comes in.
18 And all this ABC stuff is involuntary, we don't have to
19 think about breathing and we don't think: I must make my
20 heart beat. It's all happening. But the brain has some
21 oversight and control over it.

22 So if the brain stops working, your airway and
23 breathing may stop and that causes your heart to stop.
24 So that's D.

25 Then E is just used as exposure which is to look at

1 the person head to toe to make sure they've not got,
2 say, a ligature on or an injury or bleeding or a rash,
3 or they're not too hot, not too cold. And so that's
4 what the ABCDE approach is. And depending on what's
5 wrong with the patient and your skillset, you can do it
6 relatively quickly. So I could look at everybody, you
7 know, and do an ABCDE approach and they'd go, actually
8 they look okay for now.

9 **Q.** Can I just ask you some questions related to what you
10 say. So first of all, it's important to note that the
11 order is not arbitrary, it's a very specific order.

12 **A.** Sure.

13 **Q.** Those checks need to be done in that order?

14 **A.** And it's very convenient it's alphabetical order.

15 **Q.** It is indeed, because airway has to come first because
16 airway obstruction is the fastest cause of death,
17 I think you say in your report at 3.3(a)?

18 **A.** Yes, unless you have a primary cardiac arrest where, you
19 know, the C, the heart stops beating.

20 **Q.** Understood. But let's anchor ourselves in secondary
21 cardiac arrest because we've already seen that that is
22 the most likely scenario on a mental health inpatient
23 unit, and you point out in 3.3(a) that if the airway is
24 blocked, if the passage is blocked, then nothing further
25 down the chain matters because you can't get oxygen into

1 the body?

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

3 **Q.** You, in your report and I'm still looking, I think, at
4 your 3.3(a), you identify with airway being the first,
5 if you like, and -- first assessment, following
6 interventions or possible interventions for opening and
7 creating an airway. Firstly, you refer to changing the
8 position of the head, neck and jaw.

9 **A.** Yeah, so just lining it up so you can do what's called
10 a head tilt, chin lift which is exactly what it says on
11 the packet, you just lift the chin up and tilt the head
12 back and that hopefully lines everything up in a nice
13 straight line to your lungs.

14 **Q.** You refer to suctioning or using forceps but that's if
15 something is blocking the airway.

16 **A.** Yeah, so if there's spit or saliva or anything, you can
17 use suction to suck it out. Or if there was a foreign
18 body in the airway and you can see it, you can lift it
19 out.

20 **Q.** You then make reference to inserting airway devices such
21 as oral airways, supraglottic airways, such as the iGel?

22 **A.** That's correct.

23 **Q.** I'll come back to that in a moment, and you then refer
24 to a tube in the windpipe, a tracheal tube, which is
25 slightly separate?

1 **A.** Yes.

2 **Q.** Can we just pause -- we'll come back to training in
3 a moment. Can we pause as to how an individual might
4 come by those skills to open an airway. The insertion
5 of oral airways you say can be taught as a Basic Life
6 Support skill for clinical staff?

7 **A.** That's correct. I think if you picked one up and were
8 shown how to do it in a mannequin, as long as you can
9 open the patient's mouth, I think I could teach
10 everybody in the room to put an oral airway in.

11 **THE CHAIR:** And what does it look like? Just a tube?

12 **A.** It's a C-shaped thing with a tube in it and its primary
13 role is just to go over the back of the tongue because
14 if you're lying on your back your tongue and everything
15 falls back and it just sort of creates a little -- the
16 front end of it is in the -- you see it in the mouth and
17 you just have to sort of pass it over the back of the
18 tongue, and over the years I must have taught lots of
19 people how to do one, from nursing students, medical
20 students, soldiers, all, you know, clinical and
21 non-clinical staff.

22 **MS HARRIS:** I'm asked to invite you to make clear in case it
23 isn't, that it's called an iGel, it's nothing to do with
24 eyes.

25 **A.** No, this is an oral airway -- (overspeaking) -- an iGel

1 is slightly different.

2 **Q.** -- (overspeaking), yes.

3 **A.** The "i" is a bit like iPhone.

4 **Q.** Yes, I was asked to make --

5 **A.** So we're talking about oropharyngeal airway at the

6 moment, which is a C-shaped thing which slots in the

7 mouth, sits in the mouth, the back end of it sits behind

8 the tongue and it just stops your tongue falling

9 backwards. The only hard bit is that you have to size

10 it. But it only comes in three or four sizes. If you

11 get one at random you're going to get one in four chance

12 of getting it right. If you pick a big one for a big

13 person, a middle-sized one for a middle-sized person and

14 a small one for a small person you've got it right. So

15 it's not -- I don't think it's rocket science, putting

16 in an oral airway.

17 **Q.** The iGel then, explain the supraglottic airway.

18 **A.** That's a bit more, that's a bit more complex in that

19 it's a stick with a mask shaped thing on end of it, and

20 it's made out of sort of -- it's made out of a soft

21 plastic, and if the person is unconscious and

22 unresponsive, you just put it over the back of the

23 tongue and it sits above the opening to the windpipe at

24 the back of the throat. And the way it's designed, it

25 forms quite a good seal, and so the difference between

1 an oral airway and an iGel is that if you put an oral
2 airway in, you then have to use a mask over the person's
3 face and to squeeze a bag, which is called bag mask
4 ventilation, to make the lungs go up and down, whereas
5 if you put an iGel in, it's a stick with a mask on that
6 sits at the back of your throat and it's called
7 a supraglottic airway, and then you can just connect
8 a bag to it and squeeze, and when you squeeze the bag,
9 the chest goes up and down.

10 **Q.** And the use of supraglottic airway, the iGel, what
11 course would that be taught in?

12 **A.** That's taught on the Immediate Life Support course,
13 I must admit it's -- so some advanced lifeguards use it,
14 some military people use it, it's one of those things
15 that once you've been taught on a mannequin, it's, it
16 translates to doing -- as long as you have opened the
17 patient's mouth and put it in -- take it out of the
18 packet and put it in the right way up it tends to just
19 -- you know, and you push it in the mouth until you
20 can't push it any further and connect it up and that
21 usually works, and if you've been shown how to get it --
22 the only hard thing with all these devices is to get
23 them round the back of the tongue and if you've been
24 taught how to do it and you remember how to do it, it's
25 a relatively straightforward skill, and I know this

1 because we've done some trials in out-of-hospital
2 cardiac arrests, and so on, where a wide range of
3 rescuers have been able to use it.

4 **Q.** Just out of completeness, refer to the tracheal tube but
5 that's an advanced skill, isn't it?

6 **A.** Yeah.

7 **Q.** That's to be done by an expert?

8 **A.** That involves putting a tube through the vocal cords
9 into the windpipe, and it takes years of training to
10 sort of master and you've got to have done hundreds and
11 then keep your skills up, such that most ambulance staff
12 don't do it, and only sort of high-end critical care
13 paramedics and intensivists, and -- it's a very sort of
14 niche skill.

15 **Q.** You have already explained the importance of the
16 breathing, we deal with the airway and we get the
17 breathing and then --

18 **A.** Yeah, those devices are to help with the airway.

19 **Q.** Sorry, and I was moving on to breathing.

20 **A.** Yeah.

21 **Q.** You've already -- because you gave the full explanation
22 in one go. I was moving on to that, so once the airway
23 has been opened if there's no breathing or there is
24 abnormal breathing and you've got your airway in, the
25 patient then requires interventions presumably to

1 support that breathing?

2 **A.** Yeah, so the simple thing is if the patient isn't
3 breathing, you have to breathe for them and that's
4 called rescue breathing and some people call it
5 ventilation, it's the technical -- but, you know, the
6 person's not breathing, which is bad, you need to
7 breathe for them. And that involves inflating their
8 lungs and squeezing a bag. And the options for
9 ventilation or rescue breathing are mouth-to-mouth
10 ventilation or mouth to mouth rescue, which no one wants
11 to do normally, because it's often unpleasant, the
12 person often has some vomit or saliva, so unless it's
13 a relative or a child or someone you know, people don't
14 normally want to do it and that's why resuscitation
15 guidelines always start with chest compressions because
16 the hope is that if you start chest compressions you've
17 got the ball rolling.

18 It used to be that when mouth-to-mouth was the first
19 step in resuscitation guidelines, no one would start
20 because they'd see this person and think: ah, do I want
21 to do mouth-to-mouth? So all guidelines for cardiac
22 arrest start with chest compressions because you're
23 hoping that while you -- because you've called for help
24 someone is going to turn up with all this kit and do the
25 airway but because you've started chest compressions,

1 you've got the ball rolling for CPR.

2 So that's why guidelines for every cardiac arrest
3 even for these ABCDE start with compressions because you
4 can do that -- as long as you've got two hands you can
5 start and the person then comes with the kit and does
6 that AB stuff, you squeeze the bag and the guidelines
7 say, you know, but if the person -- and that's assuming
8 the person has got no pulse or no, you know, no
9 heartbeat.

10 **Q.** I was asking you about what else you could do to support
11 the breathing.

12 **A.** Yeah.

13 **Q.** So we're not using the mouth-to-mouth, we've secured the
14 airway and you deal with this, I think, at the top of
15 your page 31.

16 **A.** Yeah.

17 **Q.** You refer and I think you've already referred to a bag
18 mask device, which is the one held to the face.

19 **A.** Yeah.

20 **Q.** Or a bag connected to the supraglottic airway which
21 you've already told us about or the tracheal tube?

22 **A.** Yeah.

23 **Q.** Then you explain the bag, the bag used is squeezed by --
24 manually, by hand, to cause a chest rise as the lungs
25 are inflated.

1 **A.** Yeah.

2 **Q.** You also explain --

3 **A.** And it's that simple. You just squeeze the bag and if

4 it looks like it's massively expanding you know, you're

5 squeezing too hard. If it's hardly moving at all,

6 you're not doing enough. So you just squeeze it so it

7 looks like it's going up and down sort of normal. And

8 we know that at the level where people notice the chest

9 going up and down, that's about the right volume.

10 **Q.** You also give us some idea of the timings and this is

11 again at the top of page 32, where you explain that if

12 breathing stops before the patient loses consciousness

13 rather than the other way round, but the patient will

14 lose consciousness when oxygen levels drop to about 60%?

15 **A.** Yes, so -- and this is work done in -- I think after the

16 war or where they took people up to altitude and saw,

17 you know, volunteer Air Force personnel to see at what

18 level of oxygen they became unconscious and it was about

19 60%.

20 **Q.** And it's in about one to two minutes, that they then

21 become unconscious; is that right?

22 **A.** Yeah, so if you obstruct someone's airway they'd become

23 unconscious. Because a normal blood oxygen level, and

24 we use the term oxygen saturation, is about 96-99%, and

25 if you stop breathing the oxygen level falls and if it

1 falls to below 60% you tend to lose consciousness.

2 I mention the use of oxygen there as well.

3 **Q.** Again, I'm moving through your report relatively quickly
4 because you've already given us a very full explanation
5 of ABCDE but we then move once the breathing has been
6 supported into circulation, as you explain.

7 **A.** Sure.

8 **Q.** This is your 3.3(c) at the bottom of page 31. Again,
9 you've already told us that the brain is very vulnerable
10 due to lack of blood flow, and you also explain that if
11 there's compression of the blood vessels at the front of
12 the neck, for example, dealing with the brain's
13 vulnerability, such as after a suspension, hanging, that
14 kind of compression can lead to a loss of consciousness
15 in about, again, 10 to 20 seconds?

16 **A.** So a lack of blood flow to the brain will cause very
17 rapid loss of consciousness, and that could include that
18 primary cardiac arrest, I said, my heart stops beating,
19 I hit the ground very quickly, or, if you get
20 compression of the two pipes that pump blood from the
21 heart to the brain, they're called the carotid arteries,
22 if you compress them, you get very rapid loss of
23 consciousness because they supply blood to the part of
24 the brain that keeps you awake.

25 **Q.** And you reiterate again that in terms of key

1 interventions in cases where there is no shockable
2 rhythm or where the patient is not bleeding, because
3 there's separate considerations if there's a lot of
4 blood lost, that the key interventions in all other
5 cases are, as you say, the airway and the breathing to
6 be corrected first and then if the blood flow is poor
7 after A and B are corrected, that's when you move into
8 dealing with the circulation?

9 **A.** With C, circular -- so the heart pumps blood around the
10 body so you've got to have enough blood to pump around
11 so if you had bleeding, there may not be enough blood to
12 pump round.

13 **Q.** You've already, so I'm not going to take you to it, what
14 the D, the disability, involves, and the E, the
15 exposure, which is effectively the top-to-toe body check
16 once you've done A, B, C and D?

17 **A.** Sure, yeah.

18 **Q.** But you pick up, and this is in the middle of your
19 page 32 at (f), again with the importance of the ABCDE
20 approach, and you explain that it's physiologically
21 necessary because each stage is dependent on the one
22 preceding it.

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

24 **Q.** And you go on to say, and this is at (g), that:

25 "Failure to treat life-threatening ABCDE problems

1 will lead to ongoing deterioration and then ultimately
2 to the cardiac arrest."

3 **A.** Yeah.

4 **Q.** And then you, as you've already summarised, it provides
5 a memorable and logical order to identify and then to
6 treat the life-threatening problems?

7 **A.** Sure.

8 **Q.** The idea being to get in between the event and the
9 cardiac arrest?

10 **A.** Yeah, so if you lose consciousness you want to make sure
11 the person's airway is open, they're breathing, you give
12 them oxygen, and hopefully that will slow down
13 deterioration and then if their blood pressure is low,
14 you might give them something to make their blood
15 pressure high. So you're trying to sort out all these
16 ABC problems which, even if you don't know what the
17 cause is, will buy you time because it will slow the
18 deterioration.

19 So most people I go and see in an emergency, unless
20 I've been told or it's really obvious, I may not know
21 why they're unwell but I know I can keep them alive so
22 I can sort out what's caused it because I've got more
23 time to work that out.

24 **Q.** And you translate this into the patient state. So if we
25 move to the middle of your page 33, please.

1 **A.** Sure.

2 **Q.** Just check I've got that right. It's, you say, "Patient
3 states and ABCDE and CPR treatment pathways". And
4 you've already touched on how it can be difficult,
5 certainly for laypeople, to determine between some of
6 the latter stages. But you explain at your 3.5, you
7 break it down into, if you like, the states that
8 a patient can be found in.

9 **A.** Yeah.

10 **Q.** So you start with state 1 there you say a patient may be
11 found awake, conscious, breathing, with a heartbeat?

12 **A.** Yes, and you won't see state 1, 2, 3, 4 in any medical
13 textbook, I've just used those to assist the Inquiry.
14 So if I said to a doctor, "He's in state 1", they
15 wouldn't know.

16 **Q.** We understand, and thank you for your assistance because
17 I think you're going to explain to us how that, the
18 impact, if you like, of 3 to 4.

19 **A.** Yeah, sure.

20 **Q.** So you're state 1, appreciating it's a phrase you've
21 used for us, as I've described. State 2 is a person
22 that is unconscious but breathing with a heartbeat?

23 **A.** So I'm in state 1 now because I'm awake, conscious,
24 breathing with a heartbeat and my brain is functioning
25 normally, I hope. And state 2 would be if I became

1 unconscious for a wide range of reasons that could be
2 drugs, choking, it could be ligature. And I'd become
3 unconscious, but I'd still be making maybe breathing
4 efforts and I'd still have a heartbeat, depending on the
5 cause.

6 **Q.** Then state 3 as you describe it, and it's, I think it's
7 helpful for us to understand, would be a patient who's
8 found unconscious, not breathing but with a heartbeat?

9 **A.** Yes.

10 **Q.** So a respiratory arrest?

11 **A.** That's correct. So state 2 would be someone who looks
12 like they're sleeping, but they're unarousable, they're
13 unconscious but they're breathing and their heart is
14 beating. And state 3 is they're unconscious, they're
15 not breathing, but their heart is still beating. So
16 they're on this, you know, so they've stopped breathing,
17 and so, but the heart is still beating, it's still got
18 enough oxygen and blood flow to keep pumping, but not
19 for long.

20 **Q.** Then state 4, and we'll come to this in a moment, is
21 unconscious, not breathing, and no heartbeat, so in
22 cardiac arrest?

23 **A.** And so state 4 is all those steps, you know, the person
24 is unconscious, they are not breathing, and their heart
25 is not beating so they've got, you know ... so that is

1 cardiac arrest.

2 **Q.** And you go on to explain that if you find a person, if
3 a patient or a person is found in states 1, 2 or 3, so
4 up until the part where they have no heartbeat, that
5 they are alive and can be treated by use of the ABCDE
6 approach?

7 **A.** That's correct. Because if you have someone in state 1
8 and they're awake, you can chat to them so you know
9 their airway is okay. If they're conscious you can talk
10 to them. If they're breathing, if their oxygen levels
11 are low, you can give them oxygen. If they've got
12 a heartbeat, if their blood pressure is low, you can sit
13 them down, lay them down, lift their legs up. You know,
14 you can do interventions. And you can do the same if
15 they are unconscious and breathing with a heartbeat, you
16 can give them oxygen if their oxygen level is low.

17 If they're in state 3 and they are not breathing,
18 you have to do their breathing for them, but once they
19 move to state 4 where they're in cardiac arrest they
20 need more than just breathing help, they need the full
21 CPR and cardiac arrest stuff.

22 **THE CHAIR:** Sorry to interrupt here. That's the bit I'm
23 struggling with, is at what stage in this you are going
24 to be starting CPR, you're going to be starting chest
25 compressions.

1 **A.** So I think I'm going to cover this in --

2 **THE CHAIR:** You are and I'm leaping ahead. I shouldn't.

3 **A.** -- in a moment because most people can't tell the

4 difference -- as someone gets closer to cardiac arrest,

5 most rescuers can't tell the difference between if

6 someone is unconscious and breathing normally, or

7 breathing abnormally or in cardiac arrest.

8 **MS HARRIS:** In fact I was going to bring you on to it right

9 away, it's your paragraph 3.11, which is on page 34, and

10 I think you've already touched on it before and I think

11 this is the question, Chair, that you may be asking,

12 which is you've said you can't -- it's very difficult

13 for a layperson and --

14 **A.** And -- (overspeaking) --

15 **Q.** -- and some medical professionals to identify between 3

16 and 4.

17 **A.** Yeah.

18 **Q.** So therefore, CPR is the -- is what should happen

19 whether it's 3 or 4. You should start CPR to be on the

20 safe side?

21 **A.** So everybody who is taught CPR, if it's me or

22 a layperson, so yourself or anybody in between, whether

23 it's HCAs, nurses, are taught that if someone is

24 unconscious, unresponsive, and not breathing, or barely

25 breathing or not breathing normally, you should start

1 CPR because it's very hard to detect a lack of
2 a heartbeat. So if you imagine, I turned up, I'd run to
3 an emergency, I'm nervous, I'm anxious, and I'm trying
4 to feel someone's neck pulse, my heartbeat and blood
5 pressure are getting -- so I'm not sure if I'm feeling
6 my own and there's been quite a lot of studies where
7 people have done studies on people while they're having
8 heart surgery so when they're on a heart bypass machine
9 and they don't have a pulse, and doctors and nurses are
10 told to go in and say: have they got a pulse or not?
11 And it's guesswork, and it's 50/50 and, you know. So
12 the pulse check isn't part of the trigger to start CPR.

13 **Q.** You say several times within your report that pulse
14 checks are known to be unreliable.

15 **A.** Yeah.

16 **Q.** So instead of trying to find a pulse or trying to find
17 a heartbeat, the guidance is you start CPR?

18 **A.** Yeah, and in those people who are unconscious,
19 unresponsive, and may be breathing and may have a weak
20 heartbeat, CPR is still a beneficial intervention
21 because it'll help with the rescue breathing, chest
22 compressions will help support a weak or fading
23 heartbeat.

24 **THE CHAIR:** Forgive me if this a silly question.

25 **A.** It won't be silly.

1 **THE CHAIR:** But at what stage of ABCDE, so I'm -- I've got
2 somebody here who is very unwell, I'm saying to myself,
3 ABCDE, I look at their airways, I identify if they're
4 breathing --

5 **A.** So when I'm teaching people --

6 **THE CHAIR:** -- so do I go immediately into CPR or do I run
7 through this check before?

8 **A.** So when I teach people I go: assume it gets to: oh my
9 god, you think: ah, open the airway, they're not
10 breathing normally, they're unresponsive, you've shaken
11 them. So to check for conscious level you do the shake
12 and shout. So if that's failed, and you've opened their
13 airway, and they don't look like they're making any
14 breathing effort, you would start chest compressions.

15 And some people may be making what's called agonal
16 breaths or abnormal breathing, and so that often is a
17 bit of a curveball or may have a short seizure around
18 the time of cardiac arrest. So if you witness
19 a collapse there's often these difficult things to put
20 you off.

21 **MS HARRIS:** A misleading sign of life.

