IN THE MATTER OF
THE UK COVID-19 INQUIRY
MODULE 3
Impact of Covid-19 Pandemic on Healthcare Systems in the 4 Nations of the UK

CLOSING SUBMISSIONS on behalf of COVID-19 AIRBORNE TRANSMISSION ALLIANCE ("CATA")

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1. INTRODUCTION

1.1 The Covid-19 Airborne Transmission Alliance ("CATA") is a multidisciplinary consortium of individuals and organisations which brings together a wide range of scientific, medical and professional expertise. The catalyst for them to come together during the pandemic was the compelling need to address the stark reality of what they observed with their own eyes on the frontline: actual or potential airborne transmission of SARS-CoV-2, and the total absence of effective measures to address that risk.

1.2 CATA is the successor organisation to the Aerosol Generating Procedures Alliance ("AGPA") and latterly the Covid Airborne Protection Alliance ("CAPA"). At one time AGPA/CAPA represented 100,000 healthcare workers, although its membership changed over time. It continues to represent the same core interests for its 65,000 members:

a. ensuring that policy makers, employers and professionals make decisions and formulate guidance and strategy on the well-established science regarding airborne transmission of SARS-CoV-2;
b. identifying and learning from the mistakes made during the COVID-19 pandemic, so that the United Kingdom can be better protected against future pandemics (of any kind); and
c. securing the confidence of healthcare workers across the 4 nations that they are being supported to deliver care with the right equipment at the right time.

1.3 It always was and continues to be a collaboration which is focused on working from first principles, carefully following the evidence and protecting the lives and livelihoods of patients and healthcare workers alike. It does not underestimate the significant pressures on decision makers who have to take complex and important decisions on partial information, because that is the daily task which CATA's membership has to undertake in their roles: from the paramedic attending an emergency call through to the clinician working on an acute hospital ward.

1.4 At the beginning of the oral hearings, CATA expressed their concerns in their written and oral submissions that the evidence the Inquiry was due to hear would tend to show three key strands on the issue of airborne transmission:

a. Individuals and organisations would create the impression of large 'accountability sinks' where responsibility for decisions was diffused amongst different bodies and organisations to such an extent that responsibility and accountability for the decision taken would be difficult to identify.
b. Witnesses for state bodies would avoid confronting difficult points and evidence and obfuscate the extent to which they were responsible.
c. During the pandemic, an approach of managing out dissenting views on airborne transmission was adopted: listening, but not hearing; meeting, but not acting; promising, but not delivering.

1.5 Those predictions have proven to not only be true, but blindingly obvious to be so.

1.6 In the view of CATA's members, the oral evidence has demonstrated some simple propositions which have been the position of state bodies throughout the pandemic and their engagement with this Inquiry:

a. SARS-CoV-2 is transmitted by aerosols and requires proper respiratory protection.
b. Key decision makers consistently failed to apply the precautionary principle – or common sense – when it came to responding to the COVID-19 pandemic.
c. Pragmatic concerns about supply, fit testing and delivery were allowed to contaminate decisions around airborne transmission.
d. The Aerosol Generating Procedure list ("AGP list") was used to ration access to respiratory protective equipment and was based on a fundamentally flawed view of the science and this remains the case today.
e. Across the 4 nations, there was a lack of leadership, governance and accountability for critical decisions.
f. Healthcare workers have been left devastated by the long-term consequences of the failure to recognise airborne transmission: from moral injury through to serious disability with Long Covid, and also death.

1.7 CATA's closing submissions will assist the Inquiry by focusing on the findings which the Inquiry will want to consider making in order fairly and properly to resolve the issue of airborne transmission. Although addressed in Module 3, it has significant implications for other modules of the Inquiry.

1.8 To that end, these submissions are in eight (8) parts:

a. Part 1: Introduction
b. Part 2: Legal Framework
c. Part 3: Ignoring the Evidence
d. Part 4: Shifting responsibility and avoiding accountability
e. Part 5: The Credibility Gap
f. Part 6: Consequences for Healthcare Workers
g. Part 7: Other Failures in the Pandemic
h. Part 8: Recommendations

2. LEGAL FRAMEWORK

2.1 The Inquiry is expressly directed to determine factual issues, particularly infection prevention and control, in the Terms of Reference. Although the Inquiry cannot determine any matter of civil or criminal liability, the Inquiries Act 2005 expressly makes it clear in s.2(b) that this should not inhibit the Inquiry from determining the facts or making recommendations.

2.2 This should not just be expressed in the negative. The positive point to be made is that the Inquiry being fearless and thorough in determining those facts and making recommendations is of vital importance. A clear and robust factual foundation are pre-requisites for the necessary accountability and the effective implementation of recommendations. This is required properly to identify the dangerous practices which need to be rectified, the insular culture which needs to be changed and the institutions which need to be renewed or removed to protect the public in future.

2.3 This is not only an obligation under the Inquiries Act. The COVID-19 Inquiry plays the central role of discharging the investigative duty under Article 2 of the European Convention on Human Rights. Individual claims and inquests would struggle to accommodate the wide-ranging and important matters which the Inquiry has been able to canvass, such that alternative investigations are inadequate. It is the Inquiry which has been able to marshal the evidence and resources to interrogate whether there has been a culpable state failure to put in place an adequate system, resources and equipment to preserve life in the event of a pandemic.

2.4 Whereas the *operational* duty requires grounding in particular facts giving rise to a particular risk, the *systems* duty exists freestanding of any analysis of an assumption of responsibility, control or particular vulnerability[1] – it exists and is owed to all persons.

2.5 The systems duty is not *just* confined to a very high level of requiring the State to have in place an adequate set of legal instruments, policies and similar mechanisms. The duty is not confined to there being such state systems, but includes their practical implementation and supervision. These systems are to prevent risks to life arising.

2.6 A substantial amount of learning on the systems duty relates to the Article 3 prohibition on inhuman and degrading treatment, but it is well-established principle of Strasbourg case law that the positive obligations under Articles 2 and 3 "*are similar if not identical*".[2]

2.7 From those authorities, the following propositions can be derived:

a. There must not only be an adequate administrative framework in place, but, importantly, that framework must function practically and effectively at ground level.[3]

b. The state's administrative framework must include "*effective mechanisms for the detection and reporting of any ill-treatment by and to a state-controlled body, such procedures being fundamental to the enforcement of the criminal laws, to the prevention of such ill-treatment and, more generally therefore, to the fulfilment of the positive protective obligation of the state*".[4]

c. Policies must be adequate. If policies are in place but do not contain specific guidance on a relevant issue, that may breach the systems duty.[5]

d. There must be adequate supervision of staff and implementation of those policies.[6]

e. Training and information to staff must be adequate and its quality and delivery should be monitored, including where the state leaves issues of training to a contractor.[7]

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[1] as per Hill J in *R (Patton) v HM Assistant Coroner for Carmarthenshire and Pembrokeshire* [2022] EWHC 1377 (Admin) at [106]
[2] As per Baroness Hale in *Rabone v. Pennine Care NHS Trust* [2012] UKSC 2 at [101])
[3] LW & Ors v Sodexo [2019] EWHC 367 (Admin) at [46]
[4] *O'Keeffe v Ireland* (2014) 59 EHRR 15 at [162]
[5] *R (on the application of CSM) v Secretary of State for the Home Department* [2021] EWHC 2175 (Admin) at [91]
[6] *DSD and NBV v Commissioner of Police of the Metropolis* [2014] EWHC 436 (QB) at [13]
[7] *CSM* (n.5) at [91] and [97]; *LW* (n.3) at [84], [88] – [91], [97], [101], [105], [106], [107], [109]-[111]; *DSD* (n.6) at [13]

f. Training must be properly applied by those at ground level. If it is not, that may indicate an inadequate system.[8]

g. There must be adequate resourcing to ensure that the system can be implemented effectively.[9]

2.8 These points are important, not because CATA invites any findings relating to breaches of Article 2 but because CATA submits that the Inquiry must analyse how such systems operated within their allocated resources and in practice. Failure properly to do this might leave a significant investigatory void.

2.9 Whether the investigative duty applies or not, this Inquiry should adopt an approach consistent with [31] of Lord Bingham's speech in *R (on the application of Amin) v. Secretary of State for the Home Department*:

"*The purposes of such an investigation are clear: to ensure so far as possible that the full facts are brought to light; that culpable and discreditable conduct is exposed and brought to public notice; that suspicion of deliberate wrongdoing (if unjustified) is allayed; that dangerous practices and procedures are rectified; and that those who have lost their relative may at least have the satisfaction of knowing that lessons learned from his death may save the lives of others.*"

2.10 Those salutary words should be the lodestar for the Inquiry in preparing the Module 3 inquiry report. They should embolden the Inquiry in making appropriate critical findings and, where necessary, criticising individuals. Rule 13 of the Inquiry Rules 2005 provides an appropriate procedure for doing so. It will be evident from the below that CATA submits there are individuals who should be sent Rule 13 letters.

2.11 When evaluating evidence, the Inquiry will likely find that the approach of Leggatt J at [19] – [23] of *Gestmin v. Credit Suisse* [2013] EWHC 3560 (Comm) to be of assistance. His concerns about powerful biases on human recollection and the oral evidence given by witnesses in civil litigation apply with equal force to Inquiries. Many of the individuals called by the Inquiry to give evidence about decision making by state bodies have an interest in providing the Inquiry with a particular version of events – for individual, professional and corporate reasons and will necessarily distort their recollection.

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[8] *CSM* (n.5) at [90]-[91]
[9] *DSD* at [13]; R *(Humberstone) v Legal Services Commission* [2010] EWHC 760 (Admin) at [69]-[70].

2.12 In this Inquiry, it is the inability of many such state witnesses to explain contemporaneous documentation that is significant. Similarly, their oral evidence has shone a light on the "*personality, motivations and working practices*", which CATA says should embolden the Inquiry into making the necessary and appropriate criticisms. The Inquiry can, and should, make findings of fact, on the balance of probabilities, that permit and indeed require those necessary criticisms to be made. It is only by having such an approach that meaningful recommendations will bite.