22 **A.** Yes, misleading signs of life, yeah, but they go away
23 and that's why the guidelines say "unresponsive", they
24 don't even say "unconscious", actually, they say
25 "unresponsive, not breathing, not breathing normally,

1 start chest compressions and get the AED". And if you
2 don't know very much, as long as you've called for help,
3 someone, you're hoping someone who knows a bit more than
4 you will turn up.

5 **THE CHAIR:** Forgive me again, just to clear this up in my
6 own mind, but I would first, would I not, look in their
7 mouth to make sure their airways were cleared and that
8 that wasn't --

9 **A.** Yeah, I think if you suspected a foreign body in the
10 airway, I think it's one of those things that most
11 people who collapse in the street or so on wouldn't have
12 had, you know, if they've got a choking episode and
13 someone's seen it, it'll be obvious they've choked. But
14 I think in a mental health setting where choking or
15 swallowing a foreign object may be a risk, it would be
16 something that, you know, if -- what I would personally
17 do is open the airway, if they're not breathing, start
18 CPR. But part of -- as soon as you start doing this
19 rescue breathing you quickly notice, you quickly realise
20 you can't make their chest go up and down and you know
21 there must be a blockage, yeah? And that's where
22 I think there is some nuance to -- unless you suspect
23 a foreign body in the airway you wouldn't necessarily
24 look for one otherwise -- because often you can't see
25 them and it wastes time. You know?

1 So in a mental health setting, if airway -- if
2 a choking episode or swallowing an object is a risk
3 factor, you would be looking. But if someone arrests on
4 the street it's very uncommon for someone to have
5 a choking episode outside an eating scenario.

6 **THE CHAIR:** So you're in fact telling me that ABCDE is
7 something that comes into play -- I mean, there is
8 a nuance to when that comes into play --

9 **A.** Yeah.

10 **THE CHAIR:** -- which is that you don't just sit there and
11 think to yourself: right, I'll now do A, B -- you
12 respond --

13 **A.** To issues as you find them.

14 **THE CHAIR:** -- to issues as you find them and presumably you
15 talk yourself through ABCDE --

16 **A.** Yeah.

17 **THE CHAIR:** -- as you are actually starting your cardiac,
18 your CPR.

19 **A.** Yeah, and the thing is that everybody then has to do the
20 level of intervention that they're capable of doing.
21 You know, so, and the truth is that your and my
22 intervention would be exactly the same at this moment
23 because I don't have any special kit, you know, but if
24 I had a load of kit I'd have a whole load more things
25 to do.

1 **MS HARRIS:** I think you summarise it just at paragraph 315,
2 I think you say in terms, because you talk about the
3 difficulties in really differentiating between the
4 various states that a patient is in, that it means, as
5 I think the Chair has asked you, that CPR, that means
6 that CPR chest compressions, rescue breathing with
7 oxygen, attaching an AED and following prompts and
8 treating any obvious causes should be started in any
9 patient who is unconscious, unresponsive, and not
10 breathing or not breathing normally.

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

12 **Q.** Can I move on just before we have a break to treating
13 cardiac arrest and the reality of treating secondary
14 cardiac arrest, and we are still on page 35 of your
15 report. And you say at paragraph 3.16 that treatments
16 should follow the guidelines from the Resuscitation
17 Council.

18 And you say at 3.17, and this is the reality of it,
19 I think, as you have described here with you and your
20 kit and you have given us an understanding, that in
21 clinical practice only very highly drilled teams of
22 individuals who have practised and rehearsed together
23 manage to provide all the steps in the guidelines
24 without delay such that in most emergencies there will
25 be initial chaos and omissions and the period of chaos

1 and uncertainty becomes shorter, and the omissions
2 become less common and less obvious with increasing
3 skill and training.

4 **A.** That is correct. So everybody assumes it's just like
5 a Formula One pit stop, all these people come and do
6 everything perfectly. And in practice, it isn't,
7 because people turn up with different skills at
8 different times and the kit turns up, and people have to
9 allocate roles and things get missed. And the
10 guidelines are what should ideally be done, and the
11 timings and the guidelines, like, you know, look, listen
12 and feel for breathing for up to ten seconds, are to
13 help give people a sense of the time. But I've never
14 seen any videos I've been sent of people doing CPR, they
15 always take longer than ten seconds, but I think, you
16 know, maybe the guidelines should say five seconds and
17 people take ten seconds, you know, like -- so they're
18 more of a nudge to do it quickly as opposed to, you
19 know, a hard -- but if you do a course in structural
20 time, you say you've used your ten seconds up, and nudge
21 you along, but in practice, people often have that
22 chaotic panic and as you get more experienced you get
23 better at hiding it and they get shorter and shorter.
24 So hopefully when I turn up, people, even though I'm
25 thinking, you know, this is bad, you get moving forward

1 a lot quicker.

2 **Q.** In terms of training individuals for these events, again
3 I'll try and deal with this in summary form, you refer
4 to, at 3.18 at the bottom of page 35, basic life support
5 and the use of an AED, if you like, at one end of the
6 spectrum, yes?

7 **A.** Yeah.

8 **Q.** And then advanced life support and ALS interventions at
9 the other end of the spectrum?

10 **A.** Yeah.

11 **Q.** And as you've said, I think repeatedly in your evidence,
12 staff should do what they're capable of doing in the
13 circumstance?

14 **A.** Yes.

15 **Q.** And that's I think why you deal with the ILS course
16 because you say that the RCUK -- this is the RCUK ILS
17 course -- teaches basic and some advanced life support
18 interventions, and in effect, fills the gap in between
19 the two; is that right?

20 **A.** Sure, yes, and the reason I got the ILS course going in
21 2000 was that I turned up for my hospital training and
22 I was being trained by a first-aider type person, who
23 taught me with a mannequin and what -- the same training
24 you'd get, you know, for doing that and I was thinking,
25 hang on, this is -- and so I either got that or I got

1 this massively three-day course which is very advanced.
2 And there was nothing in between. And there was nothing
3 to do all these things like, you know, remove the
4 foreign body, you know, everybody got the look, listen
5 and feel, you know, the thing that St John's would do or
6 what a lifeguard would do, and I thought that's not --
7 it taught me how to do compressions but it didn't -- it
8 taught me how to do mouth-to-mouth but I was never going
9 to do that on many of my patients who have got
10 infections -- so there was this huge gap between basic
11 and advanced.

12 And the problem when you start getting really deep
13 into this is basic life support is basically what you're
14 capable of doing. So a child may only be capable of
15 dialling 999 and then the dispatcher will tell them --
16 and someone with a bit more training may be capable of
17 starting chest compressions and if you've got an AED and
18 you switch it on, it says on most signs -- you don't
19 need training, you just follow the prompts, so if you
20 can follow the prompts, and as you get to more advanced
21 interventions, you start using more kit, giving oxygen,
22 and so on. So they don't neatly fall into basic and
23 advanced, there's a big hole in the middle that
24 depending on your capability you can do.

25 And advanced is taking it to, like, all the way to

1 putting people on a heart bypass machine to restart, you
2 know. Advanced is a huge area as well.

3 Q. So can we think about this in context, please,
4 Professor Soar, by looking at your paragraph 3.21, which
5 is I think over the page, and put it in terms of the
6 interventions that are required for a patient who is
7 found not breathing in mental health inpatient settings,
8 on the way, as you've described it, potentially to
9 cardiac arrest. And you set out there what the key
10 steps are, beginning, of course, with ensuring personal
11 safety and the rapid assessment and summoning help.

12 And then moving on to (c) the 10 seconds for initial
13 assessment, we've just referred to that, and the
14 instructor is timing you when you're on a course, and
15 then removing ligatures or unsuspending an individual
16 who is hanging and then you move on to the initial call
17 for help and you make some observations about that,
18 including at (f) that if there were more than one person
19 there, you could be doing some of these in parallel.

20 But can I pick up then, please, with (g), and this
21 is where you say:

22 "Specific interventions can be done depending on the
23 training and the skill."

24 And I think this is where you would say that
25 immediate life support starts filling the gap. You say,

1 CPR can start and the default is 30 compressions
2 followed by two rescue breaths, and they can be started,
3 as you've already explained to the Chair, without
4 equipment, I think you've just said as long as you've
5 got your two hands, and then rescue breaths starts when
6 the equipment arrives; is that right?

7 **A.** That's correct.

8 **Q.** You then go on at (g), (g)(ii) to talk about
9 ventilation, and you say:

10 "Ventilation is more difficult to do -- a two-person
11 bag mask technique is recommended -- one rescuer holds
12 the mask on the face with a good seal and the second
13 squeezes the bag."

14 And you give a little bit more detail and you go
15 a little bit further down, do you see, you say:

16 "This can be made easier by inserting an oral airway
17 that stops the tongue falling back."

18 And you've already described how that works and
19 you've described those.

20 Then a little -- you say:

21 "In many cases the ventilation attempts are
22 unsuccessful, even in expert settings, and patients get
23 few effective breaths."

24 You go on to say this:

25 "Some staff, especially this is that have done an

1 ILS course, may be able to insert an iGel airway [which
2 you've described to us] to the back of the throat that
3 can be then connected to the bag. This may make giving
4 rescue breaths and oxygen easier."

5 Then you go on to talk about how when the
6 resuscitation teams and the critical care paramedics
7 arrive, they may be able to do much more technical --
8 they will be able to exercise technical skills.

9 So are you saying there that the iGel, that those
10 skills learnt on the ILS course, are going to increase,
11 if you like, the possibility or opportunity of getting
12 those rescue breaths going?

13 **A.** Yes, so a two-person bag mask technique is better than
14 a one-person, and so one person holds the mask on the
15 person's face, you can put in the oral airway to hold
16 the airway open and you form a seal and you have the
17 head in the sort of tilted backwards, so it's --
18 everything is lined up. And then the second person
19 squeezes the bag, and so, 30 compressions, and normally,
20 the person doing compressions, when they pause after 30
21 can squeeze the bag for you, so you don't need a third
22 person if there's only two people. And so you do 30 to
23 2. And it can be difficult to make the chest go up and
24 down in some people, especially obese people, people who
25 have got vomit or lots of secretions in their airway,

1 even if you suction them, and so the iGel is another
2 tool that you can try.

3 And in someone who is in cardiac arrest is -- it's
4 not a hundred per cent but it's maybe another option and
5 it's taught on the ILS course and it's taught on
6 a mannequin and as long as you can get it out of the
7 packet and hold it up the right way, and you can open
8 the patient's mouth and you've picked one that doesn't
9 look too -- there's only one -- it's almost like one
10 size fits all, actually. You just put push it in the
11 mouth and push it round the corner, it stops and you
12 connect it up, and it tends to work.

13 And on cases that I've reviewed for the courts at
14 inquests I have seen mental health staff put them in and
15 get them to work so they do work in mental health
16 settings.

17 **Q.** And I think, and just to finish this bit of your
18 evidence off, at the very top of page 39, you underline
19 that hypoxia, which is a state we'll come on to consider
20 in more detail after the break, when we deal with
21 special circumstances, can be treated with oxygen and
22 ventilation and rescue breaths in the methods you have
23 described --

24 **A.** Sure.

25 **Q.** -- and that's feasible for ILS trained rescuers?

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

2 **MS HARRIS:** All right.

3 Chair, would that be a convenient moment for a break

4 before we move to the next topic?

5 **THE CHAIR:** Yes, how long do you want? Fifteen minutes?

6 **MS HARRIS:** Fifteen minutes, please, I think would be -- 20

7 to 12, thank you.

8 **(11.24 am)**

9 **(A short break)**

10 **(11.40 am)**

11 **THE CHAIR:** Ms Harris.

12 **MS HARRIS:** Thank you, Chair.

13 Professor Soar, before I move on to our next topic

14 can I just ask a couple of questions arising from the

15 evidence you just gave, and they are these: first of

16 all, how effective is CPR without using some form of

17 airway device?

18 **A.** So by CPR, I'm assuming you mean chest compressions.

19 **Q.** Yes, or the process?

20 **A.** Well, if you have a sudden primary cardiac arrest and

21 the oxygen levels are normal to start with, chest

22 compressions and a shock will restore life in quite a

23 lot of people, if a shock is given, if a defibrillator

24 is used very early. But if you have a secondary cardiac

25 arrest where your oxygen levels have already fallen and

1 you heart started because of a lack of oxygen, it is
2 going to be very hard to restart that heart unless you
3 restore the person's, the patient's oxygen levels.

4 So unless you have airway and breathing, your
5 chances of restoring the heart are, I would say, small.
6 Or trivial.

7 **Q.** Thank you. That's helpful. Can I just ask you
8 a slightly different but related question: how long
9 does it take to teach somebody, to teach an individual,
10 to use those sorts of airway devices, the ones you were
11 describing?

12 **A.** So on a course an airways skills station is about 30 to
13 40 minutes. And you have to remember teaching, and
14 that's hands-on time. And you need maybe one or two
15 instructors, and the key intervention is having
16 instructors (a) who can teach it and having the
17 instructor-to-candidate ratio, and so, you know, you can
18 have one for three or up to one for six, and you'd have
19 a couple of -- and you've got to have the kit and the
20 right number of mannequins.

21 **Q.** Understood, but all things being equal, 30 to 40
22 minutes?

23 **A.** Yeah, and that's how long those skill stations tend to
24 be on a course and so that means -- but you have to have
25 read about it before you turn up, maybe watch a video

1 and then that 30 to 40 minutes is like hands-on time.

2 **Q.** Thank you. That's again very helpful.

3 I'm going to move away to something slightly
4 different which are these special circumstances, as
5 we've described and which you explained was probably
6 a phrase coined by somebody writing about it some time
7 ago.

8 **A.** Yes.

9 **Q.** Before we look at one or two of those -- and I'm turning
10 now to page 42 of your report and your section 4.

11 We've already established and we looked at the list
12 earlier this morning that the Inquiry specifically asked
13 you for your opinion on what you have already described
14 as the special circumstances. And before we look at one
15 or two of them, can we remind ourselves from your report
16 of some of your more general observations, and we begin,
17 I think, at paragraph 4.2, in terms of your general
18 observations, and you note that in these types of
19 scenarios, and it's, again, a repetition of the -- very
20 much the theme of your evidence, which is:

21 "In these types of scenarios, prevention or early
22 recognition of signs and symptoms and the effective
23 treatment of the underlying cause will usually prevent
24 cardiac arrest, as cardiac arrest is often secondary and
25 follows a period of deterioration."

1 And that really is the key factor here, isn't it:
2 that the best chance of a good outcome for a patient is
3 to intervene before cardiac arrest -- in secondary
4 cardiac arrests?

5 **A.** Yes, that's correct.

6 **Q.** You also note, at the bottom of that paragraph,
7 therefore, that first of all, many of the scenarios, the
8 special circumstances, occur in, you say, predictable
9 circumstances -- you're talking in terms of a mental
10 health unit. And you say that overnight and unobserved
11 periods carry a particular risk of deterioration and
12 cardiac arrest and death going unnoticed.

13 Now, this may be an obvious question but why do you
14 say that?

15 **A.** I think when people are asleep, sleeping is a difficult
16 thing to assess, and observations are hard to do on
17 people who are sleeping, and staffing and other issues
18 may make things harder to do at night. But I think, you
19 know, if someone is not being observed, the windows may
20 be sufficient for significant self-harm.

21 **Q.** I think we'll come -- you can give a little bit more
22 evidence about that in a moment. But you say quite
23 clearly at 4.3 that:

24 "Emergency response in these special circumstances
25 requires training and experience amongst staff in caring

1 for patients with physical health conditions, and relies
2 on systems in place to reliably escalate treatments and
3 get urgent (hours) or emergency (immediate)
4 assistance -- these are often lacking in mental health
5 inpatient units, especially those that are remote from
6 acute settings."

7 You say in 4.4 that in an emergency, staff should
8 use the ABCDE approach to slow deterioration, as in not
9 use it -- in order to slow deterioration down, I think
10 is what you mean there.

11 **A.** To slow deterioration, yes, that's correct.

12 **Q.** Yes, to slow it down, and to prevent cardiac arrest:

13 "... and if cardiac arrest occurs, the delivery of
14 early high-quality chest compressions, effective
15 ventilation and early defibrillation remains a priority
16 in addition to identifying and treating the underlying
17 cause."

18 **A.** Yeah. I should say, early use of a defibrillator.

19 Because as I've said already, many or most of these --
20 special circumstances aren't -- don't require a shock.

21 **Q.** I've written down, I'm not sure if I've already asked
22 you this, and if I have, forgive me. The ABCDE
23 approach, what course would that be taught on?

24 **A.** It is taught on the -- if you're talking about
25 Resuscitation Council UK courses, so the Resuscitation

1 Council UK doesn't have a Basic Life Support course, so
2 it is taught on the ILS course. It's a session on -- so
3 there's a chapter on it in the manual that goes through
4 roughly what I've covered this morning, but in a bit
5 more detail, and then there's a skills station on the
6 actual course, ILS.

7 Q. We've already, as I say, looked at the special
8 circumstances you were asked to express an opinion on,
9 which were on page 2 of this report and we've gone
10 through them, the list. And I'm not going to go through
11 all of them in detail. Some, I think, are more, you
12 would say, more likely to take place than others on
13 a mental health inpatient unit.

14 Can I begin, please, by looking at the first which
15 is on page 43 at 4.6, and that is hanging or
16 asphyxiation by ligature. Beginning at your 4.6
17 at page 43, you set out that they -- that's hanging
18 and/or asphyxiation by ligature -- are the most common
19 causes of death by self-harm in mental health inpatient
20 settings, and both involve a ligature, and hanging
21 obviously involves suspension.

22 Moving to your paragraph 4.9 you provide evidence of
23 the physiological process involved in hanging. Now,
24 without going into excessive detail about that process,
25 can I summarise it in this way, and tell me if I've done

1 it accurately from your report: in hanging, a ligature
2 can compress blood vessels at the front of the neck to
3 cause loss of consciousness, breathing stopping, and
4 progression to cardiac arrest.

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

6 **Q.** And it's the tightness of the ligature which will
7 determine which of the vessels in the neck are
8 compressed?

9 **A.** That's correct.

10 **Q.** At 5.9(a) (sic), you explain that veins are easily
11 compressed?

12 **A.** That's correct.

13 **Q.** Now, again, I'm not going to ask you to go through the
14 details of the physiological process here but could you
15 please go to the very last line on that page, which goes
16 over on to page 44. And it says this:

17 "The time for loss of consciousness to occur will
18 depend on how tight the -- sorry, will depend on how
19 tight the ligature is, and can be in the order of
20 minutes. This is more common with ligature
21 strangulation and is a relatively slow process and
22 individuals often have several attempts at tightening
23 the ligature and are sometimes discovered during the
24 process." [As read]

25 Yes?

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

2 **Q.** At (b), you explain that arteries require a greater
3 force to compress, a tighter ligature?

4 **A.** Yes, they're a bit more rubbery and less floppy and so
5 they need -- and they have a higher pressure of blood
6 flow in them so they need a tighter, a -- more pressure
7 to compress them.

8 **Q.** But that arterial compression stops blood flow to the
9 brain and causes very rapid loss of consciousness.
10 I think you say there in the order of 10 to 20 seconds?

11 **A.** That is correct.

12 **Q.** You go on to explain at your paragraph 4.10 that
13 following a hanging, or ligature, a patient will
14 progress through what you've helped us with by calling
15 your states 1, 2, 3 and 4. That's what will happen
16 after a ... again, you've set out the details at that
17 paragraph and we don't need to examine them here.

18 If we then move to 4.11 which is on page 45, you
19 deal with some of the timings that are involved --

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

21 **Q.** -- which are relevant of course, when one is considering
22 the need for immediacy with response and the
23 interventions. And you say this:

24 "The best evidence for the timing of events
25 following ligature and hanging in humans comes from

1 a series of 14 hanging ligature events that were
2 filmed ..."

3 And in those 14 cases, consciousness was lost
4 between 8 to 18 seconds, breathing movements stopped
5 between 1 to 2 minutes, and all muscle movement ceased
6 between 1 to 7 minutes.

7 So we're talking really short periods of time.

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

9 **Q.** In paragraph 4.12 you explain on the basis of further
10 research, and experimentation that you're aware of,
11 which you set out, that "cardiac arrest occurs about 3
12 to 11 minutes after the breathing stops."

13 **A.** Yes, and that's correct. In those studies.

14 **Q.** In those studies. Absolutely. But for reasons that you
15 set out, and again which I won't rehearse, you consider
16 that it's likely, actually, to be at the lower end of
17 that, that the lower end of the 3 to 11 minutes range?

18 **A.** Yes, and that's to do with the fact that in the, in the
19 research, it doesn't quite match the same scenario that
20 we're talking about.

21 **Q.** We understand. And you go on to give a little bit more
22 detail at paragraph 4.13, and you say:

23 "Based on the available science, a reasonable
24 estimate for how long after hanging or ligature
25 strangulation cardiac arrest occurs is relatively wide

1 and in the range of about 5 to about 10 to 15 minutes
2 although in my opinion [you say] in most people
3 asphyxial cardiac arrest occurs at the earlier end of
4 this range ..."

5 So the earlier end of the 5 or the earlier end of
6 the 10?

7 **A.** The 5.

8 **Q.** And:

9 "It is important to note that these are estimated
10 times and trying to be more precise with timings would
11 be speculative", which we understand.

12 **A.** That's correct.

13 **Q.** You explain, just looking in practical terms, at 4.14,
14 you again try and put those timings into context of
15 actions, including the time it might take to apply
16 a ligature or to attach it to something. But on the
17 basics of the timings you've provided, understanding, as
18 we do, that it is an estimate, if observations take
19 place, say, every 15 minutes, on the basis of your
20 evidence and in your view, a patient has sufficient time
21 to tie and apply a ligature and to die between
22 observations?

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

24 **Q.** You may or may not feel able to answer this, but would
25 that, if you like, scientific explanation or that

1 clinical opinion that you've expressed support an
2 assertion that intervals between observations should
3 potentially be shortened for certain cohorts of
4 patients?

5 **A.** I mean, my opinion on that matter would be no different
6 to the Chair's or anybody else's.

7 **Q.** It's just maths, I think you would say, would you?

8 **A.** Yes.

9 **Q.** Can I ask you this, slightly different question: given
10 that evidence and given your evidence about the
11 interventions, the need for immediacy and those really
12 tiny timeframes you've told us about, do you consider
13 that patients should only be observed by staff members
14 who have ILS training?

15 **A.** I think the "I" in ILS stands for "immediate" so if you
16 want to get an immediate response, again, my opinion
17 would be no different to anybody else's. And it's up to
18 an organisation how they get that immediate response.
19 But -- so my opinion would be no different to anybody
20 else's.

21 **Q.** Understood. Can I ask you to look at the bottom of your
22 page 46, please, and this is your paragraph 4.17, just
23 to confirm this: you have recently led a scoping review
24 after cardiac arrest after hanging?

25 **A.** That is correct.

1 **Q.** And you explain, as -- and it's footnoted in your
2 report, but you explain that the chances of survival
3 after ligature or hanging, once that cardiac arrest has
4 occurred, are very poor.

5 **A.** That is correct.

6 **Q.** Conversely, if we look at your paragraph 4.18, survival
7 after ligature or hanging without cardiac arrest, if the
8 right interventions and the prevention takes place,
9 survival is common?

10 **A.** That is correct, yes.

11 **Q.** And you go on to give some opinion or information about
12 that at your paragraph 4.19 and 4.20 and, again, can
13 I try and summarise it in this way: you say that the
14 contrast between the good outcomes for those that don't
15 progress to cardiac arrest and the poor outcomes for
16 those who do progress to cardiac arrest is a strong
17 argument for intervening early?

18 **A.** Yes, to prevent cardiac arrest.

19 **Q.** And you say, in fact, that in light of the data, the
20 patients that don't have cardiac arrest -- and I think
21 this is probably, if you like, a kind of common sense
22 view -- that they're probably discovered and treated
23 within minutes of the ligature application or the
24 suspension?

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

1 **Q.** I.e., they are rescued before the cardiac arrest occurs?

2 **A.** Yes, that is correct.

3 **Q.** Can I ask you a slightly separate question --

4 **THE CHAIR:** I want you to be explicit with me about this

5 rather than implicit. If you want to get an immediate

6 response to a cardiac arrest or a potential cardiac

7 arrest, then you need someone who is first on the scene

8 or who responds first to be trained in immediate life

9 saving; is that your evidence?

10 **A.** I think the first people on the scene -- I think if you

11 had one person -- as long as they can get someone there

12 immediately, it may not but it has to be those first few

13 people, you know, so if it's one person or two people,

14 the first responders, and whether that's one, two, or

15 three, need to have those immediate skills in that first

16 10, 20, 30, one minute or so.

17 **MS HARRIS:** When you say 10, 20, 30, you mean seconds --

18 (overspeaking) --

19 **A.** Yes, in that first minute, as opposed to starting some

20 very basic stuff while you're waiting for the cavalry to

21 arrive who may not be there for two, three, four

22 minutes, sort of thing.

23 **THE CHAIR:** You'd like the cavalry to be first on the scene.

24 I think -- I'm sure that was your evidence, I just

25 needed you to be explicit about that. Thank you.

1 **MS HARRIS:** Thank you very much. That's very helpful.

2 Can I just actually pick up on the very -- when you

3 say "very poor outcomes", what do you mean by "very

4 poor"?

5 **A.** So in the UK, you know, so "poor outcome" is not

6 restarting the heart, so the person has died where the

7 cardiac arrest happened. But even if an ambulance crew

8 arrives, and often, if you have a young, healthy person

9 who has had a ligature, if you give enough oxygen and

10 adrenaline and CPR you can often restart the heart and

11 these patients will then remain in a coma, but their

12 brain's been irretrievably, irreversibly, severely

13 damaged, and those patients usually die in the Intensive

14 Care Unit, following withdrawal of life-sustaining

15 treatments or on a life support machine and everything

16 after discussion with their families.

17 **Q.** Thank you.

18 Slightly separate question, but related to ligature.

19 When a patient survives a ligature attempt, what impact

20 does it have on the body? Is there risk of damage to

21 a neck that might lead to an increased death from

22 a further ligature attempt? Does that make sense?

23 **A.** Sorry, I'm not quite getting the question. So if you've

24 had one --

25 **Q.** Let's take it in stages. I think I asked two together.

1 So the first is: what impact does a ligature attempt
2 have on the body, particularly to the neck?

3 **A.** Apart from skin marks, unless you have suspension and
4 like a judicial hanging, it doesn't tend to cause, apart
5 from the soft tissue injury, much long-lasting damage.
6 I think if you're suspended or dropped that would be
7 different.

8 **Q.** So would you agree, can we take from your evidence, that
9 every time a patient uses a ligature, whether it's
10 suspended or not, there is the potential risk of death
11 and the possibility of losing consciousness I think --
12 I say within minutes but it would appear you're saying
13 within seconds?

14 **A.** Well, if you're suspended, you've got a very
15 -- (overspeaking) --

16 **Q.** It's very quick.

17 **A.** -- (overspeaking) -- that would be very quick, yes. If
18 you've tied it I think it's a bit hard -- and that's why
19 I've mentioned this thing it often takes a few goes,
20 because you have to get it tight enough to actually
21 obstruct blood flow.

22 **Q.** Just in terms of, the Chair asked you some questions
23 earlier about the order of events, and just in terms of
24 ligature, if a patient has is a ligature in place, is
25 it, in your view, essential that the ligature is untied

1 or cut immediately even if the patient appears to be
2 conscious and breathing?

3 **A.** Yes, because if it's obstructing blood either going up
4 to the brain or coming out of the brain, it's bad for
5 the brain. So you need to remove it especially -- if
6 you're giving the patient oxygen you want that
7 oxygenated blood to get to the brain.

8 **Q.** Can I ask you a little bit about choking and airway
9 obstruction, which we need to move to your page 48.

10 At paragraph 4.22, you explain that choking and
11 airway obstruction can occur in mental health inpatient
12 settings due to either deliberate swallowing of foreign
13 objects, or accidental choking is also a method of which
14 you are aware. And you give some information about
15 older adults and I won't ask you about that but that's
16 set out within your report.

17 And you say at 4.24 that:

18 "If for a foreign body lodges in the voicebox or
19 windpipe and completely occludes and obstructs the
20 airway and prevents breathing, this will cause an
21 asphyxial cardiac arrest over a similar timeframe to
22 hanging or ligature."

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

24 **Q.** So we're talking very small windows again.

25 **A.** Yes.

1 Q. "Breathing will stop when the airway is obstructed,
2 blood oxygen levels will fall and cardiac arrest will
3 follow after about 5 minutes."
4 A. Yes, and again, that's an estimate.
5 Q. We understand. So again, if a person were to swallow or
6 deliberately swallow a foreign body, those are the type
7 of timeframes that the staff have to work within?
8 A. Yeah. By "swallow" I mean -- because if you swallow it
9 will go down to your stomach.
10 Q. Something that is going to get obstructed --
11 A. If something gets lodged in the airway.
12 Q. And I think you may be aware that the Inquiry had heard
13 of cases where that has happened?
14 A. **(The witness nodded)**.
15 Q. Can I pick up your paragraph 5.25 (sic) and you express
16 your view --
17 A. 4.25.
18 Q. 4.25, yes, did I say 5? I apologise. Just following
19 down your report. As I say, I'm not going through it in
20 full because everybody has it but just picking up some
21 of the key features. At 4.25 you express your view
22 that:
23 "Staff in mental health settings should be familiar
24 with interventions to treat choking based on the RCUK
25 choking algorithms", which you list.

1 Can I just ask you to go down to (e), to 4.25(e).
2 You refer there -- I'll probably pronounce this
3 incorrectly -- to a laryngoscope, and is it Magill or
4 Magill forceps?
5 **A.** Magill.
6 **Q.** Magill forceps should be available for trained staff and
7 those are methods by which to remove objects; is that
8 right?
9 **A.** Yes.
10 **Q.** But if you go down to your (g), do you make clear there
11 that, as already stated, the skills required for using
12 those require specific training which is often beyond
13 the ward nursing scope and this is a capability gap on
14 standalone mental health units.
15 **A.** Yes, and most units, when I've looked at their drug
16 charts, do have the Magill forceps because if you can
17 see the thing, with a pen torch, it's just a pair of
18 forceps, and the bend in them means you can get them in
19 the mouth and you can just grab hold of something and
20 take it out. But if it's deep round the corner, you
21 wouldn't be able to see a foreign body because it's
22 sitting right back there and you wouldn't be able to see
23 round, and that's where you need the laryngoscope to
24 look behind the back of the tongue and then use the
25 forceps. And that requires a bit of training to do.

1 **Q.** You say a bit of training to do.

2 **A.** A fair amount. I think it's not a quick skill to
3 acquire. And I think if people had a go, they would
4 probably not succeed.

5 **Q.** Can I just ask where chest compressions come in, in this
6 kind of choking and airway obstruction scenario, because
7 I think you deal with this -- sorry, I'm jumping around
8 but it's just to marry them up -- at (c), which is at
9 the top of page 49 and where you write:

10 "If the patient becomes unconscious: lower to the
11 floor and start CPR immediately even if cardiac arrest
12 has not occurred -- this is because chest compressions
13 may themselves dislodge the obstruction."

14 **A.** Yes, so chest compressions are a treatment for choking
15 if all other measures fail, because if the foreign body
16 is lodged at the top of your windpipe and you compress
17 the chest, you might fire it out. It's a bit like
18 squeezing a bottle and the top comes off, yeah? So
19 basically, chest compressions are there to sort of
20 hopefully that will dislodge the foreign body at the top
21 of a windpipe if you do chest compressions.

22 **Q.** Which I think aligns with your evidence about starting
23 chest compressions immediately in any event?

24 **A.** Sure. If a person is unconscious or not responsive and
25 non-breathing.

1 **Q.** In terms of the capability gap, as you describe it, do
2 you have a view on ways to fill that?

3 **A.** I think it's a difficult one. Unless you have someone
4 trained in advanced life support skills available 24/7
5 immediately, and whether that's feasible or not, is not
6 really within my remit. And then to keep -- to maintain
7 these very high skills you have to do them in your
8 clinical practice so I use -- I've used a laryngoscope
9 five times this week, on Tuesday or something. So if
10 I had to do it in an emergency, I'd know what to do. So
11 if you're only doing it for that rare choking event, you
12 wouldn't guarantee you'd be capable of doing it, whereas
13 if you're doing it in your day-to-day job it means you
14 can do it in an emergency. It's very hard to train
15 someone to use a laryngoscope just for that one rare
16 scenario.

17 **Q.** At 4.26, you say that:

18 "If the foreign body cannot be removed and breathing
19 and blood oxygen levels restored, the patient will
20 progress to cardiac arrest and survival will be very
21 poor, even if the foreign body is then removed and
22 a heartbeat restored."

23 **A.** That's correct. And it's similar to the hanging
24 ligature scenario where survival tends to be okay if
25 people are resuscitated before -- treated before cardiac

1 arrest but once cardiac arrest has occurred, all these
2 harmful processes have become irreversible.

3 **Q.** Can I ask you again a few questions about overdose.
4 This is at the top of page 50 of your report. Again,
5 I'm not going to take you through everything you've
6 written because we have it, but I just want to ask you
7 about some of the key features.

8 At 4.28 you explain quite clearly that the mechanism
9 and the emergency response required depends on the drug
10 that's taken to create that overdose, or to bring about
11 the overdose.

12 And in particular to, you refer at (a) to opioids
13 and sedating drugs, which can cause respiratory
14 depression progressing to respiratory arrest, and then,
15 if untreated, an asphyxial cardiac arrest by the same
16 process that you've already described for hanging and
17 for choking.

18 **A.** Yeah, so they cause breathing to stop. Once the
19 breathing stops, the heart is starved of oxygen, it
20 stops beating.

21 **Q.** You then talk about other potential drugs leading to
22 overdose at (b), and I'm not going to ask you about
23 that. But can I just pick up at 4.29. You express your
24 view that there is a risk on mental health wards that an
25 overdose may not be suspected or recognised if

1 observation levels are not frequently sufficient.

2 Why do you express that view?

3 **A.** I think if someone is found unconscious, it's very hard,
4 unless you've seen or suspect the overdose, it's very
5 hard to know what's happened to the person. So I think
6 many of these arrests, I don't know specifically for
7 mental health settings, they are probably suspected it's
8 an overdose with toxicology or after the event and so
9 I think that's what I'm trying to make out there, you
10 know, that unless someone's seen the overdose or
11 suspects it.

12 **Q.** You make reference to a drug called naloxone. Have
13 I pronounced that correctly?

14 **A.** That's correct.

15 **Q.** Which is an antidote for opioid overdose?

16 **A.** Yes.

17 **Q.** And you make clear, I think this at the bottom of your
18 paragraph 4.29 at the bottom of page 50, that the
19 benefit of naloxone or giving naloxone is in preventing
20 cardiac arrest not in treating cardiac arrest once it's
21 occurred?

22 **A.** Yes, because if you give -- if someone has got an opioid
23 overdose and that is things like heroin, fentanyl,
24 morphine, if you give naloxone, they literally -- if you
25 give enough of it, they'll normally sit up and normally

1 start trying to, you know, and get very lively, and if
2 you do it in an emergency, if you give enough, the
3 person will want to get up and leave sort of thing
4 because they wake up so well, whereas once you've had
5 the cardiac arrest you've got all these other issues
6 like low oxygen and your heart and brain have been
7 starved, so if you give them naloxone the patient won't
8 -- their heart won't restart because the damage, the
9 downstream damage -- so reversing the morphine doesn't
10 make the person recover so you have to do all the CPR
11 and all the other things.

12 **Q.** So the administration of naloxone would have to be done
13 very quickly in that window?

14 **A.** Prior to cardiac arrest, yes.

15 **Q.** Prior to cardiac arrest.

16 **A.** Yes.

17 **Q.** Can I just ask you this, are you able to help us: in an
18 emergency it can be given by anyone, can't it?

19 **A.** Well, it depends on where it's stored and the local
20 patient group directive and I think most clinical
21 settings can have a non-prescriber give these emergency
22 drugs as long as there's a local policy, or its called
23 a PGD, that's patient group directive. So that means in
24 some settings police officers, non-clinicians, would,
25 you know, be able to give naloxone or drugs and things

1 like that.

2 **Q.** And the Inquiry is aware, for example, that EPUT have
3 naloxone as part of their -- the drugs available in an
4 emergency and I just want to ask you this: if that is
5 one of the drugs kept and it is, as you explain, a drug
6 that can be given without prescription by anyone in an
7 emergency --

8 **A.** Yes.

9 **Q.** -- would you expect those people to have -- those
10 persons to have had some advanced training or guidance
11 or --

12 **A.** I think you'd want to be able to recognise it's an
13 opioid overdose, and the commonest recognition sign is
14 you either see they've taken the stuff and it's there,
15 or -- and they've got pinpoint pupils and, you know,
16 snoring or not breathing, and the reason naloxone is
17 quite a good drug is you can give it by lots of
18 different routes, so if you haven't got a -- if you
19 can't get it into a vein, you can give it into a muscle
20 or under the skin, you can get it that you can squirt it
21 up someone's nose, and I think depending on the
22 preparation you have, you know, it means a wide range of
23 rescuers, in theory, could give it.

24 **Q.** Just taking what you've just said about a wide range of
25 rescuers being able to give it, in a clinical or, should

1 I say in a mental health setting or in a hospital
2 setting, would you expect the staff to have been given
3 some advanced training or information, or guidance about
4 how to administer it, should it be required?

5 **A.** I think you'd need to know how to recognise opioid
6 overdose first.

7 **Q.** Yes.

8 **A.** And that's the pinpoint pupils. And then, depending on
9 the skillset of those staff, you know, if it's someone
10 who can put in an intravenous cannula, they would need
11 to know or be trained or be capable of giving into
12 a vein but the easiest way normally is just to give an
13 injection to a muscle.

14 **Q.** What about the squirting up the nose?

15 **A.** Yeah, and the squirting -- the training for that is
16 relatively straightforward. There's lots of drugs
17 people take that they squirt up their nose that you can
18 buy in a pharmacy. So as long as you can squirt it up
19 someone's nose. So depending on the formulation
20 available, yeah, would determine it. But an injection
21 into a muscle is relatively straightforward and, again,
22 people with anaphylaxis who carry their EpiPens inject
23 themselves into a muscle. So it's a skill that's
24 relatively easy to teach and learn how to do and people
25 get an orange and go "Just inject this drug into it" and

1 they go "Great, you're trained. Just do it in the
2 thigh."

3 **Q.** Can I jump ahead now, please. As I said, I'm not going
4 to go through all of the special circumstances but can
5 I ask you one or two questions in relation to physical
6 restraint which I think requires us to go to page 55 of
7 your first report and paragraph 4.52.

8 **A.** Yes, okay.

9 **Q.** As I said, for the record, you have dealt with a number
10 of others, but I'm not going to take you through all of
11 them as we have all the information within the report.
12 But physical health restraint in 4.52 you say this:

13 "Physical health restraint can cause physical health
14 harm due to injuries but can also cause deterioration
15 and cardiac arrest when the restraint is prolonged and
16 there is a prolonged struggle against the restraint --
17 this causes extreme exhaustion and a severe metabolic
18 derangement that can cause cardiac arrest and death."

19 And you go on to say, quite properly, at 4.53, that
20 you're not an expert in actual physical restraint
21 techniques but you've reviewed about three to four
22 deaths per year over the past five years for inquests
23 where restraint has had a contributory role.

24 **A.** Yes, they're not all in mental health settings. So I'm
25 not a restraint expert, I don't put people into these

1 restraint positions, but for one or two of these cases
2 I've been put in those positions as part of my learning
3 experience.

4 **Q.** So I'm not going to ask you any questions about
5 restraints or techniques or anything of that nature --

6 **A.** Sure, yes.

7 **Q.** -- I'm just going to, as you say, focus on the
8 physiological responses.

9 **A.** Sure.

10 **Q.** You say at 4.55, which is the top of your -- the
11 followed page which, I think, gives something of
12 a methodology, that:

13 "Resistance and struggle against restraint use
14 a very large amount of energy (much more than if there
15 was no struggle or resistance against restraint). As
16 the body's energy stores wane, this will lead to
17 a build-up of large amounts of acidic metabolites in the
18 blood (... lactic acid), as well as further increasing
19 the levels of adrenaline in the blood as part of the
20 body's natural fight, flight or fear response."

21 I'm pausing there because this was the example you
22 gave us right at the beginning of your evidence, wasn't
23 it, about the acid building up in the blood --

24 **A.** Yeah.

25 **Q.** -- and the problems that then created. And so jumping

1 ahead, you say at 4.57, that:

2 "Staff who use physical restraint should be aware of
3 the risks of restraints and signs of danger ..."

4 And you give some examples there: the patient
5 sweating, getting hot, breathing rapidly and panting and
6 getting exhausted as the breathing slows.

7 And you say this:

8 "... patients often become quieter and stop
9 struggling and this is mistaken for the patient calming
10 down as opposed to becoming critically unwell and at
11 risk cardiac arrest."

12 Obviously you then make referred reasons to
13 face-down positions making breathing more difficult but
14 at 4.59 you say again:

15 "Continuous monitoring of breathing, colour and
16 responsiveness throughout restraint should be carried
17 out by a designated staff member who is not directly
18 involved in holding the patient -- vital signs monitors
19 should be used if feasible. Prone restraints should be
20 avoided by moving the patient to recovery (on their side
21 position) as soon as it's safe to do so. Any
22 deterioration should be managed with the ABCDE
23 approach."