3. IGNORING EVIDENCE OF AEROSOL TRANSMISSION

3.1 CATA recognises from CTI and the Chair's questions that the Inquiry is interested in the timeline concerning *when* state bodies should have recognised and acknowledged the possibility of airborne transmission. CATA's contention is that it has been established that this was true from the onset of the pandemic. The Inquiry has already received the detailed and careful analysis of Dr Barry Jones in his statement [INQ000273913] and amplified in his oral evidence on this issue.

3.2 The Inquiry has already received a short report by David Osborn of the CATA Executive Team and this will be resent subsequent to these submissions in case it assists the Inquiry. It provides analysis and a timeline of the key decisions which led up to the declassification of Covid-19 as an HCID and the downgrade from FFP3 to FRSM on 13 March 2020. This dispels any remaining uncertainties about this critical waypoint during the pandemic.

3.3 CATA will not repeat Dr Jones's and Professor Beggs's evidence in these closing submissions. The Inquiry is invited to re-read it thoroughly. The submissions in this section analyse what has been said by the key decision makers in the UK IPC Cell and PHE/UKHSA, and in particular, their contention that there was weak or no evidence of aerosol transmission. CATA will show how on the information coming into those bodies, such a position is and was completely unsustainable.

3.4 CATA would observe that on the issue of the evidence base and science, there has been little – if any – substantive disputation or challenge from the state witnesses to the evidence of Dr Jones or to Professor Clive Beggs. While Inquiries are by their nature inquisitorial rather than adversarial, the Inquiry can and should have regard to the paucity of evidential challenge to those careful, detailed and considered evidential reviews carried out by Dr Jones and Professor Beggs. The witnesses that defended the decisions taken on airborne transmission during the pandemic have generally

contended that they were reasonable positions to adopt in light of the evidence base at the time, but without saying why that should be.

3.5 While CATA invites a finding of fact that there was plentiful evidence of airborne transmission at the start of the pandemic, even if that is not found, the Inquiry should nevertheless analyse how many opportunities there were for the correct position to be taken. This was throughout 2020 up to the unequivocal inflection point when PHE took their position on airborne transmission in December 2020.

The starting point

3.6 As Mr Rawat on behalf of UKHSA recognised in his closing remarks [39/144/15 – 39/114/17], the "*initial understanding had to be based on available research on other genetically similar viruses*" and those viruses were transmitted by the respiratory route (which includes both droplet and aerosol transmission). His subsequent suggestion that there was an evolving understanding of SARS-CoV-2 throughout the pandemic is wrong, certainly insofar as it had implications for IPC guidance.

3.7 It is troubling that even in 2024, UKHSA continues to elide several key issues. The nature of the virus and its antecedents have not changed. There has been no such evolution about what lessons could be learned from SARS-CoV-1. Right from the advent of the pandemic, when the discussion concerned the Wuhan Novel Coronavirus, the 4 Nations HCID Definitions Group stated on 10 January 2020 that: "*it is reasonable to assume airborne transmission (**droplets and aerosols**) is possible, consistent with what we know about transmission routes for other coronaviruses.*" [emphasis added]

3.8 The only suggested change to the understanding of SARS-Cov-2 from this time to the precipitate decision on 13 March 2020 to re-designate SARS-Cov-2 as a non-HCID, was the lower mortality rate for SARS-CoV-2. No new evidence in favour of droplet rather than aerosol transmission had become known then or since.

Surveillance data and information

3.9 The further contention from Professor Susan Hopkins is that early surveillance data and contact tracing did not suggest airborne routes of transmission [7/102/8 – 7/102/23]. The Chair correctly observed at the time some very significant qualifiers to Professor Hopkins's claim – the limited timeframe for pre-symptomatic investigation and limitations on the evidence base at that time. Unfortunately, it is not a suggestion

that Professor Hopkins should have, in light of the evidence which was available at the time, made:

a. In Public Health England's own planning assumptions to contain outbreaks of COVID-19 in the UK [INQ000325224], formulated on 24 February 2020, they referred to the possibility of an outbreak on a ship in a UK port with the following opening statement:

"*Evidence from recent incidents has demonstrated that this scenario can lead to high numbers of secondary cases. A key concern in ship quarantine is the potential lack of isolation and air filtration between each room on the ship and thus the potential of airborne transmission through the ventilation network.*"

This went on to refer to the ventilation on such ships being inadequate to contain the spread of the virus. This is not an abstract concern but is made with reference to specific incidents that PHE were aware of – although not named, it will almost certainly involve consideration of the COVID-19 outbreak on the Diamond Princess cruise ship in February 2020 where on-board quarantine arrangements were insufficient to prevent the outbreak of COVID-19. Unlike aeroplanes, cruise ship ventilation systems have no HEPA filters.

b. Table 2 of Professor Beggs's report [INQ000474276/53] expressly refers to a series of studies in early March 2020 where SARS-CoV-2 RNA was being detected in the air and on ventilation exhausts in hospital settings. As the pandemic developed into April and May, further reported evidence of airborne transmission emerged, but the reports of SARS-CoV-2 RNA being found in the air, however, are as early as 4 March 2020.

c. In Professor Heymann's report, he details two studies from January and February 2020 concerning aerosol transmission on buses and through restaurant ventilation systems which were widely reported by the Chinese and in the media prior to the official publication of academic papers [IN0000195846/17] later in the pandemic.

3.10 Although some of the above incidents had not been formally published by 13 March 2020 they had been widely published in the media and should have been known to UK decision-makers. By 13 March 2020 there were multiple independent lines of empirical data confirming the importance of aerosols towards SARS2 transmission outwith the context of AGPs i.e. real world situations and via aerosol release secondary to the

physiological processes of coughing, sneezing, speech, singing and breathing. Professor Hopkins's statement to the Inquiry is wholly unreliable and inaccurate.

The precautionary principle or "common sense"

3.11 Pausing there, by 13 March 2020 there were strong grounds to believe that SARS-CoV-2 is transmitted by aerosols. Genetically similar coronaviruses were. Early evidence indicated that there were contact cases occurring via the aerosol route. Not only was there no evidence to *exclude* aerosol transmission, the early indicators were that it was a likelihood: the evidential challenge really concerned important, but lesser order, questions such as predominance.

3.12 CATA submits that the above was sufficient that SARS-CoV-2 should have been treated as being transmitted by aerosols, but even if it is not, it illustrates why the precautionary principle needed to be applied to our pandemic response.

3.13 Whether framed as the precautionary principle, common sense or another concept, it is a simple proposition with a straightforward logic: there are credible grounds to believe that viable SARS-CoV-2 can be transmitted through aerosols generated by breathing, coughing and other normal respiratory activities. In a rapidly developing situation with limited opportunity to engage in evidence gathering, protections against aerosol needs to be adopted unless or until robust and credible evidence emerges to demonstrate they are unnecessary.

3.14 It is an important point, because it answers one matter from Professor Beggs's evidence. In his report and response to questions by CTI, Professor Beggs identified September 2020 as the date on which there was "*moderate certainty evidence to strongly suggest*" [IN0000474276/53] that SARS-CoV-2 could be transmitted by the airborne route. In response to questions by CTI, he said that he was describing that "*there's not beyond absolute doubt but it was definitely a strong possibility*" [3/111/15 – 3/111/16].

3.15 CATA does not dispute Professor Beggs's analysis of the academic papers. Their point is a different one: Professor Beggs's date of September 2020 is not when aerosol transmission should have been recognised by public bodies and respiratory protections brought in, but the point when continued resistance to the need to protect against aerosol transmission became, at best, wilful blindness and dangerous recklessness. Professor Beggs himself describes having been "convinced" it was aerosol transmission long before this, as well as many colleagues being similarly

"utterly convinced". That being the case, there is no real excuse for others to ignore the possibility of airborne transmission. It was *never* reasonable to treat it as droplet/fomite transmission alone except for AGPs and, in fact, is so inexplicable (given that it has been candidly acknowledged by Professor Beggs that there is no scenario in which a droplet could be produced without producing an aerosol) that it requires motivations other than following the evidence – a matter which CATA returns to in Section 5 below. In fact, Chris Whitty (CMO) in his statement [INQ000410237] highlighted the recognition of aerosol transmission by EMG SAGE on 30 September 2020 and the resultant public campaigns launched on ventilation on 18 November 2020. What is still unclear is why the CMO (or any other responsible clinical leader) did not invoke the precautionary principle to support access to appropriate RPE based on the papers from EMG SAGE on 14 April 2020 and 22 July 2020.

3.16 On all of the available material, the precautionary principle – common sense – required respiratory protections to be introduced and implemented in response to the pandemic and to try to prevent its spread inside and outside hospital settings. As has been well-established, a precipitate decision was taken on 13 March 2020 to change the route of transmission to droplet-only and to adapt the influenza pandemic IPC guidance for COVID-19.

3.17 It is a matter of regret that this critical decision, not necessitated by the decision to delist COVID-19 as a High Consequence Infectious Disease, remains even now totally unexplained by any witness:

a. Professor Jonathan Van Tam said in evidence in Module 2 that "the people who wrote the guidance, Public Health England" were the ones who felt that droplet transmission was the predominant route and FRSM would be adequate.

   Yet PHE disavow all ultimate responsibility for the guidance (a point Mr Rawat reiterated in his closing oral submissions). They acknowledge they had input, but the 4 Nations IPC Cell is said to have held the pen [INQ000410867/120].

b. The contemporaneous e-mail chain included an e-mail from Professor Keith Willett in NHS England [INQ000224002/5] that refers to the revised guidance as being "DHSC commission" and "penned by PH Scotland". It does not refer to whom or what science was said to underpin the decision to move to the influenza guidance and why SARS-Cov-2 was said only to be transmissible through the droplet route.

c. Professor Susan Hopkins in her witness statement refers to the adoption of the influenza pandemic guidance having been commissioned by Professor Van Tam from a "small group in NERVTAG" which worked with the 4 Nations IPC Cell. She refers to the 13 March 2020 NERVTAG minutes in support of that proposition [INQ000212195].

Yet looking at that document, the issue of routes of transmission and commissioning the guidance remains unclear. In fact, it appears that the decision to commission the adapted guidance was taken prior to the meeting and NERVTAG was implementing that view. The basis for the change is only referred to in two places:

i) A comment by Professor Van Tam that the guidance *was "needed to help relieve pressure points on the NHS in England such as decontamination of ambulances. Under the HCID specification, it takes 3 hours and guidance is required for a simpler and faster method*." The Inquiry will note that this is not a question of science or evidence, but deployment of operational resources.

ii) An association of FRSM being required under the influenza guidelines, but FFP3 masks being required under the HCID requirements. A gnomic comment, unattributed to any individual, is made that "DHSC noted that they are moving towards FRSM over FFP3". Why that was a safe recommendation on the basis of the routes of transmission goes unaddressed.

d. Dr Lisa Ritchie characterises her involvement as being commissioned by Professor Van Tam to adapt the influenza guidance *after* the decision to declassify COVID-19 as a HCID was taken [INQ000421939/8]. What she does not address is that she had been fielding questions from SAGE to NERVTAG concerning effective interventions to prevent the transmission of COVID-19. Where things were not being advised, SAGE requested NERVTAG to set out the "evidence/justification against their use". On this:

(i) The contemporaneous e-mail chain [INQ000489973] and resulting document to SAGE on behalf of NERVTAG [INQ000489974], which

appears to be based on Dr Ritchie's e-mail were formulated well in advance of the 13 March 2020 meeting.

(ii) That advice, which suggested the use of FRSMs over FFP3, appears to be entirely based on the Health Protection Scotland ("HPS") work which went into the development of the Scottish NIPCM in 2019. What evidence did it refer to and build on? The answer is three largely outdated systematic reviews dated 2010, 2011 and 2015 [INQ000489974/3]. The word aerosol does not feature once.

(iii) This was not science or anything resembling the scientific method: this is desk-based research relying on literature reviews which were, in turn, desk-based research.

(iv) In fact, the Scottish NIPCM was, itself, recycling earlier recommendations taken by Professor Van Tam and Dr Ben Killingley as part of NERVTAG in 2016 [INQ000130548]. In that 2016 recommendation, NERVTAG acknowledged that the evidence base for aerosol transmission of influenza was greater than it had been previously. The real concern about deploying FFP3 masks beyond ICU or HDU settings was uncertainty about the viral load for influenza and the "*extremely challenging*" logistics of fit testing and the lack of evidence base then to justify their use. Not only had the evidence base substantially grown since up to 2020, we of course faced a novel coronavirus – not the influenza pandemic we had prepared for.

(v) The contemporaneous e-mail chain does refer to aerosol transmission. The only serious consideration of the issue is a brief comment by Dr Ben Killingley in his e-mail of 2 February 2020: "*pandemic flu guidance very relevant here, deals with both droplet and aerosol transmission.* ***If aerosol transmission is dominant for this virus then I'm not sure we can do much else****! Face masks do still have some effect to block aerosols (though depends a bit of mask)"* [sic][emphasis added] [INQ000489973/2]

(vi) Dr Ritchie did include these documents in her witness statement but referred to them and her role in them obliquely or not at all. It is not explained in her statement that she, in her role at Public Health Scotland, was the principal drafter and person who developed this advice. She did

not address there that it was ultimately HPS which gave key advice, rather than NERVTAG, on what the evidence showed would prevent the transmission of SARS-CoV-2.

(vii) In fact, Lisa Ritchie's repeated claim in oral evidence that the UK IPC Cell did not determine the science of SARS-CoV-2 but translated inputs from SAGE and NERVTAG into practical guidance rather ignores that some of the NERVTAG "input" was her own work!

3.18 Where does that leave the evidence base on 13 March 2020? Without any proper evidence that SARS-CoV-2 was spread by the droplet route alone without aerosol transmission, a motivation to address an urgent need to relieve bottlenecks and pressure on the NHS and with no reference or consideration to the evidence that aerosol transmission was occurring and continued to occur.

3.19 The Inquiry has heard much about whether the change was driven by supply shortages of FFP3 masks. CATA submits that the conclusion should be drawn that the disastrous precipitate decision on 13 March 2020 was motivated by two inter-related forces:

a. Total institutional inertia, where old policy recommendations and evidence reviews were being recycled again and again without looking at the up to date available evidence; and
b. A desire to make the pandemic we were facing fit the pandemic we had prepared for, even to the extent of distorting the "science" of SARS-CoV-2.

Heads in the Sand

3.20 After the 13 March 2020, the evidence of aerosol transmission only continued to escalate: in addition to the earlier events indicating aerosol transmission, studies and incidents became available concerning a restaurant in China and the Skagit Chorale Outbreak [INQ000347505]. Professor Beggs usefully produces a fuller list of international publications in his Table 2 [IN0000474276/53].

3.21 Dr Lisa Ritchie repeatedly stated in her oral evidence (using the same rubric or formulation of words) that during this period, the UK IPC Cell was taking "*the outputs from SAGE, NERVTAG, translating a lot of the science into practical guidance for frontline staff*" [5/72/8 – 5/72/10], [5/103/15 – 5/103/19], [5/105/7 – 5/105/13], [5/133/10 – 5/133/14], [5/158/17 – 5/158/24]. Yet, even if the UK IPC Cell took *only* those outputs,

the continued refusal of the UK IPC Cell to acknowledge aerosol transmission was extraordinary. CATA says it was a serious and inexcusable failure.

3.22 Professors Noakes and Curran (HSE) were recruited onto SAGE and established the Environmental Working Group to address transmission, including via aerosols, and consistently warned of the possibility of aerosol transmission in its outputs. Professor Noakes, for her part, told the Inquiry in her evidence session in Module 2 that her own view was that there were repeated red flags for aerosol transmission in the January to March 2020 period [13/12/15 – 13/13/22].

3.23 SAGE-EMG continued to provide outputs consistently demonstrating the relevance and importance of protections against aerosol transmission:

a. **14 April 2020**: Professor Noakes presents a paper [INQ000189678] to SAGE which warns that the evidence suggests that "*inhalation exposure to fine aerosols (airborne risk) could be a more significant part of transmission than the direct deposition of droplets onto mucous membranes*" and the need to implement mitigation measures.

b. **22 July 2020**: NERVTAG and the SAGE-EMG co-produce a paper entitled the "Role of Aerosol Transmission in COVID-19" [INQ000070870] which sets out the significant shift on the part of the WHO in acknowledging aerosol transmission outside of aerosol-generating procedures and the need for protections against aerosol transmission.

c. **13 August 2020**: The Singing, Wind Instruments and Performance Activities Working Group produces a consensus statement on aerosol and droplet transmission [INQ000075020]. It concludes that "*aerosol generation is identified as likely posing an important risk*", that "*aerosol risk is also higher closer to the source, particularly in an indoor environment*" and that "*ventilation and social distancing are important mitigation measures for minimising the risk of aerosol transmission*".

d. **30 September 2020**: SAGE-EMG produces a paper entitled "Role of ventilation in controlling SARS-CoV-2 transmission" which sets out that aerosol transmission is taking place in the far-field (distances greater than 2m) and the need for ventilation to mitigate the risk.

e. **22 October 2020**: Minutes of 63rd meeting of SAGE [INQ000087467] where at this meeting, SAGE discussed the routes of transmission for SARS-CoV-2, noting that that close-range and long-range respiratory aerosols are two of the three main routes of transmission. The meeting noted that the *highest* risks of

transmission were super-spreading events associated with "*poorly ventilated and crowded indoor settings with increased likelihood of aerosol emission and where no face coverings are worn*", a statement which was recorded as being made with a high degree of confidence. SAGE went onto record that such events appear to be a "very important role" in the epidemic because estimates indicate that fewer than 20% of infections lead to 80% of secondary cases.

3.24 In response to questions from the Chair, Dr Ritchie stated that "*If we had been advised by the scientific advisers from SAGE, from NERVTAG, that there was a potential of airborne and that actually we needed to move, then we would have moved to that position.*" But Dr Ritchie and the UK IPC Cell had been so advised on multiple occasions. They did not do what Dr Ritchie says that they would have done, but on the contrary, maintained their position. The IPC Cell Minutes stretching over this period through to PHE raising aerosol transmission in December 2020, show only one concrete action which the Cell took on ventilation: to remove it as a standing item from the agenda and take it off the risk register [INQ000398146/2]. i.e., they did the very opposite of what was required.

3.25 Dr Ritchie's response – seeking to frame the Cell as a mere conduit – attempted to avoid the entirely proper conclusion that the UK IPC Cell failed to respond to the evidence of aerosol transmission, failed to provide proper guidance on the issue of mitigating or preventing aerosol transmission and thereby failed to give proper IPC guidance to the 4 nations.

Response to challenge by PHE and UKHSA

3.26 A consistent early theme of the UK IPC Cell minutes is the need for a single set of guidelines applicable to all settings – Dr Ritchie said as early as the 13 February 2020, when discussing guidance for mental health settings, that the UK IPC Cell "*cannot have disparities between advising on different cases*" [INQ000398131/3]. Likewise, expressing concerns in their June meeting about the sign-off process for UK IPC Guidance that amendments could be made to the guidance promulgated by the Cell and felt that they were no longer "*in the driving seat*" [INQ000398252/5].