24 Can I just break that down. Why do you say there
25 should be a designated staff member always watching?

1 **A.** I think someone has to have the big overview. So any
2 team event, if you think of an orchestra, you have
3 a conductor you've got to have someone who has got the
4 big picture while all the people are, you know, doing
5 their tasks, and so someone can stand back and have an
6 overview and keep an eye on the patient, because -- and
7 I think I've mentioned it and you haven't covered it, in
8 the restraints or struggles or a restraint where it
9 becomes problematic, it's normally in scenarios where
10 the person may be purposefully resisting restraint, but
11 as they become more unwell their struggle against the
12 restraint is to keep alive because, as they get more
13 tired, they need to breathe, so they start struggling
14 more. And you need someone who notices that change,
15 because you could be struggling a bit and people
16 restrain you, but as you get more tired, you need to
17 start breathing and if someone is holding you down, you
18 need to be able to sit up, you know, so we see people at
19 the end of a running race. They need to be able to
20 breathe freely. And these people are getting so
21 exhausted that they start to struggle more, not because
22 they're trying to break free of a restraint, just that
23 they're trying to stay alive.

24 And you've got to have someone who is seeing:
25 actually, this guy doesn't look very well, or this guy

1 is struggling too much, and with prolonged restraint,
2 that, it's that change from someone, and the issue
3 with -- so the issue in a mental health setting, people
4 with vulnerable mental health issues may have an altered
5 sense of what's going on, or fear, or whatever, which
6 just compounds this, and high adrenaline levels,
7 struggling and struggling and struggling uses up all the
8 body's energy, most people, when they go for a run, and
9 their legs and muscles are hurting, then stop and rest
10 and everything gets better, but if you just carry on
11 going and going and going you've run out of fuel, and
12 your body gets very acidic. The normal way to get rid
13 of that acid is breathing more and more and more, and if
14 you can't do that, you get even more acidic, and your
15 heart stops beating. And that's where prolonged
16 restraint leads into this vicious cycle that leads to
17 cardiac arrest.

18 So you do need someone who is (a) cognisant of that
19 and (b) spots things taking a turn for the worse if
20 restraint has gone on a long time.

21 **Q.** We're aware, you reference it in your report and we've
22 heard from other evidence, that the NICE Guidance, the
23 NICE guideline recommends the need for ILS-trained staff
24 in settings where restraint may be used.

25 In terms of -- you talk about somebody spotting the

1 deterioration, in terms of the need for immediate
2 response, you may or may not be able to help us, at what
3 stage is that access or immediate access going to be
4 required to an ILS member of staff, trained member of
5 staff?

6 **A.** Well, I think for me it should be relatively early
7 during the restraint process, as opposed to after the --
8 because deterioration is often everything is fine, and
9 then the deterioration becomes very rapid, people tend
10 to fall off a cliff edge sort of thing, in terms of
11 their downhill things. And the reason I say this is
12 that -- and I get sent lots of videos by police force
13 and some people in restraint, the person often goes
14 quite quiet and people often take that as: ah, they've
15 calmed down, but actually they've become unconscious and
16 stopped breathing -- and, you know, and they're
17 deteriorating and that's why you do needed someone who
18 has got those ABCDE skills and these are the people
19 where -- people often say, "Well, we can't put the
20 monitoring on because the guy is struggling" but once
21 they've become in that state you can put the monitoring
22 on normally and you can put on a pulse oximeter and say,
23 oh look, the oxygen levels are low, they need oxygen, or
24 they feel really hot or you can measure their blood
25 pressure and it's very low or their heart rate is very

1 quick.

2 **Q.** There's an added obvious, I say, complication, that's
3 probably not the right word, but a potentially added
4 issue which you deal with at 4.60, which is that rapid
5 tranquilisation is frequently given either during or
6 shortly after restraint, and you say --

7 **A.** Yeah.

8 **Q.** -- that in patients who have severe metabolic acidosis,
9 and relying on a rapid respiratory rate to compensate --
10 that breathing that you've described --

11 **A.** Yeah.

12 **Q.** -- the sedation can be dangerous as it may suppress the
13 breathing and prevent any respiratory compensation and
14 worsen deterioration, and therefore sedation requires
15 greater caution and close observation.

16 **A.** Yes, in that scenario, because you're relying on your
17 breathing to regulate this acid, so the way you get rid
18 of acid from your body quickly is breathe faster, and
19 that blows CO2 out, so if you're very acidic, and
20 I think there is some semantics there. So tranquilising
21 someone is calming them, but all the tranquillisers, if
22 you give enough of them will sedate them and make people
23 sleepy and stuff like that, and if you -- and people --
24 if you give more than needed, you are getting into that
25 sedating, depressing the breathing risk. And so often,

1 it can paradoxically make the acid levels worse, and so
2 that's why people who have sedation or tranquilisation
3 that can progress to sleepiness in those settings do
4 need to be closely watched.

5 And I think most of the time people do it and it's
6 okay, but you've got to be able to pick up the occasions
7 where it doesn't go well, and the person does
8 deteriorate.

9 **Q.** Thank you.

10 That's all I am going to ask you about special
11 circumstances. I'm going to move now to some questions
12 around training and you set out your views and some
13 opinions on training beginning at paragraph 10 -- sorry,
14 page 10 of your report. And can I ask you to pick up,
15 please, at paragraph 2.10(a) where you deal with the
16 various types of training.

17 So beginning with -- we've heard a little bit about
18 it already and we've talked about the spectrum. BLS
19 training, this is, as I say, the last sentence on
20 page 10, you say:

21 "Basic life support training is provided at local
22 level, covers chest compressions, basic airway and
23 rescue breathing and use of an AED."

24 **A.** That's correct. But basic life support training varies
25 according to who you're training. So for a layperson it

1 may just be compression-only CPR and an AED. For
2 clinical staff, it tends to be a bit more.

3 **Q.** Moving on to the other end of the spectrum which is
4 paragraph 2.10(d) on page 11 you say:

5 "ALS level courses are primarily aimed at
6 individuals who are leading resuscitation teams or are
7 involved in treating actively ill patients and/or
8 cardiac arrest on a frequent basis."

9 **A.** That's correct. And that means the people doing that,
10 because they're doing it as part of their day job they
11 just need the course to (a) get their dose of knowledge,
12 they do it as a day job and then they may refresh
13 every -- in ALS every three or four years just because
14 the guidelines may have changed, but all the skills and
15 components that you need to do the resuscitation,
16 because you're doing them all the time, you already know
17 you can do them it's just that you need to know what the
18 correct -- what the latest and best way of giving
19 them is.

20 **Q.** You then move on at (e), and you've already given
21 evidence about this so we can probably deal with some of
22 this quite quickly, that ILS, immediate life support, is
23 the training that you say fills the gap, and you've
24 already told us about it coming into place in the late
25 nineties and you piloting it in Bristol and so on and so

1 forth and you summarise it by saying:

2 "It was designed for clinical staff to recognise and
3 treat acutely ill patients before cardiac arrest using
4 an ABCDE approach, start treatments if cardiac arrest
5 occurred including chest compressions, airway
6 interventions, and defibrillation, and depending on the
7 setting and the staff, giving adrenaline and fluids and
8 other specific treatments. These interventions, when
9 delivered early, give the best chance of survival and
10 good recovery."

11 So just pausing, it's the interventions taught on
12 the Immediate Life Support course you say give the best
13 chance of survival and good recovery.

14 **A.** Yeah, because the interventions are time sensitive. So
15 doing those same interventions at minute 3, 4, 5, 6 --
16 every minute, they become less effective.

17 **Q.** Do you consider that ILS training could or should be
18 adjusted specifically for mental health inpatient
19 settings?

20 **A.** Yes, and the course, when I set it up, had this thing
21 called targeted training -- it actually had a session
22 called targeted training and I think it still does, or
23 you can now use scenarios specific for mental health
24 settings.

25 **Q.** I don't want to interrupt you but I think you're aware

1 that we heard evidence from Mr Benson Clarke that
2 certainly the RCUK ILS course has these bolt-ons --
3 that's my word I think, not his, which are those
4 simulations.

5 **A.** Yes, so the core stuff is the same for everybody but
6 then you get some stuff that's very specific -- you
7 know, so if you're a dentist you'd want to know dental
8 stuff. If you work in a mental health setting, you'd
9 focus it on what you're going to see in your setting.

10 **Q.** Do you pull this all together, and it's particularly,
11 I think, the evidence you've given for the morning, at
12 your 2.10(f) on page 11 where you say this:

13 "In mental health inpatient settings, the first
14 staff to reach a deteriorating or collapsed patient
15 require the broadest practical skillset, as they must
16 recognise an emergency, call for help, and start the
17 ABCDE approach or CPR, depending on the patient's
18 condition, until further help arrives."

19 And you make this observation:

20 "Those who arrive first are often healthcare
21 assistants whose resuscitation training may only be at
22 basic life support level. In my opinion, training
23 healthcare assistants in ILS could help address this."

24 **A.** Yes. I say "could", because if an organisation could
25 get lots of other staff trained in ILS to turn up very

1 quickly all the time and guarantee that 24/7, maybe not
2 the case, but if HCAs make up a large proportion of the
3 workforce who are going to be the first responders, it
4 seems logical to me that you'd give them those skills at
5 ILS.

6 **Q.** And you give evidence clearly within your report, I
7 don't need to take you to it, that there's no reason, in
8 your view, why healthcare assistants could not receive
9 that training?

10 **A.** No, I don't think -- I think I may have taught this room
11 quite a lot of the content already this morning. I've
12 just not done the skill stations.

13 **Q.** No, and I think we're aware, we've heard evidence that
14 it is, it's taught in non-clinical settings.

15 **A.** Yes, lots of -- so it's primarily aimed for clinical
16 staff in clinical settings but you've got to remember
17 these HCAs are doing clinical work. They often take the
18 observations on patients, do the blood pressure, they
19 often, I suspect, they're the group who check the grab
20 bags and all the kit, so they know where everything is
21 in the bag and so on. So it's -- I think -- I think it
22 would be unfair on that group to say they're not capable
23 of it because when you do skills training it's not
24 normally your level of education but it's your
25 psychomotor skills, you know, it would be like the same

1 as teaching someone to bake a cake, you know. It's
2 a technical skill. And some people have the aptitude
3 and some people don't.

4 And I think their grade doesn't necessarily depend
5 on achieving and passing the training and when HCAs do
6 it, the data we've got show they tend to do very well on
7 the course.

8 **Q.** From what you're saying in terms of staffing, you're not
9 suggesting, as I understand it, that it should be
10 identified necessarily as mandatory for HCAs, it's
11 dependent on local needs and circumstances?

12 **A.** Yes, and it depends on the service. Because over time,
13 in a lot of clinical settings, I think the skill mix has
14 gone towards fewer registered staff, and more
15 non-registered staff doing clinical patient-facing
16 roles, and I think I quote a report for mental health
17 settings in my paper -- in my report somewhere. But if
18 those are the people who are turning up first, they need
19 to have that skillset. And whether they're registered
20 or non-registered shouldn't matter, because it's the
21 patient's condition that determines the care that they
22 need.

23 **Q.** So your evidence, if I -- again, tell me if I've
24 misunderstood it -- is that the requirement really
25 should remain role specific and a matter of professional

1 judgement, and as you say, local risk assessment?

2 **A.** Yes, yes.

3 **Q.** Do these people need these skills in our organisation?

4 **A.** Yeah, so 24/7 immediate availability of an ILS-trained

5 person.

6 **Q.** Whomever that may be.

7 **A.** Yes.

8 **Q.** And I think you use, you say, within a minute?

9 **A.** Yeah, and I say within a minute or so I can't remember

10 my exact words.

11 **Q.** I think you say "within a minute" but I think, do you

12 agree, you've pointed out immediate --

13 **A.** Yes.

14 **Q.** -- should be given but it's ordinary meaning?

15 **A.** Yeah, I think the "I" in immediate stands for immediate.

16 You know, the "I" in ILS stands for immediate. Yes.

17 **Q.** Yes, the clue is in the title, all right.

18 A slightly separate question but again on the

19 question of training. You explain in your report -- and

20 for those following it and if you want it, it's page 12,

21 I think, paragraph 2.10(g). The -- this is again about

22 the Immediate Life Support course -- this is in fact

23 about the certificate, it provides -- the course

24 provides a certificate which lasts a year and has a year

25 period of grace, and the duration is pragmatic and what

1 is actually feasible -- evidence shows that for those
2 not regularly using their resuscitation skills, the
3 decay in knowledge and learning is much earlier. And
4 I think that's not just resuscitation skills it's skills
5 generally?

6 **A.** If you don't do anything very often, even though you've
7 learnt to do it, your skills and knowledge rapidly fall
8 off.

9 **Q.** The Inquiry has received evidence from --

10 **THE CHAIR:** Sorry, can I just interrupt?

11 **MS HARRIS:** Yes, of course.

12 **THE CHAIR:** And at the risk of getting you to state the
13 obvious, that can happen to anybody, their skills fall
14 off, whatever grade of clinician or non-clinician they
15 might be?

16 **A.** Yes, that's correct.

17 **MS HARRIS:** The Inquiry has heard evidence or received
18 evidence in fact from staff at a different trust in East
19 London that suggest -- and in fact I think other members
20 of staff would suggest or would appreciate ILS training
21 being delivered twice a year in mental health inpatient
22 settings due to the relative infrequency of medical
23 emergencies.

24 What would you say about that?

25 **A.** I think clearly as the person who started the course, I

1 want people to get it as often as possible, but it has
2 to be pragmatic because these people -- people have to
3 leave their clinical workplace, and you've got to
4 remember, clinical staff aren't like football teams
5 where they train Monday to Friday, and have a game on
6 a Saturday for one and a half hours. They've got --
7 staff have multiple roles. So clearly, me being
8 a resuscitation person, I want people doing training
9 regularly, but I think there has to be a proportionate
10 and balanced approach, and that's why the RCUK says
11 a year and gives this period of grace, and then
12 individual organisations then have to work out how they
13 top that training up and it could be that just by having
14 staggered training means that at any one time by random
15 there could be people who have trained three months ago,
16 six months ago, nine months ago, a year ago. You
17 know -- and so the actual health and organisation
18 setting, that's where these things like doing mock
19 drills or having mini updates that just top up a bit of
20 knowledge every now and again, manage that.

21 **Q.** You have just mentioned drills. Can I in fact ask you
22 a question about that. I don't need to take you to it,
23 but you set out the RCUK Standards in relation to drills
24 and simulation training and the benefits of that, it's
25 at your page 19, if you want to go to it. That's, as

1 I say, just the Standards.

2 In relation to drills, which you've said obviously
3 are of benefit and important, do you consider in
4 a health setting that an auditable and inspectable
5 mechanism should be in place to ensure that those drills
6 are carried out?

7 **A.** That would be good, yes.

8 **Q.** And a similar question, but leading from that, do you
9 think there should be an auditable record that enables
10 healthcare providers to check that agency or temporary
11 staff coming in have sufficient familiarity with the
12 emergency equipment and its location and the procedures?

13 **A.** Yes, I think that should be done as a routine if someone
14 is coming to an unfamiliar setting that they don't work
15 in normally.

16 **Q.** Having referred, then, to the Standards, you have said
17 within your report at various stages that sometimes, or
18 intentionally, these Standards are aspirational in
19 certain areas. And we've looked at the Standards and we
20 know that there are three categories: there are "must"
21 and "should" and "recommends" and if something is
22 recommended that's the aspirational aspect; is that
23 right?

24 **A.** Yes, it is, but I think there may only be about six or
25 seven in the whole Standards.

1 **Q.** What "recommends"?

2 **A.** I wrote -- I've written them down in my report
3 somewhere.

4 **Q.** Yes, can I ask this as a matter of principle: if
5 a healthcare provider is being criticised or there is
6 a particular criticism being levelled at a healthcare
7 provider, because they've not met a particular element
8 of the Standards, should any criticism take into account
9 whether the element that is being criticised or
10 considered is obligatory, normal practice, or best
11 practice?

12 **A.** I think most of the things in the RCUK Standards what
13 we've said are routine, usual practice. So when we
14 wrote these we did do a consultation and quite a lot of
15 trainers and some mental health settings did reply. And
16 they've been like that since 2013 or 2014 and updated in
17 2020 without -- people aren't complaining about them.
18 Whether they're following them or not, I don't know,
19 because that -- because there's one thing writing
20 a policy, but there's another thing implementing it and
21 delivering it.

22 So if you're doing a desktop exercise where you just
23 read the policy, there may be a lot of people following
24 them.

25 **Q.** A slightly separate question again, but as you know, we

1 have questions that are of particular interest to
2 different core participants.

3 **A.** Sure.

4 **Q.** Your report considers the geographical location of
5 mental health inpatient units, and the benefits or
6 otherwise of co-location with acute settings such as
7 that you might have a crash team or Resuscitation Team
8 available, as opposed to being, in effect, an
9 out-of-hospital consideration because you're having to
10 phone --

11 **A.** Sure.

12 **Q.** -- the ambulance. Are you able to help us, what types
13 of systems for ambulance access to mental health
14 inpatient wards work well, in your view?

15 **A.** I don't think I would have any better opinion on getting
16 someone to be able to park their ambulance and get to
17 the patient quickly than anybody else. I think, you
18 know, having someone waiting at the door and making sure
19 all the doors are open so the ambulance crew can get in
20 and then go back and get any kit that they may have
21 forgotten, and having the person in a room with space
22 around them.

23 **Q.** What you do make clear, however, in your report, is that
24 it is important that there are systems in place to
25 ensure that easy --

1 **A.** Yeah.

2 **Q.** -- calling of the emergency services and the access, and
3 that's something you deal with --

4 **A.** Yes.

5 **Q.** -- in terms of --

6 **A.** Yes, so if you dial 999, the person handling the call,
7 the ambulance -- they aren't a clinician, per se;
8 they're just working off a script and they need to know
9 where the person is. So you've got to know exactly the
10 postcode and exactly where you are, which I think is
11 challenging for some staff, yeah, in that if you work in
12 lots of different hospitals or wards. You've got to
13 know where the ambulance has got to come to, and then
14 you've got to then be able to provide what's happening.

15 So if someone has told you to go to the office and
16 ring 999, the person will want to know who the person
17 is, and are they breathing. So if you're in a different
18 room to the patient, that becomes problematic.

19 And unless you tick all the boxes, you won't get the
20 rapid category 1 response, and the call handler is very
21 didactic, they work down their script and you can't veer
22 off it. I had to ring 999 the other day because I saw
23 a cardiac arrest and I was there with a lot of
24 colleagues and we were doing everything already like the
25 CPR, but the guy before he got the ambulance, he still

1 made me go through, "Is he on his back? Is he
2 breathing? Is someone doing chest compressions? Is
3 someone doing an AED?"

4 We'd already done all that, but it took a few -- and
5 we had to give the exact location and everything.

6 So the person doing the call has to have the
7 wherewithal to do that, which can be challenging if
8 you're not with the patient. And I think the solution
9 for that is having a phone you can -- a cordless phone,
10 in effect, where you can walk close to the patient while
11 you're on the phone.

12 Q. So you deal with, as I say, some of this in your report.

13 A. Yeah.

14 Q. But can I take two things and you tell me if I've
15 misunderstood the position.

16 A. Sure.

17 Q. Number 1, there needs to be clear systems and
18 arrangements in place on a unit --

19 A. Yeah.

20 Q. -- to call help and to give access to the help?

21 A. Sure.

22 Q. Is that right?

23 A. That is correct.

24 Q. And the second thing is the staff must be familiar and
25 aware of what those arrangements are?

1 **A.** Yes, that is correct. So there's a person collapsed, so
2 there has to be a system to raise the alarm for the
3 staff who work in the unit both on a ward level and if
4 you're relying on people coming from somewhere else, so
5 that's the internal thing, and that could be a beeper,
6 an alarm, an alarm on a wall, or a shout for help and
7 someone then hits an alarm, and then there has to be
8 a mechanism of getting an ambulance there as quickly as
9 possible. And the ambulance crew have to have somewhere
10 to park and have to be able to know which door to go
11 into to get to the patient as quickly as possible which,
12 if you've visited a lot of hospitals, isn't often
13 straightforward.

14 **Q.** One last question, I think, before we take a break, and
15 it's around data. In your report -- I can take you to
16 it if you want to see it, I think it's at page 68 --
17 I will check my reference. Maybe I'm wrong about that.
18 No, it is. It's 68 at paragraph 5.2 -- where you, in
19 your summary, you explain that:

20 "There's no dedicated national dataset which
21 captures incidents of cardiac arrest specifically on
22 mental health wards."

23 **A.** Yeah.

24 **Q.** "The existing national audits, NCAA and OHCAO, will
25 include some of these cases but do not identify them

1 separately. A linked dataset is feasible with
2 appropriate funding and permissions, but doesn't
3 currently exist."

4 Just by way of background, I think you're aware that
5 the Inquiry has some information from to OHCAO about the
6 data they collect. Can I ask you this: in your view,
7 would data on incidents of cardiac arrest, specifically
8 on mental health wards, be useful?