3.27 That desire for the UK IPC Cell to be the sole decision maker came to a head in December 2020. The minutes of that meeting [INQ000398244] make for dispiriting reading, even as a partial and incomplete account of what took place:

a. The proposal by Dr Colin Brown on behalf of PHE was clear: the understanding of aerosol transmission had changed, there was now a need to revert back to using FFP3 masks on a precautionary basis if further evidence that increased spread was not attributable to poor PPE compliance was required and, in any event, Trusts were beginning to take action of their own. Other redacted staff members endorsed this position due to the increased rates of patient transmission identified.
b. Dr Ritchie's reply was that if mask wearing and decontamination were "not being reliably implemented as they should be", then it was "not appropriate" to change PPE requirements and stated that it was important to gather "intelligence that all current IPC recommendations are being fully implemented." It should be noted that there was no evidence that these were major drivers of infections and this was to set an entirely impossible evidential benchmark and that other IPC Cell members observed that they had "seen generally good compliance with PPE so evidence should not be put on poor use of PPE."
c. Several other members, some redacted and Laura Imrie, expressed purely operational considerations such as when making the decision to "increase the use of FFP3 masks we need to consider stock availability, as this could put additional pressure on Trusts" and issues around fit testing and staff exclusion if they could not wear an FFP3 mask.

3.28 At the end of that discussion, Dr Ritchie announced that the UK IPC Cell "appear to have consensus" on a number of issues. On the question of changes to the level of PPE/RPE required, the minutes record her conclusion that "there does not appear to be available evidence that the PPE/RPE level currently recommended in the guidance should change at this time." [INQ000398244/4]

3.29 It may be thought significant that this meeting opened with a discussion of an ARHAI Rapid Review which is appended to the meeting minutes and ignores aerosol transmission as an issue altogether [INQ000398244/5].

3.30 The meeting on the following day did not improve matters [INQ000130587/2]. Dr Ritchie opened the meeting by stating that it was a further meeting to reach consensus regarding IPC Guidance, then immediately repeated the previous day's "consensus" that there was no need to change the level of PPE/RPE required.

3.31 Each of the 4 nations' public health bodies then presented their positions:

a. Laura Imrie on behalf of ARHAI claimed there was no evidence to support a change, before bringing in operational issues that if any guidance was changed then there would be "significant implications with roll out in care homes and there may be less compliance with other IPC measures." What, if any, basis there was for the latter claim is unclear.

b. Public Health Wales agreed that there was a need to emphasise key IPC measures and other mitigation measures. They do not appear to take a clear position.

c. The Public Health Agency on behalf of Northern Ireland said that if there wasn't robust evidence to support the move, then "*colleagues might think that they have not been appropriately protected with what has been previous recommended*." This latter observation was prescient, but because there was no robust evidence to support the status quo with the IPC Guidance.

d. PHE maintained their position that there was a risk of increased airborne transmission and FFP3 masks needed to be deployed more widely.

3.32 The response to PHE was unedifying. Raising the evidence of increased aerosol transmission from singing, shouting and enclosed spaces was dismissed by Dr Ritchie on the basis it was separate to the new variant strain being discussed. Yet the UK IPC Cell had never responded to that issue. This was an obviously important issue to review, but it was not.

3.33 Laura Imrie raised concerns about the IPC Cell being "overruled" by PHE, despite PHE only offering the important scientific evidence which had repeatedly by this stage set out the need to take precautions against aerosol transmission. The menace was that if there was a "conflicting decision it could marginalise IPC and cause a lack of confidence in the workforce".

3.34 This was finally met with Dr Ritchie declaring that "*the IPC Cell has reached a consensus position*." It had not. There is no recognisable element of consensus in the discussion that preceded that comment and multiple, radically different bases for not changing the IPC Guidance had been put forward – many of them totally divorced from the science. Both in process and outcome, there is no recognisable element of a proper consensus statement – this was a closed meeting, lasting 90 minutes in which members mixed a wide range of operational, procedural and structural considerations with very limited deliberation and reflection on the evidence.

3.35 That discussion followed with the statement that the UK IPC Cell "*will continue to review the position in the light of new evidence/science and amend IPC Guidance accordingly*" [INQ000130587/3]. There is no evidence that it ever did.

Continuing conflation of different concepts

3.36 A disturbing feature across many witnesses who addressed aerosol transmission is their tendency to continue to conflate different concepts:

a. *How* SARS-CoV-2 can be transmitted through the air via droplets or aerosols;
b. The likelihood of transmission of SARS-CoV-2 in the *close field or far field*;
c. The factors which *increase* risk of aerosol transmission, but whose absence do not eliminate the risk of aerosol transmission; and
d. The predominance of one transmission route over another.

3.37 It is critical to disaggregate this issue, because much of the "uncertainty" in the evidence at the outset of the pandemic does not relate to the all-important first question: whether SARS-CoV-2 could be transmitted via aerosols.

3.38 Answering this first question is absolutely critical in the context of a pandemic response. A simple scenario taken from the back of an ambulance, the one which every member of the College of Paramedics will have been familiar with throughout the pandemic[10] demonstrates its importance.

3.39 There is no far field transmission in the back of the ambulance. It is a small, confined space in which social distancing is impossible. The nature of the tasks performed by paramedics will involve working directly above the patient. For those ambulances that have ventilation, the ventilation extraction hood is on the ceiling of the vehicle – so will only help directly draw aerosol particles into the faces and ACE2 receptors of the paramedics standing over the patient and delivering care. They will be exerting themselves, generating substantial aerosols, and their patient may be coughing, otherwise unwell or receiving interventions in such a way that they are also generating substantial aerosols.

3.40 There is no way, particularly given the uncertainties and unknowns that every paramedic faces responding to an emergency, that they can engage in any other

[10] At the conclusion of her oral evidence, Tracy Nicholls of the College of Paramedics provided a 1:1 template to the Inquiry team which represents the back of an ambulance cab and did so to show how confined it is. It is a matter for the Chair and Inquiry Legal team whether they wish to read this section while standing on it to illustrate the point.

protection under the Hierarchy of Controls. They are solely reliant for their protection on the personal protective equipment provided to them.

3.41 Uncertainty over transmission in the far field is irrelevant: they are in the close field and there is no alternative to the close field. They are in an environment where, if aerosol transmission is possible, they are at the highest risk of aerosol transmission, such uncertainty about how effective mitigations are, is irrelevant. Uncertainty about whether the virus is transmitted predominantly by droplets or aerosols is, likewise, irrelevant: they are going to be exposed for such a long period in such concentrations that even if aerosol transmission was not the predominant route, they are likely to be exposed to aerosols carrying the virus regardless.

3.42 The *only* question for paramedics will be: can it be transmitted by the aerosol route or not? If it is, then they need adequate respiratory protective equipment.

3.43 Yet those stark facts demonstrate how and why those considerations are not just about paramedics, but apply across health care settings generally:

a. The clinician or nurse attending by the bedside of a patient on a hospital ward will, inevitably, have to come into the close field (1-2m) of a patient with potential SARS-CoV-2 in order to administer healthcare interventions. If aerosol transmission is a possibility – even not a predominant one – they will require respiratory protective equipment. Each interaction, multiple times throughout a shift, brings with it the risk of contracting COVID-19 via aerosols. The possibility and likelihood of far field transmission is only relevant to the degree of continued vigilance away from patients and other members of staff.
b. Speech and language therapists, respiratory technicians or other allied healthcare professionals carrying out hospital, care home or home visits have the same predicament: they will invariably come into close field contact with patients in a range of settings, multiple times in a day exposed to increased aerosol and viral load irrespective of any procedure being conducted.

3.44 An aerosol capable of being transmitted at close range in the back of an ambulance cab does not stop being an aerosol or behave differently because it has been produced in a ward, a consultation room or in a surgical theatre. You might be able to mitigate it better, you might be able to put in place protections which stop its transmission in the far field such as ventilation, but these and other measures will not change that

someone coughing or breathing has produced a plume of aerosols capable of transmitting SARS-CoV-2 and ventilation cannot protect in the near field.

3.45 It also illustrates the sterility of the debate advanced by Professor Hopkins [7/101/13 – 7/103/23] in her oral evidence, challenged by the Chair with practical examples, that the strength of the evidence base for the efficacy of FRSMs against FFP3s in preventing aerosol transmission was weak. By the end of her evidence, it appeared Professor Hopkins was drawing a distinction between the laboratory-controlled trials (where FFP3 masks provide a reduction factor of 228 against ambient aerosols whereas FRSMs only provide a reduction factor 6, as set out in HSE's 2008 research paper RR619 [INQ000101591]) and observational studies of FFP2/N95 masks in the field. The alleged lack of evidence of effectiveness was repeated by Mr Rawat on behalf of UKHSA in his closing submission [39/147/10 – 38/147/12].

3.46 It was a surprising and wholly unsustainable proposition for three reasons:

a. **First,** if it was a genuine concern, then it is difficult to understand why FFP3 masks are used as respiratory protective equipment at all when dealing with patients with TB, measles or for AGPs in Covid-19 patents. Professor Hopkins's position either applies to all scenarios or to none, particularly given the deployment of FFP3 masks concerned their use in healthcare settings for professionals well used to using RPE to protect their patients.

b. **Second,** it treats the laboratory test as if it is weak, inadequate or insufficient evidence. It is useful, vital and important carried out by HSE's respiratory protection specialists. If the real gravamen of Professor Hopkins's concerns was that while FFP3s might be more effective in the laboratory setting, difficulties with fit testing and wearing it due to discomfort would reduce its efficacy, then that might have been a fair point. But it is incomplete. Those are challenges which can be overcome (by alternatives such as Powered Air Purifying Respirators ("PAPR")) and neither imperfect fit testing nor momentary lapses are likely to cause such significant reductions in protection that they are equivalent to FRSMs, which cannot perform better than in laboratory settings.

c. **Third,** it ignores the very real legal and ethical impossibilities of carrying out a randomised controlled trial or the ethical implications of providing no or suspected inferior protective equipment to a cohort and exposing them to a potentially fatal pathogen in order to determine exposure rates and efficacy.

d. **Finally,** if this was a major consideration then where were the attempts by PHE, UKHSA or any other body to gather observational examples illustrating the

effectiveness of FFP3s throughout the pandemic? While UKHSA should support healthcare employers in determining how effective they are in implementing PPE controls, it is for HSE to determine what controls are appropriate to be used as the statutory body responsible for PPE in the workplace. It remains unclear why PHE had not taken into account the robust evidence published by the HSE scientists in 2008 (RR619).

3.47 Again, the tenor of Professor Hopkins's evidence on this issue – which sits uneasily with PHE/UKHSA advocacy for wider use of FFP3s throughout the winter of both 2020 and 2021 in the UK IPC Cell – is an attempted collective justification for inaction, delay and prevarication.

Conclusion

3.48 After that survey of the evidence, CATA submits that the following key findings can be made:

a. There were sound reasons to treat SARS-CoV-2 as transmitted via aerosols from the beginning of the pandemic.

b. There was a deliberate decision taken, not only without any sound evidential basis itself but directly contrary to the evidence, to treat SARS-CoV-2 as transmitted by droplet and contact transmission alone in March 2020 for the purposes of the COVID-19 IPC Guidance.

c. The precipitate decision to change the COVID-19 IPC Guidance to be based on the Influenza Pandemic IPC Guidance became baked into an orthodoxy which became impossible to challenge, at the very least partially on the basis that to do so would be to acknowledge that the institutions set up to protect the public had failed them during a crisis.

d. Consistent with that, the UK IPC Cell persistently failed to review or accept the growing body of evidence from international organisations and outputs from SAGE, SAGE-EMG and NERVTAG that the virus was transmitted by aerosols and the need to put in place protections against airborne transmission.

e. When the UK IPC Cell was presented with that research and the opinion of experts in PHE, political, structural and operational considerations improperly formed the basis on which the science was taken.

f. UK IPC Cell decision making was chaotic, unfocused and unstructured and opaque with no published minutes. It was repeatedly concerned with maintaining its position in the hierarchy and inter-institutional conflict rather than promoting good practice, sound science and IPC measures which not only

had the confidence of healthcare workers, but which were the right protections for the virus that those healthcare workers were facing.

g. Key decision makers who attended the Inquiry to provide oral evidence failed to give a candid and accurate account of that decision making, recognising that the matters had gone wrong. The explanations that they have put forward for the reluctance to make use of FFP3 masks lack any credibility and demonstrates their appreciation that the adherence to FRSMs was appreciably wrong at the time.

4. SHIFTING RESPONSIBILITY AND AVOIDING ACCOUNTABILITY

4.1 CATA has already touched on the reality of some of the decision making on IPC measures and aerosol transmission in the preceding section. As already set out, the UK IPC Cell was divorced and detached from SAGE, NERVTAG and the EMG despite Dr Ritchie's claims that they were merely translating their scientific advice into practical measures.

4.2 This section builds on that by addressing the way in which the UK IPC Cell on paper appeared to diffuse responsibility among a wide range of actors with various levels of approval, when in reality there were no such checks and balances in place. As a result, very narrow views of the evidence became institutional orthodoxy which managed out and ignored any challenge by dissenting voices.

A vast institutional edifice built on the slenderest reed

4.3 If SAGE, EMG, NERVTAG and the international evidence base was not the basis on which decisions were taken, what was?

4.4 The United Kingdom is a world leader in infection prevention control, with access to scientific and medical advice of international renown. In formulating its IPC guidance, the public might have expected that the United Kingdom would have access to the highest quality of advice. That is not what happened.

4.5 Ms Imrie admitted in oral evidence that, although allegedly unintended, ARHAI became the only body providing rapid reviews to the UK IPC Cell. Although ARHAI apparently thought that someone else would review the international evidence base, "*nobody did, so we continued to do a rolling programme of rapid reviews.*"[11] [26/130/17 – 26/130/18]

[11] Like other parts of Ms Imrie's evidence, this suggestion will come as a surprise to many with even a passing familiarity with the facts – in this case, Public Health England's COVID-19 Rapid Evidence Service. It was not the case that no one else was doing them, it was that Ms Imrie and ARHAI didn't agree with them.

4.6 Who prepared those rapid reviews? A small team of only 4 scientists who ended up working 7 days a week for substantial hours. When asked by Counsel to the Inquiry to set out their qualifications, Ms Imrie identified a former dentist (who, further research shows, passed her academic qualifications in 2015) with an interest in hospital acquired infections, who took the opportunity for a career change in 2019 only a year before the advent of the pandemic. This is not a microbiologist, a virologist or epidemiologist of any sort [26/134/22 – 26/134/25].

4.7 What methodology did they work to? A fundamentally flawed one, as Professor Dinah Gould illustrated at the time in her report for the Royal College of Nurses [INQ000114357]. When that was discussed by the UK IPC Cell [INQ000398178], there was no consideration, reflection or request for clarity on ARHAI's methodology – it was merely decided that ARHAI would respond, defending their own work, and the IPC Cell would fall in behind them. Laura Imrie is recorded as having expressed concern that trades unions were approaching MPs to express their concerns about adequate RPE and letters such as that put out by the RCN "create anxiety amongst staff."

4.8 When ARHAI published their response [INQ000348388], it was framed as a robust dismissal of Professor Gould's review as "seriously flawed" in its premise and asserted a series of factual errors. As Professor Gould stated in her oral evidence [8/86/14 – 8/86/22], those rebuttal points were something of a non-sequitur (her analysis never rested on the particular role of ARHAI and whether the UK IPC Cell considered other material) and did nothing to address the concerns. ARHAI, in their public rebuttal of the Gould report [INQ000348388/2], stated that HSE had approved the PPE section within UK IPC guidance. When a CATA member queried this with HSE, Mr Martin McMahon (Acting Lead, Health and Social Care Services Unit) robustly denied this, stating "HSE are not involved in directing, influencing or supporting PHE/DHSC PPE policy" and "HSE is not responsible for or has 'approved' the guidance" [INQ000300553/1].

4.9 Ms Imrie appears to have appreciated this difficulty, because she came to her oral evidence session prepared to repeat a particular stock phrase on the issue in the same way that Dr Ritchie had concerning the various "*inputs*" which the UK IPC Cell received. She repeatedly asserted that "*there's no international or national standard for doing rapid reviews*" or variations thereon [26/133/14 – 26/133/15], [26/203/2 – 26/203/4].

4.10 This suggestion – in the present tense – will come as a surprise to:

a. The World Health Organization, who published their guidance "*Rapid reviews to strengthen health policy and systems*" on 10 August 2017 as well as their earlier work on rapid advice guidelines in the 2014 WHO Handbook for Guideline Development at Chapter 11 "*Rapid advice guidelines in the setting of a public health emergency*"; and

b. The Cochrane Rapid Reviews Methods Group, which came into existence in October 2015, and published a set of interim recommendations in October 2020 to respond to the demand for rapid reviews in the context of the COVID-19 pandemic and published updated recommendations in the British Medical Journal in February 2024. Their website also maintains a list of predecessor documents on carrying out rapid reviews dating back to 1997.

4.11 It is not merely surprising, but alarming that either Ms Imrie is unaware of those documents or that she was aware of them and has given incorrect evidence to the Inquiry. She failed to explain in what ways ARHAI methodology was said to have taken them into account given the centrality of ARHAI rapid reviews to the UK IPC Cell's inner workings.

4.12 The net result is that a narrow analysis of the international evidence base, based on limited resources to no known methodological standard, became the institutional view of ARHAI. In turn, it became such orthodoxy on the UK IPC Cell that despite the dissenting views of PHE and latterly UKHSA, this became the institutional position of the UK IPC Cell. It does not appear to have been subject to any internal scrutiny, peer review or challenge and, indeed, when it was subject to external challenge, it was brusquely brushed off.

4.13 Although there were nominally 4 public health agencies on the UK IPC Cell, Professor Khaw on behalf of Public Health Wales, when asked whether there was capacity or capability for PHW to independently assess issues such as routes of transmission, candidly admitted that: "*No, there was no need to because of the construct of the UK IPC cell and how it looked to emerging evidence and considered it in issuing updates on the guidance.*" [26/26/16 – 26/26/18] and that, despite recognising that the intransigence on the issue of aerosol transmission was losing the confidence of staff, abided by and stuck with the decision of the UK IPC Cell [26/31/23 – 26/32/10].

4.14 Similarly, on behalf of the Public Health Agency in Northern Ireland Mr Dawson said that "*I don't think there was a necessity seen to replicate that or whether or not we would have had that capability. Northern Ireland has always relied on health -- NHS England and now UKHSA to provide to us sort of guidance in many areas.*" [26/79/6 – 26/79/10]

4.15 That two of the four public health agencies effectively offered no insight or challenge or interpretation of the evidence, deprived the analysis of any genuine element of consensus or considered opinion. As was shown above, when PHE/UKHSA expressed their view, it was managed out through the rubric of consensus. Effectively, ARHAI's rapid reviews were the rule to be worked to.

4.16 The narrowness of scientific expertise was matched by the narrowness of professional representation from the bodies who would have to not only follow and adapt the UK IPC Guidance for their local context, but were also seeing with their own eyes the evidence of aerosol transmission – [32/9/5 – 32/9/13]. Even for ICU staff, there was no feedback mechanism for the frontline to report back to those developing the guidance, but the communication chain particularly breaks down for paramedics where Chief Executives such as Anthony Marsh – removed from the frontline, subject to his own operational considerations and implications as a Chief Executive of West Midlands Ambulance Service – was the sole voice.

4.17 As not only Tracy Nicholls demonstrated on behalf of the College of Paramedics, but "John" in the impact video articulated, there was no translation or adaptation for the ambulance sector – there was no articulation of how impossible the guidelines would be to follow in the back of an ambulance, no presentation of how badly affected paramedics would be by aerosol transmission and no real mitigation offered while they bore the brunt of exposure to the virus. They were simultaneously abandoned and had the guidance imposed upon them.