9 **A.** Yes, it would. I'll just do it -- my conflict of
10 interest: I chair the steering group for OHCAO, and I'm
11 on the committee for NCAA, and I do know we don't
12 collect the data, and I think some of it is about
13 permissions. You can only collect a certain amount of
14 data.

15 **Q.** Yes.

16 **A.** And so most of the data we collect, the bit you're
17 interested in is in a bit of a black box. All we know
18 is that the ambulance -- and these are the rhythms, and
19 this is the treatment they gave, and this is what
20 happened. Exactly what happened to the patient isn't
21 necessarily -- you know, all it is is they're in a ward
22 or they're not, you know, and so on.

23 You know, so that's why the data is -- you can't
24 just go into that database and go "Give me all the
25 cardiac arrests in mental health settings."

1 **Q.** So the question: would it be helpful, do you think, to
2 --

3 **A.** Yes, it would be, to actually work out what the
4 magnitude of the issue was. And it may then help
5 identify solutions. It may also -- and the OHCOA
6 registry and the NCAA registry both have this thing
7 where they identify outliers. So if your data is
8 showing that you're a massive outlier compared to
9 everywhere else, it -- you know, the hospital gets
10 a letter. And that there could be an outlier for very
11 good reasons, like they've got collected the data very
12 well, or there could be some solutions that, actually,
13 this needs to be looked into in more detail locally, or
14 something.

15 **Q.** And lastly this: does the absence of that kind of
16 national dataset in respect of cardiac arrest on mental
17 health wards affect your ability to analyse and provide
18 guidance on the subject?

19 **A.** It does and it doesn't. I think having -- knowing that
20 knowledge would be able to lead to tweaks in, say, the
21 Standards document. You know, if you knew that in
22 a certain setting, or type of setting, something happens
23 more commonly, you would then say: "In these settings it
24 would do X or Y", based on that information.

25 **MS HARRIS:** Thank you.

1 Chair, that brings me to the end of my questions on
2 part 1 of Professor Soar's report. First, do you have
3 any questions at this stage?

4 **THE CHAIR:** I don't have any further questions.

5 **MS HARRIS:** Secondly, would that be a convenient moment to
6 take a lunch break for about 45 minutes?

7 **THE CHAIR:** 45 minutes, thank you. 45 minutes.

8 **THE WITNESS:** Thank you.

9 **(12.52 pm)**

10 **(The Short Adjournment)**

11 **(1.37 pm)**

12 **(Proceedings delayed)**

13 **(1.47 pm)**

14 **THE CHAIR:** Ms Harris.

15 **MS HARRIS:** Thank you, Chair.

16 Professor Soar, we're going to move now to part 2 of
17 your report so if it's easier for you, please put part 1
18 away because I don't think we'll be going back to it,
19 although there may be reasons for you to do so, and open
20 up, please, part 2, if you have it.

21 You start part 2 of your report by explaining as a
22 matter of principle that for healthcare organisations
23 it's the translation and the implementation of policy
24 and procedure into delivery of safe and effective
25 patient care is what matters.

1 **A.** Yes, that's correct.

2 **Q.** And that's because you were asked to look at various
3 documentation and policies and procedures and consider
4 them against guidelines, and you step back and say,
5 whatever it is, it's how it's delivered that's the
6 issue.

7 **A.** Yes, that's correct.

8 **Q.** And if I summarise the subheadings or the subparagraphs
9 that you have there, there are four options, you say,
10 for implementation. I'm not going to read them all out.
11 This is paragraph 1.7. At (a) it's "System focused and
12 engineered solutions such as the removal of ligature
13 points" because system focused and engineered solutions
14 don't rely on the conscious effort by staff to implement
15 and work best?

16 **A.** Yes, that's correct. Anything that's been built to work
17 in a certain way like switching on a light switch is
18 a lot easier than lighting a candle and doing a fire
19 that you might set the building -- things that are
20 engineered to work as they should work best.

21 **Q.** Then another option for implementation is the
22 standardisation and simplification of structures and
23 process such as having the same brand of equipment on
24 every ward which makes it easier for staff to be working
25 on different wards, if required.

1 **A.** Yes, so having standardised kit in the same place, the
2 same kit, and the way things are done means if you work
3 on another ward, things will be in the same place, same
4 way.

5 **Q.** Yes, it's not just the same equipment; it's geographical
6 location on the ward in consistency across --

7 **A.** Yes.

8 **Q.** At 3 you say: the use of checklists and prompts for
9 people to follow.

10 **A.** Yes, so anything that helps you remember to do the right
11 thing, is helpful. So everything I do in an emergency,
12 we have a checklist, and we do use it. And if you get
13 used to using them, you use them more, and so if --
14 like, the trauma team I work in, we have a scribe who
15 has the checklist and he'll go "Have we forgotten
16 anything?" And he'll go "We haven't done this yet"
17 because he's just reading it. So anything that helps
18 you deliver the treatment in a timely manner, you know,
19 is not cheating, because some people think they have to
20 remember everything.

21 **Q.** In fact you go on to say at the last bullet point that
22 asking staff themselves to be more vigilant or to work
23 harder or to be more careful, interventions you say that
24 rely on memory are the least effective and most prone to
25 failure?

1 **A.** Yes, because humans are prone to error, and a common
2 response to every time something goes wrong is getting
3 people to do more training and not trying to solve the
4 underlying issues.

5 **Q.** So your evidence in summary is that an implementation
6 process must be designed to avoid, as far as possible,
7 reliance on staff to remember what to do, particularly
8 in a stressful situation?

9 **A.** Yes, so the right way to do things is always the easiest
10 way or, you know, so you don't go off course.

11 **Q.** In the area of resuscitation where individual staff
12 members will be required to call on their own skills to
13 respond to an emergency, do you, therefore, consider or
14 can we take this from your evidence this morning: that
15 those staff need to be, first of all, trained on the
16 skills that they will need in that response?

17 **A.** Yes, that's correct.

18 **Q.** But in addition to that, receiving sufficient refresher
19 or simulation or top-up training between the annual
20 mandatory training to ensure that they practise the
21 skills and are best prepared in an emergency?

22 **A.** Yes, and so, yes, drills and skills. However, that's
23 delivered.

24 **Q.** In respect of the skills that are required of clinical
25 staff on a mental health inpatient unit when responding

1 to a medical emergency, you've given your views of what
2 is required and what is of most importance, but can we
3 take this opportunity, please, to look at the Quality
4 Standards and can I ask, please, that RSCUK022529 is put
5 up.

6 Professor Soar, don't worry, it will come up on the
7 screen in front of you.

8 **A.** Okay.

9 **Q.** I think we need to go to page 10, please. And
10 paragraph 7. If we look at paragraph 7, it says:

11 "According to Resuscitation Council UK guidelines,
12 training must be in place to ensure that clinical staff
13 can undertake cardiopulmonary resuscitation. Training
14 and facilities must ensure that, when cardiorespiratory
15 arrest occurs, all clinical staff can, as a minimum ...
16 recognise: cardiorespiratory arrest ... summon help ...
17 start CPR ... attempt defibrillation, if appropriate,
18 within 3 minutes of collapse using an automated external
19 defibrillator or manual defibrillator."

20 And it goes on to say, in respect of those who will
21 be first on the scene at an emergency -- and please can
22 we go to page 15 --

23 It was the wrong reference, it was page 16, that:

24 "The staff who respond immediately must have the
25 following minimum skills ... competent delivery of CPR

1 ... defibrillation (automated external defibrillation)
2 [the AED] ... basic airway interventions, including
3 bag-mask ventilation and/or supraglottic airway ...
4 skills required for immediate post-resuscitation care."

5 And the following skills are strongly recommended,
6 so this is one of the examples where the first set of
7 bullet points are what are considered obligatory,
8 mandatory, and the following set of bullet points are
9 one of the recommendations.

10 **A.** Yes, that is correct.

11 **Q.** And the recommendations are:

12 "Intravenous cannulation as determined by local
13 policy and clinical need, interosseus access as
14 determined policy and clinical need, and drug
15 administration as determined by local policy and
16 clinical need."

17 As we understand the position, your opinion based on
18 that guidance is that there must be staff immediately
19 available to attend an emergency on a mental health
20 inpatient ward who have those skills, the ones listed at
21 paragraph 4.

22 **A.** That's correct. It's not just my opinion, but the
23 opinion of the Resuscitation Council Standards.

24 **Q.** It is, but your individual opinion having regard to
25 those Standards in addition?

1 **A.** Yes.

2 **Q.** We have heard evidence this week that at EPUT, bag-valve
3 mask ventilation, use of oropharyngeal airways and the
4 insertion of supraglottic airways, iGels, is only taught
5 as part of immediate life support training. That's the
6 evidence.

7 **A.** **(The witness nodded) .**

8 **Q.** And immediate life support training is only given to
9 registered clinical staff.

10 So just following on from that, in order for EPUT to
11 meet the Quality Standards, a registered member of
12 clinical staff who is compliant with their ILS training
13 would need to be or must be available immediately on
14 every shift.

15 **A.** That's correct.

16 **Q.** 24/7?

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

18 **Q.** And if there are not sufficient arrangements to ensure
19 a registered member of staff with ILS training is
20 available on every shift, then arrangements would need
21 to be in place for non-registered staff to have ILS
22 training?

23 **A.** If that --

24 **Q.** If that were to be the position?

25 **A.** Yes. And again, that all needs to be determined

1 locally, you know, who gets what training to ensure that
2 requirement.

3 **Q.** I think --

4 **THE CHAIR:** And to labour the point again about immediate,
5 I think you were telling me that "immediate" is within
6 a minute?

7 **A.** Or so. Which should be achievable.

8 **MS HARRIS:** It should be achievable.

9 **A.** Yes.

10 **Q.** And I think you said quite candidly this morning, if an
11 organisation has a wealth or a good availability of
12 registered staff who are ILS-trained, then that meets
13 the requirement. We're considering a scenario where
14 non-registered staff, either are staffing the wards,
15 making sure that there's the right number of staff on
16 the wards, or are first responders, which I'll come to
17 in a moment.

18 **A.** That's correct. And importantly, this document doesn't
19 differentiate between registered and unregistered staff.

20 **Q.** The Standards?

21 **A.** Yes.

22 **Q.** No, they refer to clinical staff and in fact --

23 **A.** And "clinical staff" is a broad term.

24 **Q.** And I think you're aware that we heard evidence from
25 Mr Benson Clarke himself on behalf of the organisation

1 RCUK in July who was very specific about the fact that
2 it didn't distinguish between staff and it's very much
3 related to the role that was going to be performed
4 rather than the job title?

5 **A.** Sure. So my conflict: I chaired the group that wrote
6 this, but it was a while ago.

7 **THE CHAIR:** You've made that clear to us.

8 **MS HARRIS:** Yes.

9 At paragraph 4.4 of this second report, if you want
10 to go to it, please do, it's page 34, and again, it's
11 where you set out this opinion -- it's the opinion that:

12 "The ILS-trained individual should be available
13 within about the first minute after an emergency is
14 identified."

15 And again, for the record, we heard from Dr Suresh
16 yesterday, who is the Chief Medical Officer at EPUT, and
17 he confirmed that "immediate" should be given its
18 ordinary meaning, like you say, straight away.
19 Immediate.

20 Can I ask this, please. Can you identify or point
21 to any published national Standard, regulatory
22 requirement or professional guidance which requires an
23 ILS-trained responder to reach a patient within one
24 minute of an emergency?

25 **A.** I'm not sure it says a minute, but I'm giving an

1 estimate of up to a minute or about a minute from what
2 I think would be reasonable, because I think "immediate"
3 would almost mean you have to be -- you have to be
4 reasonable with that, what "immediate" means. And we do
5 do it for the equipment list where we say "in the first
6 minute or so" or "first minutes".

7 **Q.** As I understood your evidence this morning, there is
8 also an element of, if you like, working back, having
9 looked through the timings to be attached to some of the
10 physiological changes, it's the period of time to be
11 effective.

12 **A.** Sure. Yeah, I will go back and answer your previous
13 question.

14 **Q.** Yes.

15 **A.** So if you go to the beginning where it says, "Deliver
16 the shock within three minutes".

17 **Q.** Yes.

18 **A.** You can't actually do that unless you arrive within the
19 first minute because you've got to imagine, you've got
20 to start CPR, you've got to take the clothes -- you've
21 got to put the pads on and you've got to get the shock
22 in within three minutes. So in that first three minutes
23 you've got to have someone doing CPR, someone going and
24 getting the kit, someone putting, you know, the pads on
25 and giving the shock. So even though it doesn't say

1 "within a minute", unless you start that within the
2 first minute or so, you're not going to achieve the
3 three minutes.

4 **Q.** I understand.

5 Professor Soar, I'm getting messages, it's me
6 I think mostly, for us to both slow down a little bit
7 for the purpose of the transcriber.

8 **A.** Okay.

9 **Q.** I will try and be much slower as well.

10 You have already given your evidence and emphasised
11 it this morning, that intervention before the cardiac
12 arrest gives a patient the best chance of survival, and
13 you state in your report therefore that training on
14 identifying and managing a deteriorating patient is
15 crucial.

16 **A.** That's correct.

17 **Q.** There is now, and it's referred to in your report,
18 a standardised approach to monitoring deteriorating
19 patients in the NHS, which is the National Early Warning
20 Score tool or sometimes known as NEWS2?

21 **A.** Yes.

22 **Q.** And there's a paediatric equivalent?

23 **A.** Yes.

24 **Q.** Do you consider that all staff who undertake vital sign
25 monitoring and who use the NEWS2 or the PEWS equivalent

1 tools should be provided with mandatory training on
2 those tools?

3 **A.** Yes, if that's -- if the expectation is that they take
4 vital signs, part of that observation is doing the NEWS
5 score. So you need to (a) be able to take the signs,
6 two, put them in the scoring system, and then act on the
7 score.

8 **Q.** And if a healthcare organisation were to introduce
9 checklists or prompts or aide memoires or other tools to
10 assist monitoring deteriorating patients, then the staff
11 would need to be trained on how to use those tools?

12 **A.** That's correct.

13 **Q.** Can I just ask you now about some national guidance
14 documents, just in passing, because you have set out
15 already in your report the various national guidance
16 documents that provide guidance on deteriorating patient
17 management and resuscitation. I'm going to ask you
18 about some of that. Can I just ask you about the CQC
19 Brief Guide. In your report, I can give you, I think,
20 the reference, I think it's page 7. Give me a moment.
21 Yes, page 7 and paragraph 2.5. You have provided your
22 analysis of the CQC Brief Guide Immediate Life Support
23 training for services that may use restrictive
24 interventions.

25 We heard evidence from the CQC yesterday afternoon

1 and they accept that the Brief Guide needs to be amended
2 where it diverges from the national guidance and so in
3 those circumstances I'm not going to ask you about the
4 detail of the differences, but can I take you, please,
5 to your paragraph 2.5(c), there you write as follows:

6 "Importantly, CQC registration is a legal
7 requirement for any health or social care provider in
8 England, including mental health providers. Services
9 are rated based on CQC inspections and ongoing
10 monitoring -- this means that this CQC Brief Guide
11 should carry significant weight in local decision
12 making. The CQC position does mean that mental health
13 organisations do not have a driver to train
14 non-registered staff in ILS. The CQC does emphasise
15 need for 24/7 availability of ILS staff."

16 Can I just ask you this, please: is it correct in
17 your experience -- and you work for one -- that NHS
18 Trusts place significant weight on the CQC Brief Guides?

19 **A.** I think they do. They do. My conflict is I was
20 a specialist advisor to the CQC, and I helped come up
21 with some of this guide, but not this particular one.
22 So I think the people who manage the CQC processes in
23 the hospital do, because they know that's what the
24 assessors are going to come and be assessed against.
25 And often, it's a paper exercise. So implementation is

1 again key.

2 **Q.** Thank you. So it would follow, if reliance is being
3 placed on them in that way, that it's really important
4 that they don't diverge from national standards and
5 guidance?

6 **A.** Yes, I think it is important yes.

7 **Q.** Yes. A slightly separate question, if I may. I'd like
8 to ask you about the NHSE Core Skills Training
9 Framework, and the NG10 Guideline. We know that the
10 Resuscitation Council UK Quality Standards and NICE
11 Guideline don't differentiate between registered and
12 non-registered staff, and the documents are based
13 instead on clinical staff, tasks a staff member would be
14 required to take and we've covered that, I think,
15 several times.

16 Can I ask you to look, please, at page 11 of your
17 second report. Part 2 of your report. I think it's
18 2.13(d). It's towards the bottom of the page, 2.13(d).
19 You tell us that the current NHSE Core Skills Training
20 Framework for statutory mandatory training only requires
21 immediate life support training to be provided to
22 registered healthcare professional expected to
23 participate in a Resuscitation Team; is that right?

24 **A.** That's correct.

25 **Q.** And your opinion expressed in that paragraph is if you

1 look at the CSTF, coupled with the CQC Brief Guide as
2 currently drafted, it would be a valid justification for
3 a healthcare provider only to train registered nurses to
4 ILS level and not non-registered staff?

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

6 **Q.** Does that make sense?

7 Do you agree, then, that an organisation which
8 provides ILS training to registered nurses and doctors
9 but not to non-registered staff, or not routinely to
10 non-registered staff, would be acting consistently with
11 the CQC Brief Guide and the CSTF?

12 **A.** Yes, it would.

13 **Q.** Provided of course that they had arrangements for the
14 available of -- (overspeaking) --

15 **A.** -- (overspeaking) -- 24/7, yes.

16 **Q.** And to be clear again, as you said this morning,
17 adequate arrangements for the availability of
18 ILS-trained staff in your opinion means, as you say,
19 that must be available to respond within the first
20 minute of an emergency.

21 **A.** That's correct.

22 **Q.** On a slightly separate note, you are aware, and you've
23 addressed it in your report, that the CSTF is due to be
24 replaced by a national programme with a new
25 competency-based framework, and you have reviewed the

1 evidence provided to the Inquiry by NHS England
2 including a further recent statement from Dr Dawn
3 Adamson?

4 **A.** That's correct.

5 **Q.** And you're also aware, in summary form, of some of the
6 evidence she gave to the Inquiry on I think it was
7 Tuesday afternoon when she gave oral evidence.

8 **A.** Yes, that is correct.

9 **Q.** Just before I come to one or two of the points that she
10 raised in her evidence, at paragraph 2.24 of your second
11 report or part 2, I think that is paragraph 17 --
12 apologies to jump around, it is paragraph -- page 17.
13 Do you have that?

14 **A.** I have it, thank you.

15 **Q.** You state, having reviewed the new proposals, that you
16 have "concerns that the basic level for most staff,
17 including in mental health settings, is probably set
18 lower at present in the new proposal ... than" --

19 **A.** Lower than --

20 **THE CHAIR:** Lower than.

21 **MS HARRIS:** Lower than, sorry. Lower than at present.

22 **A.** Yes, so my concern is that it's almost going back to how
23 it was in the 2000s, where you've got the two extremes
24 and the gap in between.

25 **Q.** In fact, as you say, at your 2.27, a little bit further

1 down the page, you explain it's not clear how the new
2 framework will address guidance such as the need for
3 ILS-trained staff for settings using tranquilisation or
4 restraint?

5 **A.** Yes, so the documents that were shared with me through
6 the Inquiry, I think they're still going through
7 a process. So whether that's what comes out in the end
8 or not, I don't know.

9 **Q.** I understand, but that was your observation having seen
10 what you've seen so far?

11 **A.** So far, yes.

12 **Q.** In terms of evidence, we heard evidence on Tuesday of
13 this week from Mr Simons, whose statement you had seen,
14 and from Dr Adamson, and Dr Adamson's evidence was that
15 under the new framework, non-registered healthcare
16 assistants would receive basic life support training as
17 well as what she described as mental health care
18 immediate response. And her evidence was that the
19 training would mean that they could deal with what
20 they're faced with, whether it be ligature self-harm,
21 they should be able to recognise cardiac arrest and
22 summon help, start basic life support, and, where
23 appropriate, apply a defibrillator. That was her
24 evidence in summary.

25 In respect of a ligature event, by way of example,

1 you have already given evidence that immediate
2 interventions need to include delivery of high-quality
3 chest compressions and oxygen.

4 **A.** That's correct.

5 **Q.** So is it your view that training to deal with a ligature
6 self-harm must include airway management techniques,
7 including two-person bag-valve mask ventilation?

8 **A.** So airway and breathing techniques, and that's because
9 a ligature is a secondary cardiac arrest caused by
10 a lack of oxygen.

11 **Q.** And also because for patients who survive ligature
12 events, when the patient is discovered and they're not
13 yet in cardiac arrest, have I understood, they may be
14 assisted, as you say, by the delivery of the
15 high-quality chest compressions and the oxygen?

16 **A.** Yes.

17 **Q.** Dr Adamson's view, as given in evidence, was that airway
18 management would be beyond the bounds of a healthcare
19 assistant. Do you agree with that view?