4.18 A sub-group, a working group or some other body within the auspices of the UK IPC Cell was always possible – other structures such as SAGE were able to adapt to identified needs – to address the need to develop particular approaches for the ambulance sector. There would always be experienced professionals willing to volunteer time and resources to support it. The only imposition would be devolving power away from the core of the UK IPC Cell and additional time setting it up. The failure to even consider doing so speaks both to the failure of the representation that they did have on the UK IPC Cell as well as the blinkered approach it took.

4.19 Having formulated their view in the UK IPC Cell, what safeguards were left to ensure it was a sustainable position? PHE/UKHSA who published it on behalf of the UK IPC Cell could not credibly be expected to re-review and then challenge the IPC Guidance again, having already done so within the Cell itself.

4.20 All of the Chief Nursing Officers and Chief Medical Officers themselves have candidly admitted that they did not have the time and resources to be able to then re-review the guidance for compliance with the latest scientific evidence. As the Senior Responsible Officer for the IPC Cell Ruth May was responsible for IPC guidance, her failure to review the guidance was a failure of governance which was amplified in her interactions with the Secretary of State for Health. Professor Gregor Smith was the only exception, claiming in his oral evidence he had some reservations on the issue of airborne transmission, though he asserted that transmission was via droplets when meeting with CATA member Dr Gillian Higgins. Nevertheless, he had inexplicably failed to do anything about this issue at the time, nor seemed to have made any contemporaneous record or communication on the issue.

4.21 The senior civil servants and responsible Ministers, in turn, were not going to be in a position to push back. As illustrated by Sir Christopher Wormald's response on the decision to stop procuring FFP3 masks [30/105/10 – 30/106/13], their decisions about RPE procurement were modelled based on the scientific advice about where and which staff required those items. Civil servants and ministers could and should have had greater professional curiosity on the issue, but they were provided with a seeming "consensus" view which represented an authoritative opinion. From their perspective, any challenge was a political problem to be managed rather than a valid, differing view of the underlying scientific base.

4.22 By the end of that sign off process, the UK IPC Guidance acquired the status of being definitive – not just guidance, but directive from a very wide range of experts and expert bodies (and it was, itself, expressed in directive language). Yet, despite all of that, it substantively remained the view of a small team of ARHAI employees whose work had never been subjected to serious peer review and reflection.

4.23 A number of witnesses claimed that experienced Directors of IPC at Trusts, Hospitals and different providers should not be underestimated and that they would have understood that they had flexibility in implementing the guidance. Yet the evidence is abundantly clear that many did not understand it that way:

a. Dr Colin McKay referred to in his oral evidence a junior doctor, a plastic surgeon, who sourced PAPR for the Glasgow Royal Infirmary only to be blocked on the basis it was not approved. That junior doctor is CATA member Dr Gillian Higgins, a Registrar in Plastic and Burns Surgery, whose experiences of RPE shortages led her to found the charity Med-Supply-Drive-UK [INQ000421873].

   What has Dr Higgins's reward been? To be traduced by Professor Smith in his oral evidence as in some way promoting the commercial interests of a particular manufacturer when, in fact, she was undertaking a public spirited, enterprising effort to address what she saw as a real problem. The suggestion is even more crass when read in context of her statement, which describes working on COVID-19 wards where colleagues were treating their own teammates, some of whom sadly lost their lives. Those were teammates that had been denied adequate RPE, despite working in confined, poorly ventilated spaces.

b. Dr Nathalie MacDermott, a leading expert in infectious diseases working as a Paediatric Registrar in March 2020, who describes the frustration and confusion caused by the downgrading of PPE requirements on 13 March 2020 [INQ000492279]. Despite her own expertise, she found valuable RPE being held back by her employer NHS Trust because it felt it necessary to follow the National IPC Guidance. She is now a wheelchair user due to Long Covid.

4.24 Even the work of PHE's Respiratory Evidence Panel ("REP") in 2021 did not produce real change in the UK IPC Cell. The REP expressed with high confidence that SARS-CoV-2 was transmitted by aerosols and recognised that N95 masks (which offer a lower degree of protection in any event than FFP3 masks) were more effective than FRSMs. Although that latter conclusion was expressed with "low confidence", it recognised that this was because "*settings and care interactions are often poorly described in the literature*" and the blunt reality was that if "*respiratory protective equipment is needed, the Health and Safety Executive (HSE) advises as a minimum, this should be a FFP3 respirator*" [INQ000398187]. It should be noted that this last point is a complete answer to Professor Hopkins's evidence detailed above on the issue of FFP3 v FRSMs.

4.25 As can be seen in the minutes of the UK IPC Cell in December 2021 [INQ000398184], the conversation had not moved on despite the passage of a year: the focus continued

to be a defence of the status quo. Every possible basis from fit-testing through to Ms Imrie suggesting that it was important to bear in mind "the damage to health by people not accessing healthcare due to concerns of contracting covid and the impact on waiting lists" as if adequate RPE in the form of FFP3 masks would do so.

The Aerosol Generating Procedures List

4.26 The debate over the AGP list, which was once CATA's own focus as the AGPA, is the symptom rather than the cause of this malaise. It was that realisation which caused CATA to change its focus to airborne transmission. As a self-contained issue, it illustrates a wide range of flawed methods and thinking which consistently run through the decision making in response to the pandemic.

4.27 Even in its inception in the COVID-19 IPC Manual: it was passported in the very early versions as a result of having featured in the MERS Guidance. Not critically examined or reviewed, but included because that was the way in which respiratory viruses had always been dealt with. In fairness to that early guidance, however, there was no exclusive AGP list as such. Instead, the guidance as of 19 February 2020 gave the list of procedures as examples of AGPs – not the exhaustive list [INQ000348304].

4.28 Yet on 6 March 2020, the words "for example" were deleted from the guidance and replaced with the definitive words "the agreed list is" [INQ000348309]. By bureaucratic *fiat*, in a brief decision with no reasoning, it created an entirely closed ecosystem – those within the AGP list were justifiable on the evidence, procedures not so included were not, no matter how compelling the evidence.

4.29 The Inquiry has heard at length the confusion this generated. Even for what should have been the relatively straightforward issue of the inclusion of CPR, based on - eminent expert advice from the Resuscitation Council UK and supported by their European and International counterparts, did not materialise. Instead, what occurred was an object lesson in obstinacy.

4.30 Professor Catherine Noakes referred to the issue of aerosol transmission at the outset of the pandemic in these terms in her oral evidence in Module 2: "*I think there was -- although the evidence at the outset was weak, in truth it was weak for all transmission routes. I think there was just a tendency to assume the other transmission routes, and then require the evidence for airborne transmission*" [13/17/20 – 13/17/25].

4.31 This same mentality was evident in the formulation of the AGP List: the evidence base for the list was weak, but there was a view that because certain procedures had always been on it, they could be assumed as aerosol generating and any procedure not so included required a high degree of robust evidence for inclusion.

4.32 In response to the challenge by the Resuscitation Council, organisations largely became entrenched and those participating in the official structures – such as the Association of Ambulance Chief Executives, who endorsed the view that CPR was not an AGP [INQ000479041], despite the obvious weaknesses – coalesced around the existing orthodoxy.

4.33 Even the reviews carried out into the issue which followed were all focused on the wrong question – rather than stepping back and looking, as CATA did, at whether the evidence showed that the list was fit for purpose, they ignored the elephant in the room and trammelled down their terms of reference to a consideration of the evidence base for inclusion on the AGP List. They went onto remove several procedures and added none and failed to recognise that normal respiratory activities generate at least as much aerosol as AGPs and usually far more - all while healthcare workers were being regularly exposed to virus carrying aerosols in hospitals and in the community without adequate protections.

4.34 To this day, the NIPCMs predicate RPE usage on AGPs thus denying protection to the great majority of HCWs working outside AGP areas such as ICUs.

Managing out Dissent

4.35 The way in which the dissent over CPR and the AGP list was treated was a modus operandi which was repeated throughout the pandemic in different ways. There was no attempt to interrogate the evidence and reach the *right* conclusion. Instead, it was a question of manging various "stakeholders" in a manner which treated them as troublemakers: from professional organisations, through to the trade unions to particular individuals. Some examples will already be evident from the above, but to give two further examples:

a. CATA itself experienced this response on several occasions. This is shown in correspondence with Dame Jenny Harries and Professor Susan Hopkins through to the meeting with the DHSC on 3 June 2021. At this meeting the AGP Alliance led other stakeholders (BMA, RCN etc), representing over a million healthcare workers, to make an evidence-based case for the unequivocal

recognition of airborne transmission and RPE to be provided for all close-contact care. The DHSC Chair repeatedly refused to allow the stakeholder questions on this point to be properly answered by the IPC Cell or other government representatives. The AGP Alliance was repeatedly reassured it would be and was being listened to, that its representations were being taken into account and received promises that action would be taken. Instead, on each occasion [INQ000273913/218 - INQ000273913/237], it was often not given a reply or given a cursory one.

b. Likewise, the meeting that Dame Jenny Harries chaired in January 2022 was emblematic in its own way. It was convened to resolve the impasse in the UK IPC Cell, but produced no resolution – just another sticking plaster over the disagreement. This was a purely performative exercise so that participating individuals and organisations could be said to have been "heard", but with no decision and no real concrete change to the process, procedures or policies following on from it.

5. THE CREDIBILITY GAP

5.1 Leadership and decision making can involve a series of high-risk, high-consequence decisions made under pressure with sometimes partial information. Judgement calls will, inevitably, turn out to be erroneous with hindsight. This is the reality of clinical decision making on the frontline for paramedics, nurses and doctors operating in emergency medicine through to complex surgery. Yet the hallmark of someone taking those decisions for the right reasons and motivated by the right principles will be their ability to acknowledge the existence of a mistake, their willingness to explain themselves to those that they lead and the humility to learn from them.