20 **A.** I disagree with that. Based on what I've already said
21 this morning, in that the first person who arrives at
22 a cardiac arrest has the best chance at successful
23 resuscitation and I think the approach you describe is
24 primarily aimed for primary cardiac arrests, this is the
25 person running, you know, at the station who collapses,

1 who you give some chest compressions and a shock to.

2 **Q.** Can I just pause you for a moment. When you say the

3 approach I described, do you mean the approach proposed

4 by Dr Adamson?

5 **A.** Yes, who is a cardiologist and that would fit perfectly

6 with the sorts of patients she probably deals with on

7 a daily basis.

8 **Q.** So those proposals would meet primary cardiac arrest

9 circumstances? Have I understood your --

10 **A.** That's correct.

11 **Q.** All right.

12 Dr Adamson considered that providing HCAs with more

13 advanced training may cause more harm. Do you agree

14 with that?

15 **A.** I'm not sure it's possible to harm someone who is

16 already in cardiac arrest, because in effect, they've

17 died without effective treatment. So someone turning up

18 and attempting to give them oxygen and breathing to help

19 restore their heartbeat, I don't see that as a harmful

20 intervention.

21 **Q.** Because the alternative is the ultimate harm?

22 **A.** Yes.

23 **Q.** Given your evidence that most of secondary cardiac

24 arrests are non-shockable -- sorry, non-shockable

25 rhythm, sorry, to use shorthand, so that they don't

1 respond to defibrillation --

2 **A.** Yes.

3 **Q.** -- and that they require airway skills and ventilation

4 skills, and the fact that the changes being proposed, as

5 you say, appear to be primarily based on primary cardiac

6 arrest, how do you consider those changes may or may not

7 meet the needs of the reality of cardiac arrests in

8 mental health units? Sorry, that was a long question

9 but do you -- could you follow?

10 **A.** Yes, so the list of special circumstances that I've been

11 provided with, the majority of those cause a secondary

12 cardiac arrest and clearly prevention is the key but if

13 you do go into cardiac arrest you need more than just

14 chest compressions and defibrillation; you do need the

15 ABC part of that, so oxygen and ventilation or rescue

16 breathing. And as early as possible.

17 **Q.** A slightly separate question but still on the new

18 proposals, is it your understanding, having seen the

19 documentation, that under the new framework, staff will

20 only require refresher training every three years?

21 **A.** That does seem a long time to me, especially for those

22 staff who have a low exposure to cardiac arrest.

23 **Q.** So as you say, given the low exposure, and the fact that

24 they only deal with emergencies rarely, which is perhaps

25 another way of putting it, in your view, how frequently

1 should refresher training be required to ensure
2 competency?

3 **A.** So I think, if you have that three years, you've got to
4 do something in between to maintain it. And how that's
5 delivered would be determined locally. So if you did an
6 ILS course, you'd do it every year or so or whatever.
7 And so a common way of doing this sort of training, in
8 my hospital a lot of anaesthetic departments, is you do
9 tea trolley training where you have one skill, you turn
10 up, you show you can do two-person bag and mask and you
11 get a cup of tea and a piece of cake and it's in the --
12 so, you know, you can do ultra-short refresher training
13 without -- or you just show you can turn the defib on
14 and follow the prompts. It takes about a minute or two.
15 So you're just doing top-ups all the time and so tea
16 trolley training is very common in anaesthetic ICU
17 departments just because it's very easy to do and people
18 like the free cake or something.

19 **Q.** We heard from Dr Adamson that the rationale for offering
20 update training to staff every three years -- for the
21 three-year figure, is that the RCUK guidance changes
22 roughly every three to five years.

23 **A.** Well, it's every five years.

24 **Q.** So firstly, that, I suppose, answers the question. But
25 is this -- would that be a good basis in any event for

1 setting frequency of training?

2 **A.** I think for someone like myself, who does the tasks all
3 the time and just needs to be up to date with the latest
4 guidelines, it might work. So that's why the ALS course
5 says every four years with a year's grace so every four
6 or so -- I think it's every four years. And whereas if
7 you're in one of these low exposure settings, you do
8 need more training because you're not practising those
9 skills in between the training.

10 **Q.** In terms of training, and we looked at the Standards, do
11 you consider that the Quality Standards minimum skill
12 requirements for a first responder, the ones we looked
13 at, the competent delivery of CPR, defibrillation, AED,
14 basic airway interventions, including bag-mask
15 ventilation and supraglottic airway, and then skills
16 required for immediate post-resuscitation care, do you
17 consider those skills would provide staff with
18 sufficient skill to manage the immediate intervention --
19 the immediate intervention needed to respond to the
20 majority, if not all, of the type of trigger events that
21 may occur on a mental health inpatient ward?

22 **A.** I'd say a large proportion. And so it would be the
23 majority. I don't know whether that's 70%, 80%, 65%.

24 **Q.** But those skills would equip a first responder to be
25 able to deal with a significant number of situations?

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

2 **THE CHAIR:** Would you also consider that they need to have
3 some element of what I understand is the leadership
4 training, in the sense that somebody has got to go and
5 get the equipment, haven't they, given that the first
6 responder will not be carrying around the airways
7 equipment? So they need to have the confidence to do
8 that.

9 **A.** Yes, so one of the things about lone training is you
10 don't get those team skills. So you do have to have
11 that, you know, doing simulations and scenarios. So
12 someone allocates "I'll be in charge" and stands back
13 while the other people are doing the stuff. But when
14 you first turn up, if you're on your own or there's only
15 two of you, you just have to get on with it. And as you
16 get more people arrive, someone needs to take the
17 leadership role.

18 **THE CHAIR:** But it is part of leadership too, isn't it,
19 knowing that you're on your own, you've got to call for
20 help, and you've got to call for someone to bring the
21 equipment.

22 **A.** Yeah, and staff have to be given permission, or as part
23 of their training that they're allowed to get on and do
24 things and I think one of the things where you say,
25 "Well, you're not allowed to do this because your

1 training has run out" or "You're not registered" sort of
2 then creates this "I'm not going to do anything in case
3 I do it wrong" sort of thing.

4 **THE CHAIR:** And my definition of leadership would also be
5 about personal resilience and courage, I think, in the
6 question I'm asking you.

7 **A.** Yeah, but I think some of it is just working in
8 a permissive environment where, if you call for help,
9 and you didn't need it, okay, no worries, as opposed to
10 if you call for help it's a big deal.

11 **THE CHAIR:** Sorry to interrupt.

12 **MS HARRIS:** No. Thank you, Chair.

13 I'm going to move on now to a slightly separate
14 topic which is the views you've expressed about some of
15 the documentation that you have shown and I think we'll
16 be able to deal with this relatively quickly, I'm going
17 to try and summarise the position and I'm going to
18 invite you to tell me if I'm doing it incorrectly.

19 **A.** Okay.

20 **Q.** You've set out your views of the policies and procedures
21 and training documents within your report. And so I'm
22 going to, as I say, summarise them and ask the questions
23 that are of importance to some of the core participants.

24 So can I start with some of the points you make in
25 relation to EPUT's policies. I can give you references

1 as we go through, if you want to see them, but let me
2 see where we get to.

3 You've addressed the following. Firstly, the
4 non-compliance of EPUT's CPR Policy, which is the CLP14,
5 and the TASID policy, which is the RM05, with NICE
6 Guideline NG10.

7 This is, I think, at page 32 and your
8 paragraph 3.40, but let me see if I can summarise it
9 accurately. And your observations are that: no EPUT
10 document that you have reviewed sets out a requirement
11 for an ILS-trained member of staff to be on every shift
12 and available 24/7. No document states a maximum time
13 within which an immediate life support trained member of
14 staff must reach the patient, and RM05 -- that's the
15 TASID policy -- requires no ILS-trained person to be
16 present at a restraint.

17 Have I summarised your observations correctly?

18 **A.** Yes, so this is from my reading of those documents.

19 **Q.** So this is your observation.

20 **A.** Yes, it's my observation.

21 **Q.** Absolutely.

22 You have also observed areas of non-compliance of
23 EPUT's CPR Policy and CG53, the clinical guidelines for
24 the pharmacological management of acutely disturbed
25 behaviour with the RCUK guidelines, including in respect

1 of defibrillation and equipment lists. Have
2 I summarised those observations correctly?

3 **A.** Yes, if you took me to the point where I stated it.

4 **Q.** I think you will find it's page --

5 **A.** Unfortunately I can't match the numbers of every
6 document with exactly what I said.

7 **Q.** Let me see if I can ... that summary was from your
8 page 32, paragraph 3.43.

9 **A.** Yes, it says "within three minutes". And I think the --
10 whoever has written it has mistakenly misinterpreted the
11 three-minute rule. You've got to have it with the
12 patient and being used within three minutes as opposed
13 to arriving within three minutes.

14 **Q.** And you also make an observation in relation to the
15 equipment list there, do you see? That was the other
16 matter I summarised.

17 **A.** You see, I think the CQC, in their documents, said
18 "within three minutes" for the equipment arriving,
19 rather than the RCUK Standard which was "within the
20 first minute" and I also list that the equipment list
21 doesn't include airway adjuncts, supraglottic airway
22 devices, ligature cutter, for that particular scenario,
23 but ...

24 **Q.** I think you have also identified, and again, hopefully
25 I can summarise this accurately: that the CPR Policy

1 doesn't identify who is responsible for assuring
2 continuous 24/7 immediate availability of ILS-trained
3 staff?

4 **A.** Yes, I don't think it says it explicitly in the
5 document. Or if it does, I didn't observe that.

6 **Q.** In relation to, and again, for your reference, and for
7 those following it's page 29, paragraph 3.25:

8 "Failure of EPUT's non-contact observational tool to
9 specify that it should only be used in exceptional
10 circumstances, and the maximum duration for which
11 non-contact observations may substitute a full
12 physiological assessment."

13 **A.** Yes, I think a non-contact assessment is okay when
14 someone looks well, but the reason we do -- you do vital
15 sign assessments on patients is because measuring
16 something allows you to detect problems before you'd
17 notice them by visual observation. The reason why in
18 sick people we use vital signs is that a pulse oximeter
19 will pick up a low oxygen level before you'd notice the
20 person went blue, or a low blood pressure before the
21 patient may become symptomatic, and so on. So as soon
22 as that opportunity exists in someone who is
23 deteriorating or potentially unwell, you do need to
24 pivot to formal vital sign assessment rather than just
25 looking at the person.

1 And when I say that, I accept that there will always
2 be patients who don't let you put blood pressure cuffs
3 on them or put things on their finger to measure oxygen
4 saturation, but, you know, that's common in all
5 healthcare settings. A lot of the patients we look
6 after are very sick, they pull all their monitoring off
7 and -- but it's feasible if attempted.

8 **Q.** But your observation is that this is not expressly
9 identified on the tool?

10 **A.** Yes, that's correct. In that it almost sounds like it's
11 not clear in the tool that actually, this is -- this
12 doesn't work for everybody.

13 **Q.** I understand. You observed that there were multiple
14 different monitoring times being given in the CG52
15 document, which is the clinical guidelines for the
16 pharmacological management of acutely disturbed
17 behaviour, and this is at your paragraph 3.44 on
18 page 32. Can I summarise: three different monitoring
19 frequencies for what appears to be the same clinical
20 situation.

21 **A.** That's correct. So to me it's just a bit complicated to
22 the point where -- whereas one would probably do.

23 **Q.** And we've heard evidence, and I'm sure you would agree
24 that it's very important that this documentation is not
25 complicated but is easy to follow for staff?

1 **A.** Sure.

2 **Q.** Do you agree with that?

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

4 **Q.** You also observed that there'd been a failure to update
5 the CG87 guidelines, which are the clinical guidelines
6 for the use of National Early Warning Score System, the
7 NEWS2 following withdrawal and replacement of NICE
8 Guidance on sepsis. And this at your page 29,
9 paragraph 3.24.

10 **A.** Yeah, I think that's relatively recent, yes.

11 **Q.** And again referring to the CG52 clinical guidelines:
12 a failure to update them to reflect the fact that
13 Enhanced Emergency Skills Training had actually been
14 discontinued back in December 2019. I think you express
15 this opinion on your page 33 at paragraph 3.46.

16 **A.** That's correct.

17 **Q.** You noted that there was still reference to the EES even
18 though it had been stopped some time ago.

19 You considered, and whilst we're on page 33, looking
20 at 3.47, you considered that there was dangerous advice
21 or potentially dangerous advice given in the CG52 in
22 relation to raise a patient's legs to treat
23 a respiratory rate below 10 or oxygen saturation below
24 90% because doing so can make breathing worse.

25 **A.** That's correct. I think it's a mistake on the form, and

1 it may be appropriate for someone who has got a low
2 blood pressure feeling faint that you might lay them
3 down and raise their legs to help get more blood to
4 their head. But if someone is having breathing
5 difficulties, they normally wish to sit up as opposed to
6 lay down and have their legs raised.

7 **Q.** You also observed that CG52 and RM05 had expired -- this
8 is at your -- this is on page 35, at your 4.8(g) -- and
9 needed to be updated.

10 **A.** Yeah, that's correct.

11 **Q.** Professor Soar, one of the criticisms you make of the
12 CPR Policy which we've looked at, you've seen and we've
13 looked at within these proceedings, the CLP14, is that
14 it doesn't contain the express requirement for the
15 ILS-trained staff member to be available 24/7?

16 **A.** That's correct. I've not observed that.

17 **Q.** You haven't seen that. We've heard evidence this week
18 that other documentation and systems, principally EPUT's
19 Safer Staffing Model and ward and rostering managers,
20 ensure that the skill mix on each ward is appropriate
21 and that they should include at the minimum one
22 ILS-trained registered staff member is available on
23 every ward on every shift. So although it's not in the
24 policy, we've heard evidence that EPUT deal with it in
25 a different way.

1 But can I ask you this: if an organisation's
2 emergency response system relies on the presence of at
3 least one ILS-trained registered staff member being
4 available 24/7 on every ward, in your view, should that
5 matter be clearly and expressly stated in the CPR
6 Policy?

7 **A.** It sounds fairly important to me. I think my opinion
8 would be the same as others on that.

9 **Q.** We have also heard as part of its documentation
10 management that EPUT is in the process of creating what
11 they call Policy at a Glance documents for each of its
12 policies. So, for example, we know CLP14 is 41 pages
13 long and has number of appendices and I'm going to ask
14 if we can put up -- I may not have the document
15 reference.

16 Let me deal with it this way -- it's up, thank you
17 very much, there it is.

18 We were provided with this yesterday following
19 Dr Suresh's evidence and you've seen this, I think we
20 sent it to you yesterday. This is the Policy at
21 a Glance that covers the -- EPUT's CPR Policy CLP14.
22 And the question I want to ask you is a simple one: does
23 that Policy at a Glance contain that provision? Does
24 that state that at least one ILS-trained registered
25 staff member must be available on every ward 24/7 to

1 respond immediately?

2 **A.** I don't see it, but my reading is probably as good as
3 anybody else's. So it's not really my --

4 **Q.** No -- should it? Should it include that?

5 **A.** It should do if that's the way people access that
6 knowledge. I'm not sure if this is an interactive thing
7 where you press a button and it pops up or something.
8 It does mention immediate life support but relative to
9 what you're meant to follow in the right side in the
10 fourth column down, fourth bullet point. But that, to
11 me, is provide immediate life support if someone is ill.
12 It doesn't say there needs to be someone capable of
13 doing that.

14 **Q.** You also state that you have not identified any EPUT
15 policy that states a maximum time within which an
16 immediate life support trained individual must reach the
17 patient, and you identify this as an ongoing patient
18 safety risk. In circumstances where there is no
19 national Standards or regulator or professional body
20 that appears to have prescribed a specific response time
21 target for ILS-trained staff, on what basis do you
22 characterise the failure to adopt or have such a target
23 as a patient safety risk?

24 **A.** So, going back to the Standards document, you listed
25 those things that the first responders should do. And

1 that means those skills need to be delivered early and
2 ILS is a course that delivers those, so from the
3 inpatient mental health standards. But I think it could
4 be made more explicit in guidance, if that's what the
5 consensus is.

6 **Q.** With reference to EPUT's Therapeutic and Safe
7 Interventions and De-escalation policy, what I called
8 the TASID policy by shorthand a moment ago, can I ask
9 you to look, please, at your paragraph 3.40 which is
10 page 32.

11 **A.** Yes, I've got it.

12 **Q.** So we know it's referring to the TASID policy because
13 that's at the bottom of the previous page. And you say
14 at 3.40:

15 "This cites NICE NG10 ... but does not contain any
16 reference to the NG10 recommendation for the need for
17 Immediate Life Support ILS-trained staff. This is
18 a concerning gap in the document. In my opinion, it
19 suggests an organisational blind spot regarding what the
20 safe staffing requirements are."

21 And the question is this: when you say this is an
22 organisational blind spot, is that a criticism of the
23 policy drafting and internal consistency rather than
24 evidence that ILS training or capability was absent in
25 practice?

1 **A.** I was thinking, when these documents are being written,
2 it seems to be missing across quite a lot of them.
3 So -- and this is the one where it refers to the
4 specific document that says you're meant to have it.
5 And so, it is, to me, a blind spot, in terms of the
6 document. And the document represents the organisation.

7 **Q.** A slightly separate question, and I'm not going to ask
8 you to go back to your part 1, but you'll recall that in
9 your part 1 report you observed that the most recent
10 RCUK guidelines in 2025 address changes to skin colour
11 during illness and how assessments, for example,
12 cyanosis, pallor, and urticaria should differ in
13 patients with darker skin tones.

14 Can I just ask you about that. You have seen some
15 of EPUT's clinical and training materials provided to
16 the Inquiry which repeatedly rely on changes in skin
17 colour as indications of deterioration. So just by way
18 of example, the BLS training materials identify cyanosis
19 as a physical sign of airway obstruction and respiratory
20 distress, and the rapid tranquilisation guidelines
21 require an assessment of skin colour for cyanosis where
22 pulse oximetry is unavailable, and identify pallor as
23 a non-contact physical observation. So those are within
24 the documentation.

25 I won't put them up but none of the materials

1 explain how pallor, cyanosis, flushing or rashes may
2 present differently or be less readily apparent in
3 patients with darker skin tones.

4 Can I ask you this: in the absence of that
5 additional information or the guidance as to how these
6 present in patients with darker skin tones, do you agree
7 that represents or represented a significant gap in
8 guidance and training provided to staff?

9 **A.** Yes, but I would be slow to be critical of this, because
10 this is in all medical textbooks and training and the
11 Resuscitation Council UK manuals that are currently
12 available address this. So if you did an RCUK ILS
13 course, but they didn't say five years ago, and so on.
14 So it's a relatively recent issue -- it's always been an
15 issue but it's only really been sort of corrected
16 relatively recently in clinical textbooks.

17 So it should be there -- but I suspect most people
18 haven't addressed this in their training, but it is now
19 in training textbooks and manuals and things.

20 **Q.** We heard from Adam Benson Clarke that the RCUK were
21 looking at that potentially in its review of the
22 Standards --

23 **A.** Yes.

24 **Q.** -- that it's ongoing. So if EPUT were to update its
25 documentation to include the new guidance and anything

1 that's additional in the Standards, would the updating
2 of that guidance be sufficient for all staff to be aware
3 and put it into practice, or would additional steps be
4 required?

5 **A.** I think there does probably need to be some training in
6 that there are, you know, in teaching materials,
7 photographs and things of what cyanosis looks like in
8 people with different skin tones.

9 **Q.** We heard evidence from Mr Archer and we've already made
10 reference to the non-contact observation tool and
11 something you -- your observations about that but we've
12 heard evidence from Mr Nicholas Archer who was the
13 resuscitation -- Resuscitation Training Officer and Head
14 of Deteriorating Patient Pathways at EPUT, that their
15 non-contact observations tool and aide memoire relating
16 to assessing a critically unwell patient, both of which
17 rely on the ABCDE approach, you've seen them, in fact,
18 were made available to non-registered clinical staff who
19 had not undertaken ILS training and that they were not
20 provided with any formal training on how to use those
21 tools, nor were they given any formal training on the
22 ABCDE approach.

23 Now, it's covered in non-mandatory refresher
24 training slides, and his evidence was that he provides
25 training to non-registered staff.

1 What is your opinion on the providing of tools that
2 rely on the ABCDE approach to non-registered staff
3 without giving them any formal training on the ABCDE
4 approach?

5 **A.** I think that -- when I do safety teaching, I say that's
6 a 'spray and pray' approach to implementation, as they
7 give the stuff out and hope people use it. So unless
8 you give people guidance and permission on when to use
9 it, it's another bit of paper you've been given.

10 **Q.** Can I move on to the question of training. In respect
11 of training, you have concluded -- and I'm -- this is, I
12 think, page 34, paragraph 4.8 of your report. Let me
13 just check I've got that right.

14 Paragraph 4.8. You say:

15 "I have identified the following areas where
16 I consider there may be ongoing patient safety risk."

17 And they include: rescue breathing is taught in
18 basic training only, as mouth-to-mouth using a face
19 shield, two-person bag-mask ventilation does not appear
20 to be taught to the clinical staff who will be first on
21 scene.

22 Sorry, that's at (d).

23 That there is no assurance that quarterly medical
24 emergency simulations are taking place, that's at (d).

25 That agency staff receive a 15 to 30-minute local

1 induction with a single tick box for medical emergency
2 and it appears that EPUT does not deliver its mandatory
3 training models to agency workers, and, in fact, we saw
4 the local induction medical emergency box yesterday.

5 You've also noted that EPUT's mandatory training
6 policy appears to allow staff to miss mandatory
7 training. That's at paragraph 3.16, which is page 26.

8 **A.** Yes, I noted that. I think it's important to note that
9 there may be legitimate reasons for people to miss
10 training. But the way it's written, it implies that
11 there may be what I would consider non-reasonable
12 reasons to not do it.

13 **Q.** Looking at your 3.18(f), which is at the bottom of 27,
14 you note that there's no guidance for training in
15 resuscitation issues for non-clinical staff based on the
16 Core Skills Training Framework, level 1, basic awareness
17 tier.

18 **A.** That's correct.

19 **Q.** You also noted, this is at page 30 -- sorry to jump
20 around but just trying to draw the strings or threads
21 together, this is page 30, paragraph 3.30 -- that the
22 older lesson plan, one of the lesson plans included
23 a 10-second pulse check in BLS training, despite having
24 been de-emphasised, I think you've told us, about
25 20 years ago?

1 **A.** That's correct. So pulse -- as I said earlier, if you
2 want to start CPR, it's unresponsive, not breathing, or
3 not breathing normally. And the pulse check is only for
4 those people who regularly do pulse checks in critically
5 ill patients, which is relatively few.

6 So it's not ever been part of the triggered start of
7 CPR, and I noted one of the documents I read yesterday
8 saying, well, it was during Covid, and I've gone back to
9 the Covid document and it actually says "Do a pulse
10 check if you're trained to do it", again, which was the
11 same to -- it didn't say everybody should be doing pulse
12 checks during Covid.

13 The primary reason for the Covid document was that
14 when you check for breathing the guidance just said
15 "Don't get too close to the patient".

16 **Q.** Finally, on this topic, if we go down to paragraph 3.34
17 on your page 31 where you deal with the non-mandatory --
18 in-house non-mandatory refresher training, you identify
19 that there's no information in the slides on how to
20 provide rescue breaths whilst awaiting an ILS-trained
21 provider.

22 **A.** That's correct. I've looked at quite a lot of training
23 policies and I can't remember specifically which one
24 that is. But whichever one is numbered ...

25 **Q.** If it helps, if you go just to the bottom of the

1 previous page, it tells you that's the one?

2 **A.** Yeah, sure.

3 **Q.** It is probably easier for me because I'm scrolling on
4 a screen and you're using paper.

5 You disagree, and I think you have dealt with this,
6 but in paragraph 3.4(a) of your report, I don't need to
7 take you to it because you've told us many times, you
8 disagree with Mr Nicholas Archer about whether HCAs are
9 competent to undertake ILS training and you've made it
10 quite clear that in your opinion ILS training is
11 suitable for healthcare assistants.

12 Given your opinion, which is at odds, or given
13 Mr Archer's opinion is at odds with yours, is
14 Mr Archer's view a legitimate professional view and do
15 you accept the approach of organisations and trainers
16 may reasonably differ on the question of whether
17 healthcare assistants are competent or should undertake
18 full ILS courses?

19 **A.** Well, I think ultimately, the organisation has to
20 deliver safe care to the patient, and if that can only
21 be delivered by training an additional group who could
22 be HCAs, it's a good thing to do. And the barriers that
23 have been put up do not -- are not barriers from the
24 data we have that shows these other groups can do ILS.
25 The -- I think it's been put down to lack of knowledge

1 of anatomy and physiology but the only anatomy you need
2 to know is that, you know, these things go in the mouth
3 and behind the tongue and there's a windpipe and a food
4 pipe behind the tongue, sort of thing. And you can get
5 a model that you can just show someone, and they'll go
6 "Oh, that's, you know, interesting" and then get on and
7 learn the skill. I don't think you need high-level
8 anatomy or physiology.

9 The only physiology you need to know is that if you
10 don't get oxygen you die.

11 **Q.** On a slightly different but related note, you observe in
12 your paragraph 3.4(c), which is at the bottom of your
13 page 19, that Nicholas Archer's evidence aligns with
14 your own opinion insofar as healthcare assistants are
15 already involved in clinical tasks, including vital
16 signs observations. And ABCDE skills are addressed on
17 the ILS course, and these skills include vital sign
18 monitoring and using NEWS2 scoring?

19 **A.** Yeah, so I think it's doing -- HCAs often do roles that
20 were traditionally done by registered nurses. So
21 I think those boundaries have got a bit blurred over
22 time. So they are already doing a lot of patient-facing
23 clinical tasks, and assessments, and doing vital signs.
24 So these additional skills would probably be within most
25 people's capabilities.

1 **Q.** So if I understand your evidence, you consider that
2 staff who are already undertaking NEWS2 assessments and
3 monitoring vital signs would have adequate clinical
4 knowledge to undertake ILS training?

5 **A.** Yeah, well, I assume that when they measure the blood
6 pressure they know that's a measure of the heartbeat and
7 the, you know, high blood pressure is bad and low blood
8 pressure is bad, and things -- when they do oxygen
9 levels and a low oxygen level is not good. So I think
10 the staff will have some of that insight already.

11 **Q.** A question in terms of the provision at EPUT. In your
12 report I think you state that training healthcare
13 assistants is the only way of ensuring immediate ILS
14 assistance on the ward 24/7.

15 Did you take into account the fact that EPUT
16 provides ILS training to registered nursing staff
17 working within inpatient services and that registered
18 nurses are ordinarily available on the ward or within
19 the wider service to respond to an emergency? And if
20 so, why do you regard training healthcare assistants as
21 necessary rather than a matter on which reasonable
22 clinicians' opinions may differ?

23 **A.** So I'll clarify. If someone can guarantee a 24/7
24 immediate response from an ILS-trained person, I'm not
25 concerned if they're registered or non-registered. And

1 so if the organisation says they can do it 24/7, you
2 know, and that includes when people have gone on breaks
3 or gone to -- you know, that is a local implementation.
4 I think I'm coming at it from, you know, sitting with
5 the patients and what helps a patient.

6 So however an organisation wants to deliver that,
7 it's up to them, but yeah, if that means they have to
8 train HCAs to deliver that, I don't see any barriers.
9 And so -- and I know from the data, HCAs are doing the
10 ILS course. So are some police officers. So are some
11 soldiers, and a wide range of people are doing the ILS
12 course.

13 **Q.** Again, slightly separate matter. You're critical of the
14 absence of training in two-person bag-mask ventilation
15 in EPUT's basic life support training. Can you point to
16 any national standard, regulatory requirement or
17 professional guidance that requires providers of mental
18 health inpatient services to teach two-person bag-mask
19 ventilation as part of basic life support training?

20 **A.** Well, the thing about basic life support is that
21 what's -- what you teach in your basic life support
22 setting can include those skills and if you look at that
23 first responder thing it says, "Give oxygen and
24 ventilation". So you can teach. There's nothing saying
25 you shouldn't. And this is where, in healthcare

1 settings the basic life support taught to clinical
2 staff, be it HCAs, has to include what's appropriate for
3 that setting.

4 If I was teaching laypeople on the street, I
5 wouldn't teach them to do bagging -- because they
6 wouldn't have one. But they have a bag-mask in their
7 kitbag that arrives and they're just going to ignore it,
8 you know, until someone comes. And yet if they're
9 empowered and trained to use it, they can get on. And
10 I think some of the issues where people get distressed
11 at these events are staff, it's because they're there
12 and they've run out of things to do, and empowering
13 staff and training them to use the kit they've got may
14 be positive both for the patient and the staff.

15 **Q.** Certainly. Benefit to the patient if the staff are
16 confident in using the equipment that is readily
17 available for them.

18 **A.** Yes, and is on their grab bags and having to wait for
19 someone to use it for them.

20 **Q.** Understood.

21 And finally this: you've already given and quite
22 properly acknowledged that there might be very good
23 reasons why a person hasn't done their training when
24 looking at some of the policies. What's your view as to
25 whether staff who have not attended the mandatory

1 training should be allowed to undertake patient-facing
2 work?

3 **A.** I think -- so my opinion is that they should be allowed
4 to carry on working and they should be allowed to carry
5 on using the skills they've got, because you don't
6 suddenly wake up one morning and lose your ability to do
7 a task if you could do it the day before. But they do
8 need that top-up and there does have to be some sort of
9 enforcement. So for me, I'm not allowed to get my
10 appraisal signed off until I've done all the training
11 I'm meant to be doing for my role. And if you don't get
12 your appraisal signed off, you know, that -- so it's
13 part of your professional development, maintaining your
14 clinical practice and so on.

15 So there does need to be some carrot and some stick
16 to that.

17 **Q.** And you wouldn't be preventing those persons from going
18 on to the wards?

19 **A.** I personally wouldn't, because that would mean
20 disrupting the service. It may cause unintentional
21 harm, that if training was disrupted, and, you know,
22 often, you know, if training was disrupted and you then
23 had to use agency staff because all your staff are -- so
24 you've got to balance those things.

25 I'm also worried that, you know, if your training

1 runs out on a set day, you should still be able to use
2 the skills, if you can, because you don't want to be in
3 the scenario where you know what to do but because your
4 training has run out you're not going to do it, even if
5 you're the person there. And so I personally want
6 people to do what they're capable of doing as opposed
7 to -- as opposed to, you know, not doing anything
8 because their training has run out.

9 **MS HARRIS:** Thank you very much, Professor Soar. Those are
10 all the questions I have got at this moment.

11 Chair, do you have any further questions at this
12 time?

13 **THE CHAIR:** No, no further questions.

14 **MS HARRIS:** Chair, you have acceded to an application from
15 two counsel for core participants to ask questions
16 directly of Professor Soar. I think it ties in now with
17 us taking about a 15-minute break anyway because we've
18 been going for some time and we need to make some
19 logistical arrangements for that to happen. So can I
20 ask that we come back at 3.10?

21 **THE CHAIR:** 3.10?

22 **MS HARRIS:** Yes, 3.10. Thank you, Chair.

23 **(2.56 pm)**

24 **(A short break)**

25 **(3.16 pm)**

1 **THE CHAIR:** Ms Sikand.

2 **Questioned by MS SIKAND**

3 **MS SIKAND:** Professor Soar, I ask questions on behalf of
4 a group of bereaved families and a lived experience
5 client. I have just one very limited area I want to
6 explore with you and it relates to rapid
7 tranquillisation.

8 I'm looking at part 1 of your report at the section
9 which is entitled "Medication errors as may occur in
10 rapid tranquillisation", and that begins at
11 paragraph 4.31 at page 51.

12 You touched on sedation with Ms Harris in the
13 context of choking and emergency responses, and at
14 paragraph 4.35, and that's at page 52, you talk about
15 the risk of deterioration following rapid
16 tranquillisation, and you say it's primarily caused by
17 over-sedation, which in turn can cause respiratory
18 depression, the breathing stopping and an asphyxia
19 cardiac arrest.

20 You then set out factors which increase cardiac
21 risk, and at 4.36, which is on the next page, at 53, you
22 say the risk is greatest early after intramuscular
23 administration and that there is therefore a need for
24 continuous or frequent observation through this period
25 due to the risk of respiratory depression or arrhythmia,

1 and you say to do this, monitoring equipment should be
2 used and vital signs charted.

3 Can I just clarify with you: are you talking here
4 about a combination of standard psychiatric observation
5 and physical observation?

6 **A.** Yes, I -- so this would be someone who is sleepy and
7 sedated as opposed to someone who's chilling out and
8 watching TV and so on. So anybody who is sedated would
9 need monitoring if they are sleepy and so on. So it
10 would depend on the doses and combinations given, but
11 anybody who is sleepy, in my opinion, would need
12 monitoring.

13 **Q.** But by monitoring, you don't just mean --

14 **A.** Looking at them.

15 **Q.** -- what we would call standard psychiatric monitoring,
16 you mean monitoring of vital signs; is that correct?

17 **A.** That's correct, and that's ...

18 **Q.** Now, you've already touched on the reason why sedation
19 is dangerous, when you were answering questions in the
20 context of restraint. You told us about acid levels and
21 acidosis, and your evidence earlier in that context
22 was -- and I'm quoting -- "you've got to be able to pick
23 up the occasions where it does not go well, and the
24 person does deteriorate".

25 So picking up on that deterioration point and sorry

1 if this is very obvious, would you expect staff who are
2 carrying out the observations on a patient who has
3 received rapid tranquilisation to be able to identify
4 signs of deterioration specifically related to
5 respiratory depression? You know, for example, you've
6 told us that respiratory depression can have the initial
7 appearance of someone sleeping.

8 **A.** So if you've given someone a drug and they're calm and
9 chatting, that's good, but once they fall asleep and
10 start snoring, that is a sign of sedation and if their
11 breathing slows. So that's where the vital signs
12 monitoring comes in. So monitoring comes from the Latin
13 word "monere" which is to warn, and monitoring, sticking
14 on devices, gives you an earlier warning that something
15 may be remiss before you might notice yourself, and
16 that's why anybody who is very sleepy, drowsy, not easy
17 to arouse, you do need to, in my opinion, move to doing
18 vital sign monitoring and the easiest monitor is to put
19 a pulse oximeter on someone which measures their oxygen
20 level and their pulse and then doing blood pressure
21 observations and managing them using an ABCDE approach,
22 you know, lay someone on their side if they're snoring,
23 and so on.

24 So I think it's not a blanket thing because, as
25 I said, tranquilisation is calming someone down but if

1 you give them too much you might sedate them or make
2 them very sleepy or -- and so on.

3 **Q.** What I'm trying to understand is the person carrying out
4 these observations which could be a mixture of, you
5 know, standard observations and physical observations,
6 do those persons have to have a specific skillset?

7 **A.** Well, I think ILS would cover ABCDE, but those -- giving
8 those drugs isn't taught on these courses. So anybody
9 who is giving drugs to -- that may sedate needs to have
10 knowledge of the effect of the drugs they're giving. If
11 you give a combination, you might get an additional
12 effect. And if the person looks sleepy, drowsy, they
13 need monitoring.

14 **Q.** So just to pin you down a little bit further, if I may,
15 that kind of knowledge is not sufficiently covered by
16 general ILS training?

17 **A.** No.

18 **Q.** Is that what you're saying?

19 **A.** Yes, because the ILS course is the rescue skills, but it
20 doesn't tell you how to give the sedation and what you
21 need to do to make it safe. It will tell you what to do
22 if a person stops breathing or their oxygen saturations
23 are low and everything. But you could -- I think giving
24 sedation or tranquillisation is a separate skillset, but
25 to rescue the complications are ILS-type interventions.

1 **Q.** Thank you. So relatedly, moving to part 2 of your
2 report and EPUT policies. Ms Harris has just touched
3 upon this, but at paragraph 3.42 of your part 2 report
4 at page 32 you look at EPUT's clinical guidelines for
5 the pharmacological management of acutely disturbed
6 behaviour. And it appears to reflect what you have told
7 us about the need for monitoring of vital signs in the
8 crucial early period after rapid tranquilisation.

9 And in the policy, one hour is identified as the
10 minimum period for physical and psychiatric monitoring.

11 **A.** Mm.

12 **Q.** But as you note at your paragraph 3.44, the policy sets
13 out three different monitoring frequencies, and
14 Ms Harris touched upon this with you because you have
15 explained at paragraph 3.45 of your report that in your
16 view, the frequency of observations within that hour
17 should depend on a patient's condition and risk of
18 deterioration, and I know you said in answer to
19 Ms Harris that the way it's set out at the moment is too
20 complicated.

21 Just to follow up on that, is what you are saying
22 therefore is that the policy is just too rigid on this
23 front?

24 **A.** No, I think -- when I looked at it I couldn't quite get
25 my head around what it said, paragraph 10.2 -- I haven't

1 got the policy in front of me now so I just need -- in
2 one part it said, "Do NEWS every 15 minutes for
3 a minimum of 1 hour after IM rapid tranquilisation."
4 Somewhere else it says, "Require observations for
5 alertness every five minutes and other vital signs every
6 ten minutes of the first hour".

7 And somewhere else it says, "Require monitoring
8 every ten minutes of the first hour."

9 So it's three overlapping -- and I think they may
10 have listed them for different drug combinations that
11 are all trying to achieve the same --

12 **Q.** Well, they appear to be in a table.

13 **A.** -- the same outcome. But to me, if a person is sedated,
14 unconscious, the drug combination -- it's the effect
15 you're looking at, not -- of the drug as opposed -- you
16 know, you're looking at if the patient is safe. So
17 there should probably be one simple-to-follow guide for
18 all those, you know, that could be simplified into one
19 guidance. Because if you do NEWS score, you do measure
20 alertness, and in some places it says five minutes and
21 in some places it says ten minutes and in other places
22 it says 15 minutes.

23 And the easiest way to resolve this would just be to
24 have an observation chart that marks out when you do the
25 obs, you just fill in the boxes at those times. So you

1 don't even have to remember this.

2 **Q.** So you're saying that you should just have the same
3 frequency and duration for everybody?

4 **A.** Well, for all these three scenarios could just be merged
5 into one, you know, and have a five-minute -- you know,
6 and if a person's fine after the initial -- you could
7 do, like, five-minute obs for the first 15, 20 minutes,
8 and if they're fine go to every ten minutes and if
9 they're fine go to -- and then your hour's up, sort of
10 thing.

11 **Q.** Understood.

12 **A.** Not that -- I think -- I'm not going to go further
13 because I don't want to design a chart for, you know,
14 without thinking about it longer, but I think this could
15 be simplified. Because you've got to remember, people
16 are giving these sort of -- you know, giving sedation in
17 all sorts of clinical settings and, you know, or
18 tranquilisation, you know, in acute hospitals, mental
19 health, because agitation is relatively common in all
20 sorts of settings and developing a simple tool would be
21 relatively straightforward. And to me it looks like
22 EPUT have got this and someone down the road could have
23 something completely different, and so on. It doesn't
24 look like there's a standardised observation tool.
25 Unless this was cut and pasted from some other tool.

1 **Q.** So are you saying that you would support
2 a recommendation for a more standardised approach to
3 monitoring, whether it's physical or psychiatric,
4 post-rapid tranquilisation?

5 **A.** Yeah, and I think now is a good time because this NICE
6 guideline's up for renewal. I'm not involved in it, but
7 if you go to the website they've got a specialist group
8 who are, as far as I can see, mainly psychiatrists.
9 Yeah. And now would be a good time to maybe lobby NICE
10 to address that.

11 **Q.** I'm sure the Chair is listening.

12 In relation to -- that's about frequency. Do you
13 have a similar view about duration? Because what we
14 have there is a minimum of one hour. How do clinical
15 staff decide whether it should be longer?

16 **A.** Well, if a person is -- recovers to the level where
17 they're drinking, eating, mobilising, and well, I think
18 that means they're okay. And so I'm an intensivist
19 anaesthetist, I do a lot sedation, and
20 tranquilisation -- I always think DREAM: drink, eat,
21 mobilise, home, but in this scenario it would be
22 different. But recovery is a person regaining their --
23 you know, being awake and chatting. So as people move
24 towards that, you would decrease your frequency of vital
25 sign observations.

1 **Q.** All right. So I have one last question, and it's about
2 what happens where a patient has a comorbidity such as
3 sleep apnoea and has received sedation? Does that
4 create one, a heightened risk, and two, should that
5 heightened risk be explicitly reflected in the policy
6 around observation?

7 **A.** I think -- so first of all, patients with sleep apnoea
8 or severe obesity, which often goes with sleep apnoea,
9 do need additional precautions. I think it is quite
10 hard to sedate -- obese patients don't necessarily
11 need -- if you're twice as heavy, you don't need twice
12 the size of dose, and getting dosing right in obese
13 patients is more difficult, because -- and then the
14 effects of the dose in someone with sleep apnoea means
15 that if they're prone to stopping breathing or having
16 pauses when they sleep normally, that risk increases
17 when you're sedated, and it does mean they need greater
18 attention to their airway breathing circulation and
19 vital signs.

20 But again, continuous pulse oximetry would allow you
21 to pick that up because you're monitoring their oxygen
22 levels and most of these patients, if you give them
23 a good shake, they sort of stir up unless they're very
24 deeply sedated.

25 **Q.** But that heightened risk, my question was, sorry to come

1 back to it, should that be explicitly recognised in such
2 a policy?