5.2 That description could not be further from the reality of the evidence that the Inquiry has heard from those involved in the decision-making around airborne transmission and appropriate RPE. Denial, obfuscation and evasion has been the hallmark of their evidence.

5.3 It is important to remember that the cornerstone of IPC measures, as put by Professor Gould, is winning the 'hearts and minds' [INQ000474282] of healthcare workers to buy into IPC measures and change their behaviour. To do so requires their confidence that those promulgating the IPC guidance have approached their task with rigour and integrity, but that they also have the humility to reflect, listen and learn from those who implement those IPC measures in practice.

5.4 No one, having heard the oral evidence at the Inquiry, could be left in any doubt as to whether those on the UK IPC Cell had done so or not. They had not.

5.5 The first indication of this issue to come was that Dr Ritchie and Ms Imrie's written evidence was largely silent on these key issues for the Inquiry. To the extent that any of the key issues which have formed the focus of the Inquiry's investigations during Module 3 were addressed in their statements, it was obliquely or by sidewind. None of it could have come to them as any surprise – they had been involved in and their organisations provided the key documents in which those disagreements and issues were set out. They had adopted an approach to their evidence at the outset, of pretending that the problem did not exist or to "wait and see" approach where the Inquiry's investigation might take it. In so doing, neither of them could be said to have approached their task in the spirit of candour and cooperation that this Inquiry is entitled to expect.

5.6 CATA has already addressed above the manner in which Dr Ritchie's oral evidence was strikingly contradicted by the contemporaneous record. None of her characterisations of the UK IPC Cell's remit, procedures and ways of working bore any resemblance to what is quoted in the minutes.

5.7 Equally, nothing in her oral evidence involved a single degree of reflection of why and how they managed to get one of the key questions in the management of the pandemic so badly wrong. In blindly and doggedly defending the issue of substance – is SARS-CoV-2 transmitted by aerosols? – she cannot have looked back over the building evidence base prior to and throughout 2020. There was nothing comparable to the exercise which Professor Beggs carried out on the international literature and no reply to Professor Beggs's review of the evidence. Her brusque, inadequate reply was to dismiss Professor Beggs's report as "his opinion". Yet she had the opportunity to review his report and point to the evidence why the decisions taken were reasonable at the time or, on reflection, why the processes leading to those decisions failed. Her failure to do so is unacceptable. Her answer to a question from CATA's counsel that it is still her position today that the primary mode of transmission for COVID-19 is droplet and contact reveals someone akin to a climate change denialist. Indeed, it is so far at odds with all scientific evidence that it is closer to someone who thinks that the Earth goes round the Moon and Galileo's work on heliocentrism was just "his opinion".

5.8 Ms Imrie did bury in her answers some striking, yet reluctant concessions on the operation of the UK IPC Cell and the way in which methods and working practices could be improved in the future. Yet, as reflected in her answers on international guidelines for rapid reviews and ARHAI's apparent unique status in carrying out rapid reviews, her evidence was a similar exercise in deflection away from ARHAI and in muddying the waters.

5.9 Professor Hopkins' oral evidence was also inexplicable. CATA has already made its observations above about her tragicomic evidence on the relative merits of FFP3 masks and FRSMs. The other striking example was the suggestion that one of her deputies, Dr Colin Brown, may have been representing a personal rather than PHE/UKHSA corporate view on aerosol transmission at the December 2020 and 2021 UK IPC Cell meetings.

5.10 This is flagrantly unsustainable: PHE/UKHSA produced several position papers, prepared by persons other than Dr Brown, repeatedly setting out PHE/UKHSA's corporate position on aerosol transmission and the need for greater protections against aerosol transmission [INQ000348395]. There was no proper basis for Professor Hopkins to make it when asked. Why, then, say it?

5.11 PHE/UKHSA were, in CATA's view, late in arriving at their conclusion on aerosol transmission for the reasons set out above. Yet they did recognise it. A perfectly sustainable position for UKHSA to adopt in this Inquiry would have been that it moved not too long after Professor Beggs's September 2020 date and was, disappointingly, not followed in that view due to the divergence of views on the UK IPC Cell. Instead, even in its oral closing submissions the UKHSA has continued to defend what took place as a model of cooperation [39/146/1-39/146/12].

5.12 It belies the very real and troubling conclusion that the corporate mindset, even of independent public health agencies, is to close ranks, defend their colleagues and deny even the most obvious facts. It could not be further away from the real leadership that healthcare workers need to have confidence in the IPC recommendations they are given going forward.

5.13 There were two other particular themes in the evidence which further illustrated this problem of evasion, equivocation and elision:

a. As the Inquiry progressed, it heard a wide range of reformulations of the issue of aerosol transmission: SARS-CoV-2 isn't transmitted by aerosols, may be transmitted by aerosols under certain conditions, the dichotomy of aerosols and droplets should be disposed of because particle sizes "aren't useful" and the suggestion from Dame Jenny Harries that the debate, really, was all about "predominant" routes of transmission.

   Attempting to abandon considerations of particle size ignores a critical question of how particle size affects, ballistics, duration in air, filtration efficiency needed to address it, viral load and respirability/inhalability. Particulate size is not only helpful, it is essential to determining effective controls including what can and cannot get through a respirator mask. State bodies are trying to make this relatively straightforward issue seem one of great complexity and uncertainty.

b. The emphasis on "local" risk assessments is similarly a reformulation on what happened. The IPC Guidance was never framed in terms of supporting each Trust across the 4 nations to formulate their own "local" protocols: it was expressed in mandatory and directive terms as to what to do, in what manner and using which precautions and methods. Some will have chosen to depart in limited ways from the Guidance, but that creates a post code lottery: sessional use of PAPR hoods in one Hospital or Ambulance Trust area, but not in another. Likewise, it overlooks the fundamental flaw: if the UK IPC Guidance purports to be the definitive scientific answer to addressing the risk of SARS-CoV-2 transmission, how can any local risk assessment – whether carried out by a Trust or an individual clinician - be adequate if they are told to prepare for the wrong route of transmission? Furthermore, as admitted to CATA's Counsel, Mr Brunt agreed that it is impossible for healthcare workers to carry out risk assessments for close-quarter care that is sufficient to determine whether RPE should be worn or not. This was on the basis that no one can assess the hazard of something that they cannot see, smell, hear or otherwise measure.

   Finally, it resolves back to the suggestion by Ms Imrie and a similar theme advanced by Mr Rawat on behalf of UKHSA in his closing submissions, that healthcare workers could use FPP3 if they would feel better protected by doing so. It isn't a matter of that individual's perception of security or protection, it is that mask prevents the transmission of aerosols.

5.14 Given that evidential canvass, no healthcare worker could say that they have seen or heard evidence that those currently responsible for leading on IPC measures in the United Kingdom which demonstrates that they have the leadership qualities set out at the start of this section. The approach to their evidence is a further demonstration of their dereliction of duty and unfitness to continue in their leadership roles.

6. CONSEQUENCES FOR HEALTHCARE WORKERS

6.1 As will be evident from the foregoing, these are not abstract matters of sterile bureaucratic philosophy or matters which, although fiercely debated at a high level, failed to make a difference on the ground. The refusal of the UK IPC Cell to move restricted the actions of Directors of Infection Prevention and Control ("DIPC") in Trusts, individual clinicians and organisations – not only exposing them to a higher risk of COVID-19, but having a wider, pervasive loss of trust and breakdown in confidence, trust and working together.

6.2 The evidence of the profound psychological impact on staff was powerfully drawn out by Professor Fong's oral evidence and which has resonated with a very substantial section of healthcare staff. As he expressed in his survey of ICU and anaesthetic teams across 5 hospitals [INQ000421181/1] there was evidence of "*significant psychological harm to frontline NHS staff*" with the percentage of staff meeting the screening threshold for PTSD (45%) well in excess of the rate for returning soldiers from Afghanistan who had seen active combat (17%).

6.3 As with John in the impact video, many staff will have felt a degree of moral injury as a result of the tension between providing care to their patients and protecting themselves – a conflict of duties which all too easily could have been reconciled by making proper respiratory protective equipment readily available to frontline staff. Feeling confident and secure rather than uncertain and potentially at risk as they faced situations and infections which they knew were inconsistent with the IPC guidance itself.

6.4 CATA earlier referred to the experience of Dr Higgins having to treat colleagues at the Glasgow Royal Infirmary from COVID-19 which they had almost certainly acquired on previous shifts where they had inadequate RPE. She, like those that the Inquiry has heard from in the TUC, FEMHO, IWGB and FMHWG, saw those hospital porters and workers who kept the NHS functioning during that critical time returning and dying of COVID-19. She has subsequently developed Long Covid.

6.5 Likewise, Dr MacDermott ultimately decided to source her own supply of FFP3 in the face of her Trust's intransigence, but by the time it arrived she had acquired a second infection of COVID-19 and subsequently developed severe Long Covid. The Inquiry has, likewise, heard from the Long Covid Groups about the profound impact that it has had on their members and the wholly inadequate care and treatment they are now being offered.

6.6 The real risk posed by this issue and the low confidence that healthcare workers now have in their leadership is the response to the next pandemic. Having been left used and burnt out by operating a healthcare system in crisis for over 2 long years, being unnecessarily exposed to a potentially deadly pathogen, the risk is that their loss of confidence means that next time a pandemic strikes they will stay at home, self-isolate and be safe.

6.7 While every healthcare worker will have a sense of professional commitment and pride in helping patients, it cannot guarantee that they will turn out – against a background of low pay and poor working conditions – for a future pandemic where they have no confidence in the leadership's ability to protect them. Even a small proportion of the workforce remaining home would cripple the NHS's pandemic response, let alone continuing to provide adequate healthcare.

7. OTHER FAILURES IN THE PANDEMIC

7.1 The Inquiry should resist temptation to see the themes above as limited to the issue of aerosol transmission. These were institutional failures which were replicated in other areas as well and which demonstrate a wider malaise among these state bodies.

7.2 One of the first illustrations of this was the effective suspension, without Parliamentary oversight, authority or consultation, of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations ("RIDDOR"). As admitted by Mr Brunt on behalf of the Health and Safety Executive ("HSE") [4/92/15-4/92/21], HSE's amended guidance on RIDDOR reporting during the pandemic created such a degree of uncertainty that there was both under-reporting and over-reporting by Trusts of healthcare worker infections with COVID-19.

7.3 While Mr Brunt tried to explain this as being inevitable, the difficulty is that it generated a wildly inconsistent data set – rather than a consistent methodology which would enable you to identify outliers in the system which required targeted intervention or

investigation, variances between hospitals, trusts and regions were the manifestation of inconsistent reporting. The dataset it generates became almost worthless with each Trust's reports being generated by a purely subjective and shifting view as to "reasonable" evidence that it was a workplace acquired infection.

7.4 That is why the Chair was right to imply in her questioning of Mr Brunt that the only sustainable way to have approached RIDDOR during the pandemic would have been to require Trusts to report all instances of healthcare worker COVID-19 infection, and for HSE to then have investigated matters further in each case. This would have enabled HSE to carry out further investigation where necessary, as well as robust systemic analysis [4/95/2 – 4/95/18].

7.5 The decision by HSE to shift to a subjective, malleable test was another precipitate decision of the same kind taken on 13 March 2020 in respect of aerosol transmission: a "pragmatic" decision which reflects the lack of preparedness for a pandemic of this kind. Moreover, countless witnesses told the Inquiry that their work was hampered by the insufficiency of data during the pandemic. RIDDOR reporting could have provided the opportunity to collate such a data set could have been used in a vast number of ways. HSE's approach to RIDDOR reporting completely undermined that possibility.

7.6 CATA has sought to quantify the level of gross under-reporting. It conducted extensive research via Freedom of Information requests to determine the number of RIDDOR reports made by NHS Trusts in England during the period 1/3/20 to 2/9/21, covering the first and second waves. Evidence provided by CATA to the Inquiry highlights that, according to RIDDOR reporting, 59% of NHS Trusts had not a single employee contract the disease through their work and 82% had not one employee die through the disease contracted at work.

7.7 A similar problem infects the way in which PAPR were handled during the pandemic. PAPRs are a vital part of the mix of RPE which should be provided to healthcare workers in order to provide them adequate protection, particularly for sessional use. They provide a solution for fit testing for staff who have beards for religious reasons or ethnic minorities whose faces have not been adequately modelled for in traditional mask fitting. Unlike masks, they have a clear visor which enables lip-reading and facial communication.

7.8 Yet the consistent response of authorities was to look for reasons *not* to use them, because they had not formed part of the traditional pandemic stockpiling arrangements – instead, pushing defective masks onto staff members. As Dr Higgins sets out in her witness statement [INQ000421873] and Dr McKay said in oral evidence, they tried to deploy them at the Glasgow Royal Infirmary but were frustratingly thwarted in so doing.

7.9 Finally, ventilation. Despite the clear and consistent advice from SAGE-EMG on the importance of ventilation in addressing the pandemic response, it was lost from sight – CATA has already observed above how Dr Ritchie removed the line of communication from the Estates and Ventilation Groups into the IPC Cell.

7.10 As a field (engineering) underrepresented within these organisations and less visible than masks, it fell entirely by the wayside – there was no concerted effort to correct the decline in ventilation standards at hospitals (with, as Professor Beggs observed, the ventilation at Addenbrooke's Hospital now falling below 1970s standards, not just 2024 standards for air changes per hour) or to source freestanding HEPA filter units for those buildings which proved too difficult to remedy.

7.11 Where it should have formed the centrepiece of the pandemic response and a vital impetus to address an ageing estate, it was left relegated. The other attendant interventions of UV lighting and other methods of neutralising aerosol transmitted diseases have remained abandoned.

7.12 Even today, the above issues have gone largely unaddressed. They are clear lessons to learn from the pandemic and an urgent preparation for any future pandemic, as well as a way of managing the season influenza season which is now finally acknowledged as also being transmitted by aerosols.

8. RECOMMENDATIONS

8.1 Based on the evidence seen by CATA during the Inquiry and its extensive work in this area, it urges the Inquiry to make the following recommendations:

8.2 **An urgent interim recommendation:** CATA reiterates and refines its earlier request that IPC guidance needs to be immediately reviewed by a competent, inclusive and multidisciplinary panel, taking direction from HSE on adequacy and suitability of RPE (and other controls). IPC guidance, infrastructure and training needs to be capable of scalable and sustained support for the management of RPE programmes to deal with

seasonal surges of respiratory illnesses, airborne HCIDs and respiratory pandemics. This should be under the independent supervision of HSE.

8.3 **Recommendation 1: The future development and regulation of IPC Guidance**

CATA starts with the most important issue. The existing IPC structure has shown itself to be insular, based on outdated science and highly resistant to outside expertise and multidisciplinary working. What then should replace it?

In CATA's submission, the Inquiry should recommend that the future development and regulation of IPC guidance should be drafted to explicitly reflect statutory Health and Safety duties and COSHH. It should require formal approval by the Health and Safety Executive. Healthcare bodies are inherently conflicted between operational and spending commitments, and their obligations to provide effective controls to protect healthcare workers. As a sector including some of the UK's largest workforces, HSE should have a more direct and leading role in assuring occupational hygiene is embedded into IPC, along with compliance with Health and Safety law.

HSE has a robust Science Division capable of ensuring the best evidence base is maintained on the effectiveness of controls, including RPE and of respiratory pathogens whereas UKHSA and health service organisations clearly do not. Besides, this is not within their statutory purview. As with all other sectors, any recommendation and approval of appropriate RPE for the control of specific respirable hazards should continue to lie with HSE. UKHSA and other healthcare bodies should focus on monitoring whether controls are being properly implemented and undertake or facilitate suitable and sufficient risk assessments in line with the principles laid out in *Kennedy v. Cordia (Services) LLP (Scotland)* [2016] UKSC 6.

HSE should issue direct advice sheets under the COSHH Regulations to address the control of respirable pathogens within healthcare settings. In the preferred alternative, there should be an Approved Code of Practice issued for the management of PPE in Healthcare in standard operational contexts, at peaks of seasonal risk and in times of emergency. It will help ensure robust planning and the creation of a regime which is easily and readily inspectable.

8.4 **Recommendation 2: Any new IPC guidance regime is transparent and accountable**

Regardless of the response to Recommendation 1, CATA submits that any structure needs to be clear about the way in which different bodies, organisations and stakeholders interact and have responsibility under it. It needs to be transparent in its governance and clear about who has the statutory responsibilities and accountability for different roles and tasks under it. Mere structural change and recomposition of the IPC Cell is insufficient. The Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance needs revision, to embed the need for multi-disciplinary, transparent and inclusive processes which are subject to the scrutiny of expert professional bodies. Criterion 10 needs to be more forcefully worded in respect of the intersection with, and primacy of, Health and Safety law in ensuring all healthcare workers are protected from being exposed to infection so far as reasonably practicable and are trained and managed to ensure that they can put in place effective controls, including RPE, to prevent the infection of others.

8.5 **Recommendation 3: Accountability and engagement at strategic and policy levels**

In a fast-moving pandemic across the complex range of healthcare disciplines, decisions need to be informed by professional judgements drawn from expertise and frontline experience, rather than relying on often lagging and incomplete data. The UK needs a governance structure that enables those expert professional groups and those most affected in healthcare settings to ensure that decision-making at all levels is in line with actual professional practice conditions and technical and scientific standards applicable to each healthcare discipline and context.

8.6 **Recommendation 4: Robust guidelines on the use of the precautionary principle**

The retreat from the precautionary principle evidenced by officials poses the greatest risk to human life for a future pandemic. A balance of risks approach, based on scientific analysis will produce precisely the 'paralysis by analysis' that the principle aims to avoid. This is already being seen in the views of UKSA on FRSM vs FFP3.The precautionary principle needs to be an explicit criterion in the Health and Social Care Act 2008: code of practice.

8.7 **Recommendation 5: Investment in the development of re-usable and clear RPE**

It must be ensured that the future mix of pandemic and pre-pandemic RPE meets the needs of healthcare workers and staff alike. We now have the time and capacity to industrially better develop new forms of respirators, PAPR and other critical PPE/RPE so that we have a suitable and sufficient scalable national manufacturing capability

and RPE pandemic stockpile. A necessary part of this must be in ensuring that appropriately sized RPE is manufactured, procured and available to meet their needs of the full range of facial types to be found in the healthcare workforce. The British Standards Institute working group revising EN149 must specify bivariate panel testing to ensure >96% male and female fit for respirators. UK healthcare employers must meet a standard of being able to manage reusable RPE (e.g. PAPR), including storage, power, maintenance and training.

8.8 **Recommendation 6: Revising RIDDOR for use in a pandemic**

The repeat theme throughout the Inquiry evidence has been the loss of data and the lack of data. HSE justified their decision to downgrade RIDDOR reporting because of its limited scope and purpose. RIDDOR could provide a vital reporting system to ensure management focus and investigation of incidents in the workplace, provide record-keeping and accountability, as well as for HSE intelligence gathering and monitoring. We ask that RIDDOR's purpose, scope and process within national emergency situations is revised accordingly

8.9 **Recommendation 7: The occupational disease status of Long Covid needs to be reviewed**

The Industrial Injuries Advisory Committee should re-visit their work on the impact of Covid 19 with particular reference to new evidence and evidence presented to the Inquiry.

CONCLUSION

8.10 CATA hopes these recommendations assist the Inquiry. Throughout its participation in Module 3, CATA has repeatedly stated its intention to assist and support the Inquiry in its task. It sincerely hopes it has done so and, again in these closing submissions, fulfilled that duty.

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