3 **A.** Yeah, that high-risk groups include, you know, patients
4 with severe obesity, you know, disordered --

5 **Q.** Exactly --

6 **A.** It's difficult -- sleep -- breathing disorders during
7 sleep. So that includes obstructive sleep apnoea and
8 there lots of different ones, yes.

9 **MS SIKAND:** Thank you, Professor. Those are my questions.

10 **THE CHAIR:** Thank you.

11 Who is next?

12 **MR MANT:** It's me, Chair.

13 **Questioned by MR MANT**

14 **MR MANT:** Professor, I ask questions on behalf of another
15 group of bereaved families and lived experience clients.

16 I'm going to ask you questions about five topics,
17 the first one being immediate response to an emergency.

18 Now, you've made very clear that an ILS-trained
19 member of staff must reach the patient within the first
20 minute. Would you agree that it's particularly
21 important that they reach the patient within the first
22 minute in a mental health setting, because most of the
23 cardiac arrests are secondary, and therefore the
24 responder must be ABCDE trained, and it's not sufficient
25 just to be trained in compressions and use of an AED?

1 **A.** That's correct, in terms of improving the chances of
2 survival and recovery, yes.

3 **Q.** Now, in your report, and it's the second report at
4 paragraph 2.13(d), page 11, but you said that it may be
5 justified or could be justified to only train nurses in
6 ILS, as long as there is 24/7 immediate availability of
7 ILS staff.

8 Now, can you just confirm, when you say "as long as"
9 that means that it must always be available 24/7; is
10 that right?

11 **A.** Well, 24/7 to me means always.

12 **Q.** And apologies, just for the sake of clarity. I didn't
13 doubt you would give me that answer.

14 Then just following up on that, it therefore follows
15 that it is not sufficient that there is immediate
16 availability most of the time, and any arrangements, for
17 example, must take into account the fact that a single
18 nurse would sometimes need to take breaks, would need to
19 go to the toilet and such and so forth?

20 **A.** So in my report I specifically say, "24/7, immediately
21 availability of an ILS". And here, I was talking about
22 registered nurses -- so I say "registered nurse when an
23 emergency occurs", and because you can't predict when an
24 emergency will occur, it does have to be always as
25 opposed to leave it to luck and chance.

1 **Q.** Now, I want to explore how this standard is achieved in
2 practice. You've been very clear that you are not
3 a mental health specialist.

4 **A.** Yes.

5 **Q.** But I think it's right, isn't it, that you are an expert
6 in resuscitation and because of that, you've reviewed
7 many cases in mental health settings and you've been an
8 expert in multiple inquests involving mental health
9 patients; is that right?

10 **A.** That's correct. And including some in Essex, yes.

11 **Q.** And so can you assist, and do say if you can't, but can
12 you assist the Inquiry with whether you think it is
13 likely that this standard could be achieved with just
14 one ILS-trained nurse on a ward?

15 **A.** So I think my opinion would be no different to anybody
16 else's opinion on that. All I can say is the things
17 I would say is, well, I assume they'd go for lunch
18 breaks, tea breaks, help with other tasks, and so to me,
19 it would be difficult to achieve with one trained
20 person. But my opinion on that would be no better or
21 worse than anybody else's.

22 **Q.** Can you assist with this: that from your experience of
23 reviewing mental health cases specifically, have you
24 identified any particular recurrent themes that act as
25 impediment to meeting this standard?

1 **A.** Quite a few, and I think some of those have already been
2 addressed by the Inquiry. So the initial ability to
3 call help, get help, the kit arriving, the ambulance
4 being called, people getting into the building, and just
5 delays ... I think -- so my opinion is -- and I've made
6 this clear -- this is a time-sensitive emergency. So
7 any delay in the process diminishes or decreases any
8 chance of survival or benefit from the intervention.
9 So -- and this is why, you know, you've got this first
10 minute or the golden, you know, where everything has to
11 sort of start early.

12 So number 1 is, recognising the emergency and
13 alerting for help. And when I've looked at cases, often
14 people don't carry an alarm system or they have to run
15 and, you know, get help and there's delays in people
16 making the call that this is a cardiac arrest or an
17 emergency. So often, several people turn up and all
18 are -- and no one has made the call that "We need to
19 start CPR, get the grab bag, get the AED on" and alert
20 an ambulance. And doing all those things in parallel.

21 **Q.** That's helpful, and if I can just take you back to the
22 specific question in respect of that one minute, that
23 vital minute, have you identified any specific
24 impediments or recurring themes with an appropriately
25 trained staff member not arriving within the first

1 minute?

2 **A.** In my opinion it's relatively common that -- when you
3 only have one person who knows what they are doing, they
4 end up having to go and get the grab bag or go and get
5 the oxygen, you know, and they can't do all the tasks.
6 And when we talked earlier about the -- someone having
7 to take charge, if you're sort of trying to run the show
8 and you're the only person who can only manage the
9 airway and the only person who can do the defib it gets
10 quite hard because you've got all these people there but
11 they're all already working at their limit. So you do
12 need more people coming with those skills, you know. So
13 the first person may be ILS trained and in theory people
14 could come from elsewhere to make up those numbers but
15 it is a challenge where a lot of people might turn up
16 but they don't have the skillset. And there's only one
17 person who can do all the tasks, but it's not physically
18 possible.

19 **Q.** I'm grateful, and I'm going to come on to the make-up of
20 the response team as my fifth topic. I'm going to move
21 on now, so the second topic is restraint.

22 Now, you said -- this is in your second report at
23 2.16(e), page 14, have you got it?

24 **A.** Yes, I have.

25 **Q.** So you've said that:

1 "... the ILS course is the minimum requirement for
2 staff who deliver or are involved in rapid
3 tranquilisation, physical restraint and seclusion ..."

4 In your evidence before lunch, you were asked about
5 when the person who is ILS-trained should arrive, and
6 you said "early in the process". Those were the precise
7 words.

8 Would you agree with me, though, that ideally, the
9 person that's ILS-trained should be there from the
10 beginning?

11 **A.** Yes, at the start. I will update my previous opinion
12 and say they should be there from the start of the
13 tranquilisation process.

14 **Q.** Would your answer be the same if we're dealing with
15 physical restraint but without the chemical sedation,
16 the rapid tranquilisation?

17 **A.** I mean, again, ideally at the start, but I suspect some
18 of these events start before everybody gets there. So
19 there has to be some level of pragmatism, but within the
20 first minutes or so, as opposed to the tenth minute.

21 **Q.** But doesn't it actually flow that if these events can
22 potentially happen at any stage, that in fact all staff
23 who may be involved in restraint should be ILS-trained
24 so that someone is always there from the start?

25 **A.** I think that would be the ideal scenario.

1 **Q.** So would you support a recommendation, in fact, that all
2 staff involved in restraint are ILS-trained?

3 **A.** I personally would, but I think there needs to be some
4 pragmatism to the -- because I clearly have a bias, I'm
5 into resuscitation. It's a course I helped develop, and
6 I think it's a good course and it would be very useful.
7 So I think "all" may be pushing it a bit. I think there
8 needs to be people readily available, and at least one
9 person from the start. And others available if needed.

10 **Q.** And what is unacceptable would be to have someone
11 ILS-trained somewhere on the ward, but not actually
12 there dealing with the incident?

13 **A.** Yeah, I think practically, though, if you're going to be
14 giving those drugs you've got to be able to manage the
15 consequences of mistakenly giving too much or sedation,
16 per se, or tranquilisation. So the person giving them
17 should have ILS training, in my opinion.

18 **Q.** Yes, that was my second topic. The third topic is then
19 ILS training specifically for healthcare assistants.

20 Now, Professor, you've been very careful to say that
21 local arrangements after a matter for each individual
22 NHS Trust and you wouldn't be prescriptive. But would
23 you agree, at least, that in an ideal world all
24 patient-facing healthcare assistants and other staff
25 should be ILS-trained?

1 **A.** In an ideal world, the more training people have, the
2 better, as long as it allows, you know, it doesn't have
3 a knock-on effect on availability for clinical work.

4 **Q.** Can I then ask you this: is the ILS course particularly
5 expensive or otherwise onerous?

6 **A.** There is a cost, but it's -- the cost is the trainer.
7 The big cost is the trainer and taking those people out
8 of clinical work, because it's done in clinical time.
9 And so that's where the cost is. And then the fixed
10 cost is like having the mannequins and the kit, and if
11 you do the Resuscitation Council ILS courses, there is
12 a cost for the certification process but in the big cost
13 it's a relatively small amount.

14 I think there's -- the hidden costs are actually
15 taking people out of clinical work to do training and
16 having a trained instructor to train them with
17 a reasonable instructor-to-student ratio.

18 **Q.** And it's a one-day course, isn't that right?

19 **A.** Yes, and there's now a half-day course where you do half
20 a -- you do all the sort of book work bits online before
21 you turn up. So there is a one-day option or a half-day
22 option.

23 **Q.** I understand. Thank you.

24 The next topic, I said that I was going to ask you
25 about five topics, there's actually six and I do have

1 permission on six, but I've written 3 down twice. So
2 this is my second 3 or perhaps fourth topic.

3 **A.** You're okay, I'm not counting --

4 **Q.** Which is drills and simulation.

5 **THE CHAIR:** Can I remind you that you have five minutes.

6 **MR MANT:** I'm sorry, Chair, I wasn't aware that I had a time
7 limit, I thought I had just been given permission for my
8 questions.

9 **THE CHAIR:** I think it was made plain to people that there
10 would be a time limit but you carry on and we will see
11 where we get to.

12 **MR MANT:** And, of course, I will seek to abide by and I do
13 apologise if I've missed an email or something, Chair.

14 It would help me to know whether I could be indulged
15 on this occasion to go slightly beyond that because --

16 **THE CHAIR:** Well, you start and I'll see where we get to.

17 **MR MANT:** I'm very grateful.

18 So drills and training.

19 You've said in your report, it's the first report, I
20 won't get you to turn to it, to save time, but that
21 hands-on simulation training and assessment is
22 recommended for clinical staff. Now, EPUT do not
23 specify how often staff should undertake such training.
24 What do you consider would be an appropriate frequency?

25 **A.** So I think a reasonable -- ideally it would be as often

1 as possible, but a reasonable frequency would be an
2 annual big dose of training, and some smaller doses of
3 top-up doses somewhere in between those annual,
4 annual-ish with a bit of leeway, training, and those
5 top-up trainings could be a simulation, could be this
6 sort of tea trolley training there you just practise
7 your skills, but a lot of that -- so the big doses is
8 like doing the ILS course and then top-ups in between
9 because most of these people will have low exposure to
10 actual emergencies.

11 **Q.** And with that top-up or the simulation specifically,
12 that should then be training with the particular
13 equipment they're going to use on the ward --

14 **A.** Yeah.

15 **Q.** -- with colleagues that they work with?

16 **A.** Yeah. So being able to open a grab bag and find stuff,
17 which sounds easy, but in an emergency when you open it,
18 things tend to fall out and the one bit you're looking
19 for is the bit you can't find.

20 **Q.** And would you support a recommendation, given that the
21 Trust do this but don't have specific numbers, that
22 there should be a Trust policy which says: staff should
23 be trained this frequently?

24 **A.** Well, there should be some record of training by
25 clinical area and what the training requirement is,

1 and --

2 **Q.** And that should be checked or audited in some way to
3 ensure compliance.

4 **A.** Yeah, and I think that's a role of having
5 a resuscitation lead: that they know the number of staff
6 who are in date, out of date, at any time.

7 **Q.** I'm going to move on to the fifth topic, which is
8 advanced life support training. You stated, it's first
9 report 2.15(d) (x). Again, no need to turn it up, but
10 the RCUK Mental Health Quality Standards recommend that
11 the team leaders are encouraged and supported to attend
12 ALS courses although you're uncertain whether this
13 happens in practice.

14 Can I just check this, what are the particular
15 advantages of having the person leading the resus being
16 ALS-trained?

17 **A.** The ALS course spends a lot more time on teaching
18 leadership and running a team, and takes you a lot
19 further into the resuscitation in what, in detail,
20 I have caveated it. It is a recommendation which is
21 aspirational, you know, and the problem for any setting
22 as an ALS-trained person is how do they keep up their
23 skills, unless they're attending lots of cardiac
24 arrests?

25 **Q.** Would you agree, though, that the benefits of having

1 someone ALS trained and the risks of not doing so will
2 be greater on a mental health unit where they don't have
3 a service-level agreement with an acute Trusts so they
4 don't have the Trust crash team immediately available to
5 them?

6 **A.** I think the reason it's a recommendation and
7 aspirational is that if you are not regularly involved
8 in resuscitation you would struggle to pass the ALS
9 course, and that's -- so ILS, you can turn up to and
10 reasonably, if you just do what you're told on the
11 course, you pass. ALS, you need to have come with some
12 knowledge of resuscitation and you've got to have seen
13 a cardiac arrest and done some resuscitation, otherwise
14 people struggle on the course.

15 **Q.** Should there be, within each mental health unit,
16 a certain number of people who are ALS-trained --

17 **A.** Yeah.

18 **Q.** -- and somehow gain that expertise?

19 **A.** In an ideal world and, you know, it could be that -- and
20 how that's -- how you deliver that pragmatically, I
21 don't know. Whether you have an ambulance parked up in
22 the car park 24/7 or some other way.

23 **Q.** And this is my final topic, and Chair, I am grateful for
24 the extra time you've afforded me.

25 And this is about membership of the Resuscitation

1 Team. And by "team" I mean the group of people
2 responding to the emergency. We've heard from a number
3 of EPUT staff that the people responding should be
4 predetermined at the beginning of each shift, but that's
5 not currently enshrined in Trust-wide policy and at
6 least one of the EPUT witnesses who's provided a written
7 statement has raised some concern about that not being
8 formalised.

9 Do you agree that if it would be helpful to have
10 that enshrined in a policy?

11 **A.** So to me, the -- I think this type -- this sort of
12 refers to when you have your morning team briefing,
13 people go: if there's an emergency, these four people
14 will respond and this person will do the airway, you
15 know, and this person will go get a grab bag. So that
16 sort of concept works as long as those people are
17 available all the time. And in practice,
18 a resuscitation team is a bit like a flash team. The
19 nearest five people arrive, irrespective of who's on the
20 team.

21 So there is some benefit from talking through what
22 people might do every morning at a morning briefing.
23 But ultimately, you know, having a team -- the team is
24 in effect those -- the people working on that ward,
25 unless they're relying on someone from a neighbouring

1 ward. So I don't want to be prescriptive because every
2 clinical area has to work out how they get the right
3 people in the room within that first minute or so.

4 **Q.** Would you agree that at least identifying the person or,
5 if it's going to be more than one person, who could be
6 the leader of the team, so that it is clear that they
7 then will take leadership as soon as they arrive?

8 **A.** That would be helpful if everybody else knew and they
9 were assigned, but they've got to then arrive early.

10 **Q.** Then in terms of the make-up of, or rather, the roles
11 that must be fulfilled by whoever these people are who
12 do arrive, you need one person to take leadership, yes?

13 **A.** Yes.

14 **Q.** Ideally, they would be ALS-trained.

15 **A.** Ideally, yes.

16 **Q.** As a minimum, they should be ILS-trained?

17 **A.** Yes.

18 **Q.** You would want other ILS-trained individuals, because
19 some of the tasks that you'll be doing require more than
20 one person, for example two-person bag ventilation, if
21 that's not done on the BLS course?

22 **A.** Yeah, so we -- so to me, I think the skills you need is
23 an airway and breathing person, a chest compression
24 person, a person managing the kit and the oxygen, and
25 a person leading. And in an ideal world you would have

1 a scribe who sits there with a cribsheet ticking when
2 things have been done and timing when the events are
3 done. And so you write your record in real time.

4 **THE CHAIR:** Can I put something else to you, though: that if
5 you are too prescriptive about this team, then when it
6 can't happen, everybody falls apart.

7 **A.** Yes.

8 **THE CHAIR:** And your concept of empowering people and not
9 being precious about what their role is, what their
10 status is, what their training is, will enable anybody
11 who turns up at any time to take the lead.

12 **A.** Yeah, I think you have to have a bit of that, but people
13 when they turn up to these emergencies do have to act as
14 you say, but knowing that you might need to do a skill
15 makes it at least having thought about it before you got
16 there, you know.

17 So in an ideal world everybody would have a role and
18 they'd all turn up in the right order and they'd all do
19 what they'd been assigned. Pragmatically, it never
20 happens like that -- (overspeaking) --

21 **THE CHAIR:** So there is a danger that if you do suggest and
22 the leader then does not turn up, that others do not
23 step up to the mark.

24 **A.** Yeah, sure. So that's why I say it's a bit of a flash
25 team. It has to be put together at that moment. And if

1 you've done the training, it's like hopefully
2 everybody's sort of, you know, playing the same music
3 like in an orchestra, but everybody -- it's formed at
4 that moment, the team.

5 **MR MANT:** And is that a reason why having everyone who might
6 be a member trained to the highest possible level is
7 going to be particularly important and beneficial?

8 **A.** Irrespective of your level of training, you're still
9 working to the same rules, airway, breathing,
10 circulation. But clearly the more people you have
11 trained to a higher level, the easier it is to achieve
12 those interventions.

13 **Q.** I just want to check I haven't missed anything. So you
14 talked in terms of just the roles, leaving aside who
15 performs each role, you have a leader?

16 **A.** Mm.

17 **Q.** You have someone on the compressions, someone on the
18 airway, then you have a scribe if possible, and then you
19 would also presumably have someone who would be calling
20 the ambulance and then waiting to show them where to go?

21 **A.** That's correct.

22 **Q.** Can I then just ask --

23 **A.** I haven't mentioned the defibrillator. So there would
24 be, once the arrest gets going, the defibrillator would
25 have already been attached. So I think normally these

1 events start with one, two, three, so that team builds
2 up.

3 **Q.** And so should there be a doctor if at all possible?

4 **A.** In an ideal world, if they bring additional skills and
5 knowledge.

6 **THE CHAIR:** I think we've reached the end.

7 **MR MANT:** I'm grateful.

8 **THE CHAIR:** Thank you very much indeed. That's the end of
9 our session today.

10 **Questioned further by MS HARRIS KC**

11 **MS HARRIS:** Chair, there is in fact two further Rule 10s
12 submitted through the usual channels in the break, so
13 there are two short ones sent in by other core
14 participants, and the first is this, it relates to
15 Dr Adamson's evidence, and can I ask you about this,
16 please, Professor Soar.

17 I'm asked to give a little bit more context to
18 Dr Adamson's evidence which was that whilst refresher
19 training would be at three years because the guidelines
20 were not updated frequently, we've heard your evidence
21 about that, staff would have an annual assessment of
22 competency in person and that she also said that the new
23 framework would include a requirement for mandatory
24 scenario training as often as required, run locally and
25 with completion logged.

1 Does that change your view of the adequacy of the
2 frequency of training under the new framework?

3 **A.** It would, as long as the correct skills were covered,
4 and it met the needs of the patients in that clinical
5 setting.

6 **Q.** So that would affect your view of the frequency but it
7 would depend on the content?

8 **A.** Yes, and to me, all this is still theoretical until
9 I see something in the public domain.

10 **Q.** Understood.

11 And finally this: it follows, I think, from your
12 evidence, that intermittent vital sign checks cannot
13 prevent sudden death in the way you've described?

14 **A.** Vital sign checks or observations, sorry?

15 **Q.** The question is vital sign checks. Well, answer it as
16 you can, intermittent vital sign observations?

17 **A.** I think ultimately the staff prevent sudden death. The
18 observations just let you recognise deterioration
19 quicker, and depending on which vital sign you're
20 monitoring, some are continuous, like consciousness, you
21 look at the person and they've stopped talking or
22 a pulse oximeter that gives you a continuous thing, and
23 others are intermittent like a blood pressure cuff, you
24 can make it go up every minute, every five minutes,
25 every ten minutes. And I think there's a difference

1 between observing someone and watching their vital signs
2 and how often you document them.

3 So you may have someone with a pulse oximeter on all
4 the time and be watching it but only write down the
5 score every five minutes or two minutes, and if I was
6 observing and doing monitoring on someone who was deeply
7 sedated, I would leave the pulse oximeter on.
8 I wouldn't take it off and put it on every five minutes,
9 so I'm not quite sure. That's why I'm confused by the
10 question.

11 **MS HARRIS:** Thank you for your answer, in any event. That
12 was the question.

13 Chair, those are the questions that came thorough
14 and that does, unless you have any further questions,
15 complete Professor Soar's evidence.

16 **THE CHAIR:** No.

17 And Professor Soar, we're all extremely grateful to
18 you for coming and giving us evidence, it's been very
19 interesting indeed. Thank you.

20 And we sit again on --

21 **MS HARRIS:** 10.00 on Monday morning, please.

22 **THE CHAIR:** 10.00 on Monday morning. Thank you.

23 **(3.59 pm)**

24 **(The hearing adjourned until 10.00 am**
25 **on Monday, 12 October 2026)**

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I N D E X

